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February 1, 2006

ADVICE LETTER 1769-E/1591-G
(U902-M)

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

SUBJECT: SAN DIEGO GAS & ELECTRIC'S 2006-2008 ENERGY EFFICIENCY COMPLIANCE FILING

In compliance with Ordering Paragraph (OP) 7 of Decision (D.) 05-09-043, San Diego Gas & Electric (SDG&E) hereby submits for filing its 2006-2008 Energy Efficiency Program Plans. These final program plans, along with all necessary supporting documentation, are incorporated herein as Attachments 1 through 6.

PURPOSE

The purpose of this advice letter is to comply with the California Public Utilities Commission's (Commission) directive to submit SDG&E's final 2006-2008 energy efficiency program plans in accordance with D.05-09-043.

BACKGROUND

In D.05-09-043, the Commission adopted SDG&E's 2006-2008 energy efficiency program plans, effective January 1, 2006, on an interim basis, until the Commission approves SDG&E's final program plans which are to be submitted through a compliance filing and after SDG&E completes its competitive program bid solicitation process. SDG&E has successfully completed its program solicitation and has developed its final 2006-2008 energy efficiency program plans. This advice letter serves as SDG&E's compliance filing required by D.05-09-043.

The final program plans attached hereto comport with all applicable Commission directives regarding this 2006-2008 energy efficiency compliance filing. The filing includes the information requested in D.05-09-043, OP 7, including all details of the bid process, the scenario analyses, the statewide coordination plans, and updated bill impact calculations. Also attached is SDG&E Peer Review Group's assessment report of SDG&E's third party solicitation effort. Attachments are referenced as Attachment 1 through 6.

No cost information is required for this advice filing.

This advice filing will not increase any rate or charge, cause the withdrawal of service, or conflict with any other schedule or rule.

Administrative Law Judge Gottstein granted SDG&E an extension to February 1, 2006 to submit this compliance advice letter.

EFFECTIVE DATE

This advice filing will become effective on the 30th calendar day after the date filed which is March 3, 2006.

PROTEST

Anyone may protest this Advice Letter to the California Public Utilities Commission. The protest must state the grounds upon which it is based, including such items as financial and service impact, and should be submitted expeditiously. The protest must be made in writing and must be received within 20 days of the date this Advice Letter was filed with the Commission. There is no restriction on who may file a protest. The address for mailing or delivering a protest to the Commission is:

CPUC Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102

Copies of the protest should also be sent via e-mail to the attention of both Jerry Royer (jjr@cpuc.ca.gov) and to Honesto Gatchalian (jnj@cpuc.ca.gov) of the Energy Division. A copy of the protest should also be sent via both e-mail and facsimile to the address shown below on the same date it is mailed or delivered to the Commission.

Attn: Monica Wiggins
Regulatory Tariff Manager
8330 Century Park Court, Room 32C
San Diego, CA 92123-1548
Facsimile No. (858) 654-1788
E-mail: mwiggins@SempraUtilities.com

NOTICE

A copy of this filing has been served on the utilities and interested parties shown on the attached listing, including interested parties in A.05-06-016. Because of the large size, Attachments 1 through 6 are only being provided to the Commission Staff. All other parties may obtain these attachments on SDG&E's website under pending advice letters at http://www.sdge.com/regulatory/tariff/advice_index.shtml or by contacting Christina Sondrini at (858) 654-1788 or by e-mail at csondrini@semprautilities.com.

_____
J. STEVE RAHON
Director – Tariffs & Regulatory Accounts

CALIFORNIA PUBLIC UTILITIES COMMISSION

ADVICE LETTER FILING SUMMARY
ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No. **SAN DIEGO GAS & ELECTRIC**

Utility type:
☒ ELC ☒ GAS
☐ PLC ☐ HEAT ☐ WATER

Contact Person: Aurora Carrillo
Phone #: (858) 654-1542
E-mail: acarrillo@semprautilities.com

EXPLANATION OF UTILITY TYPE

ELC = Electric GAS = Gas
PLC = Pipeline HEAT = Heat WATER = Water

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: 1769-E/1591-G

Subject of AL: San Diego Gas & Electric's 2006-2008 Energy Efficiency Compliance Filing

Keywords (choose from CPUC listing): Compliance, Energy Efficiency

AL filing type: ☐ Monthly ☐ Quarterly ☐ Annual ☒ One-Time ☐ Other

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #:
D.05-09-043

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL N/A

Summarize differences between the AL and the prior withdrawn or rejected AL[1]: N/A

Resolution Required? ☐ Yes ☒ No

Requested effective date: 3/3/06 No. of tariff sheets: 0

Estimated system annual revenue effect: (%):

Estimated system average rate effect (%):

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: None

Service affected and changes proposed[2]: N/A

Pending advice letters that revise the same tariff sheets: N/A

Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Ave.,
San Francisco, CA 94102
jjr@cpuc.ca.gov and jnj@cpuc.ca.gov

San Diego Gas & Electric
Attention: Monica Wiggins
8330 Century Park Ct, Room 32C
San Diego, CA 92123
mwiggins@semprautilities.com

[1] Discuss in AL if more space is needed.

General Order No. 96-A, Sec. III. G.
ADVICE LETTER FILING MAILING LIST

cc: (w/enclosures)

Public Utilities Commission
S. Larson
ORA
D. Appling
S. Cauchois
J. Greig
L. Maack
R. Pocta
W. Scott
Energy Division
W. Franklin
S. Gallagher
H. Gatchalian
D. Lafrenz
J. Royer
CA. Energy Commission
F. DeLeon
R. Tavares
Alcantar & Kahl LLP
K. Harteloo
American Energy Institute
C. King
APS Energy Services
J. Schenk
BP Energy Company
J. Zaiontz
Barkovich & Yap, Inc.
B. Barkovich
Bartle Wells Associates
R. Schmidt
California Energy Markets
S. O'Donnell
C. Sweet
California Farm Bureau Federation
K. Mills
California Wind Energy
N. Rader
Children's Hospital & Health Center
T. Jacoby
City of Chula Vista
W. Gaters
City of Poway
R. Willcox
City of San Diego
J. Cervantes
G. Lonergan
M. Valerio
Commerce Energy Group
A. Ahmed
V. Gan
Constellation New Energy
W. Chen
CP Kelco
A. Friedl
Davis Wright Tremaine, LLP
E. O'Neill
J. Pau
Dept. of General Services
C. Torres
Douglass & Liddell
D. Douglass
D. Liddell
G. Klatt
Duke Energy North America
M. Gillette
Dynegy, Inc.
J. Paul
Ellison Schneider & Harris LLP
E. Janssen
Energy Policy Initiatives Center (USD)
S. Anders
Energy Price Solutions
A. Scott
Energy Strategies, Inc.
K. Campbell
M. Scanlan
Goodin, MacBride, Squeri, Ritchie & Day
B. Cragg
J. Heather Patrick
J. Squeri
Goodrich Aerostructures Group
M. Harrington
Hanna and Morton LLP
N. Pedersen
Ista-North America
L. Belew
J.B.S. Energy
J. Nahigian
Luce, Forward, Hamilton & Scripps LLP
J. Leslie
Manatt, Phelps & Phillips LLP
D. Huard
M. Snow
R. Keen
Matthew V. Brady & Associates
M. Brady
Modesto Irrigation District
C. Mayer
Morrison & Foerster LLP
P. Hanschen
MRW & Associates
D. Richardson
Pacific Gas & Electric Co.
J. Clark
M. Huffman
S. Lawrie
E. Lucha
Robinsons-May Dept. Stores
R. Britt
R. W. Beck, Inc.
C. Elder
San Diego Regional Energy Office
S. Freedman
J. Porter
School Project for Utility Rate Reduction
M. Rochman
Shute, Mihaly & Weinberger LLP
O. Armi
Solar Turbines
F. Chiang
Sutherland Asbill & Brennan LLP
K. McCrea
Southern California Edison Co.
M. Alexander
K. Cini
K. Gansecki
H. Romero
TransCanada
J. Roscher
B. Johnson
R. Hunter
D. White
TURN
M. Florio
M. Hawiger
UCAN
M. Shames
U.S. Dept. of the Navy
K. Davoodi
N. Furuta
J. Perez
Utility Specialists, Southwest, Inc.
D. Koser
Western Manufactured Housing Communities Association
S. Dey
White & Case LLP
L. Cottle

Interested parties in:
A.05-06-016

ATTACHMENTS 1 - 6

San Diego Gas & Electric's Advice Letter 1769-E/1591-G

Final 2006-2008 Energy Efficiency Program Plans

and

Program Solicitation Selections

Contents

Attachment 1

San Diego Gas & Electric Company

Overview

ATTACHMENT 1
SAN DIEGO GAS & ELECTRIC COMPANY
2006 – 2008 REVISED ENERGY EFFICIENCY PROGRAM PORTFOLIO

I. Overview

San Diego Gas & Electric Company ("SDG&E") submitted its proposed 2006—2008 Energy Efficiency program portfolio (A.05-06-016) in June 2005. Decision ("D.") 05-09-043 approved SDG&E's portfolio plans and funding levels, approved the utility proposed programs and partnerships that comprise 80 percent of its program budget and the competitive bid selection criteria. Additionally, the Decision directed that (1) the utilities conduct their competitive bid selection using the approved selection criteria; and (2) certain updates be made to the avoided costs, peak demand reduction definition, DEER inputs, E3 calculator, approved codes and standards program savings. These updates, together with the third party programs selected through the competitive bid process, resulted in changes to the original SDG&E portfolio of Energy Efficiency programs. SDG&E's updated 2006-2008 portfolio presented in this Advice Letter continues to comply with the Energy Efficiency Policy Rules adopted D.05-04-051 as did its original June 2005 Application (A.05-06-016) approved in D.05-09-043.

This Advice Letter presents the revised SDG&E 2006—2008 Energy Efficiency program portfolio including the proposed selected third party programs. This Advice Letter also addresses the various compliance items that the Commission required be completed for this compliance filing. SDG&E's forecasted portfolio results are presented in Table I.1.

Table I.1: Program Year 2006-2008 Budget & Net Savings

Program Name	Budget	kWh	Therms	kW
SDGE Administered Programs	$206,032,452	852,416,949	7,903,646	159,391
Third Party Programs	$51,508,113	121,103,335	3,289,185	55,668
LIEE Programs		18,000,000	468,000	3,000
Evaluation Measurement & Verification*	$20,532,255			
Totals	**$278,072,820**	**991,520,284**	**11,660,831**	**218,059**
CPUC GOALS		**850,000,000**	**9,500,000**	**162,800**

* EM&V budget approved in D.05-11-011.

SDG&E's portfolio is designed to meet or exceed the Commission's goals established in D.04-09-060.

II. 2006—2008 Program Modifications

SDG&E continues to make enhancement to its program offerings based on input from the statewide Program Advisory Group ("PAG"), Peer Review Group ("PRG") and coordination with Pacific Gas & Electric ("PG&E"), Southern California Edison ("SCE"), and Southern California Gas Company ("SoCalGas") and reevaluation of measures offered in the various programs. The program changes from the June 2005 application are summarized in Table II.1.

Table II.1: Program Changes from June 1, 2005 Filing

PROGRAM NAME	Program changes/guidelines that were not filed in June 1, 2005 but have been added to the February 1, Compliance Filing	New measures added since the June 1, 2005 Filing	Measures filed on June 1, 2005 that will be deleted in the February 1, 2006 filing
RESIDENTIAL PROGRAMS			
Limited Income Refrigerator Replacement Program	Refrigerator size guidelines (10-19cf) have been omitted. For 2006-2008, like sizes with a 23 cf maximum will be replaced.	None	None
Lighting Exchange Program	The Lighting Exchange program will coordinate with the Residential Audit and Education program to provide lead generation.	LED Christmas Lighting	None
Residential Incentive Program	1) Adjustments to the overall energy savings were made to match DEER study published after the June filing; 2) All rebate levels presented at the Aug '05 PAG mtg were incorporated	Dishwasher Tier I and Dishwasher Tier II	Whole-house Fans and Energy Star Dishwashers
NONRESIDENTIAL PROGRAMS			
Statewide Nonresidential Express Efficiency Program	1) Integrated On-Bill Financing component; 2) All rebate levels presented at the Aug '05 PAG mtg were incorporated	1) Res HE Water Heater for commercial applications; 2) Premium T8 lamps w/T12 34/40	1) Package Terminal Air Conditioners / Heat Pump; 2) A/C setback prog thermostats 3) Lamps controlled

PROGRAM NAME	Program changes/guidelines that were not filed in June 1, 2005 but have been added to the February 1, Compliance Filing	New measures added since the June 1, 2005 Filing	Measures filed on June 1, 2005 that will be deleted in the February 1, 2006 filing
		baselines; 3) Tank insulation; 4) Pipe insulation; 5) Additional food service measures—cooking and refrigeration;	by electronic ballasts (dimming=g/non-dimming); 4) Selected refrigeration measure applications; 5) Water Heating pipe/tank insulation; 6) Horizontal axis clothes washers; 7) Selected cooking insulated holding cabinets; 8) Cool roofs; 9) Pre-rinse spray valves; 10) Advanced evap coolers; 11) Connectionless Steamers Full load efficiency 70% or greater
Small Business Super Saver	1) OBF customer participation guidelines adjusted. Customer must be over 50kW to be offered OBF. Previously 20kW and above were eligible; 2) Corrected monthly therm usage to below 4,166 therms to qualify; 3) Modified rebate levels: selected int & ext lighting; refrigeration; reflective window film measures; Sprinkler to Drip Irrigation	1) Additional food service measures—cooking and refrigeration; 2) Cold cathode fluorescent lamp; 3) Energy Star Clothes Washer - 3.5 cf Tier I MEF = 1.42; Tier II MEF = 1.60; Tier III MEF = 1.80	1) Package Terminal Air Conditioners / Heat Pump 2) Prog. thermostats 4) Selected refrigeration measure applications; 6) Horizontal axis clothes washers; 7) Selected cooking insulated holding cabinets; 8) Cool roofs; 9) Advanced evap coolers; 10) Connectionless Steamers Full load efficiency 70% or greater
Standard Performance Contract (SPC) Program	Elimination of the 80/20 rule	None	None
NEW CONSTRUCTION PROGRAMS			
Savings By Design	Individual end-use incentive levels have been aligned with SPC and SBD in 2006.	None	None

PROGRAM NAME	Program changes/guidelines that were not filed in June 1, 2005 but have been added to the February 1, Compliance Filing	New measures added since the June 1, 2005 Filing	Measures filed on June 1, 2005 that will be deleted in the February 1, 2006 filing
CROSSCUTTING PROGRAMS			
Statewide Crosscutting Codes and Standards	1. Codes and Standards will transition from an information-only program to a resource acquisition oriented program 2. Energy savings and demand reductions are currently under development in accordance with D. 05-09-043. Energy and demand savings projections will be updated in annual reports as soon as protocols are developed and key milestones are completed.		
Upstream Lighting Program	None	20 & 25 Watt Table Lamps	None
PARTNERSHIP PROGRAMS			
San Diego Energy Resource Center	SDREO's original budget has increased by $150,000 due to an error discovered in the budget they submitted for the June 1 filing. SDG&E will allocate administrative dollars from an existing Residential program to cover this difference.	None	None

SDG&E's final 2006-2008 portfolio is designed to meet or exceed the Commission's energy savings targets and demand reductions adopted in D.04-09-060. The following tables provide the individual program budget and forecasted energy savings and demand reductions for years 2006, 2007, and 2008.

Table II.2: Program Year 2006 Budget & Net Forecasted Energy Savings and Demand Reductions

Program Name	Budget	kWh	Therms	kW
Savings By Design	$3,323,540	2,951,502	50,215	649
CA Department of Corrections Partnership	$400,000	1,192,956	9,504	192
Energy Savings Bids	$11,733,071	40,792,320	143,109	8,400
Express Efficiency Rebate Program	$3,082,498	15,442,642	211,860	2,116
IOU/Community College Partnership	$2,000,000	4,046,926	156,568	618
IOU/UC/CSU Partnership	$2,000,000	4,046,926	156,568	652
Small Business Super Saver	$9,579,085	48,792,726	311,335	7,846
Standard Performance Program	$3,382,612	11,284,415	150,737	1,406
City of Chula Vista Partnership	$731,075	1,277,626	36,593	133
City of San Diego Partnership	$920,000	1,277,626	36,593	133
Codes & Standards Program	$400,000	8,880,000	110,000	2,590
County of San Diego Partnership	$314,000	0	0	0
Emerging Tech Program	$1,363,000	0	0	0
On-Bill Financing for Energy Efficiency Equipment	$1,250,000	0	0	0
San Diego Co. Water Authority Partnership	$725,000	0	197,805	0
SDREO Energy Resource Center Partnership	$1,353,297	0	0	0
Statewide Marketing & Outreach	$2,794,410	0	0	0
Upstream Lighting Program	$5,144,767	88,616,113	0	8,441
Advanced Home Program	$2,213,250	1,842,839	73,441	2,020
Sustainable Communities Program	$394,909	392,116	7,145	86
Lighting Exchange and Education	$500,000	2,297,268	0	219
Limited Income Refrigerator Replacement	$1,090,520	1,998,100	0	283
Multi-Family Rebate Program	$2,155,159	4,309,721	498,442	720
Residential Customer Education & Information	$791,308	0	0	0
Single Family Rebate Program	$2,466,891	9,989,150	94,575	9,354
Subtotal - IOU Administered Programs	**$60,108,392**	**249,430,971**	**2,244,487**	**45,858**
3P Business Energy Assessment Program	$360,572	0	0	0
3P California Preschool EE Program	$611,250	572,530	0	303
3P Industrial Energy Efficiency Acceleration Prg	$315,395	0	0	0
3P KEMA HVAC Training, Installation and Maint.	$2,190,963	9,115,517	4,931	5,482
3P Laundry Coin-Op Program	$820,575	833,293	310,243	
3P Mobile Energy Clinic	$281,568	574,306	15,123	17
3P RCx Retrocommissioning Program	$769,192	2,438,208	36,634	499
3P Surefast Program	$1,276,000	137,467	671,548	300
3P Sweetwater Schools Demonstration Program	$162,350	0	0	0
3P Upstream HVAC/Motors Program	$1,122,555	2,376,390	-4,006	2,130
3P VeSM Advantage Plus	$627,050	1,240,800	194,580	141

Program Name	Budget	kWh	Therms	kW
3P CHEERS New Construction Advanced Rating Prog	$112,000	0	0	0
3P Advanced Home Renovations Program	$292,269	0	0	0
3P Appliance Recycling	$2,687,005	12,207,048	0	1,915
3P EDC Domestic Hot Water Control Program	$178,034		99,000	
3P K-12 Energy Efficiency Education Program	$752,579	0	0	0
3P Mobile Home Program	$1,444,056	1,731,593	83,989	935
3P Time of Sale Energy Efficiency Check Up	$339,046	0	0	0
3PZ Third Party Program Balance	$684,639	0	0	0
Subtotal - 3P Administered Programs*	**$15,027,098**	**31,227,154**	**1,412,042**	**11,722**
LIEE Programs		6,000,000	156,000	1,000
Evaluation Measurement & Verification	$5,237,029			
Totals	**$80,372,519**	**286,658,126**	**3,812,529**	**58,581**
CPUC GOALS		**280,500,000**	**2,700,000**	**54,600**

* These are the official names provided in the selected third party proposals.

Table II.3: Program Year 2007 Budget & Net Forecasted Energy Savings and Demand Reductions

Program Name	Budget	kWh	Therms	kW
Savings By Design	$4,225,467	5,903,003	100,430	1,299
CA Department of Corrections Partnership	$400,000	1,192,956	9,504	192
Energy Savings Bids	$16,367,338	54,844,800	192,340	11,297
Express Efficiency Rebate Program	$3,313,685	17,963,732	273,892	2,920
IOU/Community College Partnership	$2,000,000	4,046,926	156,568	618
IOU/UC/CSU Partnership	$2,000,000	4,046,926	156,568	652
Small Business Super Saver	$10,297,516	52,038,504	364,990	8,122
Standard Performance Program	$3,636,308	12,130,746	175,275	1,511
City of Chula Vista Partnership	$731,075	1,277,626	36,593	133
City of San Diego Partnership	$981,884	1,277,626	36,593	133
Codes & Standards Program	$400,000	9,160,000	90,000	2,780
County of San Diego Partnership	$330,000	0	0	0
Emerging Tech Program	$1,363,000	0	0	0
On-Bill Financing for Energy Efficiency Equipment	$1,250,000	0	0	0
San Diego Co. Water Authority Partnership	$704,000	0	197,805	0
SDREO Energy Resource Center Partnership	$1,352,212	0	0	0
Statewide Marketing & Outreach	$2,794,410	0	0	0
Upstream Lighting Program	$5,625,425	95,896,196	0	8,994
Advanced Home Program	$2,213,250	1,842,839	73,441	2,020
Sustainable Communities Program	$573,936	604,587	14,480	147
Lighting Exchange and Education	$516,730	2,287,940	0	219
Limited Income Refrigerator Replacement	$1,090,520	1,998,100	0	283
Multi-Family Rebate Program	$2,258,557	4,528,697	524,238	759
Residential Customer Education & Information	$724,900	0	0	0

Program Name	Budget	kWh	Therms	kW
Single Family Rebate Program	$2,581,818	10,800,984	115,337	10,052
Subtotal - IOU Administered Programs	**$67,732,031**	**281,842,188**	**2,518,051**	**52,131**
3P Business Energy Assessment Program	$238,775	0	0	0
3P California Preschool EE Program	$611,250	572,530	0	303
3P Industrial Energy Efficiency Acceleration Prg	$256,645	0	0	0
3P KEMA HVAC Training, Installation and Maint.	$3,349,976	15,565,406	20,711	10,484
3P Laundry Coin-Op Program	$820,575	833,293	310,243	
3P Mobile Energy Clinic	$362,017	734,113	19,180	22
3P RCx Retrocommissioning Program	$1,074,442	4,266,864	64,109	874
3P Surefast Program	$540,000	110,557	438,174	258
3P Sweetwater Schools Demonstration Program	$60,000	0	0	0
3P Upstream HVAC/Motors Program	$1,438,316	3,395,095	-5,701	3,044
3P VeSM Advantage Plus	$832,250	1,861,200	291,870	212
3P CHEERS New Construction Advanced Rating Prog	$47,000	0	0	0
3P Advanced Home Renovations Program	$87,583	0	0	0
3P Appliance Recycling	$2,687,095	12,207,729	0	1,915
3P EDC Domestic Hot Water Control Program	$178,034		99,000	
3P K-12 Energy Efficiency Education Program	$592,002	0	0	0
3P Mobile Home Program	$1,465,270	1,804,360	90,753	1,015
3P Time of Sale Energy Efficiency Check Up	$526,358	0	0	0
3PZ Third Party Program Balance	$1,765,421	0	0	0
Subtotal - 3P Administered Programs*	**$16,933,008**	**41,351,147**	**1,328,339**	**18,126**
LIEE Programs		6,000,000	156,000	1,000
Evaluation Measurement & Verification	$6,621,886			
Totals	**$91,286,925**	**329,193,336**	**4,002,390**	**71,257**
CPUC GOALS		**285,100,000**	**3,100,000**	**54,200**

* These are the official names provided in the selected third party proposals.

Table II.4: Program Year 2008 Net Budget & Forecasted Energy Savings and Demand Reductions

Program Name	Budget	kWh	Therms	kW
Savings By Design	$6,050,932	11,806,006	200,859	2,597
CA Department of Corrections Partnership	$400,000	1,192,956	9,504	192
Energy Savings Bids	$22,842,880	73,822,380	258,903	15,205
Express Efficiency Rebate Program	$3,562,212	18,017,908	443,141	2,674
IOU/Community College Partnership	$2,000,000	4,046,926	156,568	618
IOU/UC/CSU Partnership	$2,000,000	4,046,926	156,568	652
Small Business Super Saver	$11,069,830	56,741,618	651,444	8,939
Standard Performance Program	$3,909,031	13,040,552	175,275	1,625
City of Chula Vista Partnership	$731,075	1,277,626	36,593	133
City of San Diego Partnership	$981,884	1,277,626	36,593	133
Codes & Standards Program	$400,000	12,250,000	80,000	3,280

Program Name	Budget	kWh	Therms	kW
County of San Diego Partnership	$345,000	0	0	0
Emerging Tech Program	$1,363,000	0	0	0
On-Bill Financing for Energy Efficiency Equipment	$1,250,000	0	0	0
San Diego Co. Water Authority Partnership	$708,000	0	197,805	0
SDREO Energy Resource Center Partnership	$1,426,072	0	0	0
Statewide Marketing & Outreach	$2,794,410	0	0	0
Upstream Lighting Program	$6,107,671	98,941,038	0	9,240
Advanced Home Program	$2,213,250	1,468,380	57,799	1,610
Sustainable Communities Program	$725,985	814,222	22,556	205
Lighting Exchange and Education	$533,600	2,144,467	0	205
Limited Income Refrigerator Replacement	$1,090,520	1,998,100	0	283
Multi-Family Rebate Program	$2,364,428	4,745,284	548,352	795
Residential Customer Education & Information	$682,000	0	0	0
Single Family Rebate Program	$2,640,249	13,511,774	109,150	13,017
Subtotal - IOU Administered Programs	**$78,192,029**	**321,143,790**	**3,141,108**	**61,402**
3P Business Energy Assessment Program				
3P California Preschool EE Program				
3P Industrial Energy Efficiency Acceleration Prg	$152,946	0	0	0
3P KEMA HVAC Training, Installation and Maint.	$5,208,308	25,368,241	48,779	19,503
3P Laundry Coin-Op Program				
3P Mobile Energy Clinic				
3P RCx Retrocommissioning Program	$1,297,430	5,485,968	82,426	1,123
3P Surefast Program				
3P Sweetwater Schools Demonstration Program	$27,450	0	0	0
3P Upstream HVAC/Motors Program	$1,435,942	3,395,095	-5,701	3,044
3P VeSM Advantage Plus	$905,700	2,068,000	324,300	235
3P CHEERS New Construction Advanced Rating Prog	$20,000	0	0	0
3P Advanced Home Renovations Program	$76,953	0	0	0
3P Appliance Recycling	$2,687,095	12,207,729	0	1,915
3P EDC Domestic Hot Water Control Program	$178,034		99,000	
3P K-12 Energy Efficiency Education Program	$592,002	0	0	0
3P Mobile Home Program				
3P Time of Sale Energy Efficiency Check Up	$606,583	0	0	0
3PZ Third Party Program Balance	$6,359,564	0	0	0
Subtotal - 3P Administered Programs*	**$19,548,007**	**48,525,033**	**548,804**	**25,820**
LIEE Programs		6,000,000	156,000	1,000
Evaluation Measurement & Verification	$8,673,340			
Totals	**$106,413,376**	**375,668,823**	**3,845,912**	**88,222**
CPUC GOALS		**284,400,000**	**3,700,000**	**54,000**

* These are the official names provided in the selected third party proposals.

III. Competitive Bid Process

A. Introduction

SDG&E successfully implemented an energy efficiency program competitive bid process to solicit program proposals and new, innovative approaches to enhance its existing energy efficiency portfolio. This was done in conjunction with the bid evaluation criteria adopted by the Commission to select winning bidders in D.05-09-043 Attachment 6.

Significant effort was made to reach out to entities in both the energy efficiency industry and in the regional community at large. SDG&E believes the solicitations and proposal submittals it received are representative of the expertise, skill, and innovation available in the marketplace. Therefore, the contribution to SDG&E's portfolio is an enhanced, cost-effective energy efficiency programs menu that achieves the objectives set forth by the Commission, such as pursuit of cost-effective energy efficiency opportunities over both the short- and long-term and focus on programs that serve as alternatives to more costly supply-side resource options ("resource programs").

SDG&E's competitive bid selection process is fully compliant with D.05-09-043 directions (at pages 17-18) regarding this process.

(1) SDG&E conducted its competitive bid selection process using the selection criteria adopted for SDG&E in D.05-09-043 Attachment 6.

(2) SDG&E worked closely with its PRG in evaluating both its selection criteria and selection process. SDG&E addressed all PRG concerns and reached a consensus on its final selection. This consensus is one of the criteria for allowing SDG&E to submit its compliance filing as an Advice Letter instead of an application.

(3) SDG&E's final 2006-2008 portfolio consisting of both its own programs and partnerships and these proposed selected third party programs is cost effective and will meet or exceed the Commission's established energy savings and demand reduction goals.

B. Competitive Bid Results

As a starting point, SDG&E allocated 20% of the 2006-2008 Energy Efficiency Program Funds and CPUC Savings Goals to be contracted with third parties (Table III.1). This resulted in three-year cumulative goals of a budget of $51,508,113, and energy savings of 170 million kWh, 32, 560 kW, and 1.9 million therms (Table III.1). SDG&E selected a total of 18 programs equaling $42.7 million in funding for the 2006-2008 program cycle. SDG&E initially assigned approximately 85%, or $43.7 million, of the 20% funding goal of $51.5 million to be allocated toward Resource programs. Fifteen percent or $7.7 million was allocated to Non-resource programs. Table III.1 shows the selected third party programs did not meet the original energy savings and demand reductions that SDG&E assigned to this portion of its portfolio. However, as seen in Table I.1, SDG&E's total 2006-2008 portfolio will meet or exceed the Commission's goals. Therefore, there is no urgency to award all the third party allocation at this time. There is currently $8.8 million in unallocated third party funding. That amount, along with funding set aside for contracts with bidders who may opt not to contract with SDG&E, will be reallocated towards expanding successful third party programs over the program cycle and/ or soliciting other new programs based on the feedback of the PAG and PRG. No contracts will be executed until the Commission renders its approval of SDG&E's Advice Letter filing.

Table III.1: 3-year Cumulative Goals for Proposed Third Party Programs

	Budget	kWh	kW	Therms
SDGE Allocation (A.05-06-016)	$51,508,113	170,000,000	32,560	1,900,000
Total Proposed Selected--Resource	$37,079,982	121,103,335	55,668	3,289,185
Total Proposed Selected—Non-Resource	$5,618,508	NA	NA	NA
Difference	$8,809,623	48,896,665	(23,108)	(1,389,185)

C. Peer Review Group Participation

Representatives of SDG&E's Peer Review Group (PRG) were designated to monitor the bid evaluation process, as described in D.05-01-055. The PRG participated

in an independent assessment of the bid solicitation process and subsequent program selections and prepared an independent assessment report. The PRG report is attached to this filing as Attachment 6.

The PRG was in general agreement with SDG&E's competitive bid solicitation process. They reviewed and offered numerous recommendations regarding the Request for Proposal (RFP) wording, bid scoring protocols, and portfolio review. SDG&E incorporated PRG recommendations into its bid process and will continue to seek PRG input subsequent to this filing and regularly during program implementation and administration.

D. Targeted Solicitations

In its Application A.05-06-106, SDG&E identified nine targeted Resource and Non-Resource areas it believes would yield innovative and cost-effective programs through the competitive bid process. These were areas considered underserved through the existing utility portfolio. SDG&E sought targeted Resource proposals for incentive, retrofit, recycling, HVAC programs, and in the more recent energy efficiency field of building commissioning and retro-commissioning. Non-resource solicitations focused in the areas of time of sale energy usage, sustainable design and green construction practices, and the introduction of an energy efficiency education curriculum in schools.

E. Innovative Program Solicitations

SDG&E also demonstrated its willingness to explore new and innovative program designs through solicitation of innovative program proposals. SDG&E patterned this portion of the competitive bid after SCE's IDEEA program to seek program designs that could include commercialization/demonstration projects for emerging technologies with the potential for cost effective energy savings. The objective was to pursue the feasibility of emerging technologies and different market approaches that may not hold short-term cost effective energy savings but over time have the potential for long-term savings.

F. Bid Process

The competitive bid process involved multiple steps with several review loops by SDG&E that allowed for process checks and to ensure the solicitation process moved

forward and for best portfolio fit that meets SDG&E's long term energy efficiency plan. The following summarizes the program solicitation implemented by SDG&E.

G. Pre-Notification

The SDG&E bid process was initiated with a pre-notification process to various audiences utilizing several channels. Parties included in the pre-notification were those on the SDG&E energy efficiency programs service list for R.01-08-028, external energy efficiency service providers, and Diverse Business Enterprises (DBE) suppliers, which include Minority, Women, and Service-Disabled Veteran Business Enterprise vendors. The channels utilized in the solicitations included SDG&E's Public Affairs staff. The notification directed interested participants to the SDG&E web site to register to receive a Request for Proposal ("RFP"). The web site also provided a direct link on our home page to a general notification of the upcoming scheduled solicitation and a link to register to receive the RFP. In addition, press releases were made to local news outlets throughout SDG&E's service territory.

H. Solicitation

The beginning of the sealed bid process started with an official notification. The two-stage process included an abstract submission (Stage 1) and a full proposal submission (Stage 2). This process allowed SDG&E as part of Stage 1 to solicit and receive as many program abstracts or concept papers from potential bidders without having to burden them with the preparation of a full proposal.

The solicitation list was derived from the original pre-notification and additions to that list as a result of the mass notification. An announcement and registration to be included in the sealed bid process was available at http://www.sdge.com/eecontracting/. Prospective bidders were required to register and receive a confirmation e-mail from SDG&E in order to receive access to the on-line RFP. As an official sealed bid process, non-registered RFP respondents were required to register first or be rejected if the deadline for registration was missed.

I. Abstract Submission (Stage 1)

The Request for Proposal (RFP) for Stage 1 was released on September 1, 2005. Bidders were permitted to register on SDG&E's web site beginning August 5, 2005, through September 19, 2005, identifying their company, contact name, and contact e-mail address. As a result, 193 bidders were invited to submit Stage 1 bids to SDG&E.

Abstract submittals were due initially on September 20, 2005. However, due to a technical glitch in the supply management software used to notify registered bidders of the availability of the RFP, the deadline for the Stage 1 submittals was extended by seven days to September 27, 2005, to ensure that all parties had adequate time to prepare their responses.

Stage 1 required bidders to complete a request for information (RFI), submit a program abstract, and provide the projected budget and net energy savings (for Resource program proposals) over the three years 2006 through 2008. The RFI requested information such as key personnel in the bidder organization, number of years in business, number of employees, geographic coverage, energy industry references, annual revenue, and quality control mechanisms. Bidders were also provided with SDG&E's general terms and conditions and asked whether they accepted them or to identify any exceptions.

The abstract portion of the RFP required bidders to submit a concise (less than 200 words, single-spaced, single-side, 10-point font or larger), informative statement of how the bidder proposed to encourage specific types of customers to reduce their electric and natural gas usage. The abstract was to include the program's purpose, scope, target market, goals, and implementation plan. Bidders were to clearly identify their plan to recruit customers and how they intended to follow through to ensure energy savings are achieved and maintained. In essence, the abstract was to be a very brief Executive Summary on how the bidder would perform the scope of work.

1. Questions and Answers

During the Stage 1 solicitation process, bidders were asked to submit any questions about the RFP and/or the process by September 7, 2005. SDG&E posted responses to bidders' questions on September 9, 2005. At that time, SDG&E responded

to a total of 87 questions. The nature of the questions ranged from bid process timelines to clarification on specific bid program requirements.

2. E3 Calculator Workshop

In addition, bidders were given the opportunity to participate in an E3 Calculator workshop sponsored by SDG&E. The purpose of the workshop was to familiarize bidders with limited or no experience with the E3 Calculator on how the tool works and the inputs required. The workshop was held via a web conference on September 15, 2005, and facilitated by a co-developer of E3 Calculator. There were 45 participants from the SDG&E and SoCalGas competitive bid process.

Prior to review of the abstracts, a Pass/Fail assessment was made to determine the completeness of the proposals submitted. The abstracts of complete submittals were forwarded to SDG&E review teams for evaluation. Each abstract was evaluated by at least three team members that included program management staff. The teams were comprised of:

- Energy Efficiency Segment Managers
- Energy Efficiency Program Managers
- Energy Efficiency Program Supervisors
- Energy Efficiency Policy Advisors
- Energy Efficiency Programs Customer Contact Supervisor
- Engineers (Market Segment and RD&D)
- Analysts
- Supply Management

Reviewers assessed how bidders' responses addressed the criteria related to program concept and innovation, which included program strategy, how the proposal complements the IOU portfolio, whether the proposals were based on sound logic/theory, and consistency with CPUC Objectives. A thorough engineering assessment of projected energy savings, reasonable cost per unit, and delivery of demand response reduction was deferred to Stage 2. Supply management evaluated the RFI and terms and conditions responses.

Each review team member assigned to review specific proposal(s) did so individually and entered their scores into an electronic scoring tool. Reviewers were not aware of actual total scores at the time of their evaluations (either their own or those of

fellow team members), or the pass/fail threshold pre-established for Stage 1. After all of the individual scores were collected, the teams were brought together for group team meetings. At that time, the teams discussed proposals failed by all team members, proposals failed by one or more but less than all team members, consensus reached on each non-passing proposal and final team scores validated and comments recorded.

3. Stage 1 Evaluation Criteria

The evaluation criteria for the entire bid process were established in SDG&E's June 2, 2005, filing and approved by the Commission in D.05-09-043. The criteria were as follows:

Table III.2: Resource Programs: Targeted and Innovative Residential, Non-Residential, Cross-Cutting

Criteria	Weights
Proposal Responsiveness	Pass/Fail
Projected Energy Savings	40%
Program Concept	35%
Program Innovation	25%

Table III. 3: Non-Resource Programs: Targeted and Innovative Residential, Non-Residential, Cross-Cutting

Criteria	Weights
Proposal Responsiveness	Pass/Fail
Program Strategy	60%
Program Innovation	40%

Table III.4: Results of Stage 1

			Resource Program Proposals Submitted			Non-Resource Program Proposals Submitted		
No. of Invitations Issued Stage 1	No. of Proposals Indicated as Submitted	No. of Proposals Actually Submitted for Stage 1	Targeted	Innovative	Total Resource Program Proposals	Targeted	Innovative	Total Non-Resource Program Proposals
193	236	182	34	78	112	40	30	70

4. Peer Review Group Input

The PRG met with SDG&E on October 13, 2005, to review Stage 1 results. SDG&E presented the final scores and rankings from the Stage 1 bid review process. The PRG was concerned about the number of bidders shown as having submitted proposals but that did not pass the review process. SDG&E was able to clarify for the PRG how the web-based tool that received the bid packages tracked and tallied submittals. Initially, the results indicated a significant number of bids did not pass the evaluation. It was explained that the count was based on bidders that mistakenly indicated they were submitting proposals in all the possible categories available in the web-based application but, in fact, only intended to file a subset of those categories and did not attach any electronic files of the bid documents for the other categories in the web-based tool. This skewed the bid results and misrepresented the actual number of bids received. Once adjusted by removing the erroneous bids from the count, the actual number of proposals received is shown in Table III.4 above.

SDG&E had established a passing threshold for proposals of 40% of the overall weighted score. The PRG raised the passing threshold to 50%, in an effort to improve the quality of the proposal pool to be considered for Stage 2. At the 50% threshold, 115 proposals passed for invitation to Stage 2.

Table III.5: Results of Stage 1 Bid Selection

	Resource Program Proposals Passed Stage 1			Non-Resource Program Proposals Passed Stage 1		
Total No. of Proposals Passed Stage 1	Targeted	Innovative	Total Resource Program Proposals	Targeted	Innovative	Total Non-Resource Program Proposals
115	22	46	68	24	23	47

J. Proposal Submission (Stage 2)

Invitations to Stage 2 were released beginning October 17, 2005. Ninety-seven (97) bidders were invited to submit program proposals via the web-based tool employed for Stage 1. No hard copies of the proposals were required. The web-based supply management application enabled SDG&E to centrally archive and retrieve bidder notifications and submittals.

Proposals were due initially on October 31, 2005. Due to the aggressive schedule to meet a December 9, 2005, compliance filing, and at the recommendation of the PRG, an extension was requested. It was determined that the broad scope of work to be conducted at Stage 2, on the part of both the bidders and SDG&E, would require more time than initially allotted. The bidders were expected to provide SDG&E with fully-developed program proposals, along with the necessary documentation to substantiate proposed energy savings (E3 Calculators, DEER-related materials, and/or workpapers). At the same time, SDG&E would have to perform a thorough review of a substantial number of proposals, validate engineering metrics for the projected energy savings, cost effectiveness, and levelized costs. SDG&E would also need sufficient time for portfolio integration. On October 27, 2005, SDG&E requested an extension of its compliance filing from December 9, 2005, to January 20, 2006. Administrative Law Judge Meg Gottstein granted the extension, and bidders were given an additional two weeks, to November 14, 2005, to provide Stage 2 proposals. This also enabled SDG&E an additional two weeks for its review and portfolio analysis.

Bidders were required to provide in their Stage 2 proposals their program implementation plan, addressing program strategy, portfolio fit, and track record. Bidders were also asked to demonstrate program innovation and how their proposals would minimize lost opportunities. In addition, Resource program proposals required completion of the E3 Calculator and DEER and/or other credible energy savings documentation. More refined budget information was requested to reflect the cost of administration, direct implementation, marketing, and outreach activities.

1. Questions and Answers

To further assist bidders with the bid process, SDG&E allowed them to submit questions by October 21, 2005, with responses provided to the bidders on October 26, 2005. Since many of the bidders were submitting proposals in both SDG&E and Southern California Gas Company (SoCalGas) service territories, the questions and responses were consolidated. Both utilities fielded a total of 86 bidder inquiries.

As in Stage 1, submittals were reviewed for completeness and were not advanced to proposal review if all bid components were not provided. Proposals were then distributed to SDG&E staff review teams for evaluation. Projected energy savings and cost effectiveness documentation was sent to a team of engineers and analysts for review. Composition of the teams was the same as those in Stage 1.

The review process was similar to that conducted in Stage 1, with individual team member reviews, scores and comments entered into an electronic scoring tool, and individual and overall team scores masked. Team members were unaware of the pre-established threshold for pass or fail, nor were they aware of the portfolio review protocols.

2. Stage 2 Evaluation Criteria

The evaluation criteria for Stage 2 were established as follows:

Table III.6: Resource Programs Targeted Residential, Non-Residential, Cross-Cutting

Criteria	Weights
Proposal Responsiveness	pass/fail
Projected Energy Savings	30%

Criteria	Weights
Cost Effectiveness (Levelized Costs, TRC/PAC Test)	25%
Program Implementation and Feasibility	25%
Program Innovation	15%
Minimizing Lost Opportunities	5%

Table III.7: Non-Resource Programs Targeted Residential, Non-Residential, Cross-Cutting

Criteria	Weights
Proposal Responsiveness	pass/fail
Cost Efficiencies	30%
Program Implementation and Feasibility	35%
Program Innovation	25%
Minimizing Lost Opportunities	10%

Table III.8: Resource Programs Innovative Solicitation

Criteria	Weights
Proposal Responsiveness	pass/fail
Projected Energy Savings	20%
Cost Effectiveness (Levelized Costs, TRC/PAC Tests)	20%
Program Implementation and Feasibility	20%
Program Innovation	35%
Minimizing Lost Opportunities	5%

Table III.9: Non-Resource Programs Innovative Program Idea Solicitation

Criteria	Weights
Proposal Responsiveness	pass/fail
Cost Efficiencies	25%
Program Implementation and Feasibility	25%
Program Innovation	45%
Minimizing Lost Opportunities	5%

Table III.10: Emerging Technology Commercialization Resource Programs

Criteria	Weights
Proposal Responsiveness	pass/fail
Projected Energy Savings	20%

Cost Effectiveness (Levelized Costs, TRC/PAC Tests)	20%
Program Implementation and Feasibility	20%
Program Innovation	35%
Minimizing Lost Opportunities	5%

The following table reflects the number of proposals received for Stage 2.

Table III.11: Stage 2 Responses

		Resource Program Proposals Submitted			**Non-Resource Program Proposals Submitted**		
No. of Invitations Issued for Stage 2	**No. of Proposals Received for Stage 2**	**Targeted**	**Innovative**	**Total Resource Program Proposals**	**Targeted**	**Innovative**	**Total Non-Resource Program Proposals**
97	94	17	39	**56**	20	18	**38**

The initial review for proposal completeness resulted in 82 bids that passed the Proposal Responsiveness criteria. Two bidders withdrew from Stage 2 prior to submitting proposals. One bidder withdrew after concluding their program was not responsive to what SDG&E was seeking, and another withdrew without providing an explanation.

3. Portfolio Review

Energy efficiency program managers from the mass markets and new construction residential and commercial/industrial conducted the portfolio reviews. Pre-established review protocols were used to ensure an unbiased assessment of the results of the proposal evaluations and to set in place what and how programs would be subsumed into the portfolio. The protocols evaluated and ranked proposals based on program design, projected energy savings, budgets, end use implementation and complementary utility portfolio elements. Proposals were also evaluated based on their score, SDG&E's portfolio needs, CPUC goals, and cost-effectiveness.

Portfolio managers assessed proposals ranked high to low for each targeted and innovative solicitation group and applied this methodology to bid results. Budget protocols were established with a minimum distribution of 85% for Resource proposals. A formula and criteria were established to determine total or partial replacement for existing SDG&E programs. The primary objective was to integrate complimentary competitive bid programs into the existing portfolio and avoid overlap.

4. Peer Review Group Input

The final Stage 2 bid results and portfolio selections were presented to the SDG&E PRG on December 15, 2005. After review and discussion regarding the scoring protocols for energy savings and cost effectiveness, the PRG recommended that the protocols be modified. Recommended changes were intended to better reflect the scoring metrics impacted by TRC and PAC results and how cost effectiveness was determined. The scores were adjusted and resulted in the following 18 proposal selections.

Table III.12: Final Selection Results

Resource Program Proposals Selected Stage 2			Non-Resource Program Proposals Selected Stage 2		
Targeted	Innovative	Total Resource Proposals Selected	Targeted	Innovative	Total Non-Resource Proposals Selected
4	7	11	4	3	7

Included in these selections are seven proposals also proposed in the SCE and/or SoCalGas service territories. The PRG concurred that adoption of these proposals would contribute toward the objective for statewide competitive bid programs.

IV. Demonstration of SDG&E's Compliance with D.05-09-043

SDG&E's Advice Letter and its attachments are in compliance with all applicable Commission's directives regarding the design and implementation of the 2006-2008 energy efficiency programs. SDG&E's addresses below the various Ordering Paragraphs ("OP") in D.05-06-043 required in this compliance filing.

A. Ordering Paragraph 7 (a): Inclusion of results of the competitive bid solicitation and the final program plans

SDG&E's final program selection through the competitive bid process and its final program plans are contained in Attachment 5 of this Advice Letter filing. These proposed third party and utility programs were discussed with its PRG.

B. Ordering Paragraph 7 (b): Re-calculation of portfolio cost-effectiveness and scenario analysis

SDG&E updated its calculation of its portfolio cost effectiveness based on its final programs and is shown in Attachment 4. SDG&E also developed the scenario analysis together with SCE, SoCalGas and PG&E and their respective PRGs. SDG&E's scenario analysis is shown in Attachment 3.

C. Ordering Paragraph 7 (c): Projections of energy savings and demand reductions to be achieved by the final portfolio including scenario analysis.

SD&GE provided the summaries of the program energy savings and demand reductions by year in Tables I.2, I.3 and I.4 with the detailed assumptions in Attachment 5. The scenario analysis is in Attachment 3.

D. Ordering Paragraph 7 (d): Additional program detail to reflect the statewide coordination plans.

SDG&E, together with the other utilities, conducted two statewide PAG meetings[1] to discuss statewide coordination and consistency among the utilities' implementation of the programs and rebate levels, in addition to various statewide subcommittee meetings, e.g., residential lighting, water heating, and statewide marketing. SDG&E has implemented the various statewide rebate and incentive levels that were presented at the August PAG meetings. In addition, SDG&E is committed to statewide PAG discussions to continue to enhance statewide coordination efforts.

E. Ordering Paragraph 7 (e): Overall bill estimates expected from the 2006-2008 program portfolio.

SDG&E's projected overall bill impacts by its gas and electric customer classes are included in Attachment 2.

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[1] Statewide PAG meetings were conducted on August 2 & 3, 2005 and November 8 & 9, 2005.

F. Ordering Paragraph 7 (f): PRG Assessment

SDG&E's PRG assessment is included in this Advice Letter as Attachment 6.

G. Ordering Paragraph 8: Use of the adopted evaluation criteria presented in Attachment 6.

SDG&E implemented the Decision's Attachment 6 adopted evaluation criteria in its recently completed competitive selection. SDG&E was worked closely with its PRG in evaluating its selection.

H. Ordering Paragraphs 9and 10: Conduct workshop to address issues regarding avoided costs and cost effectiveness calculator details used to estimate peak demand reductions and submittal of workshop report by November 1, 2005.

The utilities conducted a 2-day public workshop on October 3 and 4, 2005 with the E3 consultants leading the discussions regarding calculations of peak demand reduction assumptions, availability of load shapes to utilize the 8760 hours of avoided costs. Comments were solicited for the draft workshop report with the final workshop report submitted on November 1, 2005.

I. Ordering Paragraphs 11 and 12: Incorporate correction to lighting demand reduction and updated DEER estimated useful lives ("EUL").

SDG&E incorporated the updated DEER lighting inputs thereby modifying the demand reduction forecast for its residential lighting measures. All applicable measures offered in the portfolio are impacted by the updated DEER EULs. See Attachment 5 for program assumptions.

J. Ordering Paragraph 14: Incorporation of savings attributable to the pre-2006 codes and standards work as described OP 14 and complete sensitivity analysis to asses whether the 2006-2008 portfolio are expected to meet the savings goals.

SDG&E's portfolio includes the applicable savings attributable to the pre-2006 codes and standards efforts. This can be seen in Tables I.2, I.3 and I.4. The sensitivity analysis in Attachment 3 includes the scenarios "with and without" codes and standards savings. SDG&E's portfolio is expected to meet its goals under the "without" scenario.

K. Governor's Green Building Executive Order

SDG&E's portfolio includes opportunities for State agencies and departments, and other entities impacted by the Governor's Green Building Executive Order. The

utilities are also working with the CEC on various initiatives, e.g. benchmarking, that will facilitate the achievement of the goals established in this Executive Order.

Attachment 2

San Diego Gas & Electric Company

Bill Impact Analysis

Attachment 2 - Table 1: SDG&E Electric Proposed Class Average Rate and Bill Impacts - Energy Efficiency

		2006			2007			2008			2009			2010			2011			
Customer Class	2005 Average Bill ($)	Average Bill Change vs. 2005 ($)	Average Bill ($)	% Change vs. 2005 (%)	Average Bill Change vs. 2005 ($)	Average Bill ($)	% Change vs. 2005 (%)	Average Bill Change vs. 2005 ($)	Average Bill ($)	% Change vs. 2005 (%)	Average Bill Change vs. 2005 ($)	Average Bill ($)	% Change vs. 2005 (%)	Average Bill Change vs. 2005 ($)	Average Bill ($)	% Change vs. 2005 (%)	Average Bill Change vs. 2005 ($)	Average Bill ($)	% Change vs. 2005 (%)	Average Bill Change vs. 2005 ($)
Residential	72.54	(0.33)	72.20	-0.5%	(0.43)	72.10	-0.6%	(0.73)	71.81	-1.0%	(1.90)	70.64	-2.6%	(1.84)	70.69	-2.5%	(1.82)	70.71	-2.5%	(1.81)
Small Commercial	252.24	1.02	253.26	0.4%	3.25	255.50	1.3%	5.01	257.25	2.0%	(0.62)	251.62	-0.2%	(0.60)	251.64	-0.2%	(0.60)	251.65	-0.2%	(0.59)
Medium & Large C&I	5,061.59	(15.16)	5,046.42	-0.3%	29.89	5,091.48	0.6%	66.33	5,127.92	1.3%	(2.03)	5,059.56	0.0%	(1.97)	5,059.62	0.0%	(1.95)	5,059.64	0.0%	(1.93)
Agriculture	298.74	1.36	300.10	0.5%	4.56	303.29	1.5%	7.16	305.90	2.4%	(0.02)	298.72	0.0%	(0.02)	298.72	0.0%	(0.02)	298.72	0.0%	(0.02)
Streetlights	222.00	(1.52)	220.48	-0.7%	(0.11)	221.89	0.0%	1.04	223.04	0.5%	(0.02)	221.98	0.0%	(0.02)	221.98	0.0%	(0.02)	221.98	0.0%	(0.02)

Data Sources:
Rate Impacts: Appendix B, Table 2 of the Direct Testimony of Lisa Davidson
Davidson (for 2006 only). Versions of the same model were used to calculate 2007 and 2008 bill impacts.
Average Bills calculated using average usage * class average rate.

Attachment 2 - Table 1: SDG&E Electric Proposed Class Average Rate and Bill Impacts - Energy Efficiency

	2012		2013			2014			2015			2016			2017		
Customer Class	Average Bill ($)	% Change vs. 2005 (%)	Average Bill Change vs. 2005 ($)	Average Bill ($)	% Change vs. 2005 (%)	Average Bill Change vs. 2005 ($)	Average Bill ($)	% Change vs. 2005 (%)	Average Bill Change vs. 2005 ($)	Average Bill ($)	% Change vs. 2005 (%)	Average Bill Change vs. 2005 ($)	Average Bill ($)	% Change vs. 2005 (%)	Average Bill Change vs. 2005 ($)	Average Bill ($)	% Change vs. 2005 (%)
Residential	70.73	-2.5%	(1.80)	70.74	-2.5%	(1.84)	70.70	-2.5%	(1.88)	70.66	-2.6%	(1.36)	71.18	-1.9%	(0.75)	71.79	-1.0%
Small Commercial	251.65	-0.2%	(0.59)	251.65	-0.2%	(0.60)	251.64	-0.2%	(0.62)	251.63	-0.2%	(0.44)	251.80	-0.2%	(0.24)	252.00	-0.1%
Medium & Large C&I	5,059.65	0.0%	(1.92)	5,059.67	0.0%	(1.96)	5,059.62	0.0%	(2.01)	5,059.58	0.0%	(1.45)	5,060.14	0.0%	(0.80)	5,060.79	0.0%
Agriculture	298.72	0.0%	(0.02)	298.72	0.0%	(0.02)	298.72	0.0%	(0.02)	298.72	0.0%	(0.02)	298.72	0.0%	(0.01)	298.73	0.0%
Streetlights	221.98	0.0%	(0.02)	221.98	0.0%	(0.02)	221.98	0.0%	(0.02)	221.98	0.0%	(0.02)	221.98	0.0%	(0.01)	221.99	0.0%

Attachment 2 - Table 2: SDG&E Gas Program Class Average Bill Impacts - Energy Efficiency

		(1) Annual Consumption	2006	2007	2008	2009	2010	2011
(2)	**Total Avg Annual Bill Excl EE Program**							
	Residential	400	$578	$565	$564	$553	$544	$545
	Core C&I	5,500	$6,560	$6,369	$6,361	$6,204	$6,088	$6,100
	Noncore C&I	700,000	$701,979	$677,682	$676,647	$656,709	$641,930	$643,514
(3)	**Total Avg Bill Including EE Cost/Benefits**							
	Residential	400	$579	$565	$563	$550	$541	$542
	Core C&I	5,500	$6,611	$6,374	$6,327	$6,026	$5,915	$5,927
	Noncore C&I	700,000	$709,862	$678,535	$671,448	$629,187	$615,148	$616,652
	Difference in Avg Bills with EE Program							
	Residential	400	$1	$0	($1)	($3)	($3)	($3)
	Core C&I	5,500	$51	$6	($34)	($178)	($173)	($174)
	Noncore C&I	700,000	$7,883	$854	($5,199)	($27,522)	($26,782)	($26,862)

Assumptions;

(1) Annual Consumption (in therms) is the approximate class average consumption per customer for residential, core C&I, and noncore C&I customer classes.

(2) Total average bill excluding an energy efficiency program is calculated as the sum of transportation rates, PPP rates excluding energy efficiency expenses, and the commodity rate assumed in the average annual avoided cost calculation multiplied by the annual class average consumption per customer.

(3) Total average bill including the costs and benefits associated with an energy efficiency program is calculated as the annual bill excluding an energy efficiency program plus the annual net cost or net benefit associated with the energy efficiency program.

The net annual benefits are distributed to the customer classes according to the percentage allocation adopted in the 2006-2008 EE decision. This allocation represents the relative share of program expenses that are expected to be directly spent on each customer class over the three year program period. The allocation for SDG&E is approximately 27% for residental, 59% for core C&I and 14% for noncore C&I gas customers.

Attachment 2 - Table 2: SDG&E Gas Program Class Average Bill Impacts - Energy Efficiency

2012	2013	2014	2015	2016	2017	2018	2019	2020
$547	$549	$562	$577	$589	$602	$620	$639	$657
$6,122	$6,148	$6,337	$6,543	$6,702	$6,879	$7,125	$7,388	$7,640
$646,274	$649,591	$673,670	$699,882	$720,116	$742,609	$773,891	$807,327	$839,515
$544	$546	$559	$574	$587	$601	$620	$639	$657
$5,948	$5,972	$6,154	$6,351	$6,569	$6,811	$7,125	$7,388	$7,640
$619,274	$622,425	$645,299	$670,198	$699,448	$732,118	$773,891	$807,327	$839,515
($3)	($3)	($3)	($3)	($2)	($1)	$0	$0	$0
($175)	($176)	($184)	($192)	($134)	($68)	$0	$0	$0
($27,000)	($27,166)	($28,371)	($29,684)	($20,669)	($10,491)	$0	$0	$0

Assumptions;

Annual Consumption (in therms) is the approximate class average consumption per customer for residential, core C&I, and noncore C&I customer classes.

Total average bill excluding an energy efficiency program is calculated as the sum of transportation rates, PPP rates excluding energy efficiency expenses, and the commodity rate assumed in the average annual avoided cost calculation multiplied by the annual class average consumption per customer.

Total average bill including the costs and benefits associated with an energy efficiency program is calculated as the annual bill excluding an energy efficiency program plus the annual net cost or net benefit associated with the energy efficiency program.

The net annual benefits are distributed to the customer classes according to the percentage allocation adopted in the 2006-2008 EE decision. This allocation represents the relative share of program expenses that are expected to be directly spent on each customer class over the three year program period. The allocation for SDG&E is approximately 27% for residental, 59% for core C&I and 14% for noncore C&I gas customers.

Attachment 2 - Table 3: SDG&E 2006-2008 Energy Efficiency Program Plans Average Bill Impacts - Detail

ELECTRIC		**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
E-3 AVERAGE ANNUAL AVOIDED COSTS									
$/MWhr		$86.19	$82.47	$82.14	$80.29	$79.05	$79.34	$79.92	$80.54
PROGRAM COSTS **(PC)**	$	74,746,443	$ 84,896,840	$ 98,964,439					
Annual Net Energy Savings (MWh)									
2006		280,658	280,658	280,658	280,658	280,658	280,658	280,658	280,658
2007			323,193	323,193	323,193	323,193	323,193	323,193	323,193
2008				369,669	369,669	369,669	369,669	369,669	369,669
Total		280,658	603,851	973,520	973,520	973,520	973,520	973,520	973,520
Average Useful Life of Measures in Portfolio (yrs):	10								
AVOIDED COSTS **(AC)**		$24,189,534	$49,799,233	$79,960,978	$78,168,791	$76,959,685	$77,242,937	$77,805,295	$78,412,177
Net Benefits	$	50,556,909	$ 35,097,607	$ 19,003,461	$ (78,168,791)	$ (76,959,685)	$ (77,242,937)	$ (77,805,295)	$ (78,412,177)

GAS		**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
E-3 AVERAGE ANNUAL AVOIDED COSTS									
$/therm		$0.85	$0.82	$0.81	$0.79	$0.76	$0.77	$0.77	$0.78
PROGRAM COSTS **(PC)**	$	5,626,076	$ 6,390,085	$ 7,448,937					
Annual Net Energy Savings (therms)									
2006		3,656,529	3,656,529	3,656,529	3,656,529	3,656,529	3,656,529	3,656,529	3,656,529
2007			3,846,390	3,846,390	3,846,390	3,846,390	3,846,390	3,846,390	3,846,390
2008				3,689,912	3,689,912	3,689,912	3,689,912	3,689,912	3,689,912
Total		3,656,529	7,502,919	11,192,831	11,192,831	11,192,831	11,192,831	11,192,831	11,192,831
Average Useful Life of Measures in Portfolio (yrs):	10								
AVOIDED COSTS **(AC)**		$3,108,215	$6,117,393	$9,109,363	$8,790,568	$8,554,254	$8,579,574	$8,623,700	$8,676,739
Net Benefits	$	2,517,861	$ 272,692	$ (1,660,426)	$ (8,790,568)	$ (8,554,254)	$ (8,579,574)	$ (8,623,700)	$ (8,676,739)

Attachment 2 - Table 3: SDG&E 2006-2008 Energy Efficiency Program Plans Average Bill Impacts - Detail

ELECTRIC	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
E-3 AVERAGE ANNUAL AVOIDED COSTS							
	$83.52	$86.71	$89.19	$91.90	$95.53	$99.38	$103.04
PROGRAM COSTS **(PC)**							
Annual Net Energy Savings (MWh)							
	280,658	280,658	0	0	0	0	0
	323,193	323,193	323,193	0	0	0	0
	369,669	369,669	369,669	369,669	0	0	0
	973,520	973,520	692,862	369,669	0	0	0
Average Useful Life of Measure							
AVOIDED COSTS **(AC)**	$81,304,429	$84,410,999	$61,796,633	$33,973,279	$0	$0	$0
Net Benefits	$ (81,304,429)	$ (84,410,999)	$ (61,796,633)	$ (33,973,279)	$ -	$ -	$ -

GAS	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
E-3 AVERAGE ANNUAL AVOIDED COSTS							
	$0.81	$0.85	$0.88	$0.91	$0.95	$1.00	$1.05
PROGRAM COSTS **(PC)**							
Annual Net Energy Savings (therms)							
	3,656,529	3,656,529	0	0	0	0	0
	3,846,390	3,846,390	3,846,390	0	0	0	0
	3,689,912	3,689,912	3,689,912	3,689,912	0	0	0
	11,192,831	11,192,831	7,536,302	3,689,912	0	0	0
Average Useful Life of Measure							
AVOIDED COSTS **(AC)**	$9,061,763	$9,480,880	$6,601,470	$3,350,768	$0	$0	$0
Net Benefits	$ (9,061,763)	$ (9,480,880)	$ (6,601,470)	$ (3,350,768)	$ -	$ -	$ -

Attachment 3

San Diego Gas & Electric Company

Sensitivity Analysis

Attachment 3 - Table 1: List of Scenarios

Scenarios		
Scenario #	***Scenario Name***	***Description***
Scenario 1:	**Base Case**	**As Filed in Compliance Filing**
Scenario 2:	75% of Current NTG Ratios	Impact on Cost Effectiveness, Energy Savings, and Demand Reductions due to a reduction in the NTG Ratios to 75% of forecasted.
Scenario 3:	50% of Current NTG Case	Impact on Cost Effectiveness, Energy Savings, and Demand Reductions due to a reduction in the NTG Ratios to 75% of forecasted.
Scenario 4:	Breakeven NTG Case	% Reduction in NTG Ratios at which Both TRC and PAC are both 1.0 or greater, and kWh, kW, and Therm goals are Achieved.
Scenario 5:	Partnerships & Third Party Programs 75% Impacts	Impact on Cost Effectiveness and Energy Savings due to a reduction in the Impact Forecasts of Partnerships & Third Party Programs to 75% of forecasted. Assumes underused funds not shifted to other programs.
Scenario 6:	Partnerships & Third Party Programs 50% Impacts	Impact on Cost Effectiveness and Energy Savings due to a reduction in the Impact Forecasts of Partnerships & Third Party Programs to 50% of forecasted. Assumes underused funds not shifted to other programs.
Scenario 7:	Breakeven Partnerships & Third Party Programs Impacts	% Reduction in Impact Forecasts of Partnerships & Third Party Programs at which Costs = Benefits, Therm Achieved = Therm Goal. Assumes underused funds not shifted to other programs.
Scenario 8:	Codes and Standards Case	Impact on Energy Savings and Demand Reduction Including 50% of 2006-2008 C&S Pgms ex ante impacts. Not Applicable to Cost Effectiveness Scenarios per D.05-09-043.

Attachment 3 - Table 2: Cost Effectiveness Scenarios

Scenario Results - Cost-Effectiveness										
Scenario #	***Scenario Name***	***Portfolio Resource Benefits (RBn)*** **($ millions)**	***Portfolio TRC Costs*** **($ millions)**	***Portfolio TRC Net Benefits*** **($ millions)**	***TRC*** **Ratio**	***Portfolio PAC Costs*** **($ millions)**	***Portfolio PAC Net Benefits*** **($ millions)**	***PAC*** **Ratio**	***Change in Current NTG Ratios*** **(%)**	***Change in Impact Forecasts*** **(%)**
		(a)	*(b)*	*(c) = (a) - (b)*	*(d) = (a) / (b)*	*(e)*	*(f) = (a) - (e)*	*(g) = (a) / (e)*		
Scenario 1:	**Base Case**	**$654**	**$349**	**$305**	**1.87**	**$260**	**$394**	**2.52**	**Not Applicable**	**Not Applicable**
Scenario 2:	75% of Current NTG Ratios	$490	$295	$195	1.66	$260	$231	1.89	75%	Not Applicable
Scenario 3:	50% of Current NTG Case	$327	$241	$86	1.35	$260	$67	1.26	50%	Not Applicable
Scenario 4:	Breakeven NTG Case	$588	$328	$261	1.80	$260	$329	2.27	90%	Not Applicable
Scenario 5:	Partnerships & Third Party Programs 75% Impacts	$616	$349	$266	1.76	$260	$356	2.37	Not Applicable	75%
Scenario 6:	Partnerships & Third Party Programs 50% Impacts	$577	$349	$228	1.65	$260	$317	2.22	Not Applicable	50%
Scenario 7:	Breakeven Partnerships & Third Party Programs Impacts	$611	$349	$262	1.75	$260	$351	2.35	Not Applicable	0%
Scenario 8:	Codes and Standards Case	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Attachment 3 - Table 3: Program Impact Scenarios

Scenario Results - Program Impacts												
Scenario #	***Scenario Name***	***Portfolio Electric Energy Savings Through 2008*** **(GWh)**	***Portfolio Electric Demand Reductions Through 2008*** **(MW)**	***Portfolio Gas Savings Through 2008*** **(MTherm)**	***Portfolio Energy Savings Cumulative Goal*** **(GWh)**	***Portfolio Electric Demand Reduction Cumulative Goal*** **(MW)**	***Portfolio Gas Savings Cumulative Goal*** **(MTherm)**	***% of Portfolio Electric Energy Savings Goal*** **(%)**	***% of Portfolio Electric Demand Reduction Goal*** **(%)**	***% of Portfolio Gas Savings Goal*** **(%)**	***Change in Current NTG Ratios*** **(%)**	***Change in Impact Forecasts*** **(%)**
		(a)	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*	*(g) = (a)/(d)*	*(h) = (b)/(e)*	*(i) = (c)/(f)*		
Scenario 1:	**Base Case [1]**	**944**	**207**	**10,928**	**850**	**163**	**9,500**	**111%**	**127%**	**115%**	**Not Applicable**	**Not Applicable**
Scenario 2:	75% of Current NTG Ratios	708	155	8,196	850	163	9,500	83%	95%	86%	75%	Not Applicable
Scenario 3:	50% of Current NTG Case	472	103	5,464	850	163	9,500	56%	63%	58%	50%	Not Applicable
Scenario 4:	Breakeven NTG Case	**849**	**186**	**9,835**	**850**	**163**	**9,500**	**100%**	**114%**	**104%**	**99%**	**Not Applicable**
Scenario 5:	Partnerships & Third Party Programs 75% Impacts	904	191	9,657	850	163	9,500	106%	118%	102%	Not Applicable	75%
Scenario 6:	Partnerships & Third Party Programs 50% Impacts	865	176	8,385	850	163	9,500	102%	108%	88%	Not Applicable	50%
Scenario 7:	Breakeven Partnerships & Third Party Programs Impacts	**900**	**190**	**9,504**	**850**	**163**	**9,500**	**106%**	**116%**	**100%**	**Not Applicable**	**72%**
Scenario 8:	Codes and Standards Case	974	215	11,208	850	163	9,500	115%	132%	118%	Not Applicable	Not Applicable

[1] Does not include the impacts of Codes and Standards programs or Pre-2006 programs.

Attachment 4

San Diego Gas & Electric Company

Energy Division Workbook
Attachments I & II

Attachment I. Summary Table for Executive Summary

Projected Program Impacts By Year

	2006		2007		2008	
	Total	% of 2006 Goal	Total	% of 2007 Goal	Total	% of 2008 Goal
Energy Savings – Electricity						
Annual Net Electricity Savings (GWh/yr)	287	102%	329	115%	376	132%
CPUC Electricity Target (GWh/yr)	281	0%	285	0%	284	0%
Annual Net Peak Demand Savings (MW)	59	108%	71	132%	88	164%
CPUC Peak Demand Target (MW)	55	0%	54	0%	54	0%
Annual Net Therm Savings (MTh/yr)	3,813	141%	4,003	129%	3,846	104%
CPUC Therm Target (MTh/yr)	2,700	0%	3,100	0%	3,700	0%

Portfolio Cost Effectiveness

Costs and Benefits*	
Total costs to billpayers (TRC)	$ 349,108,802
Total savings to billpayers (TRC)	$ 653,881,041
Net benefits to billpayers (TRC)	$ 304,772,239
TRC Ratio	1.87
PAC Ratio	2.51
Cost per kWh saved (cents / kWh) (PAC)	0.03669
Cost per therm saved ($ / therm) (PAC)	0.21579

* Note: Does not include costs or benefits associated with the low-income energy efficiency programs.

Environmental Benefits						
Lifecycle CO2 Emission Reductions (tons)	1,829,031		2,118,296		2,413,264	
Lifecycle NOx Emission Reductions (tons)	539		618		645	
Lifecycle SO2 Emission Reductions (tons)	n/a		n/a		n/a	

*Note: Energy savings include savings from the low-income energy efficiency programs, whereas the costs and benefits are only for the standard energy efficiency programs.

Attachment II

Table 1: Projected Program Impacts By Year

	2006		2007		2008	
	Total	% of 2006 Goal	Total	% of 2007 Goal	Total	% of 2008 Goal
Energy Savings – Electricity						
Annual Net Electricity S	287	102%	329	115%	376	132%
LIEE (GWh/yr)	6		6		6	
EE (GWh/yr)	281		323		369.67	
Annual Net Electricity G	281		285		284	
Lifecycle Net Electricity	2,910		3,369		3,890	
LIEE (GWh)	86		86		86	
EE (GWh)	2,824		3,282		3,804	
Cumulative Net Electric	287	102%	616	109%	992	117%
LIEE (GWh/yr)	6		12		18	
EE (GWh/yr)	281		604		974	
Cumulative Net Electric	281		566		850	
Annual Net Peak Dema	59	108%	71	132%	88	164%
LIEE (MW)	1		1		1	
EE (MW)	58		70		87	
Annual Net Peak Dema	55		54		54	
Cumulative Net Peak Sa	59	108%	130	120%	219	134%
LIEE (MW)	1		2		3	
EE (MW)	58		128		215	
Cumulative Net Peak G	55		109		163	

Attachment II

Table 1: Projected Program Impacts By Year

	2006		2007		2008	
	Total	% of 2006 Goal	Total	% of 2007 Goal	Total	% of 2008 Goal
Energy Savings – Natural Gas						
Annual Net Therm Savi	3,813	141%	4,003	129%	3,846	104%
LIEE (MTh/yr)	157		156		156	
EE (MTh/yr)	3,657		3,846		3,690	
Annual Net Therm Goal	2,700		3,100		3,700	
Lifecycle Net Therm Sa	46,226		49,715		49,215	
LIEE (MTh)	1,581		1,571		1,571	
EE (MTh)	44,644		48,143		47,643	
Cumulative Net Therm S	3,813	141%	7,816	135%	11,662	123%
LIEE (MTh/yr)	157		313		469	
EE (MTh/yr)	3,657		7,503		11,193	
Cumulative Net Therm	2,700		5,800		9,500	
Environmental Benefits						
Annual CO2 Emission R	178,171		204,443		229,927	
Lifecycle CO2 Emission	1,829,031		2,118,296		2,413,264	
Annual NOx Emission R	48		54		56	
Lifecycle NOx Emission	539		618		645	
Annual SO2 Emission R	n/a		n/a		n/a	
Lifecycle SO2 Emission	n/a		n/a		n/a	

Attachment II

Table 2: Projected Funding By Year

	2006		2007		2008	
	Total	% of Total	Total	% of Total	Total	% of Total
Total EE Program bud	**$80,372,519**	**29%**	**$91,286,925**	**32.83%**	**$106,413,376**	**38%**
PGC Budget	$55,579,519		$44,036,179		$43,269,301	
Procurement Budget	$24,793,000		$47,250,746		$63,144,075	

Table 3: Portfolio Cost Effectiveness

Costs and Benefits*	
Total costs to billpayers	$ 349,108,802
Total savings to billpaye	$ 653,881,041
Net benefits to billpayer	$ 304,772,239
TRC Ratio	1.87
PAC Ratio	2.51
Cost per kWh saved (ce	$0.0367
Cost per therm saved ($	$0.2158

* Note: Does not include costs or benefits associated with the low-income energy efficiency programs.

Attachment II

Table 4: Projected Funding and Energy Savings by Sector

	Funding	% of Total	Savings (Net kWh)	% of Total	Savings (Net Therms)	% of Total
Residential	$ 36,857,198	13%	100,768,045	10%	2,361,836	21%
Residential New Constr	$ 8,513,580	3%	6,964,982	1%	248,860	2%
Non-Residential	$ 143,125,557	51%	523,717,645	54%	7,137,661	64%
Non-Residential New C	$ 13,599,939	5%	20,660,512	2%	351,503	3%
Other	$ 75,976,546	27%	321,409,100	33%	1,092,971	10%
Total Funding	**$ 278,072,820**		**973,520,284**		**11,192,831**	

Table 5: Projected Funding and Energy Savings by Implementer

	Funding	% of Total	Savings (Net kWh)	% of Total	Savings (Net Therms)	% of Total
Utility	$ 192,646,903	69%	816,890,770	84%	6,122,757	55%
Partnership	$ 25,534,574	9%	35,526,180	4%	1,780,889	16%
Third Party	$ 59,891,343	22%	121,103,335	12%	3,289,185	29%
Total Funding	**$ 278,072,820**		**973,520,284**		**11,192,831**	

Table 6: Projected Funding and Savings by Geographical Scope

	Funding	% of Total	Savings (Net kWh)	% of Total	Savings (Net Therms)	% of Total
Statewide	$ 137,993,220	50%	562,370,034	58%	6,913,521	62%
Local	$ 140,079,600	50%	411,150,250	42%	4,279,310	38%
Total Funding	**$ 278,072,820**		**973,520,284**		**11,192,831**	

Attachment II

Table 7: Projected Savings by End-use

	MW	% of Total	GWh	% of Total	MTh	% of Total
Total	215.0587009		973.5202844		11192.83088	
Space Cooling/Heating	54.14082387	25%	160.022113	16%	3716.577285	33%
Lighting	90.53918262	42%	577.0912434	59%	-24.90293422	0%
Refrigeration	9.192399956	4%	74.88742175	8%	65.31103093	1%
Water Heating	0.370145964	0%	2.512320399	0%	4043.441196	36%
Other	60.8161485	28%	159.0071859	16%	3392.404305	30%
Residential	70.55675271	33%	384.2213921	39%	2361.83569	21%
Space Cooling/Heating	2.678405566	1%	2.938923553	0%	319.9487933	3%
Lighting	29.69061623	14%	304.9988834	31%	0	0%
Refrigeration	6.562470075	3%	43.01581966	4%	0	0%
Water Heating	0.270808835	0%	0.928165463	0%	2041.886897	18%
Other	31.354452	15%	32.3396	3%	0	0%
Nonresdential	133.8683165	62%	561.6733985	58%	8230.631789	74%
Space Cooling/Heating	40.82878661	19%	129.4576956	13%	2796.265088	25%
Lighting	60.84856639	28%	272.0923599	28%	-24.90293422	0%
Refrigeration	2.629929881	1%	31.87160209	3%	65.31103093	1%
Water Heating	0.099337129	0%	1.584154936	0%	2001.554299	18%
Other	29.4616965	14%	126.6675859	13%	3392.404305	30%
Residential New Constructi	6.088319128	3%	6.964982116	1%	248.8602409	2%
Space Cooling/Heating	6.088319128	3%	6.964982116	1%	248.8602409	2%
Lighting		0%		0%		0%
Refrigeration		0%		0%		0%
Water Heating		0%		0%		0%
Other		0%		0%		0%
Nonresdential New Constru	4.545312568	2%	20.66051167	2%	351.5031632	3%
Space Cooling/Heating	4.545312568	2%	20.66051167	2%	351.5031632	3%
Lighting		0%		0%		0%
Refrigeration		0%		0%		0%
Water Heating		0%		0%		0%
Other		0%		0%		0%

Attachment II

Table 8: Other End-use Projected Savings Breakdown

	MW	GWh	MTh
Cooking	0.52	2.33	339.20
Process Optimization	0.64	5.47	810.75
Pool Pumps	31.38	32.34	-
SPC	3.66	29.41	501.29
BID	4.40	37.29	408.88
Third Party Programs	11.06	16.92	183.17
Partnerships	0.29	2.89	869.12
Other	8.86	32.35	280.00
Total	60.82	159.01	3,392.40

Attachment 5

San Diego Gas & Electric Company

Program Concept Papers

San Diego Gas & Electric Company

2006-2008 Energy Efficiency Programs

Program Concept Papers

February 1, 2006

Table of Contents

Table of Contents

RESIDENTIAL PROGRAMS

2006-2008 Energy Efficiency Programs
Limited Income Refrigerator Replacement Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 51,930	$ 51,930	$ 51,930
Administrative Other	$ 10,620	$ 10,544	$ 10,464
Marketing & Outreach	$ -	$ -	$ -
Direct Implementation			
Incentives	$ 1,020,905	$ 1,020,905	$ 1,020,905
Activity	$ 3,000	$ -	$ -
Installation	$ -	$ -	$ -
Hardware & Materials	$ 1,500	$ 4,500	$ 4,500
Rebate Processing & Inspection	$ 2,565	$ 2,642	$ 2,721
EM&V	$ -	$ -	$ -
Total	*$ 1,090,520*	*$ 1,090,520*	*$ 1,090,519*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
1,998,100	283	-	1,998,100	283	-	1,998,100	283	-

3. Program Cost Effectiveness-Attached

Attached.

4. Program Descriptors

The Limited Income Refrigerator Replacement Program provides refrigerator replacement to limited income customers at no cost. To qualify, customers must be marginally above the Low Income Energy Efficiency (LIEE) program income guidelines but under 250% of the Federal Poverty Guidelines. Program income eligibility, removal of existing unit and delivery of new, efficient refrigerator will be subcontracted to LIEE contractor for a more streamlined enrollment process.

5. Program Statement

This program provides no-cost refrigerator replacement to limited income customers targeted by the LIEE Program who do not have funds immediately available to pay for energy efficient refrigerators. Participation will be limited to customers who have a refrigerator that is at least 10 years old, and can supply income verification and property owner permission (*renters*).

6. Program Rationale

The 2004-05 LIRRL program has been successful at reaching limited income customers who do not income-qualify for LIEE but do need assistance with the purchase of higher-cost energy-efficient appliances. Lost opportunities are minimized because the LIEE Outreach specialists will be able to offer program

measures to customers who income-qualify and have older, in-efficient refrigerators.

7. Program Outcomes

The program objective is to produce cost-effective long-term coincident peak demand reduction and long-term annual energy savings by encouraging customers who may not have the financial means to invest in one of the major appliances.

8. Program Strategy

By leveraging directly with the LIEE Program, limited income customers will be targeted for early appliance retirement and quality installation of energy-efficient residential installation.

In addition, the program outreach will include leveraging with the Lighting Turn-In and other programs to distribute information and application forms to participants.

8.1.1. Program Strategy Description

Customers respond to SDG&E marketing or LIEE Contractor-canvassing in target areas or any customer that might learn about the program from other sources:

- LIEE Contractor schedules appointment for income verification and assessment of existing refrigerator *(retrofit only, existing unit ten years or older)*. Customers will receive similar size to replace existing unit. Assessment entered into tracking system with income verification status.
- In home energy specialist provides additional program information including FERA and Lighting Turn-in & Education.
- Contractor sets appointment for refrigerator replacement and removal of old unit.
- SDG&E receives invoices and signed customer acceptance for new refrigerator.

8.1.2. Program Indicators

The primary goal of the program strategy is to procure energy savings and demand reduction by installing a target of up to 1500 energy-efficient refrigerators each year.

9. Program Implementation

Customers respond to SDG&E marketing or LIEE Contractor-canvassing in target areas or any customer that might learn about the program from other sources:

- LIEE Contractor schedules appointment for income verification and assessment of existing refrigerator *(retrofit only, existing unit ten*

years or older). Customers will receive similar size to replace existing unit. Assessment entered into tracking system with income verification status.

- In home energy specialist provides additional program information including FERA and Lighting Turn-in & Education.
- Contractor sets appointment for refrigerator replacement and removal of old unit.
- SDG&E receives invoices and signed customer acceptance for new refrigerator.

10. Customer Description

The LIRR Program will target limited income customers who are marginally above the income qualification in LIEE but within 250% of Federal Poverty Guidelines. Marketing will be coordinated with the LIEE Program.

11. Customer Interface

Program coordination with LIEE will be seamless for the customer. If they are approached for possible participation in the LIEE program and do not income qualify, but *are* within the LIRR Program income guidelines, an assessment of the refrigerator will be performed. If the existing unit qualifies for replacement, the customer will be offered a new energy efficient unit. The customer will also receive program information on the Family Electric Rate Assistance Program and the Local Lighting Turn-in & Education Program.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

12.2. kWh Level Data.

See SDG&E February 1, 2006 Filing Workbook.

12.3. Non-energy Activities - None

12.3.1. Activity Description

12.3.2. Quantitative Activity Goals

12.3.3. Assigned attributes of the activity (market sector, end use)

13. Subcontractor Activities

The subcontractor for the LIEE program will also be responsible for the delivery of the LIRR Program. The LIEE Outreach Specialist will approach the targeted limited-income customers and enroll the customers for one of the two programs,

depending on income guidelines and existing refrigerator age. The subcontractor will be responsible for removal and recycling of old unit and delivery of new, energy-efficient unit.

14. Quality Assurance and Evaluation Activities

SDGE performs inspection and customer follow-up on 10% of installations. An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E looks forward to participating and commenting on those activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs.

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15. Marketing Activities

Direct Mail coordination with LIEE, marketing at events, telemarketing to customers that do not respond to direct mail approach.

16. CPUC Objective

By coordinating with LIEE outreach efforts, lost opportunities are minimized by transitioning income-qualified customers into the LIRR Program. By replacing old, in-efficient refrigerators with new, efficient units, limited income customers should see immediate as well as long-term load reduction.

	SDGE3015 LIR-Limited Income Refrigerator Replacement	
BUDGET		
Administrative Costs	**$**	**187,416**
Overhead and G&A	$	155,789
Other Administrative Costs	$	31,627
Marketing/Outreach	**$**	**-**
Direct Implementation	**$**	**3,084,143**
Total Incentives and Rebates		
User Input Incentive	$	-
Direct Install Rebate	$	3,062,715
Direct Install Labor	$	-
Direct Install Materials	$	-
Activity	$	3,000
Installation	$	-
Hardware & Materials	$	10,500
Rebate Processing & Inspection	$	7,928
EM&V Costs	**$**	**-**
Budget	**$**	**3,271,559**
Costs recovered from other sources	**$**	**-**
Budget (plus other costs)	**$**	**3,271,559**
PROGRAM IMPACTS		
User Entered kW (kW)		849
Net Jul-Sept Peak (kW)		816
Net Dec-Feb Peak (kW)		816
Net NCP (kW)		748
Net CEC (kW)		1,301
Annual Net kWh		5,994,300
Lifecycle Net kWh		59,943,000
Annual Net Therms		-
Lifecycle Net Therms		-
Cost Effectiveness		
TRC		
Costs	$	2,385,133
Electric Benefits	$	3,363,364
Gas Benefits	$	-
Net Benefits (NPV)	$	978,231
BC Ratio		1.41
PAC		
Costs	$	2,929,205
Electric Benefits	$	3,363,364
Gas Benefits	$	-
Net Benefits (NPV)	$	434,159
BC Ratio		1.15
Levelized Cost		
Levelized Cost TRC ($/kWh)		
Discounted kWh		39,301,328
Cost	$	0.0607
Benefits	$	0.0856
Benefit-Cost	$	0.0249
Levelized Cost PAC ($/kWh)		
Discounted kWh		39,301,328
Cost	$	0.0745
Benefits	$	0.0856
Benefit-Cost	$	0.0110
Levelized Cost TRC ($/therm)		
Discounted Therms		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-
Levelized Cost PAC ($/therm)		
Discounted Therms		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-

Limited Income Refrigerator Replacement

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 1,090,520	$ 1,020,905	$ 69,615	1,998,100	-	283
2007	$ 1,090,520	$ 1,020,905	$ 69,615	1,998,100	-	283
2008	$ 1,090,520	$ 1,020,905	$ 69,615	1,998,100	-	283

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	216001	13 Watt CFL Interior	21	-	0.00	0.89	Bulb	9.4	-	$ 3.00	$ 9.86	-	-	-
2006	216002	20 Watt CFL Interior	42	-	0.00	0.89	Bulb	9.4	-	$ 3.00	$ 9.86	-	-	-
2006	216003	13 Watt CFL Exterior	28	-	-	0.89	Lamp	7.07	-	$ 3.00	$ 9.86	-	-	-
2006	216004	13 Watt Porchlight (fixture)	31	-	-	0.89	Unit	16	-	$ 41.69	$ 41.69	-	-	-
2006	216005	Torchiere Lamp	184	-	0.02	0.89	Bulb	9	-	$ 67.88	$ 22.63	-	-	-
2006	216006	Ceiling Fixture (30 Watt)	77	-	0.01	0.89	Bulb	16	-	$ 55.45	$ 55.45	-	-	-
2006	216007	Refrigerator - Early Replacement (15 cubic ft)	1,537	-	0.22	0.8	Unit	10	500	$ 560.90	$ 560.90	614,800	-	87
2006	216008	Refrigerator - Early Replacement (17 cubic ft)	1,537	-	0.22	0.8	Unit	10	625	$ 622.20	$ 622.20	768,500	-	109
2006	216009	Refrigerator - Early Replacement (19 cubic ft)	1,537	-	0.22	0.8	Unit	10	400	$ 697.70	$ 697.70	491,840	-	70
2006	216010	Refrigerator - Early Replacement (21 cubic ft)	1,537	-	0.22	0.8	Unit	10	100	$ 725.00	$ 725.00	122,960	-	17
2006	216011	23 Watt Intergral CFL	59	-	0.01	0.89	Bulb	9.4	-		$ 9.86	-	-	-
2007	216001	13 Watt CFL Interior	21	-	0.00	0.89	Bulb	9.4	-	$ 3.00	$ 9.86	-	-	-
2007	216002	20 Watt CFL Interior	42	-	0.00	0.89	Bulb	9	-	$ 3.00	$ 9.86	-	-	-
2007	216003	13 Watt CFL Exterior	27.5	0	0	0.89	Lamp	7.07	0	$ 3.00	$ 9.86	-	-	-
2007	216004	13 Watt Porchlight (fixture)	30.55	0	0	0.89	Unit	16	0	$ 41.69	$ 41.69	-	-	-
2007	216005	Torchiere Lamp	183.5001	0	0.0178605	0.89	Bulb	9	0	$ 67.88	$ 22.63	-	-	-
2007	216006	Ceiling Fixture (30 Watt)	76.869	0	0.00729	0.89	Bulb	16	0	$ 55.45	$ 55.45	-	-	-
2007	216007	Refrigerator - Early Replacement (15 cubic ft)	1537	0	0.21758	0.8	Unit	10	500	$ 560.90	$ 560.90	614,800	-	87
2007	216008	Refrigerator - Early Replacement (17 cubic ft)	1537	0	0.21758	0.8	Unit	10	625	$ 622.20	$ 622.20	768,500	-	109
2007	216009	Refrigerator - Early Replacement (19 cubic ft)	1537	0	0.21758	0.8	Unit	10	400	$ 697.70	$ 697.70	491,840	-	70
2007	216010	Refrigerator - Early Replacement (21 cubic ft)	1537	0	0.21758	0.8	Unit	10	100	$ 725.00	$ 725.00	122,960	-	17
2007	216011	23 Watt Intergral CFL	59.18913	0	0.0056133	0.89	Bulb	9.4	0		$ 9.86	-	-	-
2008	216001	13 Watt CFL Interior	20.75463	0	0.0019683	0.89	Bulb	9.4	0	$ 3.00	$ 9.86	-	-	-
2008	216002	20 Watt CFL Interior	42.27795	0	0.0040095	0.89	Bulb	9.4	0	$ 3.00	$ 9.86	-	-	-
2008	216003	13 Watt CFL Exterior	27.5	0	0	0.89	Lamp	7.07	0	$ 3.00	$ 9.86	-	-	-
2008	216004	13 Watt Porchlight (fixture)	30.55	0	0	0.89	Unit	16	0	$ 41.69	$ 41.69	-	-	-
2008	216005	Torchiere Lamp	183.5001	0	0.0178605	0.89	Bulb	9	0	$ 67.88	$ 22.63	-	-	-
2008	216006	Ceiling Fixture (30 Watt)	76.869	0	0.00729	0.89	Bulb	16	0	$ 55.45	$ 55.45	-	-	-
2008	216007	Refrigerator - Early Replacement (15 cubic ft)	1537	0	0.21758	0.8	Unit	10	500	$ 560.90	$ 560.90	614,800	-	87
2008	216008	Refrigerator - Early Replacement (17 cubic ft)	1537	0	0.21758	0.8	Unit	10	625	$ 622.20	$ 622.20	768,500	-	109

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	216009	Refrigerator - Early Replacement (19 cubic ft)	1,537	$ -	$ 0.22	0.8	Unit	10	400	$ 697.70	$ 697.70	491,840	-	70
2008	216010	Refrigerator - Early Replacement (21 cubic ft)	1,537	$ -	$ 0.22	0.8	Unit	10	100	$ 725.00	$ 725.00	122,960	-	17
2008	216011	23 Watt Intergral CFL	59	$ -	$ 0.01	0.89	Bulb	9.4	0		$ 9.86	-	-	-

2006-2008 Energy Efficiency Concept Paper
Lighting Exchange Program

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 23,810	$ 24,606	$ 25,410
Administrative Other	$ 92,021	$ 101,632	$ 104,783
Marketing & Outreach	$ 101,000	$ 102,018	$ 111,000
Direct Implementation			
Incentives	$ 198,714	$ 195,241	$ 199,242
Activity	$ 76,455	$ 93,232	$ 93,166
Installation	$ -	$ -	$ -
Hardware & Materials	$ 8,000	$ -	$ -
Rebate Processing & Inspection	$ -	$ -	$ -
EM&V	$ -	$ -	$ -
Total	*$ 500,000*	*$ 516,730*	*$ 533,600*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
2,297,268	219	-	2,287,940	219	-	2,144,467	205	-

3. Program Cost Effectiveness

Attached.

4. Program Descriptors

Hard To Reach Lighting and Turn In, is a targeted lighting exchange program, which provides residential customers that live in identified zip codes the opportunity to exchange inefficient incandescent lighting for energy efficient compact fluorescent lighting at no cost. This residential program targets hard to reach customers who may otherwise not participate in energy efficiency programs. In 2006, the program will continue to offer various compact florescent lighting applications and torchieres as well as explore opportunities to introduce new measures for distribution.

5. Program Statement

This program will provide peak demand reduction and annual energy savings by replacing incandescent and halogen lighting with CFL's in hard-to-reach areas.

6. Program Rationale

Conversion to CFL's in the hard to reach market segment continues to lag behind the general residential market. Because CFL's are typically priced higher than incandescent or halogen lighting; the no cost aspect to the customer is both necessary and effective. The program is designed to help these residential customers achieve long-term annual energy savings and peak demand reductions by

replacing lighting applications. Hard-to-reach customers often have limited resources to dedicate to increasing their energy efficiency, and often need help in overcoming barriers such as costs and the need for credible educational information and advice in English and other languages. The program provides the necessary education, and availability for energy efficient lighting.

7. Program Outcomes

The program reduces energy use in the residential market while helping customers that normally would not be able to install energy efficiency lighting. The program will encourage hard to reach residential customers to exchange their incandescent lighting for energy efficient CFL's at no cost to the customer. The overall program outcome will contribute toward the annual and cumulative savings goals, over the short and long term.

8. Program Strategy

The single most critical aspect of the lighting exchange program is the promotion of events. Promotion will consist of the following:

- Event flyers will be distributed to schools, churches, senior centers, Community based organizations, faith based organizations and local governments.
- Direct mailings will be sent out to customers that live within zip codes surrounding the event location
- Local radio spots to promote the event
- Events will be posted on the SDG&E website

Through partnerships with local communities, agencies, city and county governments, the program can provide customers a more complete portfolio of programs as opposed to a single lighting turn in program. Education on other SDG&E programs such as the CARE, DAP, residential rebates and demand response programs offers a one stop shop for customers.

8.1.1. Program Strategy Description

Event flyers – These informational flyers are produced by SDG&E's communications department. The flyers provide details of each event. These flyers are distributed to agencies, churches, governmental offices and event site prior to the event.

Direct mailings – These postcard mailings are produced by the communications department. Customers are identified in zip codes surrounding the event area, and mailed these invitational postcards with all the event information. This type of marketing has proven to be the most effective.

Local radio spots – Local radio is used in areas where customers are the most difficult to reach. This mostly Hispanic population responds to the radio personalities and promotion of event giveaways.

Website – Lighting events are posted on the SDG&E website on a monthly basis.

8.1.2. Program Indicators

The program's primary success indicator is the number of CFL's and or torchiere lamps distributed at local events. This number will show the successfulness of energy efficiency practices by customers that participate in the program.

9. Program Implementation

To accomplish a greater level of program participation by providing a no up front cost program by exchanging incandescent lighting for energy efficient CFL's to customers in hard to reach zip codes. New approaches will be implemented:

- Develop an on-line application form that customers can print and fill out prior to the turn in event.
- Focus on employers in traditionally lower paying industries to participate in workplace lighting exchanges.
- Work with service club organizations (Elks, Rotary, etc) to educate them on the program and encourage them to reach out to their communities.
- Participate with local school activities and PTA events to incorporate lighting exchanges

The primary objective is to deliver a highly cost-effective program and and look for new opportunities in the process. One of these new opportunities will be to market and provide leads for the Residential Audit and Education program. In addition, SDG&E will seek new measures these could include holiday lighting, CFL desk and table lamps and space heaters for implementation as new technologies become available.

10. Customer Description

Homeowners and renters in lower income/underserved areas in SDG&E service territory.

11. Customer Interface

The program is designed to provide maximum ease for customers to participate in exchanging their incandescent bulbs and torchieres for compact florescent lighting at convenient neighborhood locations. These events will be held in conjunction with local community agencies. The program manager and community facilitation will coordinate site locations.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

12.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

12.3. Non-energy Activities

12.3.1. Activity Description

12.3.2. Quantitative Activity Goals

12.3.3. Assigned attributes of the activity (market sector, end use)

13. Subcontractor Activities

An RFP will be sent out to recruit subcontractors to provide assistance with event set up activities. These activities would include transporting CFL's and torchiere lamps to event sites and set up and break down of event booths.

14. Quality Assurance and Evaluation Activities

Random event surveys will be conducted to determine the overall satisfaction of participating customers. A program review committee will respond to survey results as necessary to improve customer service and program effectiveness.

An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E looks forward to participating and commenting on those activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs

15. Marketing Activities

When asked, customers frequently indicate learning of the lighting Turn-in Program, through direct mailings and website postings. These marketing approaches along with partnerships with cities, counties, and community based organizations help to promote the program to customers. Specific marketing activities will include the following:

- Targeted direct mailings to surrounding lighting event zip codes
- Distribution of flyers by outreach specialists to event area agencies government offices, schools, churches
- SDG&E branch offices and retail stores
- Low or no cost ads
- SDG&E website

- Radio promotions

16. CPUC Objective

The lighting exchange program meets the CPUC objectives by exchanging energy efficient lighting applications (CFL's & torchiere lamps) in the hard to reach market to provide short and long term energy savings.

	SDGE3006 DLP-Lighting Exchange and Education
BUDGET	
Administrative Costs	**$ 372,261**
Overhead and G&A	$ 73,825
Other Administrative Costs	$ 298,436
Marketing/Outreach	**$ 314,018**
Direct Implementation	**$ 864,051**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ 593,197
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 262,853
Installation	$ -
Hardware & Materials	$ 8,000
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 1,550,330**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 1,550,330**
PROGRAM IMPACTS	
User Entered kW (kW)	624
Net Jul-Sept Peak (kW)	890
Net Dec-Feb Peak (kW)	890
Net NCP (kW)	819
Net CEC (kW)	1,420
Annual Net kWh	6,542,281
Lifecycle Net kWh	60,884,389
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 1,642,600
Electric Benefits	$ 3,516,398
Gas Benefits	$ -
Net Benefits (NPV)	$ 1,873,798
BC Ratio	2.14
PAC	
Costs	$ 1,483,993
Electric Benefits	$ 3,516,398
Gas Benefits	$ -
Net Benefits (NPV)	$ 2,032,405
BC Ratio	2.37
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	40,872,055
Cost	$ 0.0402
Benefits	$ 0.0860
Benefit-Cost	$ 0.0458
Levelized Cost PAC ($/kWh)	
Discounted kWh	40,872,055
Cost	$ 0.0363
Benefits	$ 0.0860
Benefit-Cost	$ 0.0497
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	-
Benefits	-
Benefit-Cost	-
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	-
Benefits	-
Benefit-Cost	-

Lighting Exchange and Education

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 500,000	$ 198,714	$ 301,286	2,297,268	-	219
2007	$ 516,730	$ 195,241	$ 321,489	2,287,940	-	219
2008	$ 533,600	$ 199,242	$ 334,358	2,144,467	-	205

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	211001	Lighting - CFL Bulb (14 watt)	35	-	0.00	0.8	Bulb	9.4	-	$ -	$ 5.25	-	-	-
2006	211003	Lighting - Torchiere - Energy Star (70 watt) Turn-in	191	-	0.02	0.8	Bulb	9	4,219	$ 24.99	$ 22.63	646,034	-	63
2006	211004	23 Watt Intergral CFL	59	-	0.01	0.8	Bulb	9.4	34,675	$ 2.50	$ 6.66	1,641,906	-	156
2006	211005	25W CFL Table Lamp	62	-	0.01	0.8	Fixture	16	-		$ 61.13	-	-	-
2006	211006	18 Watt Integral CFL	44	-	0.00	0.8	Lamp	9.4	-		$ 5.77	-	-	-
2006	211007	30W CFL Table Lamp	75	-	0.01	0.8	Fixture	16	-		$ 63.20	-	-	-
2006	211008	LED Christmas Lights	58		-	0.8	per 3 strings	16	200	$ 32.97	$ 22.91	9,328	-	-
2007	211001	Lighting - CFL Bulb (14 watt)	35	-	0.00	0.8	Bulb	9.4	-	$ -	$ 5.25	-	-	-
2007	211003	Lighting - Torchiere - Energy Star (70 watt) Turn-in	191	-	0.02	0.8	Bulb	9	4,219	$ 24.99	$ 22.63	646,034	-	63
2007	211004	23 Watt Intergral CFL	59	-	0.01	0.8	Bulb	9.4	34,675	$ 2.59	$ 6.66	1,641,906	-	156
2007	211005	25W CFL Table Lamp	62	-	0.01	0.8	Fixture	16	-		$ 61.13	-	-	-
2007	211006	18 Watt Integral CFL	44	-	0.00	0.8	Lamp	9.4	-		$ 5.77	-	-	-
2007	211007	30W CFL Table Lamp	75	-	0.01	0.8	Fixture	16	-		$ 63.20	-	-	-
2007	211008	LED Christmas Lights	58.3		0	0.8	per 3 strings	16	0		$ 22.91	-	-	-
2008	211001	Lighting - CFL Bulb (14 watt)	35.35974	0	0.0033534	0.8	Bulb	9.4	0	$ -	$ 5.25	-	-	-
2008	211003	Lighting - Torchiere - Energy Star (70 watt) Turn-in	191.406	0	0.01863	0.8	Bulb	9	3800	$ 24.99	$ 22.63	581,874	-	57
2008	211004	23 Watt Intergral CFL	59.18913	0	0.0056133	0.8	Bulb	9.4	33000	$ 3.16	$ 6.66	1,562,593	-	148
2008	211005	25W CFL Table Lamp	62.415	0	0.006075	0.8	Fixture	16	0		$ 61.13	-	-	-
2008	211006	18 Watt Integral CFL	43.81533	0	0.0041553	0.8	Lamp	9.4	0		$ 5.77	-	-	-
2008	211007	30W CFL Table Lamp	74.898	0	0.00729	0.8	Fixture	16	0		$ 63.20	-	-	-
2008	211008	LED Christmas Lights	58.3		0	0.8	per 3 strings	16	0		$ 22.91	-	-	-

2006-2008 Energy Efficiency Programs
Residential Customer Education and Information Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 37,681	$ 34,519	$ 32,476
Administrative Other	$ 52,965	$ 54,039	$ 51,395
Marketing & Outreach	$ 252,284	$ 316,269	$ 280,540
Direct Implementation			
Incentives	$ -	$ -	$ -
Activity	$ 448,378	$ 320,073	$ 317,588
Installation	$ -	$ -	$ -
Hardware & Materials	$ -	$ -	$ -
Rebate Processing & Inspection	$ -	$ -	$ -
EM&V	$ -	$ -	$ -
Total	*$ 791,308*	*$ 724,900*	*$ 682,000*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
-	-	-	-	-	-	-	-	-

3. Program Cost Effectiveness

N/A

4. Program Descriptors

Residential Customer Education and Information program provides education and information through several program components: Home Energy Efficiency Survey (HEES) a statewide education and information based program; Home Energy Comparison Tool (HECT); and the PEAK Student Energy Action Program (PEAK) a partnership program with the Energy Coalition. HEES provides a comprehensive multi-lingual program designed to reach a wide range of residential customers by offering audits online, by telephone or by mail. HECT gives customers the ability to compare their home energy usage with similar households in their neighborhood. PEAK is a comprehensive learning experience intended to teach schoolchildren the value of smart energy management.

5. Program Statement

Residential customers are often unaware of practices and retrofit opportunities that will help them understand, manage, and reduce their energy use. The energy surveys provide accurate and comprehensive information about such practices and opportunities, and make specific energy-efficient recommendations that are tailored to each participant's energy habits, appliance mix, and billing history. In addition, surveys have proven to be an effective tool to reach customers who otherwise have

limited access to reliable efficiency information, including non-English speaking customers.

HECT will offer residential customers an interactive and comprehensive online comparison of the energy usage of their home with similar households in their area. Once the customer completes the analysis, the HECT will provide a printable summary of the analysis. Customers without internet access can still utilize the tool by calling SDG&E's Energy Information Center.

The overall goal of the PEAK program is to instill an efficiency ethic in students through standards-based lessons, hands-on activities, and real world application in their homes, schools, and communities.

6. Program Rationale

The Residential Customer Education and Information program addresses a lack of customer information about energy efficiency benefits by providing a comprehensive online survey and comparison tool that requires customer participation and ownership for energy usage and behavioral patterns and by educating schoolchildren about energy efficiency, conservation, and demand response.

The program increases consumer awareness of the benefits of energy efficiency opportunities, encourages adoption of energy-efficient practices and induces a permanent change in attitudes and behaviors toward energy-efficient products and services. The program will also promote demand response programs and services such as residential incentives and the 20/20 program. These efforts will fill the gap between awareness and adoption of energy efficiency measures.

The program minimizes lost opportunities by communicating information in multiple languages to Southern California's diverse population. The HEES program serves a tool to bring energy efficiency, demand response, and water conservation to all customer groups.

The program also helps overcome the barrier of customers not willing to make energy efficiency investments by providing no-cost and low-cost energy savings recommendations to customers.

7. Program Outcomes

The program increases consumer awareness of the benefits of energy efficiency and help customers:

- Better manage their home energy cost to save energy and money
- Make informed decisions about energy efficiency technologies, e.g., appliances, lighting, and other equipment.
- Identify which appliances or equipment is consuming the most energy allowing for changes to be made that will reduce their energy costs
- Learn more about demand response programs and role customers can take

- Learn about additional resources and programs available to help reduce energy use
- Learn about renewable energy opportunities for the home
- Provide a meaningful way to engage students living in San Diego County as advocates of smart energy managements in their homes, schools, and communities.

8. Program Strategy

- Residential Downstream Training
- Residential Audits

8.1.1. Program Strategy Description

Residential Downstream Training:

- Residential energy consumption information will be provided in multiple brochures through all customer touch-points.
- Brochures will be available through the SDG&E web-site, Community Events, Branch Offices, Customer Contact Center, and through the Energy Information Center.
- SDG&E will have events through out the community offering energy saving information and programs available to customers.

Residential Audits

- SDG&E will outline the requirements for the Home Energy Comparison Tool (HECT).
- The energy audit will offer information on incentives, energy tips, programs, and links to other energy-related resources.
- SDG&E will determine if this HECT tool should be bid or can be built by SDG&E staff using the outcomes of the requirements document.
- Customers who access SDG&E at any contact point and request an energy comparison will be directed to the HECT tool, i.e., Customer Contact Center, Energy Information Center or Customer Service Branch.
- Customers will access the HECT tool through SDG&E's web-site (SDGE.COM).
- The SDG&E Energy Information Center representative will complete the on-line analysis and mail to those customers who do not have access to a computer.

- SDG&E will coordinate with the City of San Diego and the San Diego County Water Authority to leverage existing water audits now being offered, and to incorporate energy conservation elements where practical.
- SDG&E will coordinate with the lighting exchange program to market and provide audit leads.

8.1.2. Program Indicators

The following indicators will be used to track the achievements:

- number of events SDG&E participates in

- number of brochures distributed
- number of audits completed
- number of home comparisons that are completed

9. Program Implementation

Our online survey, available on SDG&E's website, provides customers with direct access to obtain information on energy efficiency programs and services. The interactive English and Spanish audit takes minutes to complete and allows customers to obtain immediate results by answering specific questions regarding their home energy use. The data that is entered in the profile is saved so that customers can update or review the results in the future. The interactive audits are available in both the short and extensive version, both taking only minutes to complete. Vietnamese, Chinese and Korean forms can be downloaded, completed and mailed to vendor for processing. Customers without internet access can complete an audit by telephone and for those speaking the Asian languages a survey can be mailed to customers upon request.

The comparison took, also available on SDG&E's website, gives customers the ability to compare their energy usages and make informed decisions.

In collaboration with the Energy Coalition, students will receive a comprehensive learning experience teaching them about energy efficiency, conservation and demand response.

10. Customer Description

The program targets residential customers looking for ways to reduce their gas and electric bill

11. Customer Interface

The program provides ease for residential customers to participate. The surveys will be offered in multiple languages to provide easy access to survey information.

The on-line survey will require a very small investment in time and will produce instant results for customers looking to improve their homes energy efficiency.

For customers with limited online access, the written version of the survey can be requested.

The non-English speaking and hard-to-reach (HTR) customers can request written versions of the survey, which will be available in four additional languages other than English. They are Spanish, Vietnamese, Chinese and Korean.

San Diego students will be given instruction on energy efficiency, conservation, and demand response in coordination with the PEAK program.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.
Not applicable.

12.2. kWh Level Data
Not applicable.

12.3. Non-energy Activities
Non-energy activities include customer access to an online audit survey. For those without internet access, on request, SDG&E will provide a mail-in survey.

Customers will also have access to an online home energy comparison tool allowing them to compare their energy use with other homes with similar characteristics.

Education and training will be provided to school children within the SDG&E service territory.

12.3.1. Activity Description

12.3.2. Quantitative Activity Goals

12.3.3. Assigned attributes of the activity (market sector, end use)

13. Subcontractor Activities
For the online audit, a subcontractor is responsible for maintaining and updating the survey.

For the mail-in audit, a subcontractor will be responsible for printing and processing audit and mailing the report back to customer.

14. Quality Assurance and Evaluation Activities
Quality assurance and evaluation activities will be conducted on a regular basis to ensure that customers are receiving pertinent and beneficial information in reducing their energy consumption at home.

The unique hits to the web survey will be monitored and reported on a monthly basis.

An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E looks forward to participating and commenting on those activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs.

15. Marketing Activities

The program will incorporate a variety of marketing activities to promote the survey. Activities will include, but are not limited to, online marketing, Interactive Voice Response (IVR), community events, bill inserts and coordination with statewide marketing agencies' outreach efforts.

16. CPUC Objective

The SDG&E Customer Education and Information program meets the CPUC objective number 1 by integrating energy efficiency and demand response through a common tool that provides both demand response outcomes and energy saving suggestions.

The SDG&E Customer Education and Information program meets the CPUC objective number 2 by providing information to customers on energy consumption and costs, consumers are armed with information that allows both immediate and sustained life-style changes.

The SDG&E Customer Education and Information program meets the CPUC objective number 3 The proposed program focuses on encouraging customer to look at their own levels of energy usage and find ways to reduce that demand.

The SDG&E Customer Education and Information program meets the CPUC objective number 4 by offering demand response and energy efficiency suggestions upon completion of the energy use analysis at the time that the customer is looking for way to reduce their bill.

The SDG&E Customer Education and Information program meets the CPUC objective number 5 in offering customers an analysis based on their usage and by providing them with programs available to them in addition to energy efficiency suggestions.

The SDG&E Customer Education and Information program meets the CPUC objective number 6 by including energy efficiency education through brochures, community events, and through the web site.

The SDG&E Customer Education and Information program meets the CPUC objective number 10 in that the funding for this program will be used to target SDG&E's residential customers.

	SDGE3014 HEC-Res Customer Education & Information
BUDGET	
Administrative Costs	**$ 263,075**
Overhead and G&A	$ 104,677
Other Administrative Costs	$ 158,399
Marketing/Outreach	**$ 849,093**
Direct Implementation	**$ 1,086,040**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 1,086,040
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 2,198,208**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 2,198,208**
PROGRAM IMPACTS	
User Entered kW (kW)	-
Net Jul-Sept Peak (kW)	
Net Dec-Feb Peak (kW)	
Net NCP (kW)	-
Net CEC (kW)	-
Annual Net kWh	-
Lifecycle Net kWh	-
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 2,198,208
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (2,198,208)
BC Ratio	-
PAC	
Costs	$ 2,198,208
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (2,198,208)
BC Ratio	-
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

2006-2008 Energy Efficiency Concept Paper
Residential Incentive Program

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 117,471	$ 122,944	$ 125,726
Administrative Other	$ 366,186	$ 377,363	$ 389,151
Marketing & Outreach	$ 421,089	$ 395,409	$ 256,483
Direct Implementation			
Incentives	$ 1,193,250	$ 1,384,750	$ 1,622,250
Activity	$ -	$ -	$ -
Installation	$ -	$ -	$ -
Hardware & Materials	$ 65,500	$ 68,000	$ 74,000
Rebate Processing & Inspection	$ 303,395	$ 233,353	$ 172,639
EM&V	$ -	$ -	$ -
Total	*$ 2,466,891*	*$ 2,581,818*	*$ 2,640,248*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
9,989,150	9,354	94,575	10,800,984	10,052	115,337	13,511,774	13,017	109,150

3. Program Cost Effectiveness

Attached.

4. Program Descriptors

The Residential Incentive program (RIP) targets owners and renters of single-family homes, condominiums, mobile homes, and attached homes up to four-plex. The program contains four core components: (1) traditional customer incentives; (2) Point of Sale (POS) rebates, 3) customer information and education; and (4) marketing and outreach to trade allies including manufacturers, retailers and distributors. The 2006 –2008 program will continue to offer financial incentives for ENERGY STAR® appliances, home improvement measures, and pools.

5. Program Statement

In 2006, SDG&E will continue working with retailers to offer discounts at the register to make it easier for customers to take advantage of the incentives available, and to encourage customers to consider energy efficient products. While most energy-efficiency measures and products are applicable to all potential program participants, some are targeted as a subset of the customers. One significant sub-market is customers with swimming pools. In 2006, SDG&E will continue to rebate energy efficient single speed pool pumps, and promote shifting single speed use to off peak and to reduce filtering hours. According to a recent study performed for the California Energy Commission 12% of the population have pool pumps. The rebate for single-speed pool pumps has helped to make energy efficient models more

available. In fact, some manufacturers are moving to producing primarily energy efficient single-speed pool pumps.

The Statewide Residential Appliance Market Share Tracking Study shows a growing trend of appliance purchases throughout California. Over the past five years, appliances such as refrigerators have seen an average growth of 24%, while room air conditioner sales have risen by 85%. This level of growth indicates an ever increasing potential to achieve energy savings through customer purchases of energy efficient appliances. Because an energy efficient product is typically priced higher than a standard efficiency product, financial incentives have proven both necessary and effective. Over the years, program incentive levels have been adjusted to arrive at that level which most cost-effectively inspires customers to take action.

6. Program Rationale

The RIP is designed to provide rebates or point of sale (POS) to eligible customers who purchase and install a variety of qualifying energy-efficient products and measures. Currently, SDG&E offers POS discounts for programmable thermostats. In this case, the customer has the product discounted at the register, with no application required. For 2006 and beyond, SDG&E, together with the other utilities statewide, will be expanding POS discounts to other measures such as pool pumps and motors, water heaters, and room air conditioners. Measures that do not have the POS option will be available to the customer via the standard hardcopy application submitted by mail to SDG&E for rebate payment.

The program will coordinate efforts with SDG&E's education and outreach programs to inform customers on the best practices for energy efficiency in the home. Financial incentives encourage customers to install energy efficient appliances, and equipment. By offering information and incentives, retailers are more inclined to stock energy efficient products. During seasonal promotions, many retailers elect to augment the IOU's incentive by offering incentives of their own thereby influencing the customer's decision to purchase the energy efficient product.

The program finds its promotional complement in the Home Energy Consumption Tool and the Home Energy Efficiency Survey, which provides customers with specific energy recommendations tailored to the customer's home. The Residential and Small Commercial 20/20 demand response program encourages customers to reduce their energy consumption by 20% by providing an additional 20% billing reduction, and the demand response program further complement RIP.

<u>2006 – 2008 Program Enhancements:</u>

- All HVAC equipment, with the exception of room air conditioners, will be moved to an integrated residential and non-residential upstream and midstream HVAC program that will include an emphasis on quality installations and system maintenance.
- Point-of-sale (POS) delivery method will be maximized. This method offers instant incentive discounts for selected energy efficient products. The customer participates without having to complete and mail a rebate application. When retailers offer the rebate at the register, SDG&E subsequently reimburses them.
- Collaborative marketing and implementation efforts will be made to link program rebates with rebates from SDG&E's Appliance Recycling Program when customers purchase ENERGY STAR® refrigerators and room air conditioners. The program simultaneously provides a convenient means of properly and permanently retiring the replaced units. Increased retailer interest is expected as a result.
- Coordinate rebates for clothes washers through the County Water Authority Partnership

7. Program Outcomes

Launch and implementation of 2006 program

- Develop and print rebate applications – Dec 2005
- Develop and print trade collateral – Dec 2005
- Post information on SDG&E's Web site - Dec 2005
- Notify retailers and contractors of 2006 program via mail; include copies of rebate applications and trade collateral – late Dec 2005
- Work with retailers to encourage POS rebate participation – first quarter 2006
- Visit retailers to provide personal training and information to sales associates, and post rebate signage for their stores – once per quarter in 2006
- Maintain program participants informed of any updates or changes to the program, including but not limited to the launch of the 'seasonal' measures such as the room air conditioners – on-going
- Promote program through the use of paid advertising, customer newsletter (Energy Notes), direct mail, community outreach, and through retailers and contractors – effective first quarter 2006, and on-going as necessary

8. Program Strategy

- Residential downstream deemed rebates
- Residential targeted marketing
- Mass marketing
- Residential appliance early retirement
- Residential financing

8.1.1. Program Strategy Description

- Residential downstream deemed rebates – Customers will receive a rebate for qualified appliances or measures installed in their home. They will be able to do so at the point-of-sale, or by filling out a hard-copy application
- Residential targeted marketing – the RIP will target pool owners specifically asking them to reduce their filtering hours, and shift filtering to off-peak hours
- Mass marketing – paid advertising through print media and radio will target the mass markets. Bill inserts and articles in SDG&E's monthly newsletter (Energy Notes), will also be used
- Residential appliance early retirement – Efforts will me made to co-market the room air conditioner and refrigerator rebates with the recycling program, encouraging early retirement of such units.
- Residential financing – the RIP will continue to cross-promote the Energy Loan program offered through Viewtech Financial Services, Inc., an authorized Fannie Mae lender

8.1.2. Program Indicators

The primary goal of the RIP is to generate kWh, demand, and therms savings.

9. Program Implementation

SDG&E will coordinate with other IOUs to maintain statewide consistency of rebate programs while attempting to simplify customer requirements and procedures internally.

The rebate or POP discount, offered to the customer through this program, seeks to offset the incremental cost of purchasing a more energy efficient appliance/equipment and encourage customers to install higher efficient measures during home improvements. Also, the program seeks to make energy efficient products more available via the manufacturer and retailer, and at a reasonable cost to the customer.
To accomplish a greater level of RIP program participation, several new approaches will be implemented:

- Point-of-purchase (POP) rebate delivery method will be expanded to include more measures. Even with cash rebates, retailers are a key market actor in moving the energy-efficient appliance market. Retailers historically dispensed the rebate applications to nearly three of four program participants. Beginning in 2006, SDG&E will collaboratively integrate marketing and implementation efforts to link program rebates for ENERGY STAR® refrigerators and room air conditioners with rebates from SDG&E's Appliance Recycling Program. Integrated collaboration seeks to accelerate the increase in the market share by facilitating consumer purchase and use of energy efficient units, while simultaneously

providing a convenient means of properly and permanently retiring the replaced units.

10. Customer Description

The RIP targets owners and renters of single-family homes, condominiums, mobile homes, and attached homes up to a four-plex.

11. Customer Interface

SDG&E will implement marketing strategies that will increase consumer awareness – including hard-to-reach markets – of the energy efficiency opportunities available through the residential rebate programs. The program is designed to provide maximum ease for customers to participate, thus the expansion of the point-of-purchase delivery method. With POP, customers can participate in the program without the need to complete an application.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

12.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

12.3. Non-energy Activities

Direct non-energy activities involve education on residential energy efficiency measures and practices. In addition, SDG&E's field personnel work with retailers to stock program information in stores and educate sales personnel about program details

12.3.1. Activity Description

12.3.2. Quantitative Activity Goals

12.3.3. Assigned attributes of the activity (market sector, end use)

13. Subcontractor Activities

Subcontractor activities are limited to translations of program information, and printing of applications

- *int* Translations; translates program material into Spanish language
- Webtrend; handles printing of applications and coordinates mailings to retailers and contractors

14. Quality Assurance and Evaluation Activities

The RIP operates under a statewide agreement that the inspection rate will be 2% to 10% of the applications. The results reveal the extent of program compliance and provide insight into ways of making the program more effective.

An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E looks forward to participating and commenting on those activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs

15. Marketing Activities

The RIP will coordinate marketing efforts with manufacturers, distributors, retailers, contractors, and other energy efficiency and demand response programs (as appropriate) to achieve the desired levels of customer awareness and participation within the program. Marketing activities may include, but are not limited to:

- Point of sale signs – at participating retail locations
- Bill inserts
- Community outreach
- Direct mail (ie. postcards, letters, etc.)
- Statewide outreach campaign (ie. Flex Your Power, Univision, RS&E)
- Coordinate with ENERGY STAR marketing promotions

16. CPUC Objective

The Residential Incentive program compliments CPUC objectives by delivering real savings in a cost-effective manner.

	SDGE3024 SFR-Single Family Rebate Program	
BUDGET		
Administrative Costs	**$**	**1,498,840**
Overhead and G&A	$	366,141
Other Administrative Costs	$	1,132,699
Marketing/Outreach	**$**	**1,072,980**
Direct Implementation	**$**	**5,117,137**
Total Incentives and Rebates		
User Input Incentive	$	-
Direct Install Rebate	$	4,200,250
Direct Install Labor	$	-
Direct Install Materials	$	-
Activity	$	-
Installation	$	-
Hardware & Materials	$	207,500
Rebate Processing & Inspection	$	709,387
EM&V Costs	**$**	**-**
Budget	**$**	**7,688,957**
Costs recovered from other sources	**$**	**-**
Budget (plus other costs)	**$**	**7,688,957**
PROGRAM IMPACTS		
User Entered kW (kW)		32,423
Net Jul-Sept Peak (kW)		3,189
Net Dec-Feb Peak (kW)		1,994
Net NCP (kW)		6,307
Net CEC (kW)		7,444
Annual Net kWh		34,301,907
Lifecycle Net kWh		140,007,341
Annual Net Therms		319,061
Lifecycle Net Therms		5,487,244
Cost Effectiveness		
TRC		
Costs	$	14,661,029
Electric Benefits	$	9,428,204
Gas Benefits	$	2,341,793
Net Benefits (NPV)	$	(2,891,031)
BC Ratio		0.80
PAC		
Costs	$	7,191,235
Electric Benefits	$	9,428,204
Gas Benefits	$	2,341,793
Net Benefits (NPV)	$	4,578,762
BC Ratio		1.64
Levelized Cost		
Levelized Cost TRC ($/kWh)		
Discounted kWh		98,139,437
Cost	$	0.0871
Benefits	$	0.0961
Benefit-Cost	$	0.0089
Levelized Cost PAC ($/kWh)		
Discounted kWh		98,139,437
Cost	$	0.0564
Benefits	$	0.0961
Benefit-Cost	$	0.0397
Levelized Cost TRC ($/therm)		
Discounted Therms		2,845,813
Cost	$	2.1467
Benefits	$	0.8229
Benefit-Cost	$	(1.3238)
Levelized Cost PAC ($/therm)		
Discounted Therms		2,845,813
Cost	$	0.5826
Benefits	$	0.8229
Benefit-Cost	$	0.2403

Single Family Rebate Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 2,466,891	$ 1,193,250	$ 1,273,641	9,989,150	94,575	9,354
2007	$ 2,581,818	$ 1,384,750	$ 1,197,068	10,800,984	115,337	10,052
2008	$ 2,640,249	$ 1,622,250	$ 1,017,999	13,511,774	109,150	13,017

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	229005	A/C - Room unit - Energy Star	127	-	0.10	0.8	Unit	15	1,500	$ 50.00	$ 106.00	152,400	-	118
2006	229006	A/C - Whole-House Fan	24	(0)	0.02	0.89	1,000 sqft house	15	-	$ 100.00	$ 600.84	-	-	-
2006	229012	Ducted Evaporative Cooler	918	(37)	1.68	0.89	1000 sqft House	15	-	$ 300.00	$ 1,220.16	-	-	-
2006	229013	Attic Insulation	0	0	0.00	0.89	1000 sqft roof, 1000 SqFt	20	1,100,000	$ 0.15	$ 0.76	77,584	22,191	94
2006	229014	Double Pane Clear Windows to Double Pane, Med Low-E Coating	1	-	0.00	0.89	Square Foot	20	-	$ 0.50	$ 1.68	-	-	-
2006	229015	HE Electric Water Heater (EF=0.93)	149	-	0.03	0.89	Hot Water Tank	15	100	$ 30.00	$ 72.30	13,265	-	3
2006	229016	Heating - Gas 90% AFUE	-	24	-	0.89	50,000 Btu unit	18	-	$ 1.00	$ 333.00	-	-	-
2006	229017	Motor - High Efficiency Pool Pump and Motor Single Speed	650	-	0.10	0.89	Swimming Pool Pump	10	1,700	$ 30.00	$ 50.91	983,450	-	157
2006	229046	Motor - Pool Pump (two-speed)	1,400	-	0.54	0.89	Swimming Pool Pump	10	600	$ 300.00	$ 182.18	747,600	-	288
2006	229047	Water Heating - Clothes Washer - Tier I MEF=1.42	103	16	0.04	0.8	Clothes Washer, CWasher	14	-	$ 35.00	$ 367.51	-	-	-
2006	229048	Wall R-0 to R-13 Insulation	0	0	0.00	0.89	sqft	20	500,000	$ 0.15	$ 1.32	86,600	37,292	70
2006	229049	Water Heating - Dishwasher - Energy Star EF=0.58	19	3	0.01	0.8	Dishwasher	13	-	$ 30.00	$ 133.64	-	-	-
2006	229050	Water Heating -High Energy Factor Unit - Gas Storage	-	10	-	0.89	Hot Water Tank	13	1,000	$ 30.00	$ 175.30	-	8,775	-
2006	229053	Water Heating - Clothes Washer - Tier II MEF=1.60	103	17.48554103	0.042951	0.8	Clothes Washer, CWasher	14	0	$ 75.00	$ 853.00	-	-	-
2006	229087	25 Watt Modular CFL - >=1,600 Lumens - pin based hardwire	64.0575	0	0.006075	0.8	Bulb	16	0		$ 23.80	-	-	-
2006	229088	Refrigerator - Energy Star(Retail)	60.53	0	0.0102901	0.8	Refrigerator	18	1535	$ 50.00	$ 141.52	74,331	-	13

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	229089	Pool Pump TImeclock Reset Agreement	900		1	0.8	Time Clock	2	10700	$ 25.00	$ 10.00	7,704,000	-	8,560
2006	229090	Water Heating - Clothes Washer - Tier III MEF=1.80	118	20.03197904	0.049206	0.8	Clothes Washer, CWasher	14	0		$ 764.92	-	-	-
2006	229091	Water Heating - Dishwasher - Energy Star Tier I EF=0.62-0.67	24.2	4.24	0.008	0.8	Dishwasher, DWasher	13	4000	$ 30.00	$ 183.64	77,440	13,568	26
2006	229092	Water Heating - Dishwasher - Energy Star Tier II EF=0.68+	30.2	5.312	0.01	0.8	Dishwasher, DWasher	13	3000	$ 50.00	$ 383.64	72,480	12,749	24
2007	229005	A/C - Room unit - Energy Star	127	0	0.0987044	0.8	Unit	15	1000	$ 50.00	$ 106.00	101,600	-	79
2007	229006	A/C - Whole-House Fan	23.7375	-0.0465	0.0231	0.89	1,000 sqft house	15	0	$ 100.00	$ 600.84	-	-	-
2007	229012	Ducted Evaporative Cooler	918.024	-36.951	1.6809	0.89	1000 sqft House	15	0	$ 300.00	$ 1,220.16	-	-	-
2007	229013	Attic Insulation	0.079248448	0.022667148	9.6322E-05	0.89	1000 sqft roof, 1000 SqFt	20	1100000	$ 0.15	$ 0.76	77,584	22,191	94
2007	229014	Double Pane Clear Windows to Double Pane, Med Low-E Coating	1.397944075	0	0.00147241	0.89	Square Foot	20	0	$ 0.50	$ 1.68	-	-	-
2007	229015	HE Electric Water Heater (EF=0.93)	149.0462334	0	0.03279017	0.89	Hot Water Tank	15	50	$ 30.00	$ 72.30	6,633	-	1
2007	229016	Heating - Gas 90% AFUE	0	23.65	0	0.89	50,000 Btu unit	18	0	$ 1.00	$ 333.00	-	-	-
2007	229017	Motor - High Efficiency Pool Pump and Motor Single Speed	650	0	0.104	0.89	Swimming Pool Pump	10	1800	$ 30.00	$ 50.91	1,041,300	-	167
2007	229046	Motor - Pool Pump (two-speed)	1400	0	0.54	0.89	Swimming Pool Pump	10	700	$ 300.00	$ 182.18	872,200	-	336
2007	229048	Wall R-0 to R-13 Insulation	0.1946059	0.0838028	0.00015757	0.89	sqft	20	600000	$ 0.15	$ 1.32	103,920	44,751	84
2007	229049	Water Heating - Dishwasher - Energy Star EF=0.58	19	$ 3.40	$ 0.01	0.8	Dishwasher	13	0	$ 30.00	$ 133.64	-	-	-
2007	229050	Water Heating -High Energy Factor Unit - Gas Storage	-	$ 9.86	$ -	0.89	Hot Water Tank	13	1000	$ 30.00	$ 175.30	-	8,775	-
2007	229053	Water Heating - Clothes Washer - Tier II MEF=1.60	21	$ 3.54	$ 0.01	0.8	Clothes Washer, CWasher	14	0	$ 75.00	$ 606.86	-	-	-
2007	229087	25 Watt Modular CFL - >=1,600 Lumens - pin based hardwire	64	$ -	$ 0.01	0.8	Bulb	16	0		$ 23.80	-	-	-
2007	229088	Refrigerator - Energy Star(Retail)	61	$ -	$ 0.01	0.8	Refrigerator	18	1900	$ 50.00	$ 141.52	92,006	-	16
2007	229089	Pool Pump TImeclock Reset Agreement	900		$ 1.00	0.8	Time Clock	2	11500	$ 25.00	$ 10.00	8,280,000	-	9,200

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	229090	Water Heating - Clothes Washer - Tier III MEF=1.80	36	$ 6.08	$ 0.01	0.8	Clothes Washer, CWasher	14	0		$ 518.78	-	-	-
2007	229091	Water Heating - Dishwasher - Energy Star Tier I EF=0.62-0.67	24	$ 4.24	$ 0.01	0.8	Dishwasher, DWasher	13	6500	$ 30.00	$ 183.64	125,840	22,048	42
2007	229092	Water Heating - Dishwasher - Energy Star Tier II EF=0.68+	30	$ 5.31	$ 0.01	0.8	Dishwasher, DWasher	13	4135	$ 50.00	$ 383.64	99,902	17,572	33
2008	229005	A/C - Room unit - Energy Star	127	$ -	$ 0.10	0.8	Unit	15	1000	$ 50.00	$ 106.00	101,600	-	79
2008	229006	A/C - Whole-House Fan	24	$ (0.05)	$ 0.02	0.89	1,000 sqft house	15	0	$ 100.00	$ 600.84	-	-	-
2008	229012	Ducted Evaporative Cooler	918	$ (36.95)	$ 1.68	0.89	1000 sqft House	15	0	$ 300.00	$ 1,220.16	-	-	-
2008	229013	Attic Insulation	0	$ 0.02	$ 0.00	0.89	1000 sqft roof, 1000 SqFt	20	1000000	$ 0.15	$ 0.76	70,531	20,174	86
2008	229014	Double Pane Clear Windows to Double Pane, Med Low-E Coating	1	$ -	$ 0.00	0.89	Square Foot	20	0	$ 0.50	$ 1.68	-	-	-
2008	229015	HE Electric Water Heater (EF=0.93)	149	$ -	$ 0.03	0.89	Hot Water Tank	15	60	$ 30.00	$ 72.30	7,959	-	2
2008	229016	Heating - Gas 90% AFUE	-	$ 23.65	$ -	0.89	50,000 Btu unit	18	0	$ 1.00	$ 333.00	-	-	-
2008	229017	Motor - High Efficiency Pool Pump and Motor Single Speed	650	$ -	$ 0.10	0.89	Swimming Pool Pump	10	1700	$ 30.00	$ 50.91	983,450	-	157
2008	229046	Motor - Pool Pump (two-speed)	1,400	$ -	$ 0.54	0.89	Swimming Pool Pump	10	600	$ 300.00	$ 182.18	747,600	-	288
2008	229048	Wall R-0 to R-13 Insulation	0	$ 0.08	$ 0.00	0.89	sqft	20	600000	$ 0.15	$ 1.32	103,920	44,751	84
2008	229049	Water Heating - Dishwasher - Energy Star EF=0.58	19	$ 3.40	$ 0.01	0.8	Dishwasher	13	0	$ 30.00	$ 133.64	-	-	-
2008	229050	Water Heating -High Energy Factor Unit - Gas Storage	-	$ 9.86	$ -	0.89	Hot Water Tank	13	1000	$ 30.00	$ 175.30	-	8,775	-
2008	229053	Water Heating - Clothes Washe	21	$ 3.54	$ 0.01	0.8	Clothes Washer, CWasher	14	0	$ 75.00	$ 606.86	-	-	-
2008	229087	25 Watt Modular CFL - >=1,600	64	$ -	$ 0.01	0.8	Bulb	16	0		$ 23.80	-	-	-
2008	229088	Refrigerator - Energy Star(Reta	61	$ -	$ 0.01	0.8	Refrigerator	18	6500	$ 50.00	$ 141.52	314,756	-	54
2008	229089	Pool Pump TImeclock Reset Ag	900		$ 1.00	0.8	Time Clock	2	15250	$ 25.00	$ 10.00	10,980,000	-	12,200
2008	229090	Water Heating - Clothes Washe	36	$ 6.08	$ 0.01	0.8	Clothes Washer, CWasher	14	0		$ 518.78	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	229091	Water Heating - Dishwasher - E	24	$ 4.24	$ 0.01	0.8	Dishwasher, DWasher	13	5440	$ 30.00	$ 183.64	105,318	18,452	35
2008	229092	Water Heating - Dishwasher - E	30	$ 5.31	$ 0.01	0.8	Dishwasher, DWasher	13	4000	$ 50.00	$ 383.64	96,640	16,998	32

2006-2008 Energy Efficiency Programs
Multifamily Rebate Program Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 102,627	$ 107,550	$ 112,592
Administrative Other	$ 140,938	$ 146,385	$ 152,244
Marketing & Outreach	$ 115,444	$ 116,054	$ 116,683
Direct Implementation			
Incentives	$ 1,698,007	$ 1,783,791	$ 1,870,123
Activity	$ -	$ -	$ -
Installation	$ -	$ -	$ -
Hardware & Materials	$ 66,625	$ 70,769	$ 73,667
Rebate Processing & Inspection	$ 31,518	$ 34,007	$ 39,119
EM&V	$ -	$ -	$ -
Total	*$ 2,155,159*	*$ 2,258,557*	*$ 2,364,428*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
4,309,721	720	498,442	4,528,697	759	524,238	4,745,284	795	548,352

3. Program Cost Effectiveness

Attached.

4. Program Descriptors

The Multifamily Rebate program (MFRP) is designed specifically to motivate the multifamily property owner/manager toward installing energy efficient products. With product offerings suitable for the multifamily complex and incentive levels that help alleviate the split incentive dilemma. The MFRP is in the unique position to serve two distinct beneficiaries of energy savings, the multifamily property owner/manager and the tenant.

5. Program Statement

Multifamily property owners and managers are a historically unresponsive market to energy efficiency efforts. As one of California's largest industries, this unique customer segment warrants additional attention and effort to motivate property owners/managers to actively participate in energy efficiency programs. Having received only modest participation in utility programs to date, the multifamily segment holds tremendous savings potential.

According to Census 2000 there are approximately 290,000 dwelling units in structures containing 5 or more units. The Multifamily Rebate Program (MFRP) is designed to induce property owners and managers to install energy-efficient products in individual tenant units and common areas of residential apartments, mobile home parks and condominium complexes. Since the tenants generally pay

the energy bill, there is this issue of *split incentives* –the customer does not own the equipment and the building owner does not pay the operating cost. Given this problem, neither party has an incentive to adopt energy efficient technologies. Through program design, SDG&E seeks to motivate both market players to take action.

The program has had success in getting energy efficiency products installed in common areas and in dwelling units but in most cases it is only one or two measures. It is more cost effective to be comprehensive when installing measures. In 2006, SDG&E will continue to offer prescriptive rebates for a variety of measures but the program will stress installing three or more measures at a time by offering a bonus to the property manager or contractor installing the measures.

6. Program Rationale

Program design provides prescribed rebates motivating the property owner/manager to install energy efficient products in common areas, whereby receiving direct energy savings affect. It also motivates the property owner to install energy efficient products inside the tenant's dwelling unit whereby the tenant will typically receive the direct energy savings affect. In fact, the bulk of rebates paid result from property owners/managers installing product in tenant dwelling units. Proof of this successful program design is demonstrated through program results since its inception over three years ago. In each year since 2002, market demand for MFRP has exceeded previous program budgets and savings.

SDG&E will consider providing a 5% "Comprehensive Approach Incentive" to those program participants who elect to install 3 or more products (at least one interior but not a CFL only and one exterior – for example: exterior porch light, CFL(s) and a dishwasher). SDG&E will coordinate with the Energy Division and other utilities on the evaluation requirements.

7. Program Outcomes

Long-term energy savings through the installation of energy efficient products in multifamily and condominium complexes, and mobile home parks. Under this program, multi-family property owners and residents will reduce their electric and gas energy usage through the installation of a comprehensive selection of energy-efficient products inside the dwelling units as well as in common areas.

8. Program Strategy

Key program strategy addressed within the SDG&E MF program will be concentrated towards the use of the Residential Downstream Deemed Rebates approach to contractors/property manager and owners.

8.1.1. Program Strategy Description

Key program strategy addressed within the SDG&E MF program will be concentrated towards the use of the Residential Downstream Deemed Rebates approach to contractors/property manager and owners.

- The statewide MFRP has been delivered successfully for the past three years utilizing the same proven design and implementation plans as for the upcoming 2006 – 2008 funding period. SDG&E's program will be promoted through marketing strategies such as, direct mail, presentations at community housing workshops, local multi-family association meetings, and online at www.sdge.com.
- Traditionally, electric measures are quickly installed by SDG&E's multi-family customer base. To improve installment of gas measures SDG&E will focus on educating and expanding alliances with property managers/owners, gas product distributors, plumbers and other gas product contractors.

8.1.2. Program Indicators

The overall goal of the SDG&E MF rebate program is for energy savings and demand reduction in the residential multi-family housing sector.

9. Program Implementation

Due to ongoing high demand, the primary implementation factor is generating program announcements alerting property owners/managers and market actors of program offerings and requirements and funding availability. This will be accomplished through a direct mailing to SDG&E multifamily property owner/managers, updating the www.sdge.com website with current funding availability and current application, direct mailing to previously participating multifamily customers, and by email notification to an existing database of market actors. Concurrent with program announcements, SDG&E will implement the print advertising campaign with the apartment associations' monthly trade journals completing the traditional launching of the MFRP. Property owners or managers of residential multifamily properties with two, or more units may qualify for MFRP incentives. Measures for energy efficiency improvements must be installed in existing apartment dwelling units or in common areas of apartment and condominium complexes, and common areas of mobile home parks.

10. Customer Description

Existing multifamily residential property owners or managers of residential multifamily properties with two or more units would be the main program focus. According to Census 2000 there are approximately 350,000 dwelling units in structures containing 2 or more units. The customer segment targeted by the MFRP is the property owner or manager of multifamily complexes of two or more dwelling units. Prescribed rebates are available to this customer for the installation of qualified energy efficient products installed in the dwelling units of apartment complexes or the common areas of apartment and condominium complexes or mobile home parks. SDG&E plans to lower the minimum number of dwelling units from five to two. In addition, the MFRP is considering adopting a policy whereby mobile homes may be included for rebate eligibility on the condition that the mobile

home park property owner/manager is participating in program through common area installations.

11. Customer Interface

SDG&E plans to enhance it current contacts with property managers via the San Diego Apartment Association. It also anticipates continuing to use the current 45-day reservation system assuring the customer has incentive dollars while installations are completed.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

12.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

12.3. Non-energy Activities - None

12.3.1. Activity Description - None

12.3.2. Quantitative Activity Goals

Not applicable.

12.3.3. Assigned attributes of the activity (market sector, end use)

Not applicable.

13. Subcontractor Activities

None

14. Quality Assurance and Evaluation Activities

SDG&E anticipates following its' current MFRP inspection practices – 100% inspection of all approved projects with a random sampling inspection for measures applied for. An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E looks forward to participating and commenting on those activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs

15. Marketing Activities

SDG&E's program will be promoted through targeted marketing strategies such as, direct mail, presentations at community housing organization workshops, local multi-family association meetings, and online at www.sdge.com.

16. CPUC Objective

The program substantially reduces energy use per capita in California while helping to achieve both the objectives of the State's Energy Action Plan and the emphases of the CPUC. It accomplishes this by affecting a greatly increased level of participation in energy efficiency practices.

The program expands the proportion of installed energy efficient equipment in apartments and condominium wider and faster than would take place otherwise. The installation of energy efficient end-uses in these MF residences saves money for customers, improves the economy, and reduces greenhouse gas emissions to the environment. It also defrays the cost of power plants, electricity purchases, and utility infrastructure in accordance with the CPUC's effort to meet 55% to 59% of the incremental electric energy needs between 2004 and 2013 through energy efficiency.

	SDGE3017 MFR-Multi-Family Rebate Program
BUDGET	
Administrative Costs	**$ 762,336**
Overhead and G&A	$ 322,769
Other Administrative Costs	$ 439,567
Marketing/Outreach	**$ 348,181**
Direct Implementation	**$ 5,667,627**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ 5,351,921
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ -
Installation	$ -
Hardware & Materials	$ 211,062
Rebate Processing & Inspection	$ 104,644
EM&V Costs	**$ -**
Budget	**$ 6,778,144**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 6,778,144**
PROGRAM IMPACTS	
User Entered kW (kW)	2,274
Net Jul-Sept Peak (kW)	1,916
Net Dec-Feb Peak (kW)	1,846
Net NCP (kW)	1,625
Net CEC (kW)	2,948
Annual Net kWh	13,583,702
Lifecycle Net kWh	127,871,039
Annual Net Therms	1,571,032
Lifecycle Net Therms	16,071,816
Cost Effectiveness	
TRC	
Costs	$ 7,053,017
Electric Benefits	$ 7,090,526
Gas Benefits	$ 7,646,527
Net Benefits (NPV)	$ 7,684,036
BC Ratio	2.09
PAC	
Costs	$ 6,168,566
Electric Benefits	$ 7,090,526
Gas Benefits	$ 7,646,527
Net Benefits (NPV)	$ 8,568,487
BC Ratio	2.39
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	80,332,642
Cost	$ 0.0639
Benefits	$ 0.0883
Benefit-Cost	$ 0.0244
Levelized Cost PAC ($/kWh)	
Discounted kWh	80,332,642
Cost	$ 0.0541
Benefits	$ 0.0883
Benefit-Cost	$ 0.0342
Levelized Cost TRC ($/therm)	
Discounted Therms	10,393,321
Cost	$ 0.1847
Benefits	$ 0.7357
Benefit-Cost	$ 0.5510
Levelized Cost PAC ($/therm)	
Discounted Therms	10,393,321
Cost	$ 0.1757
Benefits	$ 0.7357
Benefit-Cost	$ 0.5600

Multi-Family Rebate Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 2,155,159	$ 1,698,007	$ 457,152	4,309,721	498,442	720
2007	$ 2,258,557	$ 1,783,791	$ 474,767	4,528,697	524,238	759
2008	$ 2,364,428	$ 1,870,123	$ 494,305	4,745,284	548,352	795

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	218001	A/C & Heating - Programmable Thermostat - Energy Star	219	13	0.04	0.89	Unit	11	-	$ 40.00	$ 58.00	-	-	-
2006	218002	A/C - Central Air Conditioner Tier II	201	-	0.31	0.89	Unit	15	-	$ 200.00	$ 505.92	-	-	-
2006	218003	A/C - Packaged Terminal Air Conditioners	282	-	0.24	0.89	Unit	15	-	$ 100.00	$ 97.50	-	-	-
2006	218004	A/C - Packaged Terminal Heat Pumps	282	-	0.24	0.89	Unit	15	-	$ 100.00	$ 97.50	-	-	-
2006	218005	A/C - Room unit - Energy Star	127	-	0.10	0.8	Unit	15	25	$ 50.00	$ 106.00	2,540	-	2
2006	218006	Heating & A/C - Forced Air Furnace 90% AFUE Split System	-	11	-	0.89	Unit	15	-	$ 200.00	$ 616.00	-	-	-
2006	218007	Heating & A/C - Insulation - Attic (attic area per SqFt.)	0	0	0.00	0.89	1000 sqft roof, 1000 SqFt	20	600	$ 0.15	$ 0.76	89	26	0
2006	218008	Lighting - Ceiling Fan Energy Star w/ CFL	33	-	0.00	0.89	Unit	16	3	$ 20.00	$ 50.00	87	-	0
2006	218009	Lighting - Common Area - Exit Signs (New)	351	-	0.04	0.89	Exit Sign	16	10	$ 35.00	$ 65.44	3,127	-	0
2006	218010	Lighting - Common Area - Occupancy Sensors	214	-	0.18	0.89	Occupancy Sensor	8	-	$ 10.00	$ 42.28	-	-	-
2006	218011	Lighting - Common Area - Photocells	106	-	-	0.89	Photo cell	8	1	$ 10.00	$ 12.06	95	-	-
2006	218012	Lighting -Ext. Hardwired Fluorescent Porch Light (13-18 Watts)	51	-	-	0.89	Bulb	16	-	$ 30.00	$ 47.16	-	-	-
2006	218013	Water Heating - Clothes Washer - Tier I	78	13	0.03	0.8	Clothes Washer, CWasher	14	1	$ 75.00	$ 548.99	62	11	0
2006	218014	Gas Wtr Htr Controller (<30 units) Pre 1970	0	1125	0	0.89	Unit	10	38	$ 750.00	$ 1,400.00	-	38,048	-
2006	218015	Water Heating - Common Area - Gas Space Heating Boilers	0	1430	0	0.89	Unit	20	8	$ 1,500.00	$ 2,845.00	-	10,182	-
2006	218016	Water Heating - Common Area - Gas Water Heater	0	257	0	0.89	Unit	15	11	$ 500.00	$ 1,701.00	-	2,516	-
2006	218017	Water Heating - Common Area - Gas Water Boilers	0	750	0	0.89	Unit	20	0	$ 1,500.00	$ 1,671.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	218018	Gas Wtr Htr Controller (>=30 units) Pre 1970	0	2250	0	0.89	Unit	10	210	$ 1,500.00	$ 1,550.00	-	420,525	-
2006	218019	Water Heating - Natural Gas Storage Water Heater	0	8.8544	0	0.89	Hot Water Tank	13	0	$ 30.00	$ 175.30	-	-	-
2006	218020	Water Heating - Dishwasher - Energy Star	72	3	0.022824	0.8	Dishwasher	13	146	$ 40.00	$ 133.64	8,410	350	3
2006	218021	Water Heating - Faucet Aerator - Low Flow	0	5.3127	0	0.89	Household	9	61	$ 1.25	$ 7.12	-	288	-
2006	218022	Water Heating - Showerhead - Low Flow	0	7.0837	0	0.89	Showerhead	10	3	$ 5.00	$ 22.95	-	19	-
2006	218023	Windows - Energy Star (window area per SqFt.)	2.192099554	0	0.00219043	0.89	SqFt	20	0	$ 1.00	$ 1.68	-	-	-
2006	218024	Lighting CFL R30 Reflector (13-23 Watts)	183.1582368	0	0.0348432	0.89	Bulb	2.1	4207	$ 8.00	$ 6.14	685,787	-	130
2006	218025	Lighting CFL R40 Reflector (13-23 Watts)	183.1582368	0	0.0348432	0.89	Bulb	2.1	1182	$ 10.00	$ 6.14	192,679	-	37
2006	218026	Electric Water Heater - high efficiency	79.86285934	0	0.01756983	0.89	Hot Water Tank	15	0	$ 30.00	$ 72.30	-	-	-
2006	218027	Gas Wtr Htr Controller (<30 Units) Post 1970	0	850	0	0.89	Unit	10	35	$ 750.00	$ 1,400.00	-	26,478	-
2006	218028	Clothes Washer Energy Star Tier I MEF = 1.42 (In Coin-Op Laundry Area)	0	91.48	0.00003285	0.8	Unit	10	0	$ 150.00	$ 659.00	-	-	-
2006	218029	Split System A/C - Tier I (ES) with TXV	213.9	0	0.299088	0.89	Unit	15	0	$ 225.00	$ 363.00	-	-	-
2006	218030	Packaged A/C - Tier I (ES) with TXV	213.9	0	0.299088	0.89	Unit	15	0	$ 275.00	$ 363.00	-	-	-
2006	218031	Split System Heat Pump -Tier I (ES) with TXV	298	$ -	$ 0.26	0.89	Unit	20	0	$ 300.00	$ 228.00	-	-	-
2006	218032	Packaged Heat Pump -Tier I (ES) with TXV	298	$ -	$ 0.26	0.89	Unit	20	0	$ 300.00	$ 228.00	-	-	-
2006	218033	T-8 or T-5 Lamp and Electronic, 2-foot lamp installed 1st lamp	47	$ -	$ 0.01	0.89	Lamp	11	86	$ 32.00	$ 21.00	3,620	-	1
2006	218034	T-8 or T-5 Lamp and Electronic, 2-foot lamp installed 2nd lamp	47	$ -	$ 0.01	0.89	Lamp	11	2	$ 2.00	$ 21.00	84	-	0
2006	218035	T-8 or T-5 Lamp and Electronic, 2-foot lamp installed 3rd lamp	47	$ -	$ 0.01	0.89	Lamp	11	0	$ 4.00	$ 21.00	-	-	-
2006	218036	T-8 or T-5 Lamp and Electronic, 2-foot lamp installed 4th lamp	47	$ -	$ 0.01	0.89	Lamp	11	0	$ 7.00	$ 10.50	-	-	-
2006	218037	T-8 or T-5 Lamp and Electronic, 2-foot lamp Removed	144	$ -	$ 0.02	0.89	Lamp	11	0	$ 6.00	$ 19.00	-	-	-
2006	218038	T-8 or T-5 Lamp and Electronic, 3-foot lamp installed 1st lamp	59	$ -	$ 0.01	0.89	Lamp	11	0	$ 32.00	$ 21.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	218039	T-8 or T-5 Lamp and Electronic, 3-foot lamp installed 2nd lamp	59	$ -	$ 0.01	0.89	Lamp	11	0	$ 2.00	$ 21.00	-	-	-
2006	218040	T-8 or T-5 Lamp and Electronic, 3-foot lamp installed 3rd lamp	59	$ -	$ 0.01	0.89	Lamp	11	0	$ 4.00	$ 21.00	-	-	-
2006	218041	T-8 or T-5 Lamp and Electronic, 3-foot lamp installed 4th lamp	59	$ -	$ 0.01	0.89	Lamp	11	0	$ 7.00	$ 21.00	-	-	-
2006	218042	T-8 or T-5 Lamp and Electronic, 3-foot lamp removed	198	$ -	$ 0.03	0.89	Lamp	11	0	$ 6.00	$ 19.00	-	-	-
2006	218043	T-8 or T-5 Premium Lamp and Electronic, 4-foot lamp installed 1st lamp	16	$ -	$ 0.05	0.89	Fixture	11	2405	$ 32.00	$ 11.71	35,161	-	108
2006	218044	T-8 or T-5 Premium Lamp and Electronic, 4-foot lamp installed 2nd lamp	16	$ -	$ 0.05	0.89	Fixture	11	2332	$ 2.00	$ 11.71	34,094	-	105
2006	218045	T-8 or T-5 Premium Lamp and Electronic, 4-foot lamp installed 3rd lamp	16	$ -	$ 0.05	0.89	Fixture	11	104	$ 4.00	$ 11.71	1,520	-	5
2006	218046	T-8 or T-5 Premium Lamp and Electronic, 4-foot lamp installed 4th lamp	16	$ -	$ 0.05	0.89	Fixture	11	104	$ 7.00	$ 11.71	1,520	-	5
2006	218047	T-8 or T-5 Lamp and Electronic, 4-foot lamp removed	79	$ -	$ 0.02	0.89	Fixture	11	0	$ 6.00	$ 25.71	-	-	-
2006	218048	T-8 or T-5 Lamp and Electronic, 8-foot lamp installed 1st lamp	45	$ -	$ 0.01	0.89	Lamp	11	0	$ 32.00	$ 32.50	-	-	-
2006	218049	T-8 or T-5 Lamp and Electronic, 8-foot lamp installed 2nd lamp	45	$ -	$ 0.01	0.89	Lamp	11	130	$ 2.00	$ 32.50	5,207	-	1
2006	218050	T-8 or T-5 Lamp and Electronic, 8-foot lamp installed 3rd lamp	45	$ -	$ 0.01	0.89	Lamp	11	0	$ 4.00	$ 32.50	-	-	-
2006	218051	T-8 or T-5 Lamp and Electronic, 8-foot lamp installed 4th lamp	45	$ -	$ 0.01	0.89	Lamp	11	0	$ 7.00	$ 32.50	-	-	-
2006	218052	T-8 or T-5 Lamp and Electronic, 8-foot lamp removed	171	$ -	$ 0.05	0.89	Fixture	11	40	$ 6.00	$ 25.91	6,082	-	2
2006	218053	Lighting - CFL Interior (5 - 13 Watt) - < 800 Lumens	21	$ -	$ 0.00	0.89	Bulb	9.4	154	$ 4.00	$ 4.40	2,845	-	0
2006	218054	Lighting - CFL Interior (14 - 20 Watt)	34	$ -	$ 0.00	0.89	Bulb	9.4	69147	$ 5.00	$ 9.16	2,081,456	-	197
2006	218055	Lighting - CFL Interior (21 - 30 Watt) - < 1,600 Lumens	38	$ -	$ 0.00	0.89	Bulb	9.4	8600	$ 6.50	$ 12.02	294,178	-	28
2006	218056	Lighting - CFL Exterior (5 - 13 Watt) - < 800 Lumens	21	$ -	$ 0.00	0.89	Bulb	9.4	0	$ 4.00	$ 4.40	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	218057	Lighting - CFL Exterior (14 - 20 Watt)	45	$ -	$ -	0.89	Bulb	7.07	0	$ 5.00	$ 5.32	-	-	-
2006	218058	Lighting - CFL Exterior (21 - 30 Watt)	50	$ -	$ -	0.89	Unit	7.07	0	$ 6.50	$ 6.39	-	-	-
2006	218059	A/C - Central Heat Pumps - Energy Star Tier I	1,269	$ -	$ 0.71	0.89	tons cooling	15	12	$ 275.00	$ 195.88	13,549	-	8
2006	218060	Water Heating - Clothes Washer - Tier II	45	$ 4.60	$ 0.02	0.8	Clothes Washer	14	0	$ 125.00	$ 411.99	-	-	-
2006	218061	Int. Hardwired Fluorescent Fixture >= 30 watts	64	$ -	$ 0.01	0.89	Bulb	16	12416	$ 50.00	$ 56.86	705,019	-	67
2006	218062	Int. Hardwired Fluorescent Fixture 22-29 watts - <1,600 Lumens - (25 Watt)	38	$ -	$ 0.00	0.89	Bulb	16	417	$ 50.00	$ 50.94	14,264	-	1
2006	218063	Lighting -Ext. Hardwired Fluorescent Porch Light (19-27 Watts)	59	$ -	$ 0.01	0.89	Bulb	16	4143	$ 30.00	$ 49.96	218,246	-	21
2006	218064	Clothes Washer Energy Star Tier II MEF = 1.60 (In Coin-Op Laundry Area)	-	$ 101.77	$ -	0.8	Clothes Washer, CWasher	10	0		$ 853.00	-	-	-
2006	218065	Clothes Washer Energy Star Tier III MEF = 1.80 (In Coin-Op Laundry Area)	-	$ 116.58	$ -	0.8	Clothes Washer, CWasher	10	0		$ 764.92	-	-	-
2006	218066	Gas Wtr Htr Controller (>=30 units) Post 1970	-	$ 1,699.00	$ -	0.89	Unit	10	0		$ 1,550.00	-	-	-
2007	218001	A/C & Heating - Programmable Thermostat - Energy Star	219	$ 13.00	$ 0.04	0.89	Unit	11	0	$ 40.00	$ 58.00	-	-	-
2007	218002	A/C - Central Air Conditioner Tier II	201	$ -	$ 0.31	0.89	Unit	15	0	$ 200.00	$ 505.92	-	-	-
2007	218003	A/C - Packaged Terminal Air Conditioners	282	$ -	$ 0.24	0.89	Unit	15	0	$ 100.00	$ 97.50	-	-	-
2007	218004	A/C - Packaged Terminal Heat Pumps	282	$ -	$ 0.24	0.89	Unit	15	0	$ 100.00	$ 97.50	-	-	-
2007	218005	A/C - Room unit - Energy Star	127	$ -	$ 0.10	0.8	Unit	15	26	$ 50.00	$ 106.00	2,642	-	2.05305
2007	218006	Heating & A/C - Forced Air Furnace 90% AFUE Split System	-	$ 11.00	$ -	0.89	Unit	15	0	$ 200.00	$ 616.00	-	-	-
2007	218007	Heating & A/C - Insulation - Attic (attic area per SqFt.)	0	$ 0.05	$ 0.00	0.89	1000 sqft roof, 1000 SqFt	20	630	$ 0.15	$ 0.76	93	28	0
2007	218008	Lighting - Ceiling Fan Energy Star w/ CFL	33	$ -	$ 0.00	0.89	Unit	16	3	$ 20.00	$ 50.00	87	-	0
2007	218009	Lighting - Common Area - Exit Signs (New)	351	$ -	$ 0.04	0.89	Exit Sign	16	11	$ 35.00	$ 65.44	3,439	-	0
2007	218010	Lighting - Common Area - Occupancy Sensors	214	$ -	$ 0.18	0.89	Occupancy Sensor	8	16	$ 10.00	$ 42.28	3,044	-	3
2007	218011	Lighting - Common Area - Photocells	106	$ -	$ -	0.89	Photo cell	8	1	$ 10.00	$ 12.06	95	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	218012	Lighting -Ext. Hardwired Fluorescent Porch Light (13-18 Watts)	51	$ -	$ -	0.89	Bulb	16	0	$ 30.00	$ 47.16	-	-	-
2007	218013	Water Heating - Clothes Washer - Tier I	33	$ 2.66	$ 0.01	0.8	Clothes Washer, CWasher	14	1	$ 75.00	$ 368.21	26	2	0
2007	218014	Gas Wtr Htr Controller (<30 units) Pre 1970	-	$ 1,125.00	$ -	0.89	Unit	10	40	$ 750.00	$ 1,400.00	-	40,050	-
2007	218015	Water Heating - Common Area - Gas Space Heating Boilers	-	$ 1,430.00	$ -	0.89	Unit	20	8	$ 1,500.00	$ 2,845.00	-	10,182	-
2007	218016	Water Heating - Common Area - Gas Water Heater	-	$ 257.00	$ -	0.89	Unit	15	12	$ 500.00	$ 1,701.00	-	2,745	-
2007	218017	Water Heating - Common Area - Gas Water Boilers	-	$ 750.00	$ -	0.89	Unit	20	0	$ 1,500.00	$ 1,671.00	-	-	-
2007	218018	Gas Wtr Htr Controller (>=30 units) Pre 1970	-	$ 2,250.00	$ -	0.89	Unit	10	221	$ 1,500.00	$ 1,550.00	-	442,553	-
2007	218019	Water Heating - Natural Gas Storage Water Heater	-	$ 8.85	$ -	0.89	Hot Water Tank	13	0	$ 30.00	$ 175.30	-	-	-
2007	218020	Water Heating - Dishwasher - Energy Star	72	$ 3.00	$ 0.02	0.8	Dishwasher	13	153	$ 40.00	$ 133.64	8,813	367	3
2007	218021	Water Heating - Faucet Aerator - Low Flow	-	$ 5.31	$ -	0.89	Household	9	64	$ 1.25	$ 7.12	-	303	-
2007	218022	Water Heating - Showerhead - Low Flow	-	$ 7.08	$ -	0.89	Showerhead	10	3	$ 5.00	$ 22.95	-	19	-
2007	218023	Windows - Energy Star (window area per SqFt.)	2	$ -	$ 0.00	0.89	SqFt	20	0	$ 1.00	$ 1.68	-	-	-
2007	218024	Lighting CFL R30 Reflector (13-23 Watts)	183	$ -	$ 0.03	0.89	Bulb	2.1	4417	$ 8.00	$ 6.14	720,019	-	137
2007	218025	Lighting CFL R40 Reflector (13-23 Watts)	183	$ -	$ 0.03	0.89	Bulb	2.1	1241	$ 10.00	$ 6.14	202,296	-	38
2007	218026	Electric Water Heater - high efficiency	80	$ -	$ 0.02	0.89	Hot Water Tank	15	0	$ 30.00	$ 72.30	-	-	-
2007	218027	Gas Wtr Htr Controller (<30 Units) Post 1970	-	$ 850.00	$ -	0.89	Unit	10	37	$ 750.00	$ 1,400.00	-	27,991	-
2007	218028	Clothes Washer Energy Star Tier I MEF = 1.42 (In Coin-Op Laundry Area)	-	$ 91.48	$ 0.00	0.8	Unit	10	0	$ 150.00	$ 659.00	-	-	-
2007	218029	Split System A/C - Tier I (ES) with TXV	214	$ -	$ 0.30	0.89	Unit	15	0	$ 225.00	$ 363.00	-	-	-
2007	218030	Packaged A/C - Tier I (ES) with TXV	214	$ -	$ 0.30	0.89	Unit	15	0	$ 275.00	$ 363.00	-	-	-
2007	218031	Split System Heat Pump -Tier I (ES) with TXV	298	$ -	$ 0.26	0.89	Unit	20	0	$ 300.00	$ 228.00	-	-	-
2007	218032	Packaged Heat Pump -Tier I (ES) with TXV	298	$ -	$ 0.26	0.89	Unit	20	0	$ 300.00	$ 228.00	-	-	-
2007	218033	T-8 or T-5 Lamp and Electronic, 2-foot lamp installed 1st lamp	47	$ -	$ 0.01	0.89	Lamp	11	90	$ 32.00	$ 21.00	3,789	-	1

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	218034	T-8 or T-5 Lamp and Electronic, 2-foot lamp installed 2nd lamp	47	$ -	$ 0.01	0.89	Lamp	11	2	$ 2.00	$ 21.00	84	-	0
2007	218035	T-8 or T-5 Lamp and Electronic, 2-foot lamp installed 3rd lamp	47	$ -	$ 0.01	0.89	Lamp	11	0	$ 4.00	$ 21.00	-	-	-
2007	218036	T-8 or T-5 Lamp and Electronic, 2-foot lamp installed 4th lamp	47	$ -	$ 0.01	0.89	Lamp	11	0	$ 7.00	$ 10.50	-	-	-
2007	218037	T-8 or T-5 Lamp and Electronic, 2-foot lamp Removed	144	$ -	$ 0.02	0.89	Lamp	11	0	$ 6.00	$ 19.00	-	-	-
2007	218038	T-8 or T-5 Lamp and Electronic, 3-foot lamp installed 1st lamp	59	$ -	$ 0.01	0.89	Lamp	11	0	$ 32.00	$ 21.00	-	-	-
2007	218039	T-8 or T-5 Lamp and Electronic, 3-foot lamp installed 2nd lamp	59	$ -	$ 0.01	0.89	Lamp	11	0	$ 2.00	$ 21.00	-	-	-
2007	218040	T-8 or T-5 Lamp and Electronic, 3-foot lamp installed 3rd lamp	59	$ -	$ 0.01	0.89	Lamp	11	0	$ 4.00	$ 21.00	-	-	-
2007	218041	T-8 or T-5 Lamp and Electronic, 3-foot lamp installed 4th lamp	59	$ -	$ 0.01	0.89	Lamp	11	0	$ 7.00	$ 21.00	-	-	-
2007	218042	T-8 or T-5 Lamp and Electronic, 3-foot lamp removed	198	$ -	$ 0.03	0.89	Lamp	11	0	$ 6.00	$ 19.00	-	-	-
2007	218043	T-8 or T-5 Premium Lamp and Electronic, 4-foot lamp installed 1st lamp	16	$ -	$ 0.05	0.89	Fixture	11	2525	$ 32.00	$ 11.71	36,916	-	113
2007	218044	T-8 or T-5 Premium Lamp and Electronic, 4-foot lamp installed 2nd lamp	16	$ -	$ 0.05	0.89	Fixture	11	2449	$ 2.00	$ 11.71	35,804	-	110
2007	218045	T-8 or T-5 Premium Lamp and Electronic, 4-foot lamp installed 3rd lamp	16	$ -	$ 0.05	0.89	Fixture	11	109	$ 4.00	$ 11.71	1,594	-	5
2007	218046	T-8 or T-5 Premium Lamp and Electronic, 4-foot lamp installed 4th lamp	16	$ -	$ 0.05	0.89	Fixture	11	109	$ 7.00	$ 11.71	1,594	-	5
2007	218047	T-8 or T-5 Lamp and Electronic, 4-foot lamp removed	79	$ -	$ 0.02	0.89	Fixture	11	0	$ 6.00	$ 25.71	-	-	-
2007	218048	T-8 or T-5 Lamp and Electronic, 8-foot lamp installed 1st lamp	45	$ -	$ 0.01	0.89	Lamp	11	0	$ 32.00	$ 32.50	-	-	-
2007	218049	T-8 or T-5 Lamp and Electronic, 8-foot lamp installed 2nd lamp	45	$ -	$ 0.01	0.89	Lamp	11	137	$ 2.00	$ 32.50	5,487	-	1
2007	218050	T-8 or T-5 Lamp and Electronic, 8-foot lamp installed 3rd lamp	45	$ -	$ 0.01	0.89	Lamp	11	0	$ 4.00	$ 32.50	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	218051	T-8 or T-5 Lamp and Electronic, 8-foot lamp installed 4th lamp	45	$ -	$ 0.01	0.89	Lamp	11	0	$ 7.00	$ 32.50	-	-	-
2007	218052	T-8 or T-5 Lamp and Electronic, 8-foot lamp removed	171	$ -	$ 0.05	0.89	Fixture	11	42	$ 6.00	$ 25.91	6,386	-	2
2007	218053	Lighting - CFL Interior (5 - 13 Watt) - < 800 Lumens	21	$ -	$ 0.00	0.89	Bulb	9.4	162	$ 4.00	$ 4.40	2,992	-	0
2007	218054	Lighting - CFL Interior (14 - 20 Watt)	34	$ -	$ 0.00	0.89	Bulb	9.4	72604	$ 5.00	$ 9.16	2,185,518	-	207
2007	218055	Lighting - CFL Interior (21 - 30 Watt) - < 1,600 Lumens	38	$ -	$ 0.00	0.89	Bulb	9.4	9030	$ 6.50	$ 12.02	308,887	-	29
2007	218056	Lighting - CFL Exterior (5 - 13 Watt) - < 800 Lumens	21	$ -	$ 0.00	0.89	Bulb	9.4	0	$ 4.00	$ 4.40	-	-	-
2007	218057	Lighting - CFL Exterior (14 - 20 Watt)	45	$ -	$ -	0.89	Bulb	7.07	0	$ 5.00	$ 5.32	-	-	-
2007	218058	Lighting - CFL Exterior (21 - 30 Watt)	50	$ -	$ -	0.89	Unit	7.07	0	$ 6.50	$ 6.39	-	-	-
2007	218059	A/C - Central Heat Pumps - Energy Star Tier I	1,269	$ -	$ 0.71	0.89	tons cooling	15	13	$ 275.00	$ 195.88	14,678	-	8
2007	218060	Water Heating - Clothes Washer - Tier II	45	$ 4.60	$ 0.02	0.8	Clothes Washer	14	0	$ 125.00	$ 411.99	-	-	-
2007	218061	Int. Hardwired Fluorescent Fixture >= 30 watts	64	$ -	$ 0.01	0.89	Bulb	16	13037	$ 50.00	$ 56.86	740,282	-	70
2007	218062	Int. Hardwired Fluorescent Fixture 22-29 watts - <1,600 Lumens - (25 Watt)	38	$ -	$ 0.00	0.89	Bulb	16	438	$ 50.00	$ 50.94	14,983	-	1
2007	218063	Lighting -Ext. Hardwired Fluorescent Porch Light (19-27 Watts)	59	$ -	$ 0.01	0.89	Bulb	16	4350	$ 30.00	$ 49.96	229,151	-	22
2007	218064	Clothes Washer Energy Star Tier II MEF = 1.60 (In Coin-Op Laundry Area)	-	$ 20.60	$ -	0.8	Clothes Washer, CWasher	10	0		$ 606.86	-	-	-
2007	218065	Clothes Washer Energy Star Tier III MEF = 1.80 (In Coin-Op Laundry Area)	-	$ 35.40	$ -	0.8	Clothes Washer, CWasher	10	0		$ 518.78	-	-	-
2008	218001	A/C & Heating - Programmable Thermostat - Energy Star	219	$ 13.00	$ 0.04	0.89	Unit	11	0	$ 40.00	$ 58.00	-	-	-
2008	218002	A/C - Central Air Conditioner Tier II	201	$ -	$ 0.31	0.89	Unit	15	0	$ 200.00	$ 505.92	-	-	-
2008	218003	A/C - Packaged Terminal Air Conditioners	282	$ -	$ 0.24	0.89	Unit	15	0	$ 100.00	$ 97.50	-	-	-
2008	218004	A/C - Packaged Terminal Heat Pumps	282	$ -	$ 0.24	0.89	Unit	15	0	$ 100.00	$ 97.50	-	-	-
2008	218005	A/C - Room unit - Energy Star	127	$ -	$ 0.10	0.8	Unit	15	28	$ 50.00	$ 106.00	2,845	-	2
2008	218006	Heating & A/C - Forced Air Furnace 90% AFUE Split System	-	$ 11.00	$ -	0.89	Unit	15	0	$ 200.00	$ 616.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	218007	Heating & A/C - Insulation - Attic (attic area per SqFt.)	0	$ 0.05	$ 0.00	0.89	1000 sqft roof, 1000 SqFt	20	660	$ 0.15	$ 0.76	98	29	0
2008	218008	Lighting - Ceiling Fan Energy Star w/ CFL	33	$ -	$ 0.00	0.89	Unit	16	3	$ 20.00	$ 50.00	87	-	0
2008	218009	Lighting - Common Area - Exit Signs (New)	351	$ -	$ 0.04	0.89	Exit Sign	16	11	$ 35.00	$ 65.44	3,439	-	0
2008	218010	Lighting - Common Area - Occupancy Sensors	214	$ -	$ 0.18	0.89	Occupancy Sensor	8	17	$ 10.00	$ 42.28	3,234	-	3
2008	218011	Lighting - Common Area - Photocells	106	$ -	$ -	0.89	Photo cell	8	1	$ 10.00	$ 12.06	95	-	-
2008	218012	Lighting -Ext. Hardwired Fluorescent Porch Light (13-18 Watts)	51	$ -	$ -	0.89	Bulb	16	0	$ 30.00	$ 47.16	-	-	-
2008	218013	Water Heating - Clothes Washer - Tier I	33	$ 2.66	$ 0.01	0.8	Clothes Washer, CWasher	14	1	$ 75.00	$ 368.21	26	2	0
2008	218014	Gas Wtr Htr Controller (<30 units) Pre 1970	-	$ 1,125.00	$ -	0.89	Unit	10	39	$ 750.00	$ 1,400.00	-	39,049	-
2008	218015	Water Heating - Common Area - Gas Space Heating Boilers	-	$ 1,430.00	$ -	0.89	Unit	20	9	$ 1,500.00	$ 2,845.00	-	11,454	-
2008	218016	Water Heating - Common Area - Gas Water Heater	-	$ 257.00	$ -	0.89	Unit	15	12	$ 500.00	$ 1,701.00	-	2,745	-
2008	218017	Water Heating - Common Area - Gas Water Boilers	-	$ 750.00	$ -	0.89	Unit	20	0	$ 1,500.00	$ 1,671.00	-	-	-
2008	218018	Gas Wtr Htr Controller (>=30 units) Pre 1970	-	$ 2,250.00	$ -	0.89	Unit	10	231	$ 1,500.00	$ 1,550.00	-	462,578	-
2008	218019	Water Heating - Natural Gas Storage Water Heater	-	$ 8.85	$ -	0.89	Hot Water Tank	13	0	$ 30.00	$ 175.30	-	-	-
2008	218020	Water Heating - Dishwasher - Energy Star	72	$ 3.00	$ 0.02	0.8	Dishwasher	13	161	$ 40.00	$ 133.64	9,274	386	3
2008	218021	Water Heating - Faucet Aerator - Low Flow	-	$ 5.31	$ -	0.89	Household	9	67	$ 1.25	$ 7.12	-	317	-
2008	218022	Water Heating - Showerhead - Low Flow	-	$ 7.08	$ -	0.89	Showerhead	10	3	$ 5.00	$ 22.95	-	19	-
2008	218023	Windows - Energy Star (window area per SqFt.)	2	$ -	$ 0.00	0.89	SqFt	20	0	$ 1.00	$ 1.68	-	-	-
2008	218024	Lighting CFL R30 Reflector (13-23 Watts)	183	$ -	$ 0.03	0.89	Bulb	2.1	4628	$ 8.00	$ 6.14	754,414	-	144
2008	218025	Lighting CFL R40 Reflector (13-23 Watts)	183	$ -	$ 0.03	0.89	Bulb	2.1	1300	$ 10.00	$ 6.14	211,914	-	40
2008	218026	Electric Water Heater - high efficiency	80	$ -	$ 0.02	0.89	Hot Water Tank	15	0	$ 30.00	$ 72.30	-	-	-
2008	218027	Gas Wtr Htr Controller (<30 Units) Post 1970	-	$ 850.00	$ -	0.89	Unit	10	42	$ 750.00	$ 1,400.00	-	31,773	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	218028	Clothes Washer Energy Star Tier I MEF = 1.42 (In Coin-Op Laundry Area)	-	$ 91.48	$ 0.00	0.8	Unit	10	0	$ 150.00	$ 659.00	-	-	-
2008	218029	Split System A/C - Tier I (ES) with TXV	214	$ -	$ 0.30	0.89	Unit	15	0	$ 225.00	$ 363.00	-	-	-
2008	218030	Packaged A/C - Tier I (ES) with TXV	214	$ -	$ 0.30	0.89	Unit	15	0	$ 275.00	$ 363.00	-	-	-
2008	218031	Split System Heat Pump -Tier I (ES) with TXV	298	$ -	$ 0.26	0.89	Unit	20	0	$ 300.00	$ 228.00	-	-	-
2008	218032	Packaged Heat Pump -Tier I (ES) with TXV	298	$ -	$ 0.26	0.89	Unit	20	0	$ 300.00	$ 228.00	-	-	-
2008	218033	T-8 or T-5 Lamp and Electronic, 2-foot lamp installed 1st lamp	47	$ -	$ 0.01	0.89	Lamp	11	95	$ 32.00	$ 21.00	3,999	-	1
2008	218034	T-8 or T-5 Lamp and Electronic, 2-foot lamp installed 2nd lamp	47	$ -	$ 0.01	0.89	Lamp	11	2	$ 2.00	$ 21.00	84	-	0
2008	218035	T-8 or T-5 Lamp and Electronic, 2-foot lamp installed 3rd lamp	47	$ -	$ 0.01	0.89	Lamp	11	0	$ 4.00	$ 21.00	-	-	-
2008	218036	T-8 or T-5 Lamp and Electronic, 2-foot lamp installed 4th lamp	47	$ -	$ 0.01	0.89	Lamp	11	0	$ 7.00	$ 10.50	-	-	-
2008	218037	T-8 or T-5 Lamp and Electronic, 2-foot lamp Removed	144	$ -	$ 0.02	0.89	Lamp	11	0	$ 6.00	$ 19.00	-	-	-
2008	218038	T-8 or T-5 Lamp and Electronic, 3-foot lamp installed 1st lamp	59	$ -	$ 0.01	0.89	Lamp	11	0	$ 32.00	$ 21.00	-	-	-
2008	218039	T-8 or T-5 Lamp and Electronic, 3-foot lamp installed 2nd lamp	59	$ -	$ 0.01	0.89	Lamp	11	0	$ 2.00	$ 21.00	-	-	-
2008	218040	T-8 or T-5 Lamp and Electronic, 3-foot lamp installed 3rd lamp	59	$ -	$ 0.01	0.89	Lamp	11	0	$ 4.00	$ 21.00	-	-	-
2008	218041	T-8 or T-5 Lamp and Electronic, 3-foot lamp installed 4th lamp	59	$ -	$ 0.01	0.89	Lamp	11	0	$ 7.00	$ 21.00	-	-	-
2008	218042	T-8 or T-5 Lamp and Electronic, 3-foot lamp removed	198	$ -	$ 0.03	0.89	Lamp	11	0	$ 6.00	$ 19.00	-	-	-
2008	218043	T-8 or T-5 Premium Lamp and Electronic, 4-foot lamp installed 1st lamp	16	$ -	$ 0.05	0.89	Fixture	11	2646	$ 32.00	$ 11.71	38,685	-	119
2008	218044	T-8 or T-5 Premium Lamp and Electronic, 4-foot lamp installed 2nd lamp	16	$ -	$ 0.05	0.89	Fixture	11	2565	$ 2.00	$ 11.71	37,500	-	115
2008	218045	T-8 or T-5 Premium Lamp and Electronic, 4-foot lamp installed 3rd lamp	16	$ -	$ 0.05	0.89	Fixture	11	114	$ 4.00	$ 11.71	1,667	-	5

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	218046	T-8 or T-5 Premium Lamp and Electronic, 4-foot lamp installed 4th lamp	16	$ -	$ 0.05	0.89	Fixture	11	114	$ 7.00	$ 11.71	1,667	-	5
2008	218047	T-8 or T-5 Lamp and Electronic, 4-foot lamp removed	79	$ -	$ 0.02	0.89	Fixture	11	0	$ 6.00	$ 25.71	-	-	-
2008	218048	T-8 or T-5 Lamp and Electronic, 8-foot lamp installed 1st lamp	45	$ -	$ 0.01	0.89	Lamp	11	0	$ 32.00	$ 32.50	-	-	-
2008	218049	T-8 or T-5 Lamp and Electronic, 8-foot lamp installed 2nd lamp	45	$ -	$ 0.01	0.89	Lamp	11	143	$ 2.00	$ 32.50	5,727	-	1
2008	218050	T-8 or T-5 Lamp and Electronic, 8-foot lamp installed 3rd lamp	45	$ -	$ 0.01	0.89	Lamp	11	0	$ 4.00	$ 32.50	-	-	-
2008	218051	T-8 or T-5 Lamp and Electronic, 8-foot lamp installed 4th lamp	45	$ -	$ 0.01	0.89	Lamp	11	0	$ 7.00	$ 32.50	-	-	-
2008	218052	T-8 or T-5 Lamp and Electronic, 8-foot lamp removed	171	$ -	$ 0.05	0.89	Fixture	11	44	$ 6.00	$ 25.91	6,690	-	2
2008	218053	Lighting - CFL Interior (5 - 13 Watt) - < 800 Lumens	21	$ -	$ 0.00	0.89	Bulb	9.4	169	$ 4.00	$ 4.40	3,122	-	0
2008	218054	Lighting - CFL Interior (14 - 20 Watt)	34	$ -	$ 0.00	0.89	Bulb	9.4	76062	$ 5.00	$ 9.16	2,289,611	-	217
2008	218055	Lighting - CFL Interior (21 - 30 Watt) - < 1,600 Lumens	38	$ -	$ 0.00	0.89	Bulb	9.4	9460	$ 6.50	$ 12.02	323,595	-	31
2008	218056	Lighting - CFL Exterior (5 - 13 Watt) - < 800 Lumens	21	$ -	$ 0.00	0.89	Bulb	9.4	0	$ 4.00	$ 4.40	-	-	-
2008	218057	Lighting - CFL Exterior (14 - 20 Watt)	45	$ -	$ -	0.89	Bulb	7.07	0	$ 5.00	$ 5.32	-	-	-
2008	218058	Lighting - CFL Exterior (21 - 30 Watt)	50	$ -	$ -	0.89	Unit	7.07	0	$ 6.50	$ 6.39	-	-	-
2008	218059	A/C - Central Heat Pumps - Energy Star Tier I	1,269	$ -	$ 0.71	0.89	tons cooling	15	13	$ 275.00	$ 195.88	14,678	-	8
2008	218060	Water Heating - Clothes Washer - Tier II	45	$ 4.60	$ 0.02	0.8	Clothes Washer	14	0	$ 125.00	$ 411.99	-	-	-
2008	218061	Int. Hardwired Fluorescent Fixture >= 30 watts	64	$ -	$ 0.01	0.89	Bulb	16	13685	$ 50.00	$ 56.86	777,077	-	74
2008	218062	Int. Hardwired Fluorescent Fixture 22-29 watts - <1,600 Lumens - (25 Watt)	38	$ -	$ 0.00	0.89	Bulb	16	459	$ 50.00	$ 50.94	15,701	-	1
2008	218063	Lighting -Ext. Hardwired Fluorescent Porch Light (19-27 Watts)	59	$ -	$ 0.01	0.89	Bulb	16	4557	$ 30.00	$ 49.96	240,055	-	23
2008	218064	Clothes Washer Energy Star Tier II MEF = 1.60 (In Coin-Op Laundry Area)	-	$ 20.60	$ -	0.8	Clothes Washer, CWasher	10	0		$ 606.86	-	-	-
2008	218065	Clothes Washer Energy Star Tier III MEF = 1.80 (In Coin-Op Laundry Area)	-	$ 35.40	$ -	0.8	Clothes Washer, CWasher	10	0		$ 518.78	-	-	-

NONRESIDENTIAL PROGRAMS

2006-2008 Energy Efficiency Programs
Express Efficiency Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 146,786	$ 157,795	$ 169,629
Administrative Other	$ 377,523	$ 345,832	$ 371,920
Marketing & Outreach	$ 324,208	$ 364,188	$ 262,170
Direct Implementation			
Incentives	$ 1,446,733	$ 1,546,357	$ 1,664,232
Activity	$ 605,877	$ 687,922	$ 852,104
Installation	$ -	$ -	$ -
Hardware & Materials	$ 53,000	$ 79,400	$ 84,446
Rebate Processing & Inspection	$ 128,371	$ 132,192	$ 157,711
EM&V	$ -	$ -	$ -
Total	*$ 3,082,498*	*$ 3,313,685*	*$ 3,562,212*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
15,442,642	2,116	211,860	17,963,732	2,920	273,892	18,017,908	2,674	443,140

3. Program Cost Effectiveness

Attached.

4. Program Descriptors

Express Efficiency is a statewide prescriptive rebate program that encourages nonresidential customers to retrofit existing equipment with high efficiency equipment. Rebates are intended to cover a portion of the incremental cost associated with installing higher efficiency equipment. The program is designed to be relatively simple and straightforward in order to ensure that a customer has a hassle-free experience and begins to save energy and money quickly.

In the past, Express Efficiency has focused on customers who are defined as hard-to-reach (HTR). These customers traditionally are less likely to install energy efficient technologies due to financial constraints and market barriers. For the 2006-2008 program years, the San Diego Gas & Electric Express Efficiency program will operate a modified version of the statewide Express Efficiency program that will better meet the needs of our customer base.

The San Diego Gas & Electric Express Efficiency program will be designed to assist nonresidential customers who have a monthly demand above 100 kW and/or an average monthly gas usage of 4,166 therms and above. In addition, the 500 kW monthly demand barrier between the statewide Express Efficiency programs and the Statewide Standard Performance Contract programs will be removed to ensure that the Investor-Owned Utilities (IOUs) nonresidential customers have a seamless

approach to participate in an energy efficient program that best suits their retrofit project needs.

To ensure that the needs of the small and very-small nonresidential customers in our service territory, the Small Business Super Saver program will be offered in the San Diego Gas & Electric service territory.

In addition, the SDG&E Express Efficiency will have a local program component specific to the needs of the customers in our territory.

5. Program Statement

The San Diego Gas & Electric Express Efficiency program will continue their successful customer service approach with the nonresidential customers by promoting awareness of energy efficient measures and best practices through such channels as education and training seminars, project implementation support and financial incentives for comprehensive projects.

Having the distinction between the small and very-small commercial customers served by Small Business Super Saver and the medium to large-sized commercial customers served by Express Efficiency will improve design program processes, gaps and overlaps that existed between the programs. Overlapping of program measures and market segments has been confusing to the customer and has created competing energy efficiency programs. The modified Express Efficiency will result in a much more effective and efficient approach with targeted information, design assistance, and financial incentives.

6. Program Rationale

SDG&E leverages the Express Efficiency program in a strategy that encourages program delivery by outside organizations of value-added services to their constituents. Outreach has been, and will continue to be, expanded to include coordination with Community Based Organizations (CBOs), Faith Based Organizations (FBOs), ethnic organizations, and other stakeholders. The Express Efficiency program will continue its track record of success in delivering cost-effective energy savings and demand reduction.

There is a need to address the barrier with corporate chains, schools, and government agencies because of program requirements regarding procurement and installation. Currently these industries may not have the ability to install qualifying equipment until months after the purchase, thus putting them at risk for receiving a rebate. The statewide Express team will continue to look at this issue for improved customer service, and for new energy efficient technologies to adopt in the program.

The SDG&E Express Efficiency will offer new energy efficient measures such as griddles, fryers, and ovens. SDG&E Express Efficiency will also continue to pursue measures and anticipate the flexibility to add measures to the program upon

validation of energy savings from the DEER database and/or deemed energy savings workpapers.

Express Efficiency will continue to involve customers, vendors, third party sponsors, SDG&E Account Executives, and community organizations to promote energy efficiency outreach, education, and rebates to increase the adoption of energy efficient technologies.

SDG&E Express Efficiency will continue to work with the programs and services teams to integrate demand reduction either through the SDG&E Demand Response programs and/or through behavioral changes such as a hotel shifting its laundry work load to an off-peak time to reduce demand during a critical peak period.

7. Program Outcomes

The desired results of the program are to increase the installation of high-efficiency, energy saving equipment that will result in long-term energy savings and peak reductions.

8. Program Strategy

Express Efficiency is a statewide prescriptive rebate program that encourages nonresidential customers to retrofit existing equipment with high-efficiency equipment. It is designed to be simple and straightforward so that customers can save energy and money quickly. The program will use multiple marketing channels to increase awareness and participation in the program. The program will continue to promote comprehensive projects. Financial incentives may be awarded on comprehensive projects that include more than one measure or that participate in demand response programs.

8.1.1. Program Strategy Description

Customers will be directed to the SDG&E Express Efficiency website to locate participating contractors and vendors. SDG&E will also incorporate facilitators in to the program. The facilitator will be in the field to assist customers with questions, help to locate a contractor from the participating vendor list, and aid in the completion of rebate forms. The facilitator will also be able to assist the customer with the On-Bill Financing option, which will allow the customer to participate in a comprehensive retrofit without the burden of the upfront capital cost associated with some measures such as refrigeration and food service equipment. The facilitator will be able to be a representative for the customer.

Furthermore, the SDG&E Express Efficiency program will take a focused approach on industry specific segments such as restaurants and food service. The SDG&E Express Efficiency team will work with the SDG&E Standard Performance Contract team and the Energy Savings Bid program team to target energy efficiency retrofits for buildings.

Customers will be encouraged to work towards the energy reduction goal as outlined by the December 2004 Governors Executive Order.

8.1.2. Program Indicators

For the 2006-2008 program years, an additional incentive for customers may be added if they complete a comprehensive project and/or if they segue into a Demand Response program. This approach can be incorporated into the rebate program by offering customers an added incentive for subscribing to one of the DRP programs and would help to minimize lost opportunities for DRP.

Additionally, the SDG&E energy efficiency team will provide to the SDG&E Demand Response team a database of customer names that have previously participated in energy efficiency programs. If funding is available, the Express Efficiency program group will help support the implementation of a Customer Relationship Management system with the Demand Response program group; this will allows us to better track and better serve our customers needs.

9. Program Implementation

The Express Efficiency program clearly lists the energy efficiency measures a customer may install in an easy to understand rebate form, which is available in a printed hard copy rebate form or online. Customers simply make a reservation to hold funding for their project, then purchase and install the qualifying equipment, and submit a completed rebate form with proof of purchase. Projects may be subject to inspection after installation and prior to rebate payment.

10. Customer Description

Nonresidential customers who have 100kW of monthly demand and above and/or a monthly average natural gas usage of 4,166 therms and above.

11. Customer Interface

Since the program concept has been in existence for several years and is familiar to customers and vendors, many will be able to anticipate participation early in 2006. SDG&E will continue timely contractor kick-off meetings, which point out changes to the programs, new programs, and rebate and incentive dollars. SDG&E will also highlight at the start of the program year and include in the program documentation, the additional financial incentives allowed for comprehensive projects and/or demand response participation. Information will be delivered through direct presentations, a website, and direct customer contact. Applications and program information is available through the website. Direct assistance will be provided through telephone support and on-site support as required. Customers simply make a reservation to hold funding for their purchase, install the qualifying equipment, and then submit a completed rebate form with proof of purchase. Projects may be subject to inspection after installation and prior to rebate payment.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

12.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

12.3. Non-energy Activities

12.3.1. Activity Description

12.3.2. Quantitative Activity Goals

12.3.3. Assigned attributes of the activity (market sector, end use)

Information may be provided through direct mail, email, telephone or other means through the Education, Training and Outreach program. Detailed information will be recorded in our tracking system, including equipment inventories and project recommendations. Recommendations will be followed up periodically to determine implementation status, and whether additional assistance will be required to cause a project to be implemented. If a project is implemented without design or financial assistance, energy savings will be logged into the tracking system, and claimed toward program goals.

Express Efficiency will continue to coordinate seminars that show the process from start to finish. The *Energy Solutions for Business Customers* seminar instructed customers on how to effectively participate in energy efficiency and then to demand reduction. This seminar, which was held in October 2004, was very successful and will be incorporated into the regular training schedule.

1.1. Subcontractor Activities

Subcontractor activities may include:

- Energy savings research and documentation
- Industry specific marketing efforts
- On-line reservation system
- Collection and upkeep of database of qualifying measures

13. Quality Assurance and Evaluation Activities

An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E/SoCalGas looks forward to participating and commenting on those activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs.

Express Efficiency will continue to keep the bar raised and will do 100% inspection in the Express Efficiency program. This allows SDG&E to maintain an exceptional level of integrity with our contractors and customers. Pre-inspections may be required for lighting measure applications.

14. Marketing Activities

SDG&E will continue to market the Express Efficiency program in several ways.

- Direct delivery by SDG&E Energy Program Representatives, Special Investigators, Facilitators and Account Executives.
- Direct delivery by Community Based Organizations, Faith-Based Organizations, and ethnic organizations.
- Direct delivery by vendors, contractors, and equipment dealers.
- Direct delivery by education and training seminars.
- Direct mail, including bill inserts and targeted mailers.

15. CPUC Objectives

The Express Efficiency program team will support the following CPUC objectives:

- The Commission's overriding goal guiding its energy efficiency efforts is to pursue all cost-effective energy efficiency opportunities over both the short- and long-term.
- The deployment of new and improved energy efficiency products and applications can help sustain or increase current savings yields from program dollars, and serves to create a new generation of technologies available to tap the cost-effective potential of energy efficiency in ways we cannot predict today.

	SDGE3012 EXP-Express Efficiency Rebate Program	
BUDGET		
Administrative Costs	**$**	**1,569,484**
Overhead and G&A	$	474,209
Other Administrative Costs	$	1,095,275
Marketing/Outreach	**$**	**950,566**
Direct Implementation	**$**	**7,438,345**
Total Incentives and Rebates	$	-
User Input Incentive	$	-
Direct Install Rebate	$	4,657,321
Direct Install Labor	$	-
Direct Install Materials	$	-
Activity	$	2,145,904
Installation	$	-
Hardware & Materials	$	216,846
Rebate Processing & Inspection	$	418,274
EM&V Costs	**$**	**-**
Budget	**$**	**9,958,395**
Costs recovered from other sources	**$**	**-**
Budget (plus other costs)	**$**	**9,958,395**
	$	-
PROGRAM IMPACTS		-
		-
User Entered kW (kW)		7,710
Net Jul-Sept Peak (kW)		9,795
Net Dec-Feb Peak (kW)		6,185
Net NCP (kW)		9,548
Net CEC (kW)		11,159
Annual Net kWh		51,423,152
Lifecycle Net kWh		439,228,941
Annual Net Therms		928,892
Lifecycle Net Therms		9,063,867
		0
Cost Effectiveness		0
TRC		0
Costs	$	15,351,683
Electric Benefits	$	26,271,062
Gas Benefits	$	4,328,139
Net Benefits (NPV)	$	15,247,518
BC Ratio		5.98
		0
PAC		0
Costs	$	9,423,486
Electric Benefits	$	26,271,062
Gas Benefits	$	4,328,139
Net Benefits (NPV)	$	21,175,715
BC Ratio		9.74
		0
Levelized Cost		0
Levelized Cost TRC ($/kWh)		0
Discounted kWh		276,504,616
Cost	$	0.1397
Benefits	$	0.2851
Benefit-Cost	$	0.1453
Levelized Cost PAC ($/kWh)		0
Discounted kWh		276,504,616
Cost	$	0.0889
Benefits	$	0.2851
Benefit-Cost	$	0.1962
Levelized Cost TRC ($/therm)		0
Discounted Therms		5,254,355
Cost	$	1.4850
Benefits	$	2.5010
Benefit-Cost	$	1.0161
Levelized Cost PAC ($/therm)		0
Discounted Therms		5,254,355
Cost	$	0.7210
Benefits	$	2.5010
Benefit-Cost	$	1.7801

Express Efficiency Rebate Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 3,082,498	$ 1,446,733	$ 1,635,765	15,442,642	211,860	2,116
2007	$ 3,313,685	$ 1,546,357	$ 1,767,329	17,963,732	273,892	2,920
2008	$ 3,562,212	$ 1,664,232	$ 1,897,980	18,017,908	443,140	2,674

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	213002	A/C - Reflective Window Film Coastal	12	-	0.00	0.96	SqFt	10	1,000	$ 1.35	$ 3.12	11,942	-	2
2006	213003	A/C - Reflective Window Film Inland	15	-	0.00	0.96	SqFt	10	4,000	$ 1.35	$ 3.12	58,637	-	9
2006	213005	Agriculture - Low Pressure Sprinkler Nozzles (per nozzle)	8	-	0.01	0.96	Nozzle	4	10	$ 1.15	$ 0.59	72	-	0
2006	213006	Agriculture - Sprinkler to Drip Irrigation (per acre)	439	-	0.20	0.96	Acre of lan	20	-	$ 44.00	$ 1,000.00	-	-	-
2006	213007	Heating - Greenhouse Heat Curtain	-	0	-	0.96	Sqft	5	386,000	$ 0.20	$ 0.49	-	144,518	-
2006	213008	Heating - Space Heating Boilers - Hot Water	-	1	-	0.96	Mbtuh	20	2,980	$ 1.00	$ 3.57	-	3,076	-
2006	213009	Heating - Space Heating Boilers - Large	-	1	-	0.96	Mbtuh	20	3,000	$ 1.00	$ 3.57	-	3,097	-
2006	213010	Heating - Space Heating Boilers - Steam	-	1	-	0.96	Mbtuh	20	3,000	$ 1.00	$ 3.57	-	3,097	-
2006	213011	Lighting - 2 Ft 2nd Gen. T-8 with Elec. Ballast	44	-	0.01	0.96	Lamp	11	500	$ 3.50	$ 21.00	21,120	-	4
2006	213012	Lighting - 3 Ft 2nd Gen. T-8 with Elec. Ballast	54	-	0.01	0.96	Lamp	11	500	$ 4.25	$ 21.00	25,896	-	4
2006	213013	Lighting - 8 Ft T-8 with Elec. Ballast	44	-	0.01	0.96	Lamp	11	900	$ 7.50	$ 32.50	38,124	-	7
2006	213014	Lighting - Exterior >176w Incan Base HID	2,000	-	-	0.96	Fixture	16	5	$ 100.00	$ 144.00	9,601	-	-
2006	213015	Lighting - Exterior >176w Mer Vap Base HID	652	-	-	0.96	fixture	16	5	$ 48.00	$ 219.92	3,129	-	-
2006	213016	Lighting - Exterior 0-100w Incan Base HID	829.8857143	0	0	0.96	Fixture	16	5	$ 36.00	$ 144.00	3,983	-	-
2006	213017	Lighting - Exterior 0-100w Merc Vap Base HID	388.4571429	0	0	0.96	Fixture	16	5	$ 22.00	$ 144.00	1,865	-	-
2006	213018	Lighting - Exterior 101-175w Incan Base HID	1189	0	0	0.96	fixture	16	5	$ 64.00	$ 196.86	5,707	-	-
2006	213019	Lighting - Exterior 101-175W Merc Vap Base	477.25	0	0	0.96	Fixture	16	5	$ 30.00	$ 144.00	2,291	-	-
2006	213020	Lighting - Hardwire Incan Base >90 watt Fluorescent Fixture	1762.56	0	0.290304	0.96	Fixture	12	0	$ 22.50	$ 173.00	-	-	-
2006	213021	Lighting - Hardwire Incan Base 27-65 watt Fluorescent Fixture	513.398088	0	0.13006224	0.96	fixture	12	0	$ 12.50	$ 43.54	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	213022	Lighting - Hardwire Incan Base 66-90 watt Fluorescent Fixture	991.44	0	0.163296	0.96	Fixture	12	2	$ 18.00	$ 137.00	1,904	-	0
2006	213023	Lighting - Hardwire Merc Vap Base >90 watt Fluorescent Fixture	775.71	0	0.127764	0.96	Fixture	16	3	$ 21.50	$ 137.00	2,234	-	0
2006	213024	Lighting - Hardwire Merc Vap Base 27-65 watt Fluorescent Fixture	307.53	0	0.050652	0.96	Fixture	16	2	$ 11.50	$ 56.00	590	-	0
2006	213025	Lighting - Hardwire Merc Vap Base 66-90 watt Fluorescent Fixture	532.44	0	0.087696	0.96	Fixture	16	2	$ 17.00	$ 116.00	1,022	-	0
2006	213026	Lighting - Hardwired 14-26 watt CF Fixture	280.24304	0	0.04335408	0.96	fixture	12	5	$ 11.00	$ 21.34	1,345	-	0
2006	213027	Lighting - Hardwired 5-13 watt CF Fixture	102.6796176	0	0.02601245	0.96	fixture	12	5	$ 11.00	$ 17.88	493	-	0
2006	213028	Lighting - Induction Fixture >100 watts	884.45	0	0.13167	0.96	Lamp	16	5	$ 50.00	$ 290.00	4,245	-	1
2006	213029	Lighting - Induction Fixture 55-100 watts	1197	0	0.1782	0.96	Lamp	16	5	$ 35.00	$ 295.00	5,746	-	1
2006	213030	Lighting - Interior 0-35w Incan Base HID	228.25	0	0.03923333	0.96	Fixture	16	2	$ 18.00	$ 133.00	438	-	0
2006	213031	Lighting - Interior 0-35w Merc Vap Base HID	120.35	0	0.02068667	0.96	Fixture	16	2	$ 12.50	$ 60.00	231	-	0
2006	213032	Lighting - Interior 101-175w Incan Base HID	1354.555556	0	0.23846667	0.96	Fixture	16	2	$ 40.00	$ 287.00	2,601	-	0
2006	213033	Lighting - Interior 101-175w Merc Vap Base	375	$ -	$ 0.07	0.96	Fixture	16	2	$ 38.00	$ 287.00	719	-	0
2006	213034	Lighting - Interior 176-250w Incan Base HID	1,933	$ -	$ 0.36	0.96	Fixture	16	2	$ 40.00	$ 287.00	3,711	-	1
2006	213035	Lighting - Interior 176-250w Mer Vap Base HID	761	$ -	$ 0.14	0.96	Fixture	16	2	$ 38.00	$ 287.00	1,462	-	0
2006	213036	Lighting - Interior 251-400w Incan Base HID	2,799	$ -	$ 0.50	0.96	Fixture	16	2	$ 50.00	$ 287.00	5,373	-	1
2006	213037	Lighting - Interior 251-400w Merc Vap Base	2,132	$ -	$ 0.38	0.96	Fixture	16	2	$ 48.00	$ 287.00	4,094	-	1
2006	213038	Lighting - Interior 36-70w Incan Base HID (50 Watt metal halide)	444	$ -	$ 0.10	0.96	fixture	16	2	$ 25.00	$ 214.36	853	-	0
2006	213039	Lighting - Interior 36-70w Merc Vap Base	145	$ -	$ 0.02	0.96	Fixture	16	2	$ 18.00	$ 287.00	279	-	0
2006	213040	Lighting - Interior 71-100w Incan Base HID	793	$ -	$ 0.14	0.96	Fixture	16	2	$ 40.00	$ 287.00	1,523	-	0
2006	213041	Lighting - Interior 71-100w Merc Vap Base	149	$ -	$ 0.05	0.96	fixture	16	2	$ 38.00	$ 223.89	286	-	0
2006	213042	Lighting - Interior Pulse Start Metal Halide Fixtures	490	$ -	$ 0.09	0.96	Lamp	16	200	$ 45.00	$ 287.00	94,077	-	17
2006	213043	Lighting - Lamps controlled by Dimming Elec Ballasts	155	$ -	$ 0.02	0.96	Fixture	11	0	$ 12.00	$ 56.34	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	213044	Lighting - Lamps controlled by Non-Dimming Elec Ballasts	29	$ -	$ 0.00	0.96	Lamp	16	0	$ 2.00	$ 7.00	-	-	-
2006	213045	Lighting - LED Channel Signage Replacement-Indoor Red <=2 feet high	45	$ -	$ 0.01	0.96	LinearFt	16	20	$ 4.00	$ 18.00	854	-	0
2006	213046	Lighting - LED Channel Signage Replacement-Indoor Red >2 feet high	89	$ -	$ 0.02	0.96	LinearFt	16	15	$ 6.00	$ 33.00	1,282	-	0
2006	213047	Lighting - LED Channel Signage Replacement-Outdoor Red <=2 feet high	42	$ -	$ 0.01	0.96	LinearFt	16	15	$ 2.00	$ 18.00	598	-	0
2006	213048	Lighting - LED Channel Signage Replacement-Outdoor Red >2 feet high	83	$ -	$ 0.01	0.96	LinearFt	16	15	$ 3.00	$ 33.00	1,195	-	0
2006	213049	Lighting - LED Exit Sign New Sign	351	$ -	$ 0.04	0.96	Exit Sign	16	800	$ 27.00	$ 65.44	269,807	-	33
2006	213050	Lighting - Photocell	106	$ -	$ -	0.96	Photo cell	8	25	$ 7.00	$ 59.81	2,554	-	-
2006	213051	Lighting - Remove 2 Ft T-8 (De Lamp)	128	$ -	$ 0.03	0.96	Lamp	11	200	$ 4.00	$ 19.00	24,576	-	5
2006	213052	Lighting - Remove 3 Ft T-8 (De Lamp)	183	$ -	$ 0.03	0.96	Lamp	11	200	$ 4.00	$ 19.00	35,059	-	6
2006	213053	Lighting - Remove 4 Ft T-8 (De Lamp)	79	$ -	$ 0.02	0.96	Fixture	11	5000	$ 6.00	$ 25.71	378,473	-	117
2006	213054	Lighting - Remove 8 Ft T-8 (De Lamp)	252	$ -	$ 0.05	0.96	Fixture	11	1000	$ 9.00	$ 25.91	242,036	-	52
2006	213055	Lighting - Screw in >27 Watt Lamp	367	$ -	$ 0.06	0.96	Bulb	1.8	800	$ 4.25	$ 8.10	281,751	-	44
2006	213056	Lighting - Screw in 14-26 Watt Lamp	280	$ -	$ 0.04	0.96	Bulb	1.8	7073	$ 3.50	$ 7.08	1,902,873	-	294
2006	213057	Lighting - Screw in 5- 13 Watt Lamp	138	$ -	$ 0.02	0.96	Bulb	1.8	850	$ 3.50	$ 4.98	112,260	-	17
2006	213058	Lighting - Time Clocks	474	$ -	$ -	0.96	Time Clock	8	10	$ 36.00	$ 239.89	4,553	-	-
2006	213059	Motors - VFD - HVAC Fans (per Hp)	753	$ -	$ -	0.96	HP	15	3563	$ 80.00	$ 202.00	2,575,621	-	-
2006	213060	Lighting - Occupancy Sensor - Plug Load	143	$ -	$ 0.05	0.96	Occupancy	10	0	$ 15.00	$ 82.25	-	-	-
2006	213061	Lighting - Occupancy Sensor - Wall/Ceiling Mounted Lighting Sensor	789	$ -	$ 0.38	0.96	Occupancy	8	150	$ 44.00	$ 141.00	113,616	-	55
2006	213062	Lighting - Occupancy Sensor - Wallbox Lighting Sensor	214	$ -	$ 0.18	0.96	Occupancy	8	25	$ 16.50	$ 42.28	5,130	-	4
2006	213063	Refrigeration - Anti-Sweat Heater Controls	343	$ -	$ 0.02	0.96	LinearFt	12	800	$ 14.00	$ 56.00	263,424	-	17
2006	213067	Refrigeration - Food Service - Auto Closer for Main Cooler Doors	1,075	$ (0.05)	$ 0.21	0.96	Per cooler,	8	0	$ 40.00	$ 433.22	-	-	-
2006	213068	Refrigeration - Food Service - Auto Closer for Main Freezer Doors	2,786	$ (0.03)	$ 0.28	0.96	Per freezer	8	0	$ 50.00	$ 433.22	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	213069	Refrigeration - Food Service - Evaporator Fan Controller for Walk-In	604	$ (0.01)	$ 0.08	0.96	Motor	16	10	$ 75.00	$ 145.75	5,802	(0)	1
2006	213076	Refrigeration - New Refrigeration Case w/Doors- Low Temperature Case	1,208	$ -	$ 0.12	0.96	LinearFt	16	15	$ 200.00	$ 100.00	17,395	-	2
2006	213077	Refrigeration - New Refrigeration Case w/Doors- Medium Temperature Case	101	$ 18.90	$ 0.05	0.96	fixture linea	12	15	$ 150.00	$ 845.24	1,450	272	1
2006	213078	Refrigeration - New Refrigeration Case w/Doors- Special doors Low Temp	1,208	$ -	$ 0.22	0.96	LinearFt	16	5	$ 200.00	$ 700.00	5,798	-	1
2006	213079	Refrigeration - New Refrigeration Case w/Doors- Special doors with low/no ASH	749	$ -	$ 0.02	0.96	LinearFt	16	20	$ 50.00	$ 77.00	14,381	-	0
2006	213080	Refrigeration - Night Covers for Display Cases Low Temp	59	$ -	$ -	0.96	LinearFt	5	15	$ 9.00	$ 9.25	850	-	-
2006	213081	Refrigeration - Suction Line Insulation	18	$ -	$ -	0.96	LinearFt	11	50	$ 1.00	$ 1.72	883	-	-
2006	213082	Refrigeration - Vending Machine Controller	1,612	$ -	$ -	0.96	Vending M	10	150	$ 90.00	$ 215.50	232,128	-	-
2006	213083	Refrigeration -Cooler/Freezer Door Gaskets - Glass Doors	105	$ -	$ 0.01	0.96	LinearFt	4	500	$ 4.00	$ 4.00	50,184	-	6
2006	213084	Refrigeration -Cooler/Freezer Door Gaskets - Solid Doors: Cooler	105	$ -	$ 0.01	0.96	LinearFt	4	500	$ 4.00	$ 4.00	50,184	-	6
2006	213085	Refrigeration -Strip Curtains for Walk-ins	465	$ -	$ 0.05	0.96	SqFt	4	150	$ 3.00	$ 3.05	66,960	-	8
2006	213086	Water Heating - Gas Storage Water Heater (per MBtuh)	-	$ 1.75	$ -	0.96	Mbtuh	15	25	$ 2.00	$ 6.78	-	42	-
2006	213089	Water Heating -Instantaneous - Gas (per MBtuh)	-	$ 1.41	$ -	0.96	Mbtuh	20	60	$ 2.00	$ (7.77)	-	81	-
2006	213090	Water Heating -Commercial Boiler	-	$ 1.44	$ -	0.96	Mbtuh	20	100	$ 1.50	$ 3.57	-	138	-
2006	213091	Water Heating -Direct Contact Water Heater	-	$ 2.29	$ -	0.96	Mbtuh	20	100	$ 2.00	$ 2.17	-	220	-
2006	213092	Water Heating -Process Boiler, Steam	-	$ 1.04	$ -	0.96	Mbtuh	20	100	$ 2.00	$ 3.57	-	100	-
2006	213093	Water Heating -Process Boiler, Water	-	$ 1.04	$ -	0.96	Mbtuh	20	0	$ 2.00	$ 3.57	-	-	-
2006	213095	Lighting- Ceramic Metal Halide Fixture	485	$ -	$ 0.10	0.96	Bulb	16	350	$ 50.00	$ 214.36	162,909	-	35
2006	213104	Water Heating - Pre-rinse Spray Valves	-	$ 570.00	$ -	0.96	Unit	5	40	$ 30.00	$ 60.00	-	21,888	-
2006	213105	Heating - Infrared Film for Greenhouse	-	$ 0.05	$ -	0.96	Sqft	5	200000	$ 0.03	$ 0.03	-	9,408	-
2006	213107	Connectionless Steamers Full load efficiency 50% or greater	6,620	$ -	$ 0.20	0.96	Unit	12	0	$ -	$ -	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	213109	Lighting - Screw in 14-26 Watt Reflector Lamp	305	$ -	$ 0.05	0.96	Bulb	1.8	7000	$ 6.00	$ 6.47	2,046,993	-	317
2006	213110	Lighting - 4 Ft Premium T-8 with Elec. Ballast	16	$ -	$ 0.01	0.96	Fixture	11	0	$ 6.00	$ 11.71	-	-	-
2006	213112	A/C - Reflective Window Film Desert	16	$ -	$ 0.00	0.96	SqFt	10	500	$ 1.35	$ 3.12	7,728	-	1
2006	213114	Other - Occupancy Sensor - Plug Load	143	$ -	$ 0.05	0.96	Occupancy	10	0	$ -	$ 82.25	-	-	-
2006	213115	Refrigeration - Night Covers for Display Cases Med Temp	14	$ 1.15	$ (0.00)	0.96	Ln Ft	5	500	$ 9.00	$ 37.54	6,524	551	(2)
2006	213116	Refrigeration -Cooler/Freezer Door Gaskets - Solid Doors: Freezer	105	$ -	$ 0.01	0.96	LinearFt	4	100	$ 4.00	$ 4.00	10,037	-	1
2006	213117	Refrigeration - Food Service - Auto Closer for Reach-In Freezer Doors	1,297	$ -	$ 0.18	0.96	Closer	8	0	$ -	$ 300.00	-	-	-
2006	213119	Lighting - High Output 4 or 6 Lamp T5 or T8 Fixture (High bay applications)	989	$ -	$ 0.18	0.96	Fixture	11	1825	$ 100.00	$ 250.00	1,732,378	-	311
2006	213120	Lighting - Occupancy Sensor - High-Bay Sensor	1,661	$ -	$ 0.39	0.96	Sensor	8	50	$ 44.00	$ 141.00	79,747	-	19
2006	213121	Water Heating -Commercial Pool Heater	-	$ 2.41	$ -	0.96	Mbtuh	5	100	$ 2.00	$ 2.00	-	231	-
2006	213126	Refrigeration - Efficient Evap Fan Motor Electronically Commutated Motor (ECM)	116	$ (0.12)	$ 0.02	0.96	fixture linea	15	100	$ 20.00	$ 6.79	11,171	(11)	2
2006	213127	Refrigeration - Efficient Evap Fan Motor Permanent-Split Capacitor (PSC) Motor	450	$ (0.01)	$ 0.06	0.96	num motor	15	30	$ 20.00	$ 90.50	12,967	(0)	2
2006	213128	Refrigerator - Early Replacement	1,041	$ -	$ 0.14	0.96	Unit	6	50	$ 275.00	$ 272.00	49,948	-	7
2006	213129	Software Plug Load Sensors	227	$ -	$ -	0.96	Unit	5	50	$ 15.00	$ 5.00	10,896	-	-
2006	213130	Torchiere	464	$ -	$ 0.09	0.96	Unit	16	5	$ 22.00	$ 22.63	2,229	-	0
2006	213131	High Efficiency Gas Fryer	-	$ 438.00	$ -	0.96	Fryer	12	0	$ -	$ 2,582.54	-	-	-
2006	213133	High Efficiency Gas Griddle	-	$ 219.00	$ -	0.96	Griddle	12	0	$ -	$ 2,102.31	-	-	-
2006	213134	Faucet Aerators	-	$ 5.00	$ -	0.96	office	9	10	$ 1.00	$ 7.12	-	48	-
2006	213136	High Efficiency Copier	324	$ -	$ 0.04	0.96	Copy Mach	6	500	$ 100.00	$ 156.76	155,424	-	20
2006	213137	High Efficiency Electric Fryer	1,752	$ -	$ 0.00	0.96	Fryer	12	0	$ -	$ 8,761.89	-	-	-
2006	213138	Vending Machine Controller	387	$ -	$ -	0.96	Vending M	10	500	$ 90.00	$ 108.00	185,760	-	-
2006	213139	Residential Energy Star Clothes Washer in Commercial Application	-	$ 45.60	$ -	0.96	Clothes Wa	14	0	$ 75.00	$ 592.77	-	-	-
2006	213140	Low Flow Showerhead	58	$ 6.66	$ 0.01	0.96	Showerhea	10	20	$ 20.00	$ 37.95	1,111	128	0
2006	213146	Residential High Efficiency Water Heater in Commercial Application	-	$ 13.30	$ -	0.96	Hot Water	13	50	$ 30.00	$ 175.30	-	638	-
2006	213147	Premium T8 with T12 34Watt Baseline	50	$ -	$ 0.01	0.96	Lamp	11	12500	$ 4.25	$ 12.70	597,600	-	103
2006	213148	Premium T8 with T12 40 Watt Baseline	75		$ 0.01	0.96	Lamp	11	42695	$ 10.00	$ 12.70	3,061,744	-	525

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	213150	Tank Insulation - Low Temperature Applic. (LF) 2 in		$ 3.70		0.96	SquareFT	20	150	$ 3.00	$ 3.41	-	533	-
2006	213151	Tank Insulation - High Temperature Applic. (LF) 2 in		$ 10.40		0.96	SquareFT	20	150	$ 4.00	$ 3.41	-	1,498	-
2006	213152	Pipe Insulation - Hot Water Applic. (sq ft) 2 in		$ 2.90		0.96	LinearFt	20	100	$ 3.00	$ 9.22	-	278	-
2006	213153	Pipe Insulation - Low Pressure Steam Applic. (LF) 2 in		$ 14.30		0.96	LinearFT	20	100	$ 3.00	$ 9.22	-	1,373	-
2006	213154	Tank Insulation - Low Temperature Applic. (LF) 1 in		$ 3.40		0.96	SquareFT	20	100	$ 2.00	$ 2.58	-	326	-
2006	213155	Tank Insulation - High Temperature Applic. (LF) 1 in		$ 9.70		0.96	SquareFT	20	100	$ 3.00	$ 2.58	-	931	-
2006	213156	Pipe Insulation - Hot Water Applic. (sq ft) 1 in		$ 2.60		0.96	LinearFt	20	100	$ 2.00	$ 5.67	-	250	-
2006	213157	Pipe Insulation - Low Pressure Steam Applic. (LF) 1 in		$ 13.40		0.96	LinearFt	20	100	$ 2.00	$ 5.67	-	1,286	-
2006	213161	Food Service - French Fryer-Electric	1,166	$ -	$ 0.20	0.96	per Unit	12	4	$ 200.00	$ 4,708.00	4,477	-	1
2006	213162	Food Service - Griddle-Electric	1,637	$ -	$ 0.40	0.96	per Unit	12	4	$ 300.00	$ 3,604.00	6,286	-	2
2006	213163	Food Service - Steamer-Electric	11,166	$ -	$ 2.50	0.96	per Unit	12	4	$ 750.00	$ 4,150.00	42,877	-	10
2006	213164	Food Service - Convection Oven-Electric	2,262	$ -	$ 0.50	0.96	per Unit	12	4	$ 350.00	$ 2,713.00	8,686	-	2
2006	213165	Food Service - Combination Oven-Electric	18,432	$ -	$ 4.20	0.96	per Unit	12	4	$ 1,000.00	$ 16,884.00	70,779	-	16
2006	213166	Food Service - Hot Food Holding Cabinet-Full-Size	2,190	$ -	$ 0.40	0.96	per Unit	12	4	$ 300.00	$ 3,153.00	8,410	-	2
2006	213167	Food Service - Hot Food Holding Cabinet-Three-Quarter Size	1,643	$ -	$ 0.30	0.96	per Unit	12	4	$ 250.00	$ 3,153.00	6,309	-	1
2006	213168	Food Service - Hot Food Holding Cabinet-Half-Size	1,095	$ -	$ 0.20	0.96	per Unit	12	4	$ 200.00	$ 3,153.00	4,205	-	1
2006	213169	Food Service - French Fryer-Gas	-	$ 505.00	$ -	0.96	per Unit	12	4	$ 500.00	$ 3,796.00	-	1,939	-
2006	213170	Food Service - Griddle-Gas	-	$ 88.00	$ -	0.96	per Unit	12	4	$ 125.00	$ 4,575.00	-	338	-
2006	213171	Food Service - Steamer-Gas	-	$ 2,084.00	$ -	0.96	per Unit	12	4	$ 750.00	$ 6,221.00	-	8,003	-
2006	213172	Food Service - Convection Oven-Gas	-	$ 323.00	$ -	0.96	per Unit	12	4	$ 500.00	$ 3,144.00	-	1,240	-
2006	213173	Food Service - Combination Oven-Gas	-	$ 403.00	$ -	0.96	per Unit	12	4	$ 750.00	$ 21,797.00	-	1,548	-
2006	213174	Food Service - Ice Machine Air-Cooled 101-200	3,614	$ -	$ 0.41	0.96	per Unit	12	0	$ 300.00	$ 296.00	-	-	-
2006	213175	Food Service - Ice Machine Air-Cooled 201-300	2,281	$ -	$ 0.26	0.96	per Unit	12	6	$ 300.00	$ 312.00	13,140	-	2
2006	213176	Food Service - Ice Machine Air-Cooled 301-400	1,661	$ -	$ 0.19	0.96	per Unit	12	6	$ 300.00	$ 559.00	9,566	-	1
2006	213177	Food Service - Ice Machine Air-Cooled 401-500	2,464	$ -	$ 0.28	0.96	per Unit	12	0	$ 300.00	$ 981.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	213178	Food Service - Ice Machine Air-Cooled 501-1000	3,011	$ -	$ 0.34	0.96	per Unit	12	5	$ 400.00	$ 1,485.00	14,454	-	2
2006	213179	Food Service - Ice Machine Air-Cooled 1001-1500	4,106	$ -	$ 0.47	0.96	per Unit	12	5	$ 500.00	$ 1,821.00	19,710	-	2
2006	213180	Food Service - Ice Machine Air-Cooled >1500	4,380	$ -	$ 0.50	0.96	per Unit	12	5	$ 500.00	$ 2,194.00	21,024	-	2
2006	213181	Food Service - Solid-Door Refrigerator 1-Door < 19	445	$ -	$ 0.05	0.96	per Unit	12	5	$ 75.00	$ 217.00	2,137	-	0
2006	213182	Food Service - Solid-Door Refrigerator 1-Door 19-30	650	$ -	$ 0.07	0.96	per Unit	12	6	$ 100.00	$ 1,825.00	3,742	-	0
2006	213183	Food Service - Solid-Door Refrigerator 2-Door 31-60	942	$ -	$ 0.11	0.96	per Unit	12	5	$ 150.00	$ 2,299.00	4,520	-	1
2006	213184	Food Service - Solid-Door Refrigerator 3-Door 61-90	1,351	$ -	$ 0.15	0.96	per Unit	12	5	$ 225.00	$ 2,849.00	6,482	-	1
2006	213185	Food Service - Solid-Door Freezer 1-Door < 19	588	$ -	$ 0.07	0.96	per Unit	12	0	$ 100.00	$ 741.00	-	-	-
2006	213186	Food Service - Solid-Door Freezer 1-Door 19-30	1,201	$ -	$ 0.14	0.96	per Unit	12	5	$ 200.00	$ 747.00	5,764	-	1
2006	213187	Food Service - Solid-Door Freezer 2-Door 31-60	2,077	$ -	$ 0.24	0.96	per Unit	12	5	$ 325.00	$ 1,067.00	9,969	-	1
2006	213188	Food Service - Solid-Door Freezer 3-Door 61-90	3,303	$ -	$ 0.38	0.96	per Unit	12	5	$ 500.00	$ 2,324.00	15,856	-	2
2006	213189	Food Service - Glass-Door Refrigerator Tier I 1-Door < 19	712	$ -	$ 0.08	0.96	per Unit	12	4	$ 100.00	$ 392.00	2,733	-	0
2006	213190	Food Service - Glass-Door Refrigerator Tier I 1-Door 19-30	977	$ -	$ 0.11	0.96	per Unit	12	4	$ 125.00	$ 624.00	3,753	-	0
2006	213191	Food Service - Glass-Door Refrigerator Tier I 2-Door 31-60	1,357	$ -	$ 0.15	0.96	per Unit	12	5	$ 150.00	$ 1,839.00	6,514	-	1
2006	213192	Food Service - Glass-Door Refrigerator Tier I 3-Door 61-90	1,889	$ -	$ 0.22	0.96	per Unit	12	5	$ 200.00	$ 266.00	9,065	-	1
2006	213193	Food Service - Glass-Door Refrigerator Tier II 1-Door < 19	1,183	$ -	$ 0.14	0.96	per Unit	12	5	$ 125.00	$ 1,412.00	5,676	-	1
2006	213194	Food Service - Glass-Door Refrigerator Tier II 1-Door 19-30	1,622	$ -	$ 0.19	0.96	per Unit	12	0	$ 150.00	$ 2,793.00	-	-	-
2006	213195	Food Service - Glass-Door Refrigerator Tier II 2-Door 31-60	2,250	$ -	$ 0.26	0.96	per Unit	12	4	$ 200.00	$ 1,839.00	8,639	-	1
2006	213196	Food Service - Glass-Door Refrigerator Tier II 3-Door 61-90	3,129	$ -	$ 0.36	0.96	per Unit	12	0	$ 300.00	$ 1,883.00	-	-	-
2006	213197	Lighting - Cold Cathode Fluorescent Lamp	60		$ 0.01	0.96	Bulb	5	50	$ 2.00	$ 1.81	2,880	-	0
2006	213198	Energy Star Clothes Washer - 3.5 cf Tier I MEF = 1.42	129	$ 49.30	$ 0.05	0.96	Clothes Wa	10	25	$ 35.00	$ 246.14	3,096	1,183	1

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	213199	Energy Star Clothes Washer - 3.5 cf Tier II MEF = 1.60	143	$ 54.80	$ 0.06	0.96	Clothes Wa	10	40	$ 75.00	$ 853.00	5,509	2,104	2
2006	213200	Energy Star Clothes Washer - 3.5 cf Tier III MEF = 1.80	164	$ 62.78	$ 0.07	0.96	Clothes Wa	10	25	$ 100.00	$ 764.92	3,945	1,507	2
2007	213002	A/C - Reflective Window Film Coastal	12	$ -	$ 0.00	0.96	SqFt	10	2000	$ 1.35	$ 3.12	23,885	-	4
2007	213003	A/C - Reflective Window Film Inland	15	$ -	$ 0.00	0.96	SqFt	10	40000	$ 1.35	$ 3.12	586,368	-	88
2007	213005	Agriculture - Low Pressure Sprinkler Nozzles (per nozzle)	8	$ -	$ 0.01	0.96	Nozzle	4	10	$ 1.15	$ 0.59	72	-	0
2007	213006	Agriculture - Sprinkler to Drip Irrigation (per acre)	439	$ -	$ 0.20	0.96	Acre of lan	20	10	$ 44.00	$ 1,000.00	4,212	-	2
2007	213007	Heating - Greenhouse Heat Curtain	-	$ 0.39	$ -	0.96	Sqft	5	422000	$ 0.20	$ 0.49	-	157,997	-
2007	213008	Heating - Space Heating Boilers - Hot Water	-	$ 1.08	$ -	0.96	Mbtuh	20	4000	$ 1.00	$ 3.57	-	4,129	-
2007	213009	Heating - Space Heating Boilers - Large	-	$ 1.08	$ -	0.96	Mbtuh	20	4000	$ 1.00	$ 3.57	-	4,129	-
2007	213010	Heating - Space Heating Boilers - Steam	-	$ 1.08	$ -	0.96	Mbtuh	20	4000	$ 1.00	$ 3.57	-	4,129	-
2007	213011	Lighting - 2 Ft 2nd Gen. T-8 with Elec. Ballast	44	$ -	$ 0.01	0.96	Lamp	11	100	$ 3.50	$ 21.00	4,224	-	1
2007	213012	Lighting - 3 Ft 2nd Gen. T-8 with Elec. Ballast	54	$ -	$ 0.01	0.96	Lamp	11	100	$ 4.25	$ 21.00	5,179	-	1
2007	213013	Lighting - 8 Ft T-8 with Elec. Ballast	44	$ -	$ 0.01	0.96	Lamp	11	500	$ 7.50	$ 32.50	21,180	-	4
2007	213014	Lighting - Exterior >176w Incan Base HID	2,000	$ -	$ -	0.96	Fixture	16	20	$ 100.00	$ 144.00	38,406	-	-
2007	213015	Lighting - Exterior >176w Mer Vap Base HID	652	$ -	$ -	0.96	fixture	16	5	$ 48.00	$ 219.92	3,129	-	-
2007	213016	Lighting - Exterior 0-100w Incan Base HID	830	$ -	$ -	0.96	Fixture	16	10	$ 36.00	$ 144.00	7,967	-	-
2007	213017	Lighting - Exterior 0-100w Merc Vap Base HID	388	$ -	$ -	0.96	Fixture	16	5	$ 22.00	$ 144.00	1,865	-	-
2007	213018	Lighting - Exterior 101-175w Incan Base HID	1,189	$ -	$ -	0.96	fixture	16	10	$ 64.00	$ 196.86	11,414	-	-
2007	213019	Lighting - Exterior 101-175W Merc Vap Base	477	$ -	$ -	0.96	Fixture	16	5	$ 30.00	$ 144.00	2,291	-	-
2007	213020	Lighting - Hardwire Incan Base >90 watt Fluorescent Fixture	1,763	$ -	$ 0.29	0.96	Fixture	12	0	$ 22.50	$ 173.00	-	-	-
2007	213021	Lighting - Hardwire Incan Base 27-65 watt Fluorescent Fixture	513	$ -	$ 0.13	0.96	fixture	12	0	$ 12.50	$ 43.54	-	-	-
2007	213022	Lighting - Hardwire Incan Base 66-90 watt Fluorescent Fixture	991	$ -	$ 0.16	0.96	Fixture	12	5	$ 18.00	$ 137.00	4,759	-	1
2007	213023	Lighting - Hardwire Merc Vap Base >90 watt Fluorescent Fixture	776	$ -	$ 0.13	0.96	Fixture	16	5	$ 21.50	$ 137.00	3,723	-	1

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	213024	Lighting - Hardwire Merc Vap Base 27-65 watt Fluorescent Fixture	308	$ -	$ 0.05	0.96	Fixture	16	5	$ 11.50	$ 56.00	1,476	-	0
2007	213025	Lighting - Hardwire Merc Vap Base 66-90 watt Fluorescent Fixture	532	$ -	$ 0.09	0.96	Fixture	16	5	$ 17.00	$ 116.00	2,556	-	0
2007	213026	Lighting - Hardwired 14-26 watt CF Fixture	280	$ -	$ 0.04	0.96	fixture	12	10	$ 11.00	$ 21.34	2,690	-	0
2007	213027	Lighting - Hardwired 5-13 watt CF Fixture	103	$ -	$ 0.03	0.96	fixture	12	10	$ 11.00	$ 17.88	986	-	0
2007	213028	Lighting - Induction Fixture >100 watts	884	$ -	$ 0.13	0.96	Lamp	16	5	$ 50.00	$ 290.00	4,245	-	1
2007	213029	Lighting - Induction Fixture 55-100 watts	1,197	$ -	$ 0.18	0.96	Lamp	16	5	$ 35.00	$ 295.00	5,746	-	1
2007	213030	Lighting - Interior 0-35w Incan Base HID	228	$ -	$ 0.04	0.96	Fixture	16	5	$ 18.00	$ 133.00	1,096	-	0
2007	213031	Lighting - Interior 0-35w Merc Vap Base HID	120	$ -	$ 0.02	0.96	Fixture	16	5	$ 12.50	$ 60.00	578	-	0
2007	213032	Lighting - Interior 101-175w Incan Base HID	1,355	$ -	$ 0.24	0.96	Fixture	16	5	$ 40.00	$ 287.00	6,502	-	1
2007	213033	Lighting - Interior 101-175w Merc Vap Base	375	$ -	$ 0.07	0.96	Fixture	16	5	$ 38.00	$ 287.00	1,799	-	0
2007	213034	Lighting - Interior 176-250w Incan Base HID	1,933	$ -	$ 0.36	0.96	Fixture	16	5	$ 40.00	$ 287.00	9,277	-	2
2007	213035	Lighting - Interior 176-250w Mer Vap Base HID	761	$ -	$ 0.14	0.96	Fixture	16	5	$ 38.00	$ 287.00	3,655	-	1
2007	213036	Lighting - Interior 251-400w Incan Base HID	2,799	$ -	$ 0.50	0.96	Fixture	16	5	$ 50.00	$ 287.00	13,434	-	2
2007	213037	Lighting - Interior 251-400w Merc Vap Base	2,132	$ -	$ 0.38	0.96	Fixture	16	5	$ 48.00	$ 287.00	10,234	-	2
2007	213038	Lighting - Interior 36-70w Incan Base HID (50 Watt metal halide)	444	$ -	$ 0.10	0.96	fixture	16	5	$ 25.00	$ 214.36	2,133	-	1
2007	213039	Lighting - Interior 36-70w Merc Vap Base	145	$ -	$ 0.02	0.96	Fixture	16	5	$ 18.00	$ 287.00	697	-	0
2007	213040	Lighting - Interior 71-100w Incan Base HID	793	$ -	$ 0.14	0.96	Fixture	16	5	$ 40.00	$ 287.00	3,808	-	1
2007	213041	Lighting - Interior 71-100w Merc Vap Base	149	$ -	$ 0.05	0.96	fixture	16	5	$ 38.00	$ 223.89	714	-	0
2007	213042	Lighting - Interior Pulse Start Metal Halide Fixtures	490	$ -	$ 0.09	0.96	Lamp	16	200	$ 45.00	$ 287.00	94,077	-	17
2007	213043	Lighting - Lamps controlled by Dimming Elec Ballasts	155	$ -	$ 0.02	0.96	Fixture	11	0	$ 12.00	$ 56.34	-	-	-
2007	213044	Lighting - Lamps controlled by Non-Dimming Elec Ballasts	29	$ -	$ 0.00	0.96	Lamp	16	0	$ 2.00	$ 7.00	-	-	-
2007	213045	Lighting - LED Channel Signage Replacement-Indoor Red <=2 feet high	45	$ -	$ 0.01	0.96	LinearFt	16	20	$ 4.00	$ 18.00	854	-	0

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	213046	Lighting - LED Channel Signage Replacement-Indoor Red >2 feet high	89	$ -	$ 0.02	0.96	LinearFt	16	20	$ 6.00	$ 33.00	1,709	-	0
2007	213047	Lighting - LED Channel Signage Replacement-Outdoor Red <=2 feet high	42	$ -	$ 0.01	0.96	LinearFt	16	20	$ 2.00	$ 18.00	797	-	0
2007	213048	Lighting - LED Channel Signage Replacement-Outdoor Red >2 feet high	83	$ -	$ 0.01	0.96	LinearFt	16	20	$ 3.00	$ 33.00	1,594	-	0
2007	213049	Lighting - LED Exit Sign New Sign	351	$ -	$ 0.04	0.96	Exit Sign	16	500	$ 27.00	$ 65.44	168,629	-	20
2007	213050	Lighting - Photocell	106	$ -	$ -	0.96	Photo cell	8	25	$ 7.00	$ 59.81	2,554	-	-
2007	213051	Lighting - Remove 2 Ft T-8 (De Lamp)	128	$ -	$ 0.03	0.96	Lamp	11	50	$ 4.00	$ 19.00	6,144	-	1
2007	213052	Lighting - Remove 3 Ft T-8 (De Lamp)	183	$ -	$ 0.03	0.96	Lamp	11	50	$ 4.00	$ 19.00	8,765	-	2
2007	213053	Lighting - Remove 4 Ft T-8 (De Lamp)	79	$ -	$ 0.02	0.96	Fixture	11	15000	$ 6.00	$ 25.71	1,135,420	-	350
2007	213054	Lighting - Remove 8 Ft T-8 (De Lamp)	252	$ -	$ 0.05	0.96	Fixture	11	4500	$ 9.00	$ 25.91	1,089,163	-	235
2007	213055	Lighting - Screw in >27 Watt Lamp	367	$ -	$ 0.06	0.96	Bulb	1.8	3000	$ 4.25	$ 8.10	1,056,567	-	163
2007	213056	Lighting - Screw in 14-26 Watt Lamp	280	$ -	$ 0.04	0.96	Bulb	1.8	9000	$ 3.50	$ 7.08	2,421,300	-	375
2007	213057	Lighting - Screw in 5- 13 Watt Lamp	138	$ -	$ 0.02	0.96	Bulb	1.8	850	$ 3.50	$ 4.98	112,260	-	17
2007	213058	Lighting - Time Clocks	474	$ -	$ -	0.96	Time Clock	8	10	$ 36.00	$ 239.89	4,553	-	-
2007	213059	Motors - VFD - HVAC Fans (per Hp)	753	$ -	$ -	0.96	HP	15	1800	$ 80.00	$ 202.00	1,301,184	-	-
2007	213060	Lighting - Occupancy Sensor - Plug Load	143	$ -	$ 0.05	0.96	Occupancy	10	0	$ 15.00	$ 82.25	-	-	-
2007	213061	Lighting - Occupancy Sensor - Wall/Ceiling Mounted Lighting Sensor	789	$ -	$ 0.38	0.96	Occupancy	8	100	$ 44.00	$ 141.00	75,744	-	37
2007	213062	Lighting - Occupancy Sensor - Wallbox Lighting Sensor	214	$ -	$ 0.18	0.96	Occupancy	8	25	$ 16.50	$ 42.28	5,130	-	4
2007	213063	Refrigeration - Anti-Sweat Heater Controls	343	$ -	$ 0.02	0.96	LinearFt	12	700	$ 14.00	$ 56.00	230,496	-	15
2007	213067	Refrigeration - Food Service - Auto Closer for Main Cooler Doors	1,075	$ (0.05)	$ 0.21	0.96	Per cooler,	8	0	$ 40.00	$ 433.22	-	-	-
2007	213068	Refrigeration - Food Service - Auto Closer for Main Freezer Doors	2,786	$ (0.03)	$ 0.28	0.96	Per freezer	8	0	$ 50.00	$ 433.22	-	-	-
2007	213069	Refrigeration - Food Service - Evaporator Fan Controller for Walk-In	604	$ (0.01)	$ 0.08	0.96	Motor	16	10	$ 75.00	$ 145.75	5,802	(0)	1
2007	213076	Refrigeration - New Refrigeration Case w/Doors- Low Temperature Case	1,208	$ -	$ 0.12	0.96	LinearFt	16	10	$ 200.00	$ 100.00	11,597	-	1

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	213077	Refrigeration - New Refrigeration Case w/Doors-Medium Temperature Case	101	$ 18.90	$ 0.05	0.96	fixture linea	12	15	$ 150.00	$ 845.24	1,450	272	1
2007	213078	Refrigeration - New Refrigeration Case w/Doors-Special doors Low Temp	1,208	$ -	$ 0.22	0.96	LinearFt	16	15	$ 200.00	$ 700.00	17,395	-	3
2007	213079	Refrigeration - New Refrigeration Case w/Doors-Special doors with low/no ASH	749	$ -	$ 0.02	0.96	LinearFt	16	15	$ 50.00	$ 77.00	10,786	-	0
2007	213080	Refrigeration - Night Covers for Display Cases Low Temp	59	$ -	$ -	0.96	LinearFt	5	15	$ 9.00	$ 9.25	850	-	-
2007	213081	Refrigeration - Suction Line Insulation	18	$ -	$ -	0.96	LinearFt	11	50	$ 1.00	$ 1.72	883	-	-
2007	213082	Refrigeration - Vending Machine Controller	1,612	$ -	$ -	0.96	Vending M	10	100	$ 90.00	$ 215.50	154,752	-	-
2007	213083	Refrigeration -Cooler/Freezer Door Gaskets - Glass Doors	105	$ -	$ 0.01	0.96	LinearFt	4	600	$ 4.00	$ 4.00	60,221	-	7
2007	213084	Refrigeration -Cooler/Freezer Door Gaskets - Solid Doors: Cooler	105	$ -	$ 0.01	0.96	LinearFt	4	600	$ 4.00	$ 4.00	60,221	-	7
2007	213085	Refrigeration -Strip Curtains for Walk-ins	465	$ -	$ 0.05	0.96	SqFt	4	170	$ 3.00	$ 3.05	75,888	-	9
2007	213086	Water Heating - Gas Storage Water Heater (per MBtuh)	-	$ 1.75	$ -	0.96	Mbtuh	15	2200	$ 2.00	$ 6.78	-	3,702	-
2007	213089	Water Heating -Instantaneous - Gas (per MBtuh)	-	$ 1.41	$ -	0.96	Mbtuh	20	2200	$ 2.00	$ (7.77)	-	2,978	-
2007	213090	Water Heating -Commercial Boiler	-	$ 1.44	$ -	0.96	Mbtuh	20	2200	$ 1.50	$ 3.57	-	3,037	-
2007	213091	Water Heating -Direct Contact Water Heater	-	$ 2.29	$ -	0.96	Mbtuh	20	1100	$ 2.00	$ 2.17	-	2,418	-
2007	213092	Water Heating -Process Boiler, Steam	-	$ 1.04	$ -	0.96	Mbtuh	20	1100	$ 2.00	$ 3.57	-	1,098	-
2007	213093	Water Heating -Process Boiler, Water	-	$ 1.04	$ -	0.96	Mbtuh	20	1100	$ 2.00	$ 3.57	-	1,098	-
2007	213095	Lighting- Ceramic Metal Halide Fixture	485	$ -	$ 0.10	0.96	Bulb	16	525	$ 150.00	$ 214.36	244,363	-	53
2007	213104	Water Heating - Pre-rinse Spray Valves	-	$ 570.00	$ -	0.96	Unit	5	50	$ 30.00	$ 60.00	-	27,360	-
2007	213105	Heating - Infrared Film for Greenhouse	-	$ 0.05	$ -	0.96	Sqft	5	300000	$ 0.03	$ 0.03	-	14,112	-
2007	213107	Connectionless Steamers Full load efficiency 50% or greater	6,620	$ -	$ 0.20	0.96	Unit	12	0	$ -	$ -	-	-	-
2007	213109	Lighting - Screw in 14-26 Watt Reflector Lamp	305	$ -	$ 0.05	0.96	Bulb	1.8	8000	$ 6.00	$ 6.47	2,339,420	-	362
2007	213110	Lighting - 4 Ft Premium T-8 with Elec. Ballast	16	$ -	$ 0.01	0.96	Fixture	11	0	$ 6.00	$ 11.71	-	-	-
2007	213112	A/C - Reflective Window Film Desert	16	$ -	$ 0.00	0.96	SqFt	10	1000	$ 1.35	$ 3.12	15,456	-	2

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	213114	Other - Occupancy Sensor - Plug Load	143	$ -	$ 0.05	0.96	Occupancy	10	0	$ -	$ 82.25	-	-	-
2007	213115	Refrigeration - Night Covers for Display Cases Med Temp	14	$ 1.15	$ (0.00)	0.96	Ln Ft	5	500	$ 9.00	$ 37.54	6,524	551	(2)
2007	213116	Refrigeration -Cooler/Freezer Door Gaskets - Solid Doors: Freezer	105	$ -	$ 0.01	0.96	LinearFt	4	100	$ 4.00	$ 4.00	10,037	-	1
2007	213117	Refrigeration - Food Service - Auto Closer for Reach-In Freezer Doors	1,297	$ -	$ 0.18	0.96	Closer	8	0	$ -	$ 300.00	-	-	-
2007	213119	Lighting - High Output 4 or 6 Lamp T5 or T8 Fixture (High bay applications)	989	$ -	$ 0.18	0.96	Fixture	11	2342	$ 100.00	$ 250.00	2,223,139	-	399
2007	213120	Lighting - Occupancy Sensor - High-Bay Sensor	1,661	$ -	$ 0.39	0.96	Sensor	8	60	$ 44.00	$ 141.00	95,697	-	23
2007	213121	Water Heating -Commercial Pool Heater	-	$ 2.41	$ -	0.96	Mbtuh	5	100	$ 2.00	$ 2.00	-	231	-
2007	213126	Refrigeration - Efficient Evap Fan Motor Electronically Commutated Motor (ECM)	116	$ (0.12)	$ 0.02	0.96	fixture linea	15	100	$ 20.00	$ 6.79	11,171	(11)	2
2007	213127	Refrigeration - Efficient Evap Fan Motor Permanent-Split Capacitor (PSC) Motor	450	$ (0.01)	$ 0.06	0.96	num motor	15	30	$ 20.00	$ 90.50	12,967	(0)	2
2007	213128	Refrigerator - Early Replacement	1,041	$ -	$ 0.14	0.96	Unit	6	100	$ 275.00	$ 272.00	99,895	-	13
2007	213129	Software Plug Load Sensors	227	$ -	$ -	0.96	Unit	5	50	$ 15.00	$ 5.00	10,896	-	-
2007	213130	Torchiere	464	$ -	$ 0.09	0.96	Unit	16	5	$ 22.00	$ 22.63	2,229	-	0
2007	213131	High Efficiency Gas Fryer	-	$ 438.00	$ -	0.96	Fryer	12	0	$ -	$ 2,582.54	-	-	-
2007	213133	High Efficiency Gas Griddle	-	$ 219.00	$ -	0.96	Griddle	12	0	$ -	$ 2,102.31	-	-	-
2007	213134	Faucet Aerators	-	$ 5.00	$ -	0.96	office	9	100	$ 1.00	$ 7.12	-	480	-
2007	213136	High Efficiency Copier	324	$ -	$ 0.04	0.96	Copy Mach	6	500	$ 90.00	$ 156.76	155,424	-	20
2007	213137	High Efficiency Electric Fryer	1,752	$ -	$ 0.00	0.96	Fryer	12	0	$ -	$ 8,761.89	-	-	-
2007	213138	Vending Machine Controller	387	$ -	$ -	0.96	Vending M	10	50	$ 75.00	$ 108.00	18,576	-	-
2007	213139	Residential Energy Star Clothes Washer in Commercial Application	-	$ 45.60	$ -	0.96	Clothes Wa	14	0	$ -	$ 592.77	-	-	-
2007	213140	Low Flow Showerhead	58	$ 6.66	$ 0.01	0.96	Showerhea	10	20	$ 20.00	$ 37.95	1,111	128	0
2007	213146	Residential High Efficiency Water Heater in Commercial Application	-	$ 13.30	$ -	0.96	Hot Water	13	50	$ 30.00	$ 175.30	-	638	-
2007	213147	Premium T8 with T12 34Watt Baseline	50	$ -	$ 0.01	0.96	Lamp	11	8000	$ 4.25	$ 12.70	382,464	-	66
2007	213148	Premium T8 with T12 40 Watt Baseline	75		$ 0.01	0.96	Lamp	11	40000	$ 10.00	$ 12.70	2,868,480	-	492
2007	213150	Tank Insulation - Low Temperature Applic. (LF) 2 in		$ 3.70		0.96	SquareFT	20	150	$ 3.00	$ 3.41	-	533	-
2007	213151	Tank Insulation - High Temperature Applic. (LF) 2 in		$ 10.40		0.96	SquareFT	20	175	$ 4.00	$ 3.41	-	1,747	-
2007	213152	Pipe Insulation - Hot Water Applic. (sq ft) 2 in		$ 2.90		0.96	LinearFt	20	100	$ 3.00	$ 9.22	-	278	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	213153	Pipe Insulation - Low Pressure Steam Applic. (LF) 2 in		$ 14.30		0.96	LinearFT	20	175	$ 3.00	$ 9.22	-	2,402	-
2007	213154	Tank Insulation - Low Temperature Applic. (LF) 1 in		$ 3.40		0.96	SquareFT	20	100	$ 2.00	$ 2.58	-	326	-
2007	213155	Tank Insulation - High Temperature Applic. (LF) 1 in		$ 9.70		0.96	SquareFT	20	100	$ 3.00	$ 2.58	-	931	-
2007	213156	Pipe Insulation - Hot Water Applic. (sq ft) 1 in		$ 2.60		0.96	LinearFt	20	100	$ 2.00	$ 5.67	-	250	-
2007	213157	Pipe Insulation - Low Pressure Steam Applic. (LF) 1 in		$ 13.40		0.96	LinearFt	20	100	$ 2.00	$ 5.67	-	1,286	-
2007	213161	Food Service - French Fryer-Electric	1,166	$ -	$ 0.20	0.96	per Unit	12	12	$ 200.00	$ 4,708.00	13,432	-	2
2007	213162	Food Service - Griddle-Electric	1,637	$ -	$ 0.40	0.96	per Unit	12	10	$ 300.00	$ 3,604.00	15,715	-	4
2007	213163	Food Service - Steamer-Electric	11,166	$ -	$ 2.50	0.96	per Unit	12	20	$ 750.00	$ 4,150.00	214,387	-	48
2007	213164	Food Service - Convection Oven-Electric	2,262	$ -	$ 0.50	0.96	per Unit	12	10	$ 350.00	$ 2,713.00	21,715	-	5
2007	213165	Food Service - Combination Oven-Electric	18,432	$ -	$ 4.20	0.96	per Unit	12	6	$ 1,000.00	$ 16,884.00	106,168	-	24
2007	213166	Food Service - Hot Food Holding Cabinet-Full-Size	2,190	$ -	$ 0.40	0.96	per Unit	12	6	$ 300.00	$ 3,153.00	12,614	-	2
2007	213167	Food Service - Hot Food Holding Cabinet-Three-Quarter Size	1,643	$ -	$ 0.30	0.96	per Unit	12	6	$ 250.00	$ 3,153.00	9,464	-	2
2007	213168	Food Service - Hot Food Holding Cabinet-Half-Size	1,095	$ -	$ 0.20	0.96	per Unit	12	6	$ 200.00	$ 3,153.00	6,307	-	1
2007	213169	Food Service - French Fryer-Gas	-	$ 505.00	$ -	0.96	per Unit	12	6	$ 500.00	$ 3,796.00	-	2,909	-
2007	213170	Food Service - Griddle-Gas	-	$ 88.00	$ -	0.96	per Unit	12	6	$ 125.00	$ 4,575.00	-	507	-
2007	213171	Food Service - Steamer-Gas	-	$ 2,084.00	$ -	0.96	per Unit	12	15	$ 750.00	$ 6,221.00	-	30,010	-
2007	213172	Food Service - Convection Oven-Gas	-	$ 323.00	$ -	0.96	per Unit	12	4	$ 500.00	$ 3,144.00	-	1,240	-
2007	213173	Food Service - Combination Oven-Gas	-	$ 403.00	$ -	0.96	per Unit	12	4	$ 750.00	$ 21,797.00	-	1,548	-
2007	213174	Food Service - Ice Machine Air-Cooled 101-200	3,614	$ -	$ 0.41	0.96	per Unit	12	0	$ 300.00	$ 296.00	-	-	-
2007	213175	Food Service - Ice Machine Air-Cooled 201-300	2,281	$ -	$ 0.26	0.96	per Unit	12	5	$ 300.00	$ 312.00	10,950	-	1
2007	213176	Food Service - Ice Machine Air-Cooled 301-400	1,661	$ -	$ 0.19	0.96	per Unit	12	5	$ 300.00	$ 559.00	7,972	-	1
2007	213177	Food Service - Ice Machine Air-Cooled 401-500	2,464	$ -	$ 0.28	0.96	per Unit	12	0	$ 300.00	$ 981.00	-	-	-
2007	213178	Food Service - Ice Machine Air-Cooled 501-1000	3,011	$ -	$ 0.34	0.96	per Unit	12	5	$ 400.00	$ 1,485.00	14,454	-	2
2007	213179	Food Service - Ice Machine Air-Cooled 1001-1500	4,106	$ -	$ 0.47	0.96	per Unit	12	5	$ 500.00	$ 1,821.00	19,710	-	2
2007	213180	Food Service - Ice Machine Air-Cooled >1500	4,380	$ -	$ 0.50	0.96	per Unit	12	0	$ 500.00	$ 2,194.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	213181	Food Service - Solid-Door Refrigerator 1-Door < 19	445	$ -	$ 0.05	0.96	per Unit	12	5	$ 75.00	$ 217.00	2,137	-	0
2007	213182	Food Service - Solid-Door Refrigerator 1-Door 19-30	650	$ -	$ 0.07	0.96	per Unit	12	5	$ 100.00	$ 1,825.00	3,119	-	0
2007	213183	Food Service - Solid-Door Refrigerator 2-Door 31-60	942	$ -	$ 0.11	0.96	per Unit	12	5	$ 150.00	$ 2,299.00	4,520	-	1
2007	213184	Food Service - Solid-Door Refrigerator 3-Door 61-90	1,351	$ -	$ 0.15	0.96	per Unit	12	7	$ 225.00	$ 2,849.00	9,075	-	1
2007	213185	Food Service - Solid-Door Freezer 1-Door < 19	588	$ -	$ 0.07	0.96	per Unit	12	0	$ 100.00	$ 741.00	-	-	-
2007	213186	Food Service - Solid-Door Freezer 1-Door 19-30	1,201	$ -	$ 0.14	0.96	per Unit	12	5	$ 200.00	$ 747.00	5,764	-	1
2007	213187	Food Service - Solid-Door Freezer 2-Door 31-60	2,077	$ -	$ 0.24	0.96	per Unit	12	5	$ 325.00	$ 1,067.00	9,969	-	1
2007	213188	Food Service - Solid-Door Freezer 3-Door 61-90	3,303	$ -	$ 0.38	0.96	per Unit	12	5	$ 500.00	$ 2,324.00	15,856	-	2
2007	213189	Food Service - Glass-Door Refrigerator Tier I 1-Door < 19	712	$ -	$ 0.08	0.96	per Unit	12	5	$ 100.00	$ 392.00	3,416	-	0
2007	213190	Food Service - Glass-Door Refrigerator Tier I 1-Door 19-30	977	$ -	$ 0.11	0.96	per Unit	12	5	$ 125.00	$ 624.00	4,692	-	1
2007	213191	Food Service - Glass-Door Refrigerator Tier I 2-Door 31-60	1,357	$ -	$ 0.15	0.96	per Unit	12	5	$ 150.00	$ 1,839.00	6,514	-	1
2007	213192	Food Service - Glass-Door Refrigerator Tier I 3-Door 61-90	1,889	$ -	$ 0.22	0.96	per Unit	12	5	$ 200.00	$ 266.00	9,065	-	1
2007	213193	Food Service - Glass-Door Refrigerator Tier II 1-Door < 19	1,183	$ -	$ 0.14	0.96	per Unit	12	5	$ 125.00	$ 1,412.00	5,676	-	1
2007	213194	Food Service - Glass-Door Refrigerator Tier II 1-Door 19-30	1,622	$ -	$ 0.19	0.96	per Unit	12	0	$ 150.00	$ 2,793.00	-	-	-
2007	213195	Food Service - Glass-Door Refrigerator Tier II 2-Door 31-60	2,250	$ -	$ 0.26	0.96	per Unit	12	5	$ 200.00	$ 1,839.00	10,799	-	1
2007	213196	Food Service - Glass-Door Refrigerator Tier II 3-Door 61-90	3,129	$ -	$ 0.36	0.96	per Unit	12	0	$ 300.00	$ 1,883.00	-	-	-
2007	213197	Lighting - Cold Cathode Fluorescent Lamp	60		$ 0.01	0.96	Bulb	5	200	$ 2.00	$ 1.81	11,520	-	2
2007	213199	Energy Star Clothes Washer - 3.5 cf Tier II MEF = 1.60	29	$ 11.09	$ 0.01	0.96	Clothes Wa	10	50	$ 35.00	$ 606.86	1,393	532	1
2007	213200	Energy Star Clothes Washer - 3.5 cf Tier III MEF = 1.80	50	$ 19.06	$ 0.02	0.96	Clothes Wa	10	50	$ 75.00	$ 518.78	2,396	915	1
2008	213002	A/C - Reflective Window Film Coastal	12	$ -	$ 0.00	0.96	SqFt	10	6450	$ 1.35	$ 3.12	77,028	-	14
2008	213003	A/C - Reflective Window Film Inland	15	$ -	$ 0.00	0.96	SqFt	10	42000	$ 1.35	$ 3.12	615,686	-	93

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	213005	Agriculture - Low Pressure Sprinkler Nozzles (per nozzle)	8	$ -	$ 0.01	0.96	Nozzle	4	12	$ 1.15	$ 0.59	86	-	0
2008	213006	Agriculture - Sprinkler to Drip Irrigation (per acre)	439	$ -	$ 0.20	0.96	Acre of lan	20	20	$ 44.00	$ 1,000.00	8,424	-	4
2008	213007	Heating - Greenhouse Heat Curtain	-	$ 0.39	$ -	0.96	Sqft	5	464050	$ 0.20	$ 0.49	-	173,740	-
2008	213008	Heating - Space Heating Boilers - Hot Water	-	$ 1.08	$ -	0.96	Mbtuh	20	4000	$ 1.00	$ 3.57	-	4,129	-
2008	213009	Heating - Space Heating Boilers - Large	-	$ 1.08	$ -	0.96	Mbtuh	20	4000	$ 1.00	$ 3.57	-	4,129	-
2008	213010	Heating - Space Heating Boilers - Steam	-	$ 1.08	$ -	0.96	Mbtuh	20	4000	$ 1.00	$ 3.57	-	4,129	-
2008	213011	Lighting - 2 Ft 2nd Gen. T-8 with Elec. Ballast	44	$ -	$ 0.01	0.96	Lamp	11	75	$ 3.50	$ 21.00	3,168	-	1
2008	213012	Lighting - 3 Ft 2nd Gen. T-8 with Elec. Ballast	54	$ -	$ 0.01	0.96	Lamp	11	75	$ 4.25	$ 21.00	3,884	-	1
2008	213013	Lighting - 8 Ft T-8 with Elec. Ballast	44	$ -	$ 0.01	0.96	Lamp	11	200	$ 7.50	$ 32.50	8,472	-	2
2008	213014	Lighting - Exterior >176w Incan Base HID	2,000	$ -	$ -	0.96	Fixture	16	9	$ 100.00	$ 144.00	17,283	-	-
2008	213015	Lighting - Exterior >176w Mer Vap Base HID	652	$ -	$ -	0.96	fixture	16	9	$ 48.00	$ 219.92	5,632	-	-
2008	213016	Lighting - Exterior 0-100w Incan Base HID	830	$ -	$ -	0.96	Fixture	16	10	$ 36.00	$ 144.00	7,967	-	-
2008	213017	Lighting - Exterior 0-100w Merc Vap Base HID	388	$ -	$ -	0.96	Fixture	16	9	$ 22.00	$ 144.00	3,356	-	-
2008	213018	Lighting - Exterior 101-175w Incan Base HID	1,189	$ -	$ -	0.96	fixture	16	15	$ 64.00	$ 196.86	17,122	-	-
2008	213019	Lighting - Exterior 101-175W Merc Vap Base	477	$ -	$ -	0.96	Fixture	16	8	$ 30.00	$ 144.00	3,665	-	-
2008	213020	Lighting - Hardwire Incan Base >90 watt Fluorescent Fixture	1,763	$ -	$ 0.29	0.96	Fixture	12	12	$ 22.50	$ 173.00	20,305	-	3
2008	213021	Lighting - Hardwire Incan Base 27-65 watt Fluorescent Fixture	513	$ -	$ 0.13	0.96	fixture	12	8	$ 12.50	$ 43.54	3,943	-	1
2008	213022	Lighting - Hardwire Incan Base 66-90 watt Fluorescent Fixture	991	$ -	$ 0.16	0.96	Fixture	12	8	$ 18.00	$ 137.00	7,614	-	1
2008	213023	Lighting - Hardwire Merc Vap Base >90 watt Fluorescent Fixture	776	$ -	$ 0.13	0.96	Fixture	16	8	$ 21.50	$ 137.00	5,957	-	1
2008	213024	Lighting - Hardwire Merc Vap Base 27-65 watt Fluorescent Fixture	308	$ -	$ 0.05	0.96	Fixture	16	10	$ 11.50	$ 56.00	2,952	-	0
2008	213025	Lighting - Hardwire Merc Vap Base 66-90 watt Fluorescent Fixture	532	$ -	$ 0.09	0.96	Fixture	16	10	$ 17.00	$ 116.00	5,111	-	1
2008	213026	Lighting - Hardwired 14-26 watt CF Fixture	280	$ -	$ 0.04	0.96	fixture	12	10	$ 11.00	$ 21.34	2,690	-	0

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	213027	Lighting - Hardwired 5-13 watt CF Fixture	103	$ -	$ 0.03	0.96	fixture	12	10	$ 11.00	$ 17.88	986	-	0
2008	213028	Lighting - Induction Fixture >100 watts	884	$ -	$ 0.13	0.96	Lamp	16	10	$ 50.00	$ 290.00	8,491	-	1
2008	213029	Lighting - Induction Fixture 55-100 watts	1,197	$ -	$ 0.18	0.96	Lamp	16	10	$ 35.00	$ 295.00	11,491	-	2
2008	213030	Lighting - Interior 0-35w Incan Base HID	228	$ -	$ 0.04	0.96	Fixture	16	10	$ 18.00	$ 133.00	2,191	-	0
2008	213031	Lighting - Interior 0-35w Merc Vap Base HID	120	$ -	$ 0.02	0.96	Fixture	16	10	$ 12.50	$ 60.00	1,155	-	0
2008	213032	Lighting - Interior 101-175w Incan Base HID	1,355	$ -	$ 0.24	0.96	Fixture	16	15	$ 40.00	$ 287.00	19,506	-	3
2008	213033	Lighting - Interior 101-175w Merc Vap Base	375	$ -	$ 0.07	0.96	Fixture	16	9	$ 38.00	$ 287.00	3,238	-	1
2008	213034	Lighting - Interior 176-250w Incan Base HID	1,933	$ -	$ 0.36	0.96	Fixture	16	20	$ 40.00	$ 287.00	37,108	-	7
2008	213035	Lighting - Interior 176-250w Mer Vap Base HID	761	$ -	$ 0.14	0.96	Fixture	16	10	$ 38.00	$ 287.00	7,309	-	1
2008	213036	Lighting - Interior 251-400w Incan Base HID	2,799	$ -	$ 0.50	0.96	Fixture	16	20	$ 50.00	$ 287.00	53,734	-	10
2008	213037	Lighting - Interior 251-400w Merc Vap Base	2,132	$ -	$ 0.38	0.96	Fixture	16	10	$ 48.00	$ 287.00	20,468	-	4
2008	213038	Lighting - Interior 36-70w Incan Base HID (50 Watt metal halide)	444	$ -	$ 0.10	0.96	fixture	16	60	$ 25.00	$ 214.36	25,600	-	6
2008	213039	Lighting - Interior 36-70w Merc Vap Base	145	$ -	$ 0.02	0.96	Fixture	16	10	$ 18.00	$ 287.00	1,394	-	0
2008	213040	Lighting - Interior 71-100w Incan Base HID	793	$ -	$ 0.14	0.96	Fixture	16	20	$ 40.00	$ 287.00	15,230	-	3
2008	213041	Lighting - Interior 71-100w Merc Vap Base	149	$ -	$ 0.05	0.96	fixture	16	20	$ 38.00	$ 223.89	2,855	-	1
2008	213042	Lighting - Interior Pulse Start Metal Halide Fixtures	490	$ -	$ 0.09	0.96	Lamp	16	75	$ 45.00	$ 287.00	35,279	-	6
2008	213043	Lighting - Lamps controlled by Dimming Elec Ballasts	155	$ -	$ 0.02	0.96	Fixture	11	0	$ 12.00	$ 56.34	-	-	-
2008	213044	Lighting - Lamps controlled by Non-Dimming Elec Ballasts	29	$ -	$ 0.00	0.96	Lamp	16	0	$ 2.00	$ 7.00	-	-	-
2008	213045	Lighting - LED Channel Signage Replacement-Indoor Red <=2 feet high	45	$ -	$ 0.01	0.96	LinearFt	16	23	$ 4.00	$ 18.00	983	-	0
2008	213046	Lighting - LED Channel Signage Replacement-Indoor Red >2 feet high	89	$ -	$ 0.02	0.96	LinearFt	16	17	$ 6.00	$ 33.00	1,452	-	0
2008	213047	Lighting - LED Channel Signage Replacement-Outdoor Red <=2 feet high	42	$ -	$ 0.01	0.96	LinearFt	16	17	$ 2.00	$ 18.00	677	-	0
2008	213048	Lighting - LED Channel Signage Replacement-Outdoor Red >2 feet high	83	$ -	$ 0.01	0.96	LinearFt	16	17	$ 3.00	$ 33.00	1,355	-	0

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	213049	Lighting - LED Exit Sign New Sign	351	$ -	$ 0.04	0.96	Exit Sign	16	600	$ 27.00	$ 65.44	202,355	-	24
2008	213050	Lighting - Photocell	106	$ -	$ -	0.96	Photo cell	8	29	$ 7.00	$ 59.81	2,962	-	-
2008	213051	Lighting - Remove 2 Ft T-8 (De Lamp)	128	$ -	$ 0.03	0.96	Lamp	11	25	$ 4.00	$ 19.00	3,072	-	1
2008	213052	Lighting - Remove 3 Ft T-8 (De Lamp)	183	$ -	$ 0.03	0.96	Lamp	11	15	$ 4.00	$ 19.00	2,629	-	0
2008	213053	Lighting - Remove 4 Ft T-8 (De Lamp)	79	$ -	$ 0.02	0.96	Fixture	11	5000	$ 6.00	$ 25.71	378,473	-	117
2008	213054	Lighting - Remove 8 Ft T-8 (De Lamp)	252	$ -	$ 0.05	0.96	Fixture	11	800	$ 9.00	$ 25.91	193,629	-	42
2008	213055	Lighting - Screw in >27 Watt Lamp	367	$ -	$ 0.06	0.96	Bulb	1.8	2000	$ 4.25	$ 8.10	704,378	-	109
2008	213056	Lighting - Screw in 14-26 Watt Lamp	280	$ -	$ 0.04	0.96	Bulb	1.8	10000	$ 3.50	$ 7.08	2,690,333	-	416
2008	213057	Lighting - Screw in 5- 13 Watt Lamp	138	$ -	$ 0.02	0.96	Bulb	1.8	500	$ 3.50	$ 4.98	66,035	-	10
2008	213058	Lighting - Time Clocks	474	$ -	$ -	0.96	Time Clock	8	8	$ 36.00	$ 239.89	3,642	-	-
2008	213059	Motors - VFD - HVAC Fans (per Hp)	753	$ -	$ -	0.96	HP	15	2800	$ 80.00	$ 202.00	2,024,064	-	-
2008	213060	Lighting - Occupancy Sensor - Plug Load	143	$ -	$ 0.05	0.96	Occupancy	10	0	$ 15.00	$ 82.25	-	-	-
2008	213061	Lighting - Occupancy Sensor - Wall/Ceiling Mounted Lighting Sensor	789	$ -	$ 0.38	0.96	Occupancy	8	600	$ 44.00	$ 141.00	454,464	-	219
2008	213062	Lighting - Occupancy Sensor - Wallbox Lighting Sensor	214	$ -	$ 0.18	0.96	Occupancy	8	150	$ 16.50	$ 42.28	30,781	-	25
2008	213063	Refrigeration - Anti-Sweat Heater Controls	343	$ -	$ 0.02	0.96	LinearFt	12	2100	$ 14.00	$ 56.00	691,488	-	44
2008	213067	Refrigeration - Food Service - Auto Closer for Main Cooler Doors	1,075	$ (0.05)	$ 0.21	0.96	Per cooler,	8	0	$ 40.00	$ 433.22	-	-	-
2008	213068	Refrigeration - Food Service - Auto Closer for Main Freezer Doors	2,786	$ (0.03)	$ 0.28	0.96	Per freezer	8	0	$ 50.00	$ 433.22	-	-	-
2008	213069	Refrigeration - Food Service - Evaporator Fan Controller for Walk-In	604	$ (0.01)	$ 0.08	0.96	Motor	16	100	$ 75.00	$ 145.75	58,016	(1)	8
2008	213076	Refrigeration - New Refrigeration Case w/Doors- Low Temperature Case	1,208	$ -	$ 0.12	0.96	LinearFt	16	70	$ 200.00	$ 100.00	81,178	-	8
2008	213077	Refrigeration - New Refrigeration Case w/Doors- Medium Temperature Case	101	$ 18.90	$ 0.05	0.96	fixture linea	12	70	$ 150.00	$ 845.24	6,766	1,270	3
2008	213078	Refrigeration - New Refrigeration Case w/Doors- Special doors Low Temp	1,208	$ -	$ 0.22	0.96	LinearFt	16	75	$ 200.00	$ 700.00	86,976	-	16
2008	213079	Refrigeration - New Refrigeration Case w/Doors- Special doors with low/no ASH	749	$ -	$ 0.02	0.96	LinearFt	16	70	$ 50.00	$ 77.00	50,333	-	1

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	213080	Refrigeration - Night Covers for Display Cases Low Temp	59	$ -	$ -	0.96	LinearFt	5	100	$ 9.00	$ 9.25	5,664	-	-
2008	213081	Refrigeration - Suction Line Insulation	18	$ -	$ -	0.96	LinearFt	11	30	$ 1.00	$ 1.72	530	-	-
2008	213082	Refrigeration - Vending Machine Controller	1,612	$ -	$ -	0.96	Vending M	10	150	$ 90.00	$ 215.50	232,128	-	-
2008	213083	Refrigeration -Cooler/Freezer Door Gaskets - Glass Doors	105	$ -	$ 0.01	0.96	LinearFt	4	578	$ 4.00	$ 4.00	58,013	-	7
2008	213084	Refrigeration -Cooler/Freezer Door Gaskets - Solid Doors: Cooler	105	$ -	$ 0.01	0.96	LinearFt	4	578	$ 4.00	$ 4.00	58,013	-	7
2008	213085	Refrigeration -Strip Curtains for Walk-ins	465	$ -	$ 0.05	0.96	SqFt	4	173	$ 3.00	$ 3.05	77,227	-	9
2008	213086	Water Heating - Gas Storage Water Heater (per MBtuh)	-	$ 1.75	$ -	0.96	Mbtuh	15	3500	$ 2.00	$ 6.78	-	5,890	-
2008	213089	Water Heating -Instantaneous - Gas (per MBtuh)	-	$ 1.41	$ -	0.96	Mbtuh	20	3500	$ 2.00	$ (7.77)	-	4,738	-
2008	213090	Water Heating -Commercial Boiler	-	$ 1.44	$ -	0.96	Mbtuh	20	3500	$ 1.50	$ 3.57	-	4,832	-
2008	213091	Water Heating -Direct Contact Water Heater	-	$ 2.29	$ -	0.96	Mbtuh	20	3500	$ 2.00	$ 2.17	-	7,694	-
2008	213092	Water Heating -Process Boiler, Steam	-	$ 1.04	$ -	0.96	Mbtuh	20	3500	$ 2.00	$ 3.57	-	3,494	-
2008	213093	Water Heating -Process Boiler, Water	-	$ 1.04	$ -	0.96	Mbtuh	20	3500	$ 2.00	$ 3.57	-	3,494	-
2008	213095	Lighting- Ceramic Metal Halide Fixture	485	$ -	$ 0.10	0.96	Bulb	16	800	$ 50.00	$ 214.36	372,363	-	80
2008	213104	Water Heating - Pre-rinse Spray Valves	-	$ 570.00	$ -	0.96	Unit	5	0	$ 30.00	$ 60.00	-	-	-
2008	213105	Heating - Infrared Film for Greenhouse	-	$ 0.05	$ -	0.96	Sqft	5	505000	$ 0.03	$ 0.03	-	23,755	-
2008	213107	Connectionless Steamers Full load efficiency 50% or greater	6,620	$ -	$ 0.20	0.96	Unit	12	0	$ -	$ -	-	-	-
2008	213109	Lighting - Screw in 14-26 Watt Reflector Lamp	305	$ -	$ 0.05	0.96	Bulb	1.8	9000	$ 6.00	$ 6.47	2,631,848	-	407
2008	213110	Lighting - 4 Ft Premium T-8 with Elec. Ballast	16	$ -	$ 0.01	0.96	Fixture	11	0	$ 6.00	$ 11.71	-	-	-
2008	213112	A/C - Reflective Window Film Desert	16	$ -	$ 0.00	0.96	SqFt	10	500	$ 1.35	$ 3.12	7,728	-	1
2008	213114	Other - Occupancy Sensor - Plug Load	143	$ -	$ 0.05	0.96	Occupancy	10	0	$ -	$ 82.25	-	-	-
2008	213115	Refrigeration - Night Covers for Display Cases Med Temp	14	$ 1.15	$ (0.00)	0.96	Ln Ft	5	17	$ 9.00	$ 37.54	222	19	(0)
2008	213116	Refrigeration -Cooler/Freezer Door Gaskets - Solid Doors: Freezer	105	$ -	$ 0.01	0.96	LinearFt	4	1000	$ 4.00	$ 4.00	100,368	-	11
2008	213117	Refrigeration - Food Service - Auto Closer for Reach-In Freezer Doors	1,297	$ -	$ 0.18	0.96	Closer	8	0	$ -	$ 300.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	213119	Lighting - High Output 4 or 6 Lamp T5 or T8 Fixture (High bay applications)	989	$ -	$ 0.18	0.96	Fixture	11	1500	$ 100.00	$ 250.00	1,423,872	-	255
2008	213120	Lighting - Occupancy Sensor - High-Bay Sensor	1,661	$ -	$ 0.39	0.96	Sensor	8	130	$ 44.00	$ 141.00	207,343	-	49
2008	213121	Water Heating -Commercial Pool Heater	-	$ 2.41	$ -	0.96	Mbtuh	5	500	$ 2.00	$ 2.00	-	1,157	-
2008	213126	Refrigeration - Efficient Evap Fan Motor Electronically Commutated Motor (ECM)	116	$ (0.12)	$ 0.02	0.96	fixture linea	15	100	$ 20.00	$ 6.79	11,171	(11)	2
2008	213127	Refrigeration - Efficient Evap Fan Motor Permanent-Split Capacitor (PSC) Motor	450	$ (0.01)	$ 0.06	0.96	num motor	15	100	$ 20.00	$ 90.50	43,224	(1)	6
2008	213128	Refrigerator - Early Replacement	1,041	$ -	$ 0.14	0.96	Unit	6	231	$ 275.00	$ 272.00	230,758	-	30
2008	213129	Software Plug Load Sensors	227	$ -	$ -	0.96	Unit	5	10	$ 15.00	$ 5.00	2,179	-	-
2008	213130	Torchiere	464	$ -	$ 0.09	0.96	Unit	16	20	$ 22.00	$ 22.63	8,916	-	2
2008	213131	High Efficiency Gas Fryer	-	$ 438.00	$ -	0.96	Fryer	12	0	$ -	$ 2,582.54	-	-	-
2008	213133	High Efficiency Gas Griddle	-	$ 219.00	$ -	0.96	Griddle	12	0	$ -	$ 2,102.31	-	-	-
2008	213134	Faucet Aerators	-	$ 5.00	$ -	0.96	office	9	100	$ 1.00	$ 7.12	-	480	-
2008	213136	High Efficiency Copier	324	$ -	$ 0.04	0.96	Copy Mach	6	578	$ 100.00	$ 156.76	179,670	-	23
2008	213137	High Efficiency Electric Fryer	1,752	$ -	$ 0.00	0.96	Fryer	12	0	$ -	$ 8,761.89	-	-	-
2008	213138	Vending Machine Controller	387	$ -	$ -	0.96	Vending M	10	578	$ 90.00	$ 108.00	214,739	-	-
2008	213139	Residential Energy Star Clothes Washer in Commercial Application	-	$ 45.60	$ -	0.96	Clothes Wa	14	0	$ 75.00	$ 592.77	-	-	-
2008	213140	Low Flow Showerhead	58	$ 6.66	$ 0.01	0.96	Showerhea	10	75	$ 20.00	$ 37.95	4,167	480	1
2008	213146	Residential High Efficiency Water Heater in Commercial Application	-	$ 13.30	$ -	0.96	Hot Water	13	300	$ 30.00	$ 175.30	-	3,830	-
2008	213147	Premium T8 with T12 34Watt Baseline	50	$ -	$ 0.01	0.96	Lamp	11	10000	$ 4.25	$ 12.70	478,080	-	83
2008	213148	Premium T8 with T12 40 Watt Baseline	75		$ 0.01	0.96	Lamp	11	31000	$ 10.00	$ 12.70	2,223,072	-	381
2008	213150	Tank Insulation - Low Temperature Applic. (LF) 2 in		$ 3.70		0.96	SquareFT	20	3000	$ 3.00	$ 3.41	-	10,656	-
2008	213151	Tank Insulation - High Temperature Applic. (LF) 2 in		$ 10.40		0.96	SquareFT	20	2900	$ 4.00	$ 3.41	-	28,954	-
2008	213152	Pipe Insulation - Hot Water Applic. (sq ft) 2 in		$ 2.90		0.96	LinearFt	20	2850	$ 3.00	$ 9.22	-	7,934	-
2008	213153	Pipe Insulation - Low Pressure Steam Applic. (LF) 2 in		$ 14.30		0.96	LinearFT	20	2500	$ 3.00	$ 9.22	-	34,320	-
2008	213154	Tank Insulation - Low Temperature Applic. (LF) 1 in		$ 3.40		0.96	SquareFT	20	2500	$ 2.00	$ 2.58	-	8,160	-
2008	213155	Tank Insulation - High Temperature Applic. (LF) 1 in		$ 9.70		0.96	SquareFT	20	2500	$ 3.00	$ 2.58	-	23,280	-
2008	213156	Pipe Insulation - Hot Water Applic. (sq ft) 1 in		$ 2.60		0.96	LinearFt	20	2500	$ 2.00	$ 5.67	-	6,240	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	213157	Pipe Insulation - Low Pressure Steam Applic. (LF) 1 in		$ 13.40		0.96	LinearFt	20	3000	$ 2.00	$ 5.67	-	38,592	-
2008	213161	Food Service - French Fryer-Electric	1,166	$ -	$ 0.20	0.96	per Unit	12	8	$ 200.00	$ 4,708.00	8,955	-	2
2008	213162	Food Service - Griddle-Electric	1,637	$ -	$ 0.40	0.96	per Unit	12	8	$ 300.00	$ 3,604.00	12,572	-	3
2008	213163	Food Service - Steamer-Electric	11,166	$ -	$ 2.50	0.96	per Unit	12	8	$ 750.00	$ 4,150.00	85,755	-	19
2008	213164	Food Service - Convection Oven-Electric	2,262	$ -	$ 0.50	0.96	per Unit	12	8	$ 350.00	$ 2,713.00	17,372	-	4
2008	213165	Food Service - Combination Oven-Electric	18,432	$ -	$ 4.20	0.96	per Unit	12	8	$ 1,000.00	$ 16,884.00	141,558	-	32
2008	213166	Food Service - Hot Food Holding Cabinet-Full-Size	2,190	$ -	$ 0.40	0.96	per Unit	12	8	$ 300.00	$ 3,153.00	16,819	-	3
2008	213167	Food Service - Hot Food Holding Cabinet-Three-Quarter Size	1,643	$ -	$ 0.30	0.96	per Unit	12	8	$ 250.00	$ 3,153.00	12,618	-	2
2008	213168	Food Service - Hot Food Holding Cabinet-Half-Size	1,095	$ -	$ 0.20	0.96	per Unit	12	8	$ 200.00	$ 3,153.00	8,410	-	2
2008	213169	Food Service - French Fryer-Gas	-	$ 505.00	$ -	0.96	per Unit	12	26	$ 500.00	$ 3,796.00	-	12,605	-
2008	213170	Food Service - Griddle-Gas	-	$ 88.00	$ -	0.96	per Unit	12	8	$ 125.00	$ 4,575.00	-	676	-
2008	213171	Food Service - Steamer-Gas	-	$ 2,084.00	$ -	0.96	per Unit	12	8	$ 750.00	$ 6,221.00	-	16,005	-
2008	213172	Food Service - Convection Oven-Gas	-	$ 323.00	$ -	0.96	per Unit	12	8	$ 500.00	$ 3,144.00	-	2,481	-
2008	213173	Food Service - Combination Oven-Gas	-	$ 403.00	$ -	0.96	per Unit	12	8	$ 750.00	$ 21,797.00	-	3,095	-
2008	213174	Food Service - Ice Machine Air-Cooled 101-200	3,614	$ -	$ 0.41	0.96	per Unit	12	0	$ 300.00	$ 296.00	-	-	-
2008	213175	Food Service - Ice Machine Air-Cooled 201-300	2,281	$ -	$ 0.26	0.96	per Unit	12	8	$ 300.00	$ 312.00	17,520	-	2
2008	213176	Food Service - Ice Machine Air-Cooled 301-400	1,661	$ -	$ 0.19	0.96	per Unit	12	8	$ 300.00	$ 559.00	12,755	-	1
2008	213177	Food Service - Ice Machine Air-Cooled 401-500	2,464	$ -	$ 0.28	0.96	per Unit	12	0	$ 300.00	$ 981.00	-	-	-
2008	213178	Food Service - Ice Machine Air-Cooled 501-1000	3,011	$ -	$ 0.34	0.96	per Unit	12	8	$ 400.00	$ 1,485.00	23,126	-	3
2008	213179	Food Service - Ice Machine Air-Cooled 1001-1500	4,106	$ -	$ 0.47	0.96	per Unit	12	8	$ 500.00	$ 1,821.00	31,536	-	4
2008	213180	Food Service - Ice Machine Air-Cooled >1500	4,380	$ -	$ 0.50	0.96	per Unit	12	8	$ 500.00	$ 2,194.00	33,638	-	4
2008	213181	Food Service - Solid-Door Refrigerator 1-Door < 19	445	$ -	$ 0.05	0.96	per Unit	12	8	$ 75.00	$ 217.00	3,420	-	0
2008	213182	Food Service - Solid-Door Refrigerator 1-Door 19-30	650	$ -	$ 0.07	0.96	per Unit	12	10	$ 100.00	$ 1,825.00	6,237	-	1
2008	213183	Food Service - Solid-Door Refrigerator 2-Door 31-60	942	$ -	$ 0.11	0.96	per Unit	12	10	$ 150.00	$ 2,299.00	9,040	-	1
2008	213184	Food Service - Solid-Door Refrigerator 3-Door 61-90	1,351	$ -	$ 0.15	0.96	per Unit	12	10	$ 225.00	$ 2,849.00	12,965	-	1

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	213185	Food Service - Solid-Door Freezer 1-Door < 19	588	$ -	$ 0.07	0.96	per Unit	12	0	$ 100.00	$ 741.00	-	-	-
2008	213186	Food Service - Solid-Door Freezer 1-Door 19-30	1,201	$ -	$ 0.14	0.96	per Unit	12	10	$ 200.00	$ 747.00	11,528	-	1
2008	213187	Food Service - Solid-Door Freezer 2-Door 31-60	2,077	$ -	$ 0.24	0.96	per Unit	12	10	$ 325.00	$ 1,067.00	19,938	-	2
2008	213188	Food Service - Solid-Door Freezer 3-Door 61-90	3,303	$ -	$ 0.38	0.96	per Unit	12	10	$ 500.00	$ 2,324.00	31,711	-	4
2008	213189	Food Service - Glass-Door Refrigerator Tier I 1-Door < 19	712	$ -	$ 0.08	0.96	per Unit	12	10	$ 100.00	$ 392.00	6,833	-	1
2008	213190	Food Service - Glass-Door Refrigerator Tier I 1-Door 19-30	977	$ -	$ 0.11	0.96	per Unit	12	10	$ 125.00	$ 624.00	9,384	-	1
2008	213191	Food Service - Glass-Door Refrigerator Tier I 2-Door 31-60	1,357	$ -	$ 0.15	0.96	per Unit	12	11	$ 150.00	$ 1,839.00	14,331	-	2
2008	213192	Food Service - Glass-Door Refrigerator Tier I 3-Door 61-90	1,889	$ -	$ 0.22	0.96	per Unit	12	11	$ 200.00	$ 266.00	19,943	-	2
2008	213193	Food Service - Glass-Door Refrigerator Tier II 1-Door < 19	1,183	$ -	$ 0.14	0.96	per Unit	12	11	$ 125.00	$ 1,412.00	12,488	-	1
2008	213194	Food Service - Glass-Door Refrigerator Tier II 1-Door 19-30	1,622	$ -	$ 0.19	0.96	per Unit	12	0	$ 150.00	$ 2,793.00	-	-	-
2008	213195	Food Service - Glass-Door Refrigerator Tier II 2-Door 31-60	2,250	$ -	$ 0.26	0.96	per Unit	12	20	$ 200.00	$ 1,839.00	43,197	-	5
2008	213196	Food Service - Glass-Door Refrigerator Tier II 3-Door 61-90	3,129	$ -	$ 0.36	0.96	per Unit	12	0	$ 300.00	$ 1,883.00	-	-	-
2008	213197	Lighting - Cold Cathode Fluorescent Lamp	60		$ 0.01	0.96	Bulb	5	225	$ 2.00	$ 1.81	12,960	-	2
2008	213199	Energy Star Clothes Washer - 3.5 cf Tier II MEF = 1.60	29	$ 11.09	$ 0.01	0.96	Clothes Wa	10	100	$ 35.00	$ 606.86	2,786	1,065	1
2008	213200	Energy Star Clothes Washer - 3.5 cf Tier III MEF = 1.80	50	$ 19.06	$ 0.02	0.96	Clothes Wa	10	100	$ 75.00	$ 518.78	4,791	1,830	2

2006-2008 Energy Efficiency Programs
Small Business Super Saver Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 456,194	$ 490,358	$ 527,135
Administrative Other	$ 455,862	$ 436,295	$ 433,489
Marketing & Outreach	$ 476,752	$ 284,367	$ 347,472
Direct Implementation			
Incentives	$ 6,480,303	$ 7,099,828	$ 7,785,372
Activity	$ 1,433,337	$ 1,688,823	$ 1,664,907
Installation	$ -	$ -	$ -
Hardware & Materials	$ 113,000	$ 128,300	$ 115,271
Rebate Processing & Inspection	$ 163,636	$ 169,545	$ 196,185
EM&V	$ -	$ -	$ -
Total	*$ 9,579,085*	*$ 10,297,516*	*$ 11,069,830*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
48,792,726	7,846	311,335	52,038,504	8,122	364,990	56,741,618	8,939	651,444

3. Program Cost Effectiveness

Attached

4. Program Descriptors

The Small Business Super Saver (SBSS) is an existing local program targeting nonresidential customers under 100kW of monthly demand and/or under an average monthly usage of 4,166 therms. It is a prescriptive rebate program that encourages nonresidential customers to retrofit existing equipment with high efficiency equipment. Rebates are intended to cover a significant portion of the incremental cost associated with installing higher efficiency equipment. The program integrates contractor incentives creating the potential for a no cost approach for the very small customer and/or an incentive for comprehensive retrofits. In addition the program offers an On-Bill Financing opportunity for customers who qualify and have a monthly demand of 50kW and above..

5. Program Statement

The Small Business Super Saver (SBSS) is designed to increase the adoption of energy-efficient measures to the hard to reach, very small and small customers who typically rent, have limited capital resources, and lack acceptance of the magnitude of the personal financial benefits of energy efficiency improvements. In addition, there has been a program over lap between the Small Business Energy Efficiency Program and the Express Efficiency Program in the past with this market segment. The re-design of the Small Business Energy Efficiency (SBEE) program, re-named Small Business Super Saver, overcomes these barriers by offering opportunities to

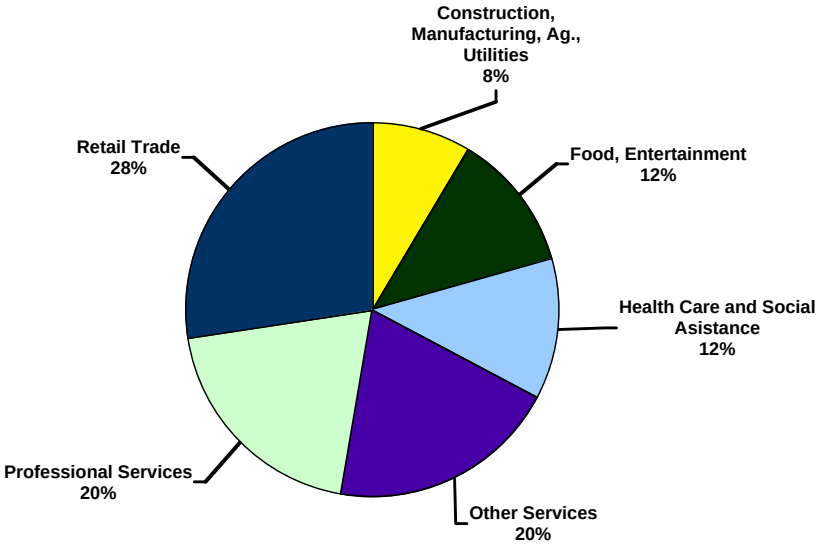
participate with little or no out of pocket expense. Program conflicts are addressed by offering higher rebates and additional measures for customers under 100kW in SBSS, directing customers over 100kW of monthly demand to the Express Efficiency Program.

6. Program Rationale

The Small Business Energy Efficiency program has been successful with the direct install approach for the very-small, under 20kW, customer outperforming its established incentive budget by delivering savings at a lower incentive cost. With approximately 138,000 commercial meters under 100kW in SDG&E territory, 72% fall under 20kW and 20% are up to 100kW. Clearly the greatest potential for program participation is with the very small customer who will continue to receive the benefits of a no cost program through substantial rebates. An additional incentive will be offered to program contractors if a direct install or comprehensive retrofit is implemented, ensuring these customers are actively pursued. For customers over 50kW of monthly demand, the On-Bill Financing (see On-Bill Financing – OBF Program) can be an option to address the capital resource barrier. Upon qualification, participants receive a reduced rebate but with 100% of the balance of project costs, including installation, financed through the OBF program.

In a recent program evaluation published by ECONorthwest dated February 18, 2005, barriers for very small customer were overcome by the 2004-2005 Small Business Energy Efficiency program. Participating customers are diverse and comprise 85% of the SBEE participants which is much higher than that observed for 2003 Express Efficiency. Common barriers such as concern over bill savings, availability of financing are being overcome and indicate that the program effectively addresses these issues. Different industry segments include:

Figure 1: Business Sectors Participating in 2004 SBEE Program



However, the Express program has experienced a steady decline of participation by the customers between 20 kW to 100 kW of monthly demand. In 2004, less than 10% of Express Efficiency participants were in the range of 20 kW to 100 kW of monthly demand. With the new design for small business rebates, this market is better served under the SBSS program.

7. Program Outcomes

The local Small Business Super Saver is designed to produce cost-effective, long-term annual demand and energy savings by providing no-cost and low-cost energy efficient equipment retrofits to very small and small commercial customers in San Diego Gas & Electric's service territory.

8. Program Strategy

Nonresidential Downstream Deemed Rebates,
Nonresidential Direct Install,
Nonresidential Targeted Marketing

8.1.1. Program Strategy Description

Nonresidential Downstream Deemed Rebates

- The program offers downstream deemed rebates on an expanded, comprehensive list of measures with rebate levels that typically exceed those offered by the Express Efficiency program. The expansion includes refrigeration and food service equipment to offer a full service of measures.

It also promotes participation in Demand Response Programs, where applicable.

- A customer over 50kW of monthly demand may also be eligible to take advantage of the On-Bill Financing option. Once qualified under the OBF option (see OBF Program for details), the participating customer may receive a reduced rebate and finance the balance of the cost of a qualified energy efficiency package through the utility. Demand Response measures may also qualify for financing where included as part of the energy efficiency upgrade. Monthly payment on a term loan would be billed as part of the participating customer's monthly utility bill. With this option the customer should not experience an out of pocket expense for the prescribed measures. A financial incentive may be offered to subcontractors to overcome any additional barriers. This approach has three potential advantages:
  - Increased energy savings potential by spreading dollars further
  - Financial participation by customers fosters greater investment in the efficient operation of equipment
- Allows the program to fund more expensive equipment replacements, which brings larger customers and more energy intensive equipment into the range of possible measures

Nonresidential Direct Install,

- The program integrates contractor incentives and significant rebates creating the opportunity for a no cost approach for those customers under 50kW of monthly demand.
- Customers will be directed to the SDG&E website to locate participating contractors and vendors. SDG&E will also incorporate Energy Program Facilitators into the program. The EPF will be in the field to assist customers with questions, help to locate a contractor from the participating vendor list and to ensure a customer has been offered any and all programs available to them. The facilitator will also be able to assist the customer with the On-Bill Financing option, which will allow the customer to participate in a comprehensive retrofit without the burden of the upfront capital cost associated with some measures such as refrigeration and food service equipment. The facilitator will be able to be a representative for the customer.

Nonresidential Targeted Marketing

- Furthermore, the SBSS will take a focused approach on industry specific segments such as the restaurants, the hospitality industry, and mini markets. An additional focus will be placed on specific measures as well, with industry specific marketing materials, messaging and Energy Program Facilitators working directly in the targeted business communities.
- Demand Response technology will be included where applicable such as the smart thermostat.

8.1.2. Program Indicators

The Primary goal of the program strategy is to procure energy savings.

9. Program Implementation

In 2006, SDG&E is proposing to enhance the Small Business Energy Efficiency program, now named Small Business Super Saver, from program awarded contractors to a program that offers all qualified installation contractors the opportunity to participate. The Small Business Super Saver will work in conjunction with other programs to cross train contractors on the new programs and services available to customers. Appropriate collateral will be created and distributed including a list of measures available in the program. This is a combination of best practices from Express Efficiency and the Small Business Energy Efficiency programs.

Customers will be contacted and educated through face-to-face contact by SDG&E Energy Program Representatives, Community Based Organizations (CBOs), local governments, Chamber of Commerce, and other selected organizations. Once informed, customers will be given a list of participating contractors/vendors to contact for participation. Contractors will market directly to customers as well, and will be trained on program information accordingly. A financial incentive can be paid to contractors in conjunction with the customer rebate for a no-cost installation to customers under 50kW monthly demand, or for a comprehensive retrofit. Financial incentives are not offered to contractors for CFL installations and delamping as a stand-alone measure or as one of two comprehensive measures. The Small Business Super Saver will work closely with Demand Response programs to cross-market where applicable.

10. Customer Description

The customers targeted by this program are nonresidential customers under 100kW of monthly demand and/or under an average monthly usage of 4,166 therms in the SDG&E service territory.

11. Customer Interface

The program shall be presented to the customer by face-to-face contact using various installation contractors, SDG&E Energy Program Facilitators, CBOs, local governments and other selected organizations. Marketing materials and program contracts will be developed offering all prescriptive measures and recommendations. Efforts will include the development and design of program literature, application forms, promotional items, direct mailers, bill inserts, and other appropriate program literature as needed.

13. Energy Measures and Program Activities

13.1. **Prescriptive Measures**

See SDG&E February 1, 2006 Filing Workbook.

13.2. **kWh Level Data.**

See SDG&E February 1, 2006 Filing Workbook.

13.3. **Non-energy Activities**

Information may be provided through direct mail, email, telephone or other means through the Education, Training and Outreach program. Detailed information will be recorded in our tracking system, including equipment inventories and project recommendations. Recommendations will be followed up periodically to determine implementation status, and whether additional assistance will be required to cause a project to be implemented. If a project is implemented without design or financial assistance, energy savings will be logged into the tracking system, and claimed toward program goals.

14. Subcontractor Activities

Subcontractor activities are expected to include:

- Energy savings research and documentation
- Industry specific marketing efforts

15. Quality Assurance and Evaluation Activities

This program will perform 100% inspection on approved applications. Pre-inspections may be required for lighting measure applications.

Also, an evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols Expected number/percent of inspections

16. Marketing Activities.

The Small Business Super Saver will market in several ways.

- Direct delivery by SDG&E Energy Program Facilitators, Special Investigators and Account Executives.
- Direct delivery by Community Based Organizations, Faith-Based Organizations, and ethnic organizations.
- Direct delivery by vendors, contractors, and equipment dealers.
- Direct delivery by education and training seminars.

17. CPUC Objective

Objective 1: The SBSS program offers cost effective energy efficiency opportunities meeting our customers' needs. The program also addresses the state's policy to reduce the environmental impact associated with the states energy consumption, protecting the public's health and safety through energy efficient equipment.

Objective 2: Program goals have been established as a major contributor to the portfolio goals both long and short-term.

Objective 3: This program serves as an alternative to more costly supply-side resource options through the focus on energy efficient equipment.

Objective 4: Lost opportunities are captured in this program with the inclusion of a financial incentive for contractors to perform comprehensive retrofits. This includes the appropriately identified Demand Response Program. Over 100 measures with substantial rebates are now available to small customers that did not move in the Express Program due to low rebates and high capital costs. The On Bill Financing Program may offer qualified small customers an opportunity to install comprehensive retrofits when they may have only participated with the lowest cost before.

Objective 9: The Program Administration actively pursued, received and implemented input from the public and advisory groups to develop the SBSS program.

Objective 10: The SBSS program is PGC funded and as such will spend its funding in the SDG&E service territory.

	SDGE3020 SBS-Small Business Super Saver
BUDGET	
Administrative Costs	**$ 2,799,333**
Overhead and G&A	$ 1,473,687
Other Administrative Costs	$ 1,325,646
Marketing/Outreach	**$ 1,108,591**
Direct Implementation	**$ 27,038,507**
Total Incentives and Rebates	$ -
User Input Incentive	$ -
Direct Install Rebate	$ 21,365,504
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 4,787,066
Installation	$ -
Hardware & Materials	$ 356,571
Rebate Processing & Inspection	$ 529,366
EM&V Costs	**$ -**
Budget	**$ 30,946,431**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 30,946,431**
	$ -
PROGRAM IMPACTS	$ -
	$ -
User Entered kW (kW)	24,907
Net Jul-Sept Peak (kW)	28,472
Net Dec-Feb Peak (kW)	18,558
Net NCP (kW)	28,113
Net CEC (kW)	34,193
Annual Net kWh	157,572,849
Lifecycle Net kWh	1,536,604,814
Annual Net Therms	1,327,769
Lifecycle Net Therms	15,212,388
	0
Cost Effectiveness	0
TRC	0
Costs	$ 41,234,819
Electric Benefits	$ 90,713,500
Gas Benefits	$ 6,944,842
Net Benefits (NPV)	$ 56,423,523
BC Ratio	7.10
	0
PAC	0
Costs	$ 28,472,281
Electric Benefits	$ 90,713,500
Gas Benefits	$ 6,944,842
Net Benefits (NPV)	$ 69,186,061
BC Ratio	10.29
	0
Levelized Cost	0
Levelized Cost TRC ($/kWh)	0
Discounted kWh	945,649,041
Cost	$ 0.1148
Benefits	$ 0.2877
Benefit-Cost	$ 0.1730
Levelized Cost PAC ($/kWh)	0
Discounted kWh	945,649,041
Cost	$ 0.0840
Benefits	$ 0.2877
Benefit-Cost	$ 0.2038
Levelized Cost TRC ($/therm)	0
Discounted Therms	8,595,229
Cost	$ 1.8435
Benefits	$ 2.4285
Benefit-Cost	$ 0.5850
Levelized Cost PAC ($/therm)	0
Discounted Therms	8,595,229
Cost	$ 0.7144
Benefits	$ 2.4285
Benefit-Cost	$ 1.7141

Small Business Super Saver

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 9,579,085	$ 6,480,303	$ 3,098,782	48,792,726	311,335	7,846
2007	$ 10,297,516	$ 7,099,828	$ 3,197,688	52,038,504	364,990	8,122
2008	$ 11,069,830	$ 7,785,372	$ 3,284,458	56,741,618	651,444	8,939

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	234002	A/C - Reflective Window Film Coastal	12	-	0.00	0.96	SqFt	10	8,000	$ 2.00	$ 3.12	95,539	-	18
2006	234003	A/C - Reflective Window Film Inland	15	-	0.00	0.96	SqFt	10	30,000	$ 2.00	$ 3.12	439,776	-	66
2006	234005	Agriculture - Low Pressure Sprinkler Nozzles (per nozzle)	8	-	0.01	0.96	Nozzle	4	20	$ 1.15	$ 0.59	144	-	0
2006	234006	Agriculture - Sprinkler to Drip Irrigation (per acre)	439	-	0.20	0.96	Acre of land	20	50	$ 75.00	$ 1,000.00	21,060	-	10
2006	234007	Heating - Greenhouse Heat Curtain	-	0	-	0.96	Sqft	5	400,000	$ 0.30	$ 0.49	-	149,760	-
2006	234008	Heating - Space Heating Boilers - Hot Water	-	1	-	0.96	Mbtuh	20	500	$ 1.00	$ 3.57	-	516	-
2006	234009	Heating - Space Heating Boilers - Large	-	1	-	0.96	Mbtuh	20	500	$ 1.00	$ 3.57	-	516	-
2006	234010	Heating - Space Heating Boilers - Steam	-	1	-	0.96	Mbtuh	20	500	$ 1.00	$ 3.57	-	516	-
2006	234011	Lighting - 2 Ft 2nd Gen. T-8 with Elec. Ballast	44	-	0.01	0.96	Lamp	11	600	$ 10.00	$ 21.00	25,344	-	5
2006	234012	Lighting - 3 Ft 2nd Gen. T-8 with Elec. Ballast	54	-	0.01	0.96	Lamp	11	100	$ 10.00	$ 21.00	5,179	-	1
2006	234013	Lighting - 8 Ft T-8 with Elec. Ballast	44	-	0.01	0.96	Lamp	11	8,600	$ 20.00	$ 32.50	364,296	-	65
2006	234014	Lighting - Exterior >176w Incan Base HID	2,000	-	-	0.96	Fixture	16	200	$ 140.00	$ 144.00	384,058	-	-
2006	234015	Lighting - Exterior >176w Mer Vap Base HID	652	-	-	0.96	fixture	16	100	$ 100.00	$ 219.92	62,582	-	-
2006	234016	Lighting - Exterior 0-100w Incan Base HID	829.8857143	0	0	0.96	Fixture	16	30	$ 120.00	$ 144.00	23,901	-	-
2006	234017	Lighting - Exterior 0-100w Merc Vap Base HID	388.4571429	0	0	0.96	Fixture	16	10	$ 80.00	$ 144.00	3,729	-	-
2006	234018	Lighting - Exterior 101-175w Incan Base HID	1189	0	0	0.96	fixture	16	10	$ 120.00	$ 196.86	11,414	-	-
2006	234019	Lighting - Exterior 101-175W Merc Vap Base	477.25	0	0	0.96	Fixture	16	10	$ 80.00	$ 144.00	4,582	-	-
2006	234020	Lighting - Hardwire Incan Base >90 watt Fluorescent Fixture	1762.56	0	0.290304	0.96	Fixture	12	20	$ 150.00	$ 173.00	33,841	-	6
2006	234021	Lighting - Hardwire Incan Base 27-65 watt Fluorescent Fixture	513.398088	0	0.13006224	0.96	fixture	12	800	$ 40.00	$ 43.54	394,290	-	100

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	234022	Lighting - Hardwire Incan Base 66-90 watt Fluorescent Fixture	991.44	0	0.163296	0.96	Fixture	12	700	$ 100.00	$ 137.00	666,248	-	110
2006	234023	Lighting - Hardwire Merc Vap Base >90 watt Fluorescent Fixture	775.71	0	0.127764	0.96	Fixture	16	20	$ 120.00	$ 137.00	14,894	-	2
2006	234024	Lighting - Hardwire Merc Vap Base 27-65 watt Fluorescent Fixture	307.53	0	0.050652	0.96	Fixture	16	100	$ 40.00	$ 56.00	29,523	-	5
2006	234025	Lighting - Hardwire Merc Vap Base 66-90 watt Fluorescent Fixture	532.44	0	0.087696	0.96	Fixture	16	30	$ 80.00	$ 116.00	15,334	-	3
2006	234026	Lighting - Hardwired 14-26 watt CF Fixture	280.24304	0	0.04335408	0.96	fixture	12	800	$ 17.50	$ 21.34	215,227	-	33
2006	234027	Lighting - Hardwired 5-13 watt CF Fixture	102.6796176	0	0.02601245	0.96	fixture	12	100	$ 17.50	$ 17.88	9,857	-	2
2006	234028	Lighting - Induction Fixture >100 watts	884.45	0	0.13167	0.96	Lamp	16	15	$ 100.00	$ 290.00	12,736	-	2
2006	234029	Lighting - Induction Fixture 55-100 watts	1197	0	0.1782	0.96	Lamp	16	15	$ 70.00	$ 295.00	17,237	-	3
2006	234030	Lighting - Interior 0-35w Incan Base HID	228.25	0	0.03923333	0.96	Fixture	16	15	$ 40.00	$ 133.00	3,287	-	1
2006	234031	Lighting - Interior 0-35w Merc Vap Base HID	120.35	0	0.02068667	0.96	Fixture	16	15	$ 25.00	$ 60.00	1,733	-	0
2006	234032	Lighting - Interior 101-175w Incan Base HID	1354.555556	0	0.23846667	0.96	Fixture	16	10	$ 120.00	$ 287.00	13,004	-	2
2006	234033	Lighting - Interior 101-175w Merc Vap Base	375	$ -	$ 0.07	0.96	Fixture	16	10	$ 80.00	$ 287.00	3,597	-	1
2006	234034	Lighting - Interior 176-250w Incan Base HID	1,933	$ -	$ 0.36	0.96	Fixture	16	10	$ 120.00	$ 287.00	18,554	-	3
2006	234035	Lighting - Interior 176-250w Mer Vap Base HID	761	$ -	$ 0.14	0.96	Fixture	16	10	$ 100.00	$ 287.00	7,309	-	1
2006	234036	Lighting - Interior 251-400w Incan Base HID	2,799	$ -	$ 0.50	0.96	Fixture	16	100	$ 220.00	$ 287.00	268,671	-	48
2006	234037	Lighting - Interior 251-400w Merc Vap Base	2,132	$ -	$ 0.38	0.96	Fixture	16	100	$ 200.00	$ 287.00	204,682	-	37
2006	234038	Lighting - Interior 36-70w Incan Base HID (50 Watt metal halide)	444	$ -	$ 0.10	0.96	fixture	16	700	$ 50.00	$ 214.36	298,666	-	70
2006	234039	Lighting - Interior 36-70w Merc Vap Base	145	$ -	$ 0.02	0.96	Fixture	16	20	$ 30.00	$ 287.00	2,789	-	0
2006	234040	Lighting - Interior 71-100w Incan Base HID	793	$ -	$ 0.14	0.96	Fixture	16	20	$ 80.00	$ 287.00	15,230	-	3
2006	234041	Lighting - Interior 71-100w Merc Vap Base	149	$ -	$ 0.05	0.96	fixture	16	20	$ 40.00	$ 223.89	2,855	-	1
2006	234042	Lighting - Interior Pulse Start Metal Halide Fixtures	490	$ -	$ 0.09	0.96	Lamp	16	400	$ 100.00	$ 287.00	188,155	-	34
2006	234043	Lighting - Lamps controlled by Dimming Elec Ballasts	155	$ -	$ 0.02	0.96	Fixture	11	100	$ 20.00	$ 56.34	14,917	-	2

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	234044	Lighting - Lamps controlled by Non-Dimming Elec Ballasts	29	$ -	$ 0.00	0.96	Lamp	16	50	$ 5.00	$ 7.00	1,394	-	0
2006	234045	Lighting - LED Channel Signage Replacement-Indoor Red <=2 feet high	45	$ -	$ 0.01	0.96	LinearFt	16	500	$ 10.00	$ 18.00	21,360	-	4
2006	234046	Lighting - LED Channel Signage Replacement-Indoor Red >2 feet high	89	$ -	$ 0.02	0.96	LinearFt	16	500	$ 10.00	$ 33.00	42,720	-	8
2006	234047	Lighting - LED Channel Signage Replacement-Outdoor Red <=2 feet high	42	$ -	$ 0.01	0.96	LinearFt	16	200	$ 10.00	$ 18.00	7,968	-	1
2006	234048	Lighting - LED Channel Signage Replacement-Outdoor Red >2 feet high	83	$ -	$ 0.01	0.96	LinearFt	16	200	$ 10.00	$ 33.00	15,936	-	3
2006	234049	Lighting - LED Exit Sign New Sign	351	$ -	$ 0.04	0.96	Exit Sign	16	2500	$ 45.00	$ 65.44	843,146	-	102
2006	234050	Lighting - Photocell	106	$ -	$ -	0.96	Photo cell	8	20	$ 15.00	$ 59.81	2,043	-	-
2006	234051	Lighting - Remove 2 Ft T-8 (De Lamp)	128	$ -	$ 0.03	0.96	Lamp	11	100	$ 10.00	$ 19.00	12,288	-	2
2006	234052	Lighting - Remove 3 Ft T-8 (De Lamp)	183	$ -	$ 0.03	0.96	Lamp	11	50	$ 10.00	$ 19.00	8,765	-	2
2006	234053	Lighting - Remove 4 Ft T-8 (De Lamp)	79	$ -	$ 0.02	0.96	Fixture	11	19550	$ 15.00	$ 25.71	1,479,831	-	456
2006	234054	Lighting - Remove 8 Ft T-8 (De Lamp)	252	$ -	$ 0.05	0.96	Fixture	11	5500	$ 20.00	$ 25.91	1,331,199	-	288
2006	234055	Lighting - Screw in >27 Watt Lamp	367	$ -	$ 0.06	0.96	Bulb	1.8	6305	$ 4.25	$ 8.10	2,220,552	-	344
2006	234056	Lighting - Screw in 14-26 Watt Lamp	280	$ -	$ 0.04	0.96	Bulb	1.8	20300	$ 3.50	$ 7.08	5,461,376	-	845
2006	234057	Lighting - Screw in 5- 13 Watt Lamp	138	$ -	$ 0.02	0.96	Bulb	1.8	3700	$ 3.50	$ 4.98	488,662	-	76
2006	234058	Lighting - Time Clocks	474	$ -	$ -	0.96	Time Clock	8	25	$ 60.00	$ 239.89	11,382	-	-
2006	234059	Motors - VFD - HVAC Fans (per Hp)	753	$ -	$ -	0.96	HP	15	3115	$ 100.00	$ 202.00	2,251,771	-	-
2006	234060	Lighting - Occupancy Sensor - Plug Load	143	$ -	$ 0.05	0.96	Occupancy Sensor	10	50	$ 15.00	$ 82.25	6,880	-	2
2006	234061	Lighting - Occupancy Sensor - Wall/Ceiling Mounted Lighting Sensor	789	$ -	$ 0.38	0.96	Occupancy Sensor	8	1500	$ 75.00	$ 141.00	1,136,160	-	549
2006	234062	Lighting - Occupancy Sensor - Wallbox Lighting Sensor	214	$ -	$ 0.18	0.96	Occupancy Sensor	8	1500	$ 40.00	$ 42.28	307,813	-	254
2006	234063	Refrigeration - Anti-Sweat Heater Controls	343	$ -	$ 0.02	0.96	LinearFt	12	6000	$ 25.00	$ 56.00	1,975,680	-	127
2006	234067	Refrigeration - Food Service - Auto Closer for Main Cooler Doors	1,075	$ (0.05)	$ 0.21	0.96	Per cooler, Cooler	8	0	$ 75.00	$ 433.22	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	234068	Refrigeration - Food Service - Auto Closer for Main Freezer Doors	2,786	$ (0.03)	$ 0.28	0.96	Per freezer, Freezer	8	0	$ 75.00	$ 433.22	-	-	-
2006	234069	Refrigeration - Food Service - Evaporator Fan Controller for Walk-In	604	$ (0.01)	$ 0.08	0.96	Motor	16	500	$ 150.00	$ 145.75	290,078	(4)	39
2006	234076	Refrigeration - New Refrigeration Case w/Doors-Low Temperature Case	1,208	$ -	$ 0.12	0.96	LinearFt	16	1850	$ 200.00	$ 100.00	2,145,408	-	210
2006	234077	Refrigeration - New Refrigeration Case w/Doors-Medium Temperature Case	101	$ 18.90	$ 0.05	0.96	fixture linear ft, LinFt	12	1430	$ 150.00	$ 845.24	138,225	25,947	62
2006	234078	Refrigeration - New Refrigeration Case w/Doors-Special doors Low Temp	1,208	$ -	$ 0.22	0.96	LinearFt	16	400	$ 125.00	$ 700.00	463,872	-	84
2006	234079	Refrigeration - New Refrigeration Case w/Doors-Special doors with low/no ASH	749	$ -	$ 0.02	0.96	LinearFt	16	250	$ 75.00	$ 77.00	179,760	-	4
2006	234080	Refrigeration - Night Covers for Display Cases Low Temp	59	$ -	$ -	0.96	LinearFt	5	300	$ 9.00	$ 9.25	16,992	-	-
2006	234081	Refrigeration - Suction Line Insulation	18	$ -	$ -	0.96	LinearFt	11	500	$ 1.60	$ 1.72	8,832	-	-
2006	234082	Refrigeration - Vending Machine Controller	1,612	$ -	$ -	0.96	Vending Machine	10	1200	$ 125.00	$ 215.50	1,857,024	-	-
2006	234083	Refrigeration -Cooler/Freezer Door Gaskets - Glass Doors	105	$ -	$ 0.01	0.96	LinearFt	4	300	$ 4.00	$ 4.00	30,110	-	3
2006	234084	Refrigeration -Cooler/Freezer Door Gaskets - Solid Doors: Cooler	105	$ -	$ 0.01	0.96	LinearFt	4	300	$ 4.00	$ 4.00	30,110	-	3
2006	234085	Refrigeration -Strip Curtains for Walk-ins	465	$ -	$ 0.05	0.96	SqFt	4	700	$ 3.00	$ 3.05	312,480	-	36
2006	234086	Water Heating - Gas Storage Water Heater (per MBtuh)	-	$ 1.75	$ -	0.96	Mbtuh	15	4142	$ 2.00	$ 6.78	-	6,970	-
2006	234089	Water Heating -Instantaneous - Gas (per MBtuh)	-	$ 1.41	$ -	0.96	Mbtuh	20	4000	$ 2.00	$ (7.77)	-	5,414	-
2006	234090	Water Heating -Commercial Boiler	-	$ 1.44	$ -	0.96	Mbtuh	20	3500	$ 1.50	$ 3.57	-	4,832	-
2006	234091	Water Heating -Direct Contact Water Heater	-	$ 2.29	$ -	0.96	Mbtuh	20	3500	$ 2.00	$ 2.17	-	7,694	-
2006	234092	Water Heating -Process Boiler, Steam	-	$ 1.04	$ -	0.96	Mbtuh	20	3500	$ 2.00	$ 3.57	-	3,494	-
2006	234093	Water Heating -Process Boiler, Water	-	$ 1.04	$ -	0.96	Mbtuh	20	4500	$ 2.00	$ 3.57	-	4,493	-
2006	234095	Lighting- Ceramic Metal Halide Fixture	485	$ -	$ 0.10	0.96	Bulb	16	2500	$ 100.00	$ 214.36	1,163,635	-	251
2006	234104	Water Heating - Pre-rinse Spray Valves	-	$ 570.00	$ -	0.96	Unit	5	0	$ 30.00	$ 60.00	-	-	-
2006	234105	Heating - Infrared Film for Greenhouse	-	$ 0.05	$ -	0.96	Sqft	5	40000	$ 0.03	$ 0.03	-	1,882	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	234107	Connectionless Steamers Full load efficiency 50% or greater	6,620	$ -	$ 0.20	0.96	Unit	12	0	$ -	$ -	-	-	-
2006	234109	Lighting - Screw in 14-26 Watt Reflector Lamp	305	$ -	$ 0.05	0.96	Bulb	1.8	10000	$ 6.00	$ 6.47	2,924,275	-	452
2006	234110	Lighting - 4 Ft Premium T-8 with Elec. Ballast	16	$ -	$ 0.01	0.96	Fixture	11	6000	$ 10.00	$ 11.71	94,620	-	29
2006	234112	A/C - Reflective Window Film Desert	16	$ -	$ 0.00	0.96	SqFt	10	500	$ 3.00	$ 3.12	7,728	-	1
2006	234114	Other - Occupancy Sensor - Plug Load	143	$ -	$ 0.05	0.96	Occupancy Sensor	10	0	$ -	$ 82.25	-	-	-
2006	234115	Refrigeration - Night Covers for Display Cases Med Temp	14	$ 1.15	$ (0.00)	0.96	Ln Ft	5	200	$ 9.00	$ 37.54	2,610	220	(1)
2006	234116	Refrigeration -Cooler/Freezer Door Gaskets - Solid Doors: Freezer	105	$ -	$ 0.01	0.96	LinearFt	4	600	$ 4.00	$ 4.00	60,221	-	7
2006	234117	Refrigeration - Food Service - Auto Closer for Reach-In Freezer Doors	1,297	$ -	$ 0.18	0.96	Closer	8	0	$ -	$ 300.00	-	-	-
2006	234119	Lighting - High Output 4 or 6 Lamp T5 or T8 Fixture (High bay applications)	989	$ -	$ 0.18	0.96	Fixture	11	4000	$ 150.00	$ 250.00	3,796,992	-	681
2006	234120	Lighting - Occupancy Sensor - High-Bay Sensor	1,661	$ -	$ 0.39	0.96	Sensor	8	250	$ 60.00	$ 141.00	398,736	-	94
2006	234121	Water Heating -Commercial Pool Heater	-	$ 2.41	$ -	0.96	Mbtuh	5	1000	$ 2.00	$ 2.00	-	2,314	-
2006	234126	Refrigeration - Efficient Evap Fan Motor Electronically Commutated Motor (ECM)	116	$ (0.12)	$ 0.02	0.96	fixture linear ft, LinFt	15	1500	$ 150.00	$ 6.79	167,571	(166)	23
2006	234127	Refrigeration - Efficient Evap Fan Motor Permanent-Split Capacitor (PSC) Motor	450	$ (0.01)	$ 0.06	0.96	num motors	15	500	$ 100.00	$ 90.50	216,121	(3)	30
2006	234128	Refrigerator - Early Replacement	1,041	$ -	$ 0.14	0.96	Unit	6	400	$ 275.00	$ 272.00	399,582	-	52
2006	234129	Software Plug Load Sensors	227	$ -	$ -	0.96	Unit	5	1000	$ 15.00	$ 5.00	217,921	-	-
2006	234130	Torchiere	464	$ -	$ 0.09	0.96	Unit	16	50	$ 22.00	$ 22.63	22,291	-	4
2006	234131	High Efficiency Gas Fryer	-	$ 438.00	$ -	0.96	Fryer	12	0	$ -	$ 2,582.54	-	-	-
2006	234133	High Efficiency Gas Griddle	-	$ 219.00	$ -	0.96	Griddle	12	0	$ -	$ 2,102.31	-	-	-
2006	234134	Faucet Aerators	-	$ 5.00	$ -	0.96	Office	9	500	$ 1.10	$ 7.12	-	2,399	-
2006	234136	High Efficiency Copier	324	$ -	$ 0.04	0.96	Copy Machine	6	500	$ 100.00	$ 156.76	155,424	-	20
2006	234137	High Efficiency Electric Fryer	1,752	$ -	$ 0.00	0.96	Fryer	12	0	$ -	$ 8,761.89	-	-	-
2006	234138	Vending Machine Controller	387	$ -	$ -	0.96	Vending Machine	10	250	$ 95.00	$ 108.00	92,880	-	-
2006	234139	Residential Energy Star Clothes Washer in Commercial Application	-	$ 45.60	$ -	0.96	Clothes Washer	14	0	$ -	$ 592.77	-	-	-
2006	234140	Low Flow Showerhead	58	$ 6.66	$ 0.01	0.96	Showerhead	10	100	$ 20.00	$ 37.95	5,556	640	1

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	234146	Residential High Efficiency Water Heater in Commercial Application	-	$ 13.30	$ -	0.96	Hot Water Tank	13	100	$ 100.00	$ 175.30	-	1,277	-
2006	234147	Premium T8 with T12 34Watt Baseline	50	$ -	$ 0.01	0.96	Lamp	11	20000	$ 8.00	$ 12.70	956,160	-	165
2006	234148	Premium T8 with T12 40 Watt Baseline	75		$ 0.01	0.96	Lamp	11	140000	$ 12.00	$ 12.70	10,039,680	-	1,720
2006	234150	Tank Insulation - Low Temperature Applic. (LF) 2 in		$ 3.70		0.96	SquareFT	20	800	$ 3.00	$ 3.41	-	2,842	-
2006	234151	Tank Insulation - High Temperature Applic. (LF) 2 in		$ 10.40		0.96	SquareFT	20	800	$ 4.00	$ 3.41	-	7,987	-
2006	234152	Pipe Insulation - Hot Water Applic. (sq ft) 2 in		$ 2.90		0.96	LinearFt	20	800	$ 3.00	$ 9.22	-	2,227	-
2006	234153	Pipe Insulation - Low Pressure Steam Applic. (LF) 2 in		$ 14.30		0.96	LinearFT	20	850	$ 4.00	$ 9.22	-	11,669	-
2006	234154	Tank Insulation - Low Temperature Applic. (LF) 1 in		$ 3.40		0.96	SquareFT	20	850	$ 2.00	$ 2.58	-	2,774	-
2006	234155	Tank Insulation - High Temperature Applic. (LF) 1 in		$ 9.70		0.96	SquareFT	20	1000	$ 3.00	$ 2.58	-	9,312	-
2006	234156	Pipe Insulation - Hot Water Applic. (sq ft) 1 in		$ 2.60		0.96	LinearFt	20	1000	$ 2.00	$ 5.67	-	2,496	-
2006	234157	Pipe Insulation - Low Pressure Steam Applic. (LF) 1 in		$ 13.40		0.96	LinearFt	20	1000	$ 3.00	$ 5.67	-	12,864	-
2006	234161	Food Service - French Fryer-Electric	1,166	$ -	$ 0.20	0.96	per Unit	12	12	$ 400.00	$ 4,708.00	13,432	-	2
2006	234162	Food Service - Griddle-Electric	1,637	$ -	$ 0.40	0.96	per Unit	12	12	$ 600.00	$ 3,604.00	18,858	-	5
2006	234163	Food Service - Steamer-Electric	11,166	$ -	$ 2.50	0.96	per Unit	12	12	$ 1,500.00	$ 4,150.00	128,632	-	29
2006	234164	Food Service - Convection Oven-Electric	2,262	$ -	$ 0.50	0.96	per Unit	12	12	$ 700.00	$ 2,713.00	26,058	-	6
2006	234165	Food Service - Combination Oven-Electric	18,432	$ -	$ 4.20	0.96	per Unit	12	12	$ 2,000.00	$ 16,884.00	212,337	-	48
2006	234166	Food Service - Hot Food Holding Cabinet-Full-Size	2,190	$ -	$ 0.40	0.96	per Unit	12	12	$ 600.00	$ 3,153.00	25,229	-	5
2006	234167	Food Service - Hot Food Holding Cabinet-Three-Quarter Size	1,643	$ -	$ 0.30	0.96	per Unit	12	12	$ 500.00	$ 3,153.00	18,927	-	3
2006	234168	Food Service - Hot Food Holding Cabinet-Half-Size	1,095	$ -	$ 0.20	0.96	per Unit	12	12	$ 400.00	$ 3,153.00	12,614	-	2
2006	234169	Food Service - French Fryer-Gas	-	$ 505.00	$ -	0.96	per Unit	12	25	$ 750.00	$ 3,796.00	-	12,120	-
2006	234170	Food Service - Griddle-Gas	-	$ 88.00	$ -	0.96	per Unit	12	8	$ 125.00	$ 4,575.00	-	676	-
2006	234171	Food Service - Steamer-Gas	-	$ 2,084.00	$ -	0.96	per Unit	12	8	$ 1,500.00	$ 6,221.00	-	16,005	-
2006	234172	Food Service - Convection Oven-Gas	-	$ 323.00	$ -	0.96	per Unit	12	8	$ 500.00	$ 3,144.00	-	2,481	-
2006	234173	Food Service - Combination Oven-Gas	-	$ 403.00	$ -	0.96	per Unit	12	3	$ 750.00	$ 21,797.00	-	1,161	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	234174	Food Service - Ice Machine Air-Cooled 101-200	3,614	$ -	$ 0.41	0.96	per Unit	12	0	$ 600.00	$ 296.00	-	-	-
2006	234175	Food Service - Ice Machine Air-Cooled 201-300	2,281	$ -	$ 0.26	0.96	per Unit	12	13	$ 600.00	$ 312.00	28,470	-	3
2006	234176	Food Service - Ice Machine Air-Cooled 301-400	1,661	$ -	$ 0.19	0.96	per Unit	12	13	$ 600.00	$ 559.00	20,726	-	2
2006	234177	Food Service - Ice Machine Air-Cooled 401-500	2,464	$ -	$ 0.28	0.96	per Unit	12	0	$ 600.00	$ 981.00	-	-	-
2006	234178	Food Service - Ice Machine Air-Cooled 501-1000	3,011	$ -	$ 0.34	0.96	per Unit	12	13	$ 800.00	$ 1,485.00	37,580	-	4
2006	234179	Food Service - Ice Machine Air-Cooled 1001-1500	4,106	$ -	$ 0.47	0.96	per Unit	12	10	$ 1,000.00	$ 1,821.00	39,420	-	5
2006	234180	Food Service - Ice Machine Air-Cooled >1500	4,380	$ -	$ 0.50	0.96	per Unit	12	3	$ 1,000.00	$ 2,194.00	12,614	-	1
2006	234181	Food Service - Solid-Door Refrigerator 1-Door < 19	445	$ -	$ 0.05	0.96	per Unit	12	15	$ 100.00	$ 217.00	6,412	-	1
2006	234182	Food Service - Solid-Door Refrigerator 1-Door 19-30	650	$ -	$ 0.07	0.96	per Unit	12	15	$ 125.00	$ 1,825.00	9,356	-	1
2006	234183	Food Service - Solid-Door Refrigerator 2-Door 31-60	942	$ -	$ 0.11	0.96	per Unit	12	20	$ 175.00	$ 2,299.00	18,081	-	2
2006	234184	Food Service - Solid-Door Refrigerator 3-Door 61-90	1,351	$ -	$ 0.15	0.96	per Unit	12	10	$ 250.00	$ 2,849.00	12,965	-	1
2006	234185	Food Service - Solid-Door Freezer 1-Door < 19	588	$ -	$ 0.07	0.96	per Unit	12	0	$ 150.00	$ 741.00	-	-	-
2006	234186	Food Service - Solid-Door Freezer 1-Door 19-30	1,201	$ -	$ 0.14	0.96	per Unit	12	30	$ 250.00	$ 747.00	34,584	-	4
2006	234187	Food Service - Solid-Door Freezer 2-Door 31-60	2,077	$ -	$ 0.24	0.96	per Unit	12	30	$ 375.00	$ 1,067.00	59,813	-	7
2006	234188	Food Service - Solid-Door Freezer 3-Door 61-90	3,303	$ -	$ 0.38	0.96	per Unit	12	30	$ 550.00	$ 2,324.00	95,134	-	11
2006	234189	Food Service - Glass-Door Refrigerator Tier I 1-Door < 19	712	$ -	$ 0.08	0.96	per Unit	12	30	$ 150.00	$ 392.00	20,498	-	2
2006	234190	Food Service - Glass-Door Refrigerator Tier I 1-Door 19-30	977	$ -	$ 0.11	0.96	per Unit	12	30	$ 175.00	$ 624.00	28,151	-	3
2006	234191	Food Service - Glass-Door Refrigerator Tier I 2-Door 31-60	1,357	$ -	$ 0.15	0.96	per Unit	12	30	$ 200.00	$ 1,839.00	39,084	-	4
2006	234192	Food Service - Glass-Door Refrigerator Tier I 3-Door 61-90	1,889	$ -	$ 0.22	0.96	per Unit	12	20	$ 300.00	$ 266.00	36,259	-	4
2006	234193	Food Service - Glass-Door Refrigerator Tier II 1-Door < 19	1,183	$ -	$ 0.14	0.96	per Unit	12	20	$ 150.00	$ 1,412.00	22,706	-	3
2006	234194	Food Service - Glass-Door Refrigerator Tier II 1-Door 19-30	1,622	$ -	$ 0.19	0.96	per Unit	12	0	$ 200.00	$ 2,793.00	-	-	-
2006	234195	Food Service - Glass-Door Refrigerator Tier II 2-Door 31-60	2,250	$ -	$ 0.26	0.96	per Unit	12	20	$ 300.00	$ 1,839.00	43,197	-	5

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	234196	Food Service - Glass-Door Refrigerator Tier II 3-Door 61-90	3,129	$ -	$ 0.36	0.96	per Unit	12	0	$ 400.00	$ 1,883.00	-	-	-
2006	234197	Lighting - Cold Cathode Fluorescent Lamp	60		$ 0.01	0.96	Bulb	5	600	$ 1.75	$ 1.81	34,560	-	5
2006	234198	Energy Star Clothes Washer - 3.5 cf Tier I MEF = 1.42	129	$ 49.30	$ 0.05	0.96	Clothes Washer, CWasher	10	50	$ 35.00	$ 246.14	6,191	2,366	2
2006	234199	Energy Star Clothes Washer - 3.5 cf Tier II MEF = 1.60	143	$ 54.80	$ 0.06	0.96	Clothes Washer, CWasher	10	50	$ 75.00	$ 853.00	6,886	2,630	3
2006	234200	Energy Star Clothes Washer - 3.5 cf Tier III MEF = 1.80	164	$ 62.78	$ 0.07	0.96	Clothes Washer, CWasher	10	50	$ 100.00	$ 764.92	7,889	3,013	3
2007	234002	A/C - Reflective Window Film Coastal	12	$ -	$ 0.00	0.96	SqFt	10	8000	$ 2.00	$ 3.12	95,539	-	18
2007	234003	A/C - Reflective Window Film Inland	15	$ -	$ 0.00	0.96	SqFt	10	40000	$ 2.00	$ 3.12	586,368	-	88
2007	234005	Agriculture - Low Pressure Sprinkler Nozzles (per nozzle)	8	$ -	$ 0.01	0.96	Nozzle	4	20	$ 1.15	$ 0.59	144	-	0
2007	234006	Agriculture - Sprinkler to Drip Irrigation (per acre)	439	$ -	$ 0.20	0.96	Acre of land	20	100	$ 75.00	$ 1,000.00	42,120	-	19
2007	234007	Heating - Greenhouse Heat Curtain	-	$ 0.39	$ -	0.96	Sqft	5	400000	$ 0.30	$ 0.49	-	149,760	-
2007	234008	Heating - Space Heating Boilers - Hot Water	-	$ 1.08	$ -	0.96	Mbtuh	20	1000	$ 1.00	$ 3.57	-	1,032	-
2007	234009	Heating - Space Heating Boilers - Large	-	$ 1.08	$ -	0.96	Mbtuh	20	1000	$ 1.00	$ 3.57	-	1,032	-
2007	234010	Heating - Space Heating Boilers - Steam	-	$ 1.08	$ -	0.96	Mbtuh	20	1000	$ 1.00	$ 3.57	-	1,032	-
2007	234011	Lighting - 2 Ft 2nd Gen. T-8 with Elec. Ballast	44	$ -	$ 0.01	0.96	Lamp	11	850	$ 10.00	$ 21.00	35,904	-	7
2007	234012	Lighting - 3 Ft 2nd Gen. T-8 with Elec. Ballast	54	$ -	$ 0.01	0.96	Lamp	11	100	$ 10.00	$ 21.00	5,179	-	1
2007	234013	Lighting - 8 Ft T-8 with Elec. Ballast	44	$ -	$ 0.01	0.96	Lamp	11	8500	$ 20.00	$ 32.50	360,060	-	64
2007	234014	Lighting - Exterior >176w Incan Base HID	2,000	$ -	$ -	0.96	Fixture	16	200	$ 140.00	$ 144.00	384,058	-	-
2007	234015	Lighting - Exterior >176w Mer Vap Base HID	652	$ -	$ -	0.96	fixture	16	100	$ 100.00	$ 219.92	62,582	-	-
2007	234016	Lighting - Exterior 0-100w Incan Base HID	830	$ -	$ -	0.96	Fixture	16	30	$ 120.00	$ 144.00	23,901	-	-
2007	234017	Lighting - Exterior 0-100w Merc Vap Base HID	388	$ -	$ -	0.96	Fixture	16	10	$ 80.00	$ 144.00	3,729	-	-
2007	234018	Lighting - Exterior 101-175w Incan Base HID	1,189	$ -	$ -	0.96	fixture	16	10	$ 120.00	$ 196.86	11,414	-	-
2007	234019	Lighting - Exterior 101-175W Merc Vap Base	477	$ -	$ -	0.96	Fixture	16	10	$ 80.00	$ 144.00	4,582	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	234020	Lighting - Hardwire Incan Base >90 watt Fluorescent Fixture	1,763	$ -	$ 0.29	0.96	Fixture	12	20	$ 150.00	$ 173.00	33,841	-	6
2007	234021	Lighting - Hardwire Incan Base 27-65 watt Fluorescent Fixture	513	$ -	$ 0.13	0.96	fixture	12	800	$ 40.00	$ 43.54	394,290	-	100
2007	234022	Lighting - Hardwire Incan Base 66-90 watt Fluorescent Fixture	991	$ -	$ 0.16	0.96	Fixture	12	700	$ 100.00	$ 137.00	666,248	-	110
2007	234023	Lighting - Hardwire Merc Vap Base >90 watt Fluorescent Fixture	776	$ -	$ 0.13	0.96	Fixture	16	20	$ 120.00	$ 137.00	14,894	-	2
2007	234024	Lighting - Hardwire Merc Vap Base 27-65 watt Fluorescent Fixture	308	$ -	$ 0.05	0.96	Fixture	16	100	$ 40.00	$ 56.00	29,523	-	5
2007	234025	Lighting - Hardwire Merc Vap Base 66-90 watt Fluorescent Fixture	532	$ -	$ 0.09	0.96	Fixture	16	30	$ 80.00	$ 116.00	15,334	-	3
2007	234026	Lighting - Hardwired 14-26 watt CF Fixture	280	$ -	$ 0.04	0.96	fixture	12	800	$ 17.50	$ 21.34	215,227	-	33
2007	234027	Lighting - Hardwired 5-13 watt CF Fixture	103	$ -	$ 0.03	0.96	fixture	12	100	$ 17.50	$ 17.88	9,857	-	2
2007	234028	Lighting - Induction Fixture >100 watts	884	$ -	$ 0.13	0.96	Lamp	16	15	$ 100.00	$ 290.00	12,736	-	2
2007	234029	Lighting - Induction Fixture 55-100 watts	1,197	$ -	$ 0.18	0.96	Lamp	16	15	$ 70.00	$ 295.00	17,237	-	3
2007	234030	Lighting - Interior 0-35w Incan Base HID	228	$ -	$ 0.04	0.96	Fixture	16	15	$ 40.00	$ 133.00	3,287	-	1
2007	234031	Lighting - Interior 0-35w Merc Vap Base HID	120	$ -	$ 0.02	0.96	Fixture	16	15	$ 25.00	$ 60.00	1,733	-	0
2007	234032	Lighting - Interior 101-175w Incan Base HID	1,355	$ -	$ 0.24	0.96	Fixture	16	10	$ 120.00	$ 287.00	13,004	-	2
2007	234033	Lighting - Interior 101-175w Merc Vap Base	375	$ -	$ 0.07	0.96	Fixture	16	10	$ 80.00	$ 287.00	3,597	-	1
2007	234034	Lighting - Interior 176-250w Incan Base HID	1,933	$ -	$ 0.36	0.96	Fixture	16	10	$ 120.00	$ 287.00	18,554	-	3
2007	234035	Lighting - Interior 176-250w Mer Vap Base HID	761	$ -	$ 0.14	0.96	Fixture	16	10	$ 100.00	$ 287.00	7,309	-	1
2007	234036	Lighting - Interior 251-400w Incan Base HID	2,799	$ -	$ 0.50	0.96	Fixture	16	100	$ 220.00	$ 287.00	268,671	-	48
2007	234037	Lighting - Interior 251-400w Merc Vap Base	2,132	$ -	$ 0.38	0.96	Fixture	16	100	$ 200.00	$ 287.00	204,682	-	37
2007	234038	Lighting - Interior 36-70w Incan Base HID (50 Watt metal halide)	444	$ -	$ 0.10	0.96	fixture	16	700	$ 50.00	$ 214.36	298,666	-	70
2007	234039	Lighting - Interior 36-70w Merc Vap Base	145	$ -	$ 0.02	0.96	Fixture	16	20	$ 30.00	$ 287.00	2,789	-	0
2007	234040	Lighting - Interior 71-100w Incan Base HID	793	$ -	$ 0.14	0.96	Fixture	16	20	$ 80.00	$ 287.00	15,230	-	3
2007	234041	Lighting - Interior 71-100w Merc Vap Base	149	$ -	$ 0.05	0.96	fixture	16	20	$ 40.00	$ 223.89	2,855	-	1

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	234042	Lighting - Interior Pulse Start Metal Halide Fixtures	490	$ -	$ 0.09	0.96	Lamp	16	400	$ 100.00	$ 287.00	188,155	-	34
2007	234043	Lighting - Lamps controlled by Dimming Elec Ballasts	155	$ -	$ 0.02	0.96	Fixture	11	100	$ 20.00	$ 56.34	14,917	-	2
2007	234044	Lighting - Lamps controlled by Non-Dimming Elec Ballasts	29	$ -	$ 0.00	0.96	Lamp	16	50	$ 5.00	$ 7.00	1,394	-	0
2007	234045	Lighting - LED Channel Signage Replacement-Indoor Red <=2 feet high	45	$ -	$ 0.01	0.96	LinearFt	16	500	$ 10.00	$ 18.00	21,360	-	4
2007	234046	Lighting - LED Channel Signage Replacement-Indoor Red >2 feet high	89	$ -	$ 0.02	0.96	LinearFt	16	500	$ 10.00	$ 33.00	42,720	-	8
2007	234047	Lighting - LED Channel Signage Replacement-Outdoor Red <=2 feet high	42	$ -	$ 0.01	0.96	LinearFt	16	200	$ 10.00	$ 18.00	7,968	-	1
2007	234048	Lighting - LED Channel Signage Replacement-Outdoor Red >2 feet high	83	$ -	$ 0.01	0.96	LinearFt	16	200	$ 10.00	$ 33.00	15,936	-	3
2007	234049	Lighting - LED Exit Sign New Sign	351	$ -	$ 0.04	0.96	Exit Sign	16	2000	$ 45.00	$ 65.44	674,517	-	82
2007	234050	Lighting - Photocell	106	$ -	$ -	0.96	Photo cell	8	20	$ 15.00	$ 59.81	2,043	-	-
2007	234051	Lighting - Remove 2 Ft T-8 (De Lamp)	128	$ -	$ 0.03	0.96	Lamp	11	100	$ 10.00	$ 19.00	12,288	-	2
2007	234052	Lighting - Remove 3 Ft T-8 (De Lamp)	183	$ -	$ 0.03	0.96	Lamp	11	50	$ 10.00	$ 19.00	8,765	-	2
2007	234053	Lighting - Remove 4 Ft T-8 (De Lamp)	79	$ -	$ 0.02	0.96	Fixture	11	28000	$ 15.00	$ 25.71	2,119,451	-	653
2007	234054	Lighting - Remove 8 Ft T-8 (De Lamp)	252	$ -	$ 0.05	0.96	Fixture	11	6000	$ 20.00	$ 25.91	1,452,217	-	314
2007	234055	Lighting - Screw in >27 Watt Lamp	367	$ -	$ 0.06	0.96	Bulb	1.8	6305	$ 4.25	$ 8.10	2,220,552	-	344
2007	234056	Lighting - Screw in 14-26 Watt Lamp	280	$ -	$ 0.04	0.96	Bulb	1.8	20800	$ 3.50	$ 7.08	5,595,893	-	866
2007	234057	Lighting - Screw in 5- 13 Watt Lamp	138	$ -	$ 0.02	0.96	Bulb	1.8	3700	$ 3.50	$ 4.98	488,662	-	76
2007	234058	Lighting - Time Clocks	474	$ -	$ -	0.96	Time Clock	8	25	$ 60.00	$ 239.89	11,382	-	-
2007	234059	Motors - VFD - HVAC Fans (per Hp)	753	$ -	$ -	0.96	HP	15	6200	$ 100.00	$ 202.00	4,481,856	-	-
2007	234060	Lighting - Occupancy Sensor - Plug Load	143	$ -	$ 0.05	0.96	Occupancy Sensor	10	50	$ 15.00	$ 82.25	6,880	-	2
2007	234061	Lighting - Occupancy Sensor - Wall/Ceiling Mounted Lighting Sensor	789	$ -	$ 0.38	0.96	Occupancy Sensor	8	1500	$ 75.00	$ 141.00	1,136,160	-	549
2007	234062	Lighting - Occupancy Sensor - Wallbox Lighting Sensor	214	$ -	$ 0.18	0.96	Occupancy Sensor	8	1500	$ 40.00	$ 42.28	307,813	-	254

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	234063	Refrigeration - Anti-Sweat Heater Controls	343	$ -	$ 0.02	0.96	LinearFt	12	6000	$ 25.00	$ 56.00	1,975,680	-	127
2007	234067	Refrigeration - Food Service - Auto Closer for Main Cooler Doors	1,075	$ (0.05)	$ 0.21	0.96	Per cooler, Cooler	8	0	$ 75.00	$ 433.22	-	-	-
2007	234068	Refrigeration - Food Service - Auto Closer for Main Freezer Doors	2,786	$ (0.03)	$ 0.28	0.96	Per freezer, Freezer	8	0	$ 75.00	$ 433.22	-	-	-
2007	234069	Refrigeration - Food Service - Evaporator Fan Controller for Walk-In	604	$ (0.01)	$ 0.08	0.96	Motor	16	500	$ 150.00	$ 145.75	290,078	(4)	39
2007	234076	Refrigeration - New Refrigeration Case w/Doors-Low Temperature Case	1,208	$ -	$ 0.12	0.96	LinearFt	16	1850	$ 200.00	$ 100.00	2,145,408	-	210
2007	234077	Refrigeration - New Refrigeration Case w/Doors-Medium Temperature Case	101	$ 18.90	$ 0.05	0.96	fixture linear ft, LinFt	12	1000	$ 150.00	$ 845.24	96,661	18,145	44
2007	234078	Refrigeration - New Refrigeration Case w/Doors-Special doors Low Temp	1,208	$ -	$ 0.22	0.96	LinearFt	16	400	$ 200.00	$ 700.00	463,872	-	84
2007	234079	Refrigeration - New Refrigeration Case w/Doors-Special doors with low/no ASH	749	$ -	$ 0.02	0.96	LinearFt	16	250	$ 175.00	$ 77.00	179,760	-	4
2007	234080	Refrigeration - Night Covers for Display Cases Low Temp	59	$ -	$ -	0.96	LinearFt	5	300	$ 9.00	$ 9.25	16,992	-	-
2007	234081	Refrigeration - Suction Line Insulation	18	$ -	$ -	0.96	LinearFt	11	500	$ 1.60	$ 1.72	8,832	-	-
2007	234082	Refrigeration - Vending Machine Controller	1,612	$ -	$ -	0.96	Vending Machine	10	1200	$ 125.00	$ 215.50	1,857,024	-	-
2007	234083	Refrigeration -Cooler/Freezer Door Gaskets - Glass Doors	105	$ -	$ 0.01	0.96	LinearFt	4	300	$ 4.00	$ 4.00	30,110	-	3
2007	234084	Refrigeration -Cooler/Freezer Door Gaskets - Solid Doors: Cooler	105	$ -	$ 0.01	0.96	LinearFt	4	300	$ 4.00	$ 4.00	30,110	-	3
2007	234085	Refrigeration -Strip Curtains for Walk-ins	465	$ -	$ 0.05	0.96	SqFt	4	700	$ 3.00	$ 3.05	312,480	-	36
2007	234086	Water Heating - Gas Storage Water Heater (per MBtuh)	-	$ 1.75	$ -	0.96	Mbtuh	15	4142	$ 2.00	$ 6.78	-	6,970	-
2007	234089	Water Heating -Instantaneous - Gas (per MBtuh)	-	$ 1.41	$ -	0.96	Mbtuh	20	4000	$ 2.00	$ (7.77)	-	5,414	-
2007	234090	Water Heating -Commercial Boiler	-	$ 1.44	$ -	0.96	Mbtuh	20	3500	$ 1.50	$ 3.57	-	4,832	-
2007	234091	Water Heating -Direct Contact Water Heater	-	$ 2.29	$ -	0.96	Mbtuh	20	3500	$ 2.00	$ 2.17	-	7,694	-
2007	234092	Water Heating -Process Boiler, Steam	-	$ 1.04	$ -	0.96	Mbtuh	20	3500	$ 2.00	$ 3.57	-	3,494	-
2007	234093	Water Heating -Process Boiler, Water	-	$ 1.04	$ -	0.96	Mbtuh	20	4500	$ 2.00	$ 3.57	-	4,493	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	234095	Lighting- Ceramic Metal Halide Fixture	485	$ -	$ 0.10	0.96	Bulb	16	3000	$ 100.00	$ 214.36	1,396,362	-	302
2007	234104	Water Heating - Pre-rinse Spray Valves	-	$ 570.00	$ -	0.96	Unit	5	0	$ 30.00	$ 60.00	-	-	-
2007	234105	Heating - Infrared Film for Greenhouse	-	$ 0.05	$ -	0.96	Sqft	5	185000	$ 0.03	$ 0.03	-	8,702	-
2007	234107	Connectionless Steamers Full load efficiency 50% or greater	6,620	$ -	$ 0.20	0.96	Unit	12	0	$ -	$ -	-	-	-
2007	234109	Lighting - Screw in 14-26 Watt Reflector Lamp	305	$ -	$ 0.05	0.96	Bulb	1.8	10000	$ 6.00	$ 6.47	2,924,275	-	452
2007	234110	Lighting - 4 Ft Premium T-8 with Elec. Ballast	16	$ -	$ 0.01	0.96	Fixture	11	7500	$ 10.00	$ 11.71	118,274	-	36
2007	234112	A/C - Reflective Window Film Desert	16	$ -	$ 0.00	0.96	SqFt	10	500	$ 3.00	$ 3.12	7,728	-	1
2007	234114	Other - Occupancy Sensor - Plug Load	143	$ -	$ 0.05	0.96	Occupancy Sensor	10	0	$ -	$ 82.25	-	-	-
2007	234115	Refrigeration - Night Covers for Display Cases Med Temp	14	$ 1.15	$ (0.00)	0.96	Ln Ft	5	200	$ 9.00	$ 37.54	2,610	220	(1)
2007	234116	Refrigeration -Cooler/Freezer Door Gaskets - Solid Doors: Freezer	105	$ -	$ 0.01	0.96	LinearFt	4	600	$ 4.00	$ 4.00	60,221	-	7
2007	234117	Refrigeration - Food Service - Auto Closer for Reach-In Freezer Doors	1,297	$ -	$ 0.18	0.96	Closer	8	0	$ -	$ 300.00	-	-	-
2007	234119	Lighting - High Output 4 or 6 Lamp T5 or T8 Fixture (High bay applications)	989	$ -	$ 0.18	0.96	Fixture	11	4000	$ 150.00	$ 250.00	3,796,992	-	681
2007	234120	Lighting - Occupancy Sensor - High-Bay Sensor	1,661	$ -	$ 0.39	0.96	Sensor	8	250	$ 60.00	$ 141.00	398,736	-	94
2007	234121	Water Heating -Commercial Pool Heater	-	$ 2.41	$ -	0.96	Mbtuh	5	1000	$ 22.00	$ 2.00	-	2,314	-
2007	234126	Refrigeration - Efficient Evap Fan Motor Electronically Commutated Motor (ECM)	116	$ (0.12)	$ 0.02	0.96	fixture linear ft, LinFt	15	1500	$ 150.00	$ 6.79	167,571	(166)	23
2007	234127	Refrigeration - Efficient Evap Fan Motor Permanent-Split Capacitor (PSC) Motor	450	$ (0.01)	$ 0.06	0.96	num motors	15	500	$ 100.00	$ 90.50	216,121	(3)	30
2007	234128	Refrigerator - Early Replacement	1,041	$ -	$ 0.14	0.96	Unit	6	400	$ 275.00	$ 272.00	399,582	-	52
2007	234129	Software Plug Load Sensors	227	$ -	$ -	0.96	Unit	5	1000	$ 15.00	$ 5.00	217,921	-	-
2007	234130	Torchiere	464	$ -	$ 0.09	0.96	Unit	16	50	$ 22.00	$ 22.63	22,291	-	4
2007	234131	High Efficiency Gas Fryer	-	$ 438.00	$ -	0.96	Fryer	12	0	$ -	$ 2,582.54	-	-	-
2007	234133	High Efficiency Gas Griddle	-	$ 219.00	$ -	0.96	Griddle	12	0	$ -	$ 2,102.31	-	-	-
2007	234134	Faucet Aerators	-	$ 5.00	$ -	0.96	Office	9	500	$ 1.10	$ 7.12	-	2,399	-
2007	234136	High Efficiency Copier	324	$ -	$ 0.04	0.96	Copy Machine	6	1474	$ 100.00	$ 156.76	458,190	-	58
2007	234137	High Efficiency Electric Fryer	1,752	$ -	$ 0.00	0.96	Fryer	12	0	$ -	$ 8,761.89	-	-	-
2007	234138	Vending Machine Controller	387	$ -	$ -	0.96	Vending Machine	10	250	$ 95.00	$ 108.00	92,880	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	234139	Residential Energy Star Clothes Washer in Commercial Application	-	$ 45.60	$ -	0.96	Clothes Washer	14	0	$ -	$ 592.77	-	-	-
2007	234140	Low Flow Showerhead	58	$ 6.66	$ 0.01	0.96	Showerhead	10	100	$ 20.00	$ 37.95	5,556	640	1
2007	234146	Residential High Efficiency Water Heater in Commercial Application	-	$ 13.30	$ -	0.96	Hot Water Tank	13	100	$ 100.00	$ 175.30	-	1,277	-
2007	234147	Premium T8 with T12 34Watt Baseline	50	$ -	$ 0.01	0.96	Lamp	11	40000	$ 8.00	$ 12.70	1,912,320	-	330
2007	234148	Premium T8 with T12 40 Watt Baseline	75		$ 0.01	0.96	Lamp	11	115000	$ 12.00	$ 12.70	8,246,880	-	1,413
2007	234150	Tank Insulation - Low Temperature Applic. (LF) 2 in		$ 3.70		0.96	SquareFT	20	2000	$ 3.00	$ 3.41	-	7,104	-
2007	234151	Tank Insulation - High Temperature Applic. (LF) 2 in		$ 10.40		0.96	SquareFT	20	2000	$ 4.00	$ 3.41	-	19,968	-
2007	234152	Pipe Insulation - Hot Water Applic. (sq ft) 2 in		$ 2.90		0.96	LinearFt	20	1000	$ 3.00	$ 9.22	-	2,784	-
2007	234153	Pipe Insulation - Low Pressure Steam Applic. (LF) 2 in		$ 14.30		0.96	LinearFT	20	1000	$ 4.00	$ 9.22	-	13,728	-
2007	234154	Tank Insulation - Low Temperature Applic. (LF) 1 in		$ 3.40		0.96	SquareFT	20	1000	$ 2.00	$ 2.58	-	3,264	-
2007	234155	Tank Insulation - High Temperature Applic. (LF) 1 in		$ 9.70		0.96	SquareFT	20	1000	$ 3.00	$ 2.58	-	9,312	-
2007	234156	Pipe Insulation - Hot Water Applic. (sq ft) 1 in		$ 2.60		0.96	LinearFt	20	1000	$ 2.00	$ 5.67	-	2,496	-
2007	234157	Pipe Insulation - Low Pressure Steam Applic. (LF) 1 in		$ 13.40		0.96	LinearFt	20	1000	$ 3.00	$ 5.67	-	12,864	-
2007	234161	Food Service - French Fryer-Electric	1,166	$ -	$ 0.20	0.96	per Unit	12	22	$ 400.00	$ 4,708.00	24,626	-	4
2007	234162	Food Service - Griddle-Electric	1,637	$ -	$ 0.40	0.96	per Unit	12	22	$ 600.00	$ 3,604.00	34,573	-	8
2007	234163	Food Service - Steamer-Electric	11,166	$ -	$ 2.50	0.96	per Unit	12	22	$ 1,500.00	$ 4,150.00	235,826	-	53
2007	234164	Food Service - Convection Oven-Electric	2,262	$ -	$ 0.50	0.96	per Unit	12	22	$ 700.00	$ 2,713.00	47,773	-	11
2007	234165	Food Service - Combination Oven-Electric	18,432	$ -	$ 4.20	0.96	per Unit	12	22	$ 2,000.00	$ 16,884.00	389,284	-	89
2007	234166	Food Service - Hot Food Holding Cabinet-Full-Size	2,190	$ -	$ 0.40	0.96	per Unit	12	22	$ 600.00	$ 3,153.00	46,253	-	8
2007	234167	Food Service - Hot Food Holding Cabinet-Three-Quarter Size	1,643	$ -	$ 0.30	0.96	per Unit	12	22	$ 500.00	$ 3,153.00	34,700	-	6
2007	234168	Food Service - Hot Food Holding Cabinet-Half-Size	1,095	$ -	$ 0.20	0.96	per Unit	12	22	$ 400.00	$ 3,153.00	23,126	-	4
2007	234169	Food Service - French Fryer-Gas	-	$ 505.00	$ -	0.96	per Unit	12	45	$ 750.00	$ 3,796.00	-	21,816	-
2007	234170	Food Service - Griddle-Gas	-	$ 88.00	$ -	0.96	per Unit	12	10	$ 125.00	$ 4,575.00	-	845	-
2007	234171	Food Service - Steamer-Gas	-	$ 2,084.00	$ -	0.96	per Unit	12	20	$ 1,500.00	$ 6,221.00	-	40,013	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	234172	Food Service - Convection Oven-Gas	-	$ 323.00	$ -	0.96	per Unit	12	20	$ 500.00	$ 3,144.00	-	6,202	-
2007	234173	Food Service - Combination Oven-Gas	-	$ 403.00	$ -	0.96	per Unit	12	10	$ 750.00	$ 21,797.00	-	3,869	-
2007	234174	Food Service - Ice Machine Air-Cooled 101-200	3,614	$ -	$ 0.41	0.96	per Unit	12	0	$ 600.00	$ 296.00	-	-	-
2007	234175	Food Service - Ice Machine Air-Cooled 201-300	2,281	$ -	$ 0.26	0.96	per Unit	12	13	$ 600.00	$ 312.00	28,470	-	3
2007	234176	Food Service - Ice Machine Air-Cooled 301-400	1,661	$ -	$ 0.19	0.96	per Unit	12	18	$ 600.00	$ 559.00	28,698	-	3
2007	234177	Food Service - Ice Machine Air-Cooled 401-500	2,464	$ -	$ 0.28	0.96	per Unit	12	0	$ 600.00	$ 981.00	-	-	-
2007	234178	Food Service - Ice Machine Air-Cooled 501-1000	3,011	$ -	$ 0.34	0.96	per Unit	12	18	$ 800.00	$ 1,485.00	52,034	-	6
2007	234179	Food Service - Ice Machine Air-Cooled 1001-1500	4,106	$ -	$ 0.47	0.96	per Unit	12	10	$ 1,000.00	$ 1,821.00	39,420	-	5
2007	234180	Food Service - Ice Machine Air-Cooled >1500	4,380	$ -	$ 0.50	0.96	per Unit	12	10	$ 1,000.00	$ 2,194.00	42,048	-	5
2007	234181	Food Service - Solid-Door Refrigerator 1-Door < 19	445	$ -	$ 0.05	0.96	per Unit	12	15	$ 100.00	$ 217.00	6,412	-	1
2007	234182	Food Service - Solid-Door Refrigerator 1-Door 19-30	650	$ -	$ 0.07	0.96	per Unit	12	15	$ 125.00	$ 1,825.00	9,356	-	1
2007	234183	Food Service - Solid-Door Refrigerator 2-Door 31-60	942	$ -	$ 0.11	0.96	per Unit	12	20	$ 175.00	$ 2,299.00	18,081	-	2
2007	234184	Food Service - Solid-Door Refrigerator 3-Door 61-90	1,351	$ -	$ 0.15	0.96	per Unit	12	10	$ 250.00	$ 2,849.00	12,965	-	1
2007	234185	Food Service - Solid-Door Freezer 1-Door < 19	588	$ -	$ 0.07	0.96	per Unit	12	0	$ 150.00	$ 741.00	-	-	-
2007	234186	Food Service - Solid-Door Freezer 1-Door 19-30	1,201	$ -	$ 0.14	0.96	per Unit	12	25	$ 250.00	$ 747.00	28,820	-	3
2007	234187	Food Service - Solid-Door Freezer 2-Door 31-60	2,077	$ -	$ 0.24	0.96	per Unit	12	25	$ 375.00	$ 1,067.00	49,844	-	6
2007	234188	Food Service - Solid-Door Freezer 3-Door 61-90	3,303	$ -	$ 0.38	0.96	per Unit	12	25	$ 550.00	$ 2,324.00	79,278	-	9
2007	234189	Food Service - Glass-Door Refrigerator Tier I 1-Door < 19	712	$ -	$ 0.08	0.96	per Unit	12	30	$ 150.00	$ 392.00	20,498	-	2
2007	234190	Food Service - Glass-Door Refrigerator Tier I 1-Door 19-30	977	$ -	$ 0.11	0.96	per Unit	12	30	$ 175.00	$ 624.00	28,151	-	3
2007	234191	Food Service - Glass-Door Refrigerator Tier I 2-Door 31-60	1,357	$ -	$ 0.15	0.96	per Unit	12	30	$ 200.00	$ 1,839.00	39,084	-	4
2007	234192	Food Service - Glass-Door Refrigerator Tier I 3-Door 61-90	1,889	$ -	$ 0.22	0.96	per Unit	12	30	$ 300.00	$ 266.00	54,389	-	6
2007	234193	Food Service - Glass-Door Refrigerator Tier II 1-Door < 19	1,183	$ -	$ 0.14	0.96	per Unit	12	30	$ 150.00	$ 1,412.00	34,059	-	4

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	234194	Food Service - Glass-Door Refrigerator Tier II 1-Door 19-30	1,622	$ -	$ 0.19	0.96	per Unit	12	0	$ 200.00	$ 2,793.00	-	-	-
2007	234195	Food Service - Glass-Door Refrigerator Tier II 2-Door 31-60	2,250	$ -	$ 0.26	0.96	per Unit	12	30	$ 300.00	$ 1,839.00	64,796	-	7
2007	234196	Food Service - Glass-Door Refrigerator Tier II 3-Door 61-90	3,129	$ -	$ 0.36	0.96	per Unit	12	0	$ 400.00	$ 1,883.00	-	-	-
2007	234197	Lighting - Cold Cathode Fluorescent Lamp	60		$ 0.01	0.96	Bulb	5	600	$ 1.75	$ 1.81	34,560	-	5
2007	234199	Energy Star Clothes Washer - 3.5 cf Tier II MEF = 1.60	29	$ 11.09	$ 0.01	0.96	Clothes Washer, CWasher	10	50	$ 35.00	$ 606.86	1,393	532	1
2007	234200	Energy Star Clothes Washer - 3.5 cf Tier III MEF = 1.80	50	$ 19.06	$ 0.02	0.96	Clothes Washer, CWasher	10	50	$ 75.00	$ 518.78	2,396	915	1
2008	234002	A/C - Reflective Window Film Coastal	12	$ -	$ 0.00	0.96	SqFt	10	8000	$ 2.00	$ 3.12	95,539	-	18
2008	234003	A/C - Reflective Window Film Inland	15	$ -	$ 0.00	0.96	SqFt	10	35000	$ 2.00	$ 3.12	513,072	-	77
2008	234005	Agriculture - Low Pressure Sprinkler Nozzles (per nozzle)	8	$ -	$ 0.01	0.96	Nozzle	4	20	$ 1.15	$ 0.59	144	-	0
2008	234006	Agriculture - Sprinkler to Drip Irrigation (per acre)	439	$ -	$ 0.20	0.96	Acre of land	20	100	$ 75.00	$ 1,000.00	42,120	-	19
2008	234007	Heating - Greenhouse Heat Curtain	-	$ 0.39	$ -	0.96	Sqft	5	500000	$ 0.30	$ 0.49	-	187,200	-
2008	234008	Heating - Space Heating Boilers - Hot Water	-	$ 1.08	$ -	0.96	Mbtuh	20	8100	$ 1.00	$ 3.57	-	8,362	-
2008	234009	Heating - Space Heating Boilers - Large	-	$ 1.08	$ -	0.96	Mbtuh	20	8000	$ 1.00	$ 3.57	-	8,258	-
2008	234010	Heating - Space Heating Boilers - Steam	-	$ 1.08	$ -	0.96	Mbtuh	20	8000	$ 1.00	$ 3.57	-	8,258	-
2008	234011	Lighting - 2 Ft 2nd Gen. T-8 with Elec. Ballast	44	$ -	$ 0.01	0.96	Lamp	11	850	$ 10.00	$ 21.00	35,904	-	7
2008	234012	Lighting - 3 Ft 2nd Gen. T-8 with Elec. Ballast	54	$ -	$ 0.01	0.96	Lamp	11	100	$ 10.00	$ 21.00	5,179	-	1
2008	234013	Lighting - 8 Ft T-8 with Elec. Ballast	44	$ -	$ 0.01	0.96	Lamp	11	6000	$ 20.00	$ 32.50	254,160	-	45
2008	234014	Lighting - Exterior >176w Incan Base HID	2,000	$ -	$ -	0.96	Fixture	16	231	$ 140.00	$ 144.00	443,587	-	-
2008	234015	Lighting - Exterior >176w Mer Vap Base HID	652	$ -	$ -	0.96	fixture	16	100	$ 100.00	$ 219.92	62,582	-	-
2008	234016	Lighting - Exterior 0-100w Incan Base HID	830	$ -	$ -	0.96	Fixture	16	30	$ 120.00	$ 144.00	23,901	-	-
2008	234017	Lighting - Exterior 0-100w Merc Vap Base HID	388	$ -	$ -	0.96	Fixture	16	10	$ 80.00	$ 144.00	3,729	-	-
2008	234018	Lighting - Exterior 101-175w Incan Base HID	1,189	$ -	$ -	0.96	fixture	16	10	$ 120.00	$ 196.86	11,414	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	234019	Lighting - Exterior 101-175W Merc Vap Base	477	$ -	$ -	0.96	Fixture	16	10	$ 80.00	$ 144.00	4,582	-	-
2008	234020	Lighting - Hardwire Incan Base >90 watt Fluorescent Fixture	1,763	$ -	$ 0.29	0.96	Fixture	12	20	$ 150.00	$ 173.00	33,841	-	6
2008	234021	Lighting - Hardwire Incan Base 27-65 watt Fluorescent Fixture	513	$ -	$ 0.13	0.96	fixture	12	800	$ 40.00	$ 43.54	394,290	-	100
2008	234022	Lighting - Hardwire Incan Base 66-90 watt Fluorescent Fixture	991	$ -	$ 0.16	0.96	Fixture	12	700	$ 100.00	$ 137.00	666,248	-	110
2008	234023	Lighting - Hardwire Merc Vap Base >90 watt Fluorescent Fixture	776	$ -	$ 0.13	0.96	Fixture	16	20	$ 120.00	$ 137.00	14,894	-	2
2008	234024	Lighting - Hardwire Merc Vap Base 27-65 watt Fluorescent Fixture	308	$ -	$ 0.05	0.96	Fixture	16	115	$ 40.00	$ 56.00	33,951	-	6
2008	234025	Lighting - Hardwire Merc Vap Base 66-90 watt Fluorescent Fixture	532	$ -	$ 0.09	0.96	Fixture	16	30	$ 80.00	$ 116.00	15,334	-	3
2008	234026	Lighting - Hardwired 14-26 watt CF Fixture	280	$ -	$ 0.04	0.96	fixture	12	925	$ 17.50	$ 21.34	248,856	-	38
2008	234027	Lighting - Hardwired 5-13 watt CF Fixture	103	$ -	$ 0.03	0.96	fixture	12	100	$ 17.50	$ 17.88	9,857	-	2
2008	234028	Lighting - Induction Fixture >100 watts	884	$ -	$ 0.13	0.96	Lamp	16	15	$ 100.00	$ 290.00	12,736	-	2
2008	234029	Lighting - Induction Fixture 55-100 watts	1,197	$ -	$ 0.18	0.96	Lamp	16	15	$ 70.00	$ 295.00	17,237	-	3
2008	234030	Lighting - Interior 0-35w Incan Base HID	228	$ -	$ 0.04	0.96	Fixture	16	15	$ 40.00	$ 133.00	3,287	-	1
2008	234031	Lighting - Interior 0-35w Merc Vap Base HID	120	$ -	$ 0.02	0.96	Fixture	16	15	$ 25.00	$ 60.00	1,733	-	0
2008	234032	Lighting - Interior 101-175w Incan Base HID	1,355	$ -	$ 0.24	0.96	Fixture	16	10	$ 120.00	$ 287.00	13,004	-	2
2008	234033	Lighting - Interior 101-175w Merc Vap Base	375	$ -	$ 0.07	0.96	Fixture	16	10	$ 80.00	$ 287.00	3,597	-	1
2008	234034	Lighting - Interior 176-250w Incan Base HID	1,933	$ -	$ 0.36	0.96	Fixture	16	10	$ 120.00	$ 287.00	18,554	-	3
2008	234035	Lighting - Interior 176-250w Mer Vap Base HID	761	$ -	$ 0.14	0.96	Fixture	16	10	$ 100.00	$ 287.00	7,309	-	1
2008	234036	Lighting - Interior 251-400w Incan Base HID	2,799	$ -	$ 0.50	0.96	Fixture	16	116	$ 220.00	$ 287.00	311,658	-	56
2008	234037	Lighting - Interior 251-400w Merc Vap Base	2,132	$ -	$ 0.38	0.96	Fixture	16	100	$ 200.00	$ 287.00	204,682	-	37
2008	234038	Lighting - Interior 36-70w Incan Base HID (50 Watt metal halide)	444	$ -	$ 0.10	0.96	fixture	16	700	$ 50.00	$ 214.36	298,666	-	70
2008	234039	Lighting - Interior 36-70w Merc Vap Base	145	$ -	$ 0.02	0.96	Fixture	16	20	$ 30.00	$ 287.00	2,789	-	0
2008	234040	Lighting - Interior 71-100w Incan Base HID	793	$ -	$ 0.14	0.96	Fixture	16	20	$ 80.00	$ 287.00	15,230	-	3

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	234041	Lighting - Interior 71-100w Merc Vap Base	149	$ -	$ 0.05	0.96	fixture	16	20	$ 40.00	$ 223.89	2,855	-	1
2008	234042	Lighting - Interior Pulse Start Metal Halide Fixtures	490	$ -	$ 0.09	0.96	Lamp	16	1000	$ 100.00	$ 287.00	470,386	-	84
2008	234043	Lighting - Lamps controlled by Dimming Elec Ballasts	155	$ -	$ 0.02	0.96	Fixture	11	100	$ 20.00	$ 56.34	14,917	-	2
2008	234044	Lighting - Lamps controlled by Non-Dimming Elec Ballasts	29	$ -	$ 0.00	0.96	Lamp	16	50	$ 5.00	$ 7.00	1,394	-	0
2008	234045	Lighting - LED Channel Signage Replacement-Indoor Red <=2 feet high	45	$ -	$ 0.01	0.96	LinearFt	16	578	$ 10.00	$ 18.00	24,692	-	5
2008	234046	Lighting - LED Channel Signage Replacement-Indoor Red >2 feet high	89	$ -	$ 0.02	0.96	LinearFt	16	578	$ 10.00	$ 33.00	49,384	-	10
2008	234047	Lighting - LED Channel Signage Replacement-Outdoor Red <=2 feet high	42	$ -	$ 0.01	0.96	LinearFt	16	200	$ 10.00	$ 18.00	7,968	-	1
2008	234048	Lighting - LED Channel Signage Replacement-Outdoor Red >2 feet high	83	$ -	$ 0.01	0.96	LinearFt	16	200	$ 10.00	$ 33.00	15,936	-	3
2008	234049	Lighting - LED Exit Sign New Sign	351	$ -	$ 0.04	0.96	Exit Sign	16	2000	$ 45.00	$ 65.44	674,517	-	82
2008	234050	Lighting - Photocell	106	$ -	$ -	0.96	Photo cell	8	20	$ 15.00	$ 59.81	2,043	-	-
2008	234051	Lighting - Remove 2 Ft T-8 (De Lamp)	128	$ -	$ 0.03	0.96	Lamp	11	100	$ 10.00	$ 19.00	12,288	-	2
2008	234052	Lighting - Remove 3 Ft T-8 (De Lamp)	183	$ -	$ 0.03	0.96	Lamp	11	50	$ 10.00	$ 19.00	8,765	-	2
2008	234053	Lighting - Remove 4 Ft T-8 (De Lamp)	79	$ -	$ 0.02	0.96	Fixture	11	30000	$ 15.00	$ 25.71	2,270,841	-	700
2008	234054	Lighting - Remove 8 Ft T-8 (De Lamp)	252	$ -	$ 0.05	0.96	Fixture	11	10900	$ 20.00	$ 25.91	2,638,194	-	570
2008	234055	Lighting - Screw in >27 Watt Lamp	367	$ -	$ 0.06	0.96	Bulb	1.8	6300	$ 4.25	$ 8.10	2,218,791	-	343
2008	234056	Lighting - Screw in 14-26 Watt Lamp	280	$ -	$ 0.04	0.96	Bulb	1.8	24500	$ 3.50	$ 7.08	6,591,316	-	1,020
2008	234057	Lighting - Screw in 5- 13 Watt Lamp	138	$ -	$ 0.02	0.96	Bulb	1.8	3700	$ 3.50	$ 4.98	488,662	-	76
2008	234058	Lighting - Time Clocks	474	$ -	$ -	0.96	Time Clock	8	30	$ 60.00	$ 239.89	13,658	-	-
2008	234059	Motors - VFD - HVAC Fans (per Hp)	753	$ -	$ -	0.96	HP	15	6650	$ 100.00	$ 202.00	4,807,152	-	-
2008	234060	Lighting - Occupancy Sensor - Plug Load	143	$ -	$ 0.05	0.96	Occupancy Sensor	10	58	$ 15.00	$ 82.25	7,980	-	3
2008	234061	Lighting - Occupancy Sensor - Wall/Ceiling Mounted Lighting Sensor	789	$ -	$ 0.38	0.96	Occupancy Sensor	8	1500	$ 75.00	$ 141.00	1,136,160	-	549

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	234062	Lighting - Occupancy Sensor - Wallbox Lighting Sensor	214	$ -	$ 0.18	0.96	Occupancy Sensor	8	2000	$ 40.00	$ 42.28	410,417	-	338
2008	234063	Refrigeration - Anti-Sweat Heater Controls	343	$ -	$ 0.02	0.96	LinearFt	12	6000	$ 25.00	$ 56.00	1,975,680	-	127
2008	234067	Refrigeration - Food Service - Auto Closer for Main Cooler Doors	1,075	$ (0.05)	$ 0.21	0.96	Per cooler, Cooler	8	0	$ 75.00	$ 433.22	-	-	-
2008	234068	Refrigeration - Food Service - Auto Closer for Main Freezer Doors	2,786	$ (0.03)	$ 0.28	0.96	Per freezer, Freezer	8	0	$ 75.00	$ 433.22	-	-	-
2008	234069	Refrigeration - Food Service - Evaporator Fan Controller for Walk-In	604	$ (0.01)	$ 0.08	0.96	Motor	16	578	$ 150.00	$ 145.75	335,330	(5)	45
2008	234076	Refrigeration - New Refrigeration Case w/Doors- Low Temperature Case	1,208	$ -	$ 0.12	0.96	LinearFt	16	1850	$ 200.00	$ 100.00	2,145,408	-	210
2008	234077	Refrigeration - New Refrigeration Case w/Doors- Medium Temperature Case	101	$ 18.90	$ 0.05	0.96	fixture linear ft, LinFt	12	1000	$ 150.00	$ 845.24	96,661	18,145	44
2008	234078	Refrigeration - New Refrigeration Case w/Doors- Special doors Low Temp	1,208	$ -	$ 0.22	0.96	LinearFt	16	600	$ 200.00	$ 700.00	695,808	-	126
2008	234079	Refrigeration - New Refrigeration Case w/Doors- Special doors with low/no ASH	749	$ -	$ 0.02	0.96	LinearFt	16	289	$ 175.00	$ 77.00	207,803	-	4
2008	234080	Refrigeration - Night Covers for Display Cases Low Temp	59	$ -	$ -	0.96	LinearFt	5	347	$ 9.00	$ 9.25	19,654	-	-
2008	234081	Refrigeration - Suction Line Insulation	18	$ -	$ -	0.96	LinearFt	11	578	$ 1.60	$ 1.72	10,210	-	-
2008	234082	Refrigeration - Vending Machine Controller	1,612	$ -	$ -	0.96	Vending Machine	10	1387	$ 125.00	$ 215.50	2,146,410	-	-
2008	234083	Refrigeration -Cooler/Freezer Door Gaskets - Glass Doors	105	$ -	$ 0.01	0.96	LinearFt	4	347	$ 4.00	$ 4.00	34,828	-	4
2008	234084	Refrigeration -Cooler/Freezer Door Gaskets - Solid Doors: Cooler	105	$ -	$ 0.01	0.96	LinearFt	4	300	$ 4.00	$ 4.00	30,110	-	3
2008	234085	Refrigeration -Strip Curtains for Walk-ins	465	$ -	$ 0.05	0.96	SqFt	4	700	$ 3.00	$ 3.05	312,480	-	36
2008	234086	Water Heating - Gas Storage Water Heater (per MBtuh)	-	$ 1.75	$ -	0.96	Mbtuh	15	10000	$ 2.00	$ 6.78	-	16,829	-
2008	234089	Water Heating -Instantaneous - Gas (per MBtuh)	-	$ 1.41	$ -	0.96	Mbtuh	20	10000	$ 2.00	$ (7.77)	-	13,536	-
2008	234090	Water Heating -Commercial Boiler	-	$ 1.44	$ -	0.96	Mbtuh	20	10000	$ 1.50	$ 3.57	-	13,805	-
2008	234091	Water Heating -Direct Contact Water Heater	-	$ 2.29	$ -	0.96	Mbtuh	20	10000	$ 2.00	$ 2.17	-	21,984	-
2008	234092	Water Heating -Process Boiler, Steam	-	$ 1.04	$ -	0.96	Mbtuh	20	10000	$ 2.00	$ 3.57	-	9,984	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	234093	Water Heating -Process Boiler, Water	-	$ 1.04	$ -	0.96	Mbtuh	20	10000	$ 2.00	$ 3.57	-	9,984	-
2008	234095	Lighting- Ceramic Metal Halide Fixture	485	$ -	$ 0.10	0.96	Bulb	16	3500	$ 100.00	$ 214.36	1,629,089	-	352
2008	234104	Water Heating - Pre-rinse Spray Valves	-	$ 570.00	$ -	0.96	Unit	5	10	$ 30.00	$ 60.00	-	5,472	-
2008	234105	Heating - Infrared Film for Greenhouse	-	$ 0.05	$ -	0.96	Sqft	5	550000	$ 0.03	$ 0.03	-	25,872	-
2008	234107	Connectionless Steamers Full load efficiency 50% or greater	6,620	$ -	$ 0.20	0.96	Unit	12	0	$ -	$ -	-	-	-
2008	234109	Lighting - Screw in 14-26 Watt Reflector Lamp	305	$ -	$ 0.05	0.96	Bulb	1.8	11000	$ 6.00	$ 6.47	3,216,703	-	498
2008	234110	Lighting - 4 Ft Premium T-8 with Elec. Ballast	16	$ -	$ 0.01	0.96	Fixture	11	7500	$ 10.00	$ 11.71	118,274	-	36
2008	234112	A/C - Reflective Window Film Desert	16	$ -	$ 0.00	0.96	SqFt	10	578	$ 3.00	$ 3.12	8,934	-	1
2008	234114	Other - Occupancy Sensor - Plug Load	143	$ -	$ 0.05	0.96	Occupancy Sensor	10	0	$ -	$ 82.25	-	-	-
2008	234115	Refrigeration - Night Covers for Display Cases Med Temp	14	$ 1.15	$ (0.00)	0.96	Ln Ft	5	231	$ 9.00	$ 37.54	3,014	254	(1)
2008	234116	Refrigeration -Cooler/Freezer Door Gaskets - Solid Doors: Freezer	105	$ -	$ 0.01	0.96	LinearFt	4	693	$ 4.00	$ 4.00	69,555	-	8
2008	234117	Refrigeration - Food Service - Auto Closer for Reach-In Freezer Doors	1,297	$ -	$ 0.18	0.96	Closer	8	0	$ -	$ 300.00	-	-	-
2008	234119	Lighting - High Output 4 or 6 Lamp T5 or T8 Fixture (High bay applications)	989	$ -	$ 0.18	0.96	Fixture	11	4050	$ 150.00	$ 250.00	3,844,454	-	689
2008	234120	Lighting - Occupancy Sensor - High-Bay Sensor	1,661	$ -	$ 0.39	0.96	Sensor	8	250	$ 60.00	$ 141.00	398,736	-	94
2008	234121	Water Heating -Commercial Pool Heater	-	$ 2.41	$ -	0.96	Mbtuh	5	10000	$ 2.00	$ 2.00	-	23,136	-
2008	234126	Refrigeration - Efficient Evap Fan Motor Electronically Commutated Motor (ECM)	116	$ (0.12)	$ 0.02	0.96	fixture linear ft, LinFt	15	1500	$ 150.00	$ 6.79	167,571	(166)	23
2008	234127	Refrigeration - Efficient Evap Fan Motor Permanent-Split Capacitor (PSC) Motor	450	$ (0.01)	$ 0.06	0.96	num motors	15	500	$ 100.00	$ 90.50	216,121	(3)	30
2008	234128	Refrigerator - Early Replacement	1,041	$ -	$ 0.14	0.96	Unit	6	400	$ 275.00	$ 272.00	399,582	-	52
2008	234129	Software Plug Load Sensors	227	$ -	$ -	0.96	Unit	5	1000	$ 15.00	$ 5.00	217,921	-	-
2008	234130	Torchiere	464	$ -	$ 0.09	0.96	Unit	16	58	$ 22.00	$ 22.63	25,858	-	5
2008	234131	High Efficiency Gas Fryer	-	$ 438.00	$ -	0.96	Fryer	12	0	$ -	$ 2,582.54	-	-	-
2008	234133	High Efficiency Gas Griddle	-	$ 219.00	$ -	0.96	Griddle	12	0	$ -	$ 2,102.31	-	-	-
2008	234134	Faucet Aerators	-	$ 5.00	$ -	0.96	Office	9	500	$ 1.10	$ 7.12	-	2,399	-
2008	234136	High Efficiency Copier	324	$ -	$ 0.04	0.96	Copy Machine	6	500	$ 100.00	$ 156.76	155,424	-	20
2008	234137	High Efficiency Electric Fryer	1,752	$ -	$ 0.00	0.96	Fryer	12	17	$ -	$ 8,761.89	28,593	-	0

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	234138	Vending Machine Controller	387	$ -	$ -	0.96	Vending Machine	10	250	$ 95.00	$ 108.00	92,880	-	-
2008	234139	Residential Energy Star Clothes Washer in Commercial Application	-	$ 45.60	$ -	0.96	Clothes Washer	14	0	$ -	$ 592.77	-	-	-
2008	234140	Low Flow Showerhead	58	$ 6.66	$ 0.01	0.96	Showerhead	10	100	$ 20.00	$ 37.95	5,556	640	1
2008	234146	Residential High Efficiency Water Heater in Commercial Application	-	$ 13.30	$ -	0.96	Hot Water Tank	13	800	$ 100.00	$ 175.30	-	10,214	-
2008	234147	Premium T8 with T12 34Watt Baseline	50	$ -	$ 0.01	0.96	Lamp	11	30000	$ 8.00	$ 12.70	1,434,240	-	248
2008	234148	Premium T8 with T12 40 Watt Baseline	75		$ 0.01	0.96	Lamp	11	140000	$ 12.00	$ 12.70	10,039,680	-	1,720
2008	234150	Tank Insulation - Low Temperature Applic. (LF) 2 in		$ 3.70		0.96	SquareFT	20	2000	$ 3.00	$ 3.41	-	7,104	-
2008	234151	Tank Insulation - High Temperature Applic. (LF) 2 in		$ 10.40		0.96	SquareFT	20	2000	$ 4.00	$ 3.41	-	19,968	-
2008	234152	Pipe Insulation - Hot Water Applic. (sq ft) 2 in		$ 2.90		0.96	LinearFt	20	2000	$ 3.00	$ 9.22	-	5,568	-
2008	234153	Pipe Insulation - Low Pressure Steam Applic. (LF) 2 in		$ 14.30		0.96	LinearFT	20	2000	$ 4.00	$ 9.22	-	27,456	-
2008	234154	Tank Insulation - Low Temperature Applic. (LF) 1 in		$ 3.40		0.96	SquareFT	20	2000	$ 2.00	$ 2.58	-	6,528	-
2008	234155	Tank Insulation - High Temperature Applic. (LF) 1 in		$ 9.70		0.96	SquareFT	20	2000	$ 3.00	$ 2.58	-	18,624	-
2008	234156	Pipe Insulation - Hot Water Applic. (sq ft) 1 in		$ 2.60		0.96	LinearFt	20	2000	$ 2.00	$ 5.67	-	4,992	-
2008	234157	Pipe Insulation - Low Pressure Steam Applic. (LF) 1 in		$ 13.40		0.96	LinearFt	20	2000	$ 3.00	$ 5.67	-	25,728	-
2008	234161	Food Service - French Fryer-Electric	1,166	$ -	$ 0.20	0.96	per Unit	12	12	$ 400.00	$ 4,708.00	13,432	-	2
2008	234162	Food Service - Griddle-Electric	1,637	$ -	$ 0.40	0.96	per Unit	12	12	$ 600.00	$ 3,604.00	18,858	-	5
2008	234163	Food Service - Steamer-Electric	11,166	$ -	$ 2.50	0.96	per Unit	12	12	$ 1,500.00	$ 4,150.00	128,632	-	29
2008	234164	Food Service - Convection Oven-Electric	2,262	$ -	$ 0.50	0.96	per Unit	12	12	$ 700.00	$ 2,713.00	26,058	-	6
2008	234165	Food Service - Combination Oven-Electric	18,432	$ -	$ 4.20	0.96	per Unit	12	12	$ 2,000.00	$ 16,884.00	212,337	-	48
2008	234166	Food Service - Hot Food Holding Cabinet-Full-Size	2,190	$ -	$ 0.40	0.96	per Unit	12	12	$ 600.00	$ 3,153.00	25,229	-	5
2008	234167	Food Service - Hot Food Holding Cabinet-Three-Quarter Size	1,643	$ -	$ 0.30	0.96	per Unit	12	12	$ 500.00	$ 3,153.00	18,927	-	3
2008	234168	Food Service - Hot Food Holding Cabinet-Half-Size	1,095	$ -	$ 0.20	0.96	per Unit	12	12	$ 400.00	$ 3,153.00	12,614	-	2
2008	234169	Food Service - French Fryer-Gas	-	$ 505.00	$ -	0.96	per Unit	12	89	$ 750.00	$ 3,796.00	-	43,147	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	234170	Food Service - Griddle-Gas	-	$ 88.00	$ -	0.96	per Unit	12	20	$ 125.00	$ 4,575.00	-	1,690	-
2008	234171	Food Service - Steamer-Gas	-	$ 2,084.00	$ -	0.96	per Unit	12	47	$ 1,500.00	$ 6,221.00	-	94,030	-
2008	234172	Food Service - Convection Oven-Gas	-	$ 323.00	$ -	0.96	per Unit	12	28	$ 500.00	$ 3,144.00	-	8,682	-
2008	234173	Food Service - Combination Oven-Gas	-	$ 403.00	$ -	0.96	per Unit	12	6	$ 750.00	$ 21,797.00	-	2,321	-
2008	234174	Food Service - Ice Machine Air-Cooled 101-200	3,614	$ -	$ 0.41	0.96	per Unit	12	0	$ 600.00	$ 296.00	-	-	-
2008	234175	Food Service - Ice Machine Air-Cooled 201-300	2,281	$ -	$ 0.26	0.96	per Unit	12	13	$ 600.00	$ 312.00	28,470	-	3
2008	234176	Food Service - Ice Machine Air-Cooled 301-400	1,661	$ -	$ 0.19	0.96	per Unit	12	13	$ 600.00	$ 559.00	20,726	-	2
2008	234177	Food Service - Ice Machine Air-Cooled 401-500	2,464	$ -	$ 0.28	0.96	per Unit	12	0	$ 600.00	$ 981.00	-	-	-
2008	234178	Food Service - Ice Machine Air-Cooled 501-1000	3,011	$ -	$ 0.34	0.96	per Unit	12	13	$ 800.00	$ 1,485.00	37,580	-	4
2008	234179	Food Service - Ice Machine Air-Cooled 1001-1500	4,106	$ -	$ 0.47	0.96	per Unit	12	10	$ 1,000.00	$ 1,821.00	39,420	-	5
2008	234180	Food Service - Ice Machine Air-Cooled >1500	4,380	$ -	$ 0.50	0.96	per Unit	12	3	$ 1,000.00	$ 2,194.00	12,614	-	1
2008	234181	Food Service - Solid-Door Refrigerator 1-Door < 19	445	$ -	$ 0.05	0.96	per Unit	12	15	$ 100.00	$ 217.00	6,412	-	1
2008	234182	Food Service - Solid-Door Refrigerator 1-Door 19-30	650	$ -	$ 0.07	0.96	per Unit	12	15	$ 125.00	$ 1,825.00	9,356	-	1
2008	234183	Food Service - Solid-Door Refrigerator 2-Door 31-60	942	$ -	$ 0.11	0.96	per Unit	12	20	$ 175.00	$ 2,299.00	18,081	-	2
2008	234184	Food Service - Solid-Door Refrigerator 3-Door 61-90	1,351	$ -	$ 0.15	0.96	per Unit	12	10	$ 250.00	$ 2,849.00	12,965	-	1
2008	234185	Food Service - Solid-Door Freezer 1-Door < 19	588	$ -	$ 0.07	0.96	per Unit	12	0	$ 150.00	$ 741.00	-	-	-
2008	234186	Food Service - Solid-Door Freezer 1-Door 19-30	1,201	$ -	$ 0.14	0.96	per Unit	12	20	$ 250.00	$ 747.00	23,056	-	3
2008	234187	Food Service - Solid-Door Freezer 2-Door 31-60	2,077	$ -	$ 0.24	0.96	per Unit	12	20	$ 375.00	$ 1,067.00	39,876	-	5
2008	234188	Food Service - Solid-Door Freezer 3-Door 61-90	3,303	$ -	$ 0.38	0.96	per Unit	12	20	$ 550.00	$ 2,324.00	63,422	-	7
2008	234189	Food Service - Glass-Door Refrigerator Tier I 1-Door < 19	712	$ -	$ 0.08	0.96	per Unit	12	20	$ 150.00	$ 392.00	13,666	-	2
2008	234190	Food Service - Glass-Door Refrigerator Tier I 1-Door 19-30	977	$ -	$ 0.11	0.96	per Unit	12	20	$ 175.00	$ 624.00	18,767	-	2
2008	234191	Food Service - Glass-Door Refrigerator Tier I 2-Door 31-60	1,357	$ -	$ 0.15	0.96	per Unit	12	20	$ 200.00	$ 1,839.00	26,056	-	3
2008	234192	Food Service - Glass-Door Refrigerator Tier I 3-Door 61-90	1,889	$ -	$ 0.22	0.96	per Unit	12	20	$ 300.00	$ 266.00	36,259	-	4
2008	234193	Food Service - Glass-Door Refrigerator Tier II 1-Door < 19	1,183	$ -	$ 0.14	0.96	per Unit	12	20	$ 150.00	$ 1,412.00	22,706	-	3

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	234194	Food Service - Glass-Door Refrigerator Tier II 1-Door 19-30	1,622	$ -	$ 0.19	0.96	per Unit	12	0	$ 200.00	$ 2,793.00	-	-	-
2008	234195	Food Service - Glass-Door Refrigerator Tier II 2-Door 31-60	2,250	$ -	$ 0.26	0.96	per Unit	12	20	$ 300.00	$ 1,839.00	43,197	-	5
2008	234196	Food Service - Glass-Door Refrigerator Tier II 3-Door 61-90	3,129	$ -	$ 0.36	0.96	per Unit	12	0	$ 400.00	$ 1,883.00	-	-	-
2008	234197	Lighting - Cold Cathode Fluorescent Lamp	60		$ 0.01	0.96	Bulb	5	600	$ 1.75	$ 1.81	34,560	-	5
2008	234199	Energy Star Clothes Washer - 3.5 cf Tier II MEF = 1.60	29	$ 11.09	$ 0.01	0.96	Clothes Washer, CWasher	10	50	$ 75.00	$ 606.86	1,393	532	1
2008	234200	Energy Star Clothes Washer - 3.5 cf Tier III MEF = 1.80	50	$ 19.06	$ 0.02	0.96	Clothes Washer, CWasher	10	50	$ 100.00	$ 518.78	2,396	915	1

2006-2008 Energy Efficiency Programs
Standard Performance Contract (SPC) Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 161,077	$ 173,158	$ 186,144
Administrative Other	$ 270,612	$ 269,771	$ 277,144
Marketing & Outreach	$ 109,923	$ 116,524	$ 118,174
Direct Implementation			
Incentives	$ 2,188,484	$ 2,371,496	$ 2,530,608
Activity	$ 603,865	$ 652,939	$ 743,748
Installation	$ -	$ -	$ -
Hardware & Materials	$ 23,000	$ 26,000	$ 26,000
Rebate Processing & Inspection	$ 25,651	$ 26,420	$ 27,213
EM&V	$ -	$ -	$ -
Total	*$ 3,382,612*	*$ 3,636,307*	*$ 3,909,031*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
11,284,415	1,406	150,737	12,130,746	1,511	175,275	13,040,552	1,625	175,275

3. Program Cost Effectiveness

Attached

4. Program Descriptors

The Standard Performance Contract Program is a statewide non-residential energy efficiency incentive program. This concept paper presents a modified version of the existing SPC program. SPC targets mid to large-sized customers but will accommodate small non-residential customers that cannot be served by other programs.

5. Program Statement

High efficiency technology measures often costs more to design, purchase, and install than standard equipment. Add to that, lower end-user understanding of the performance capabilities of high efficiency equipment. These factors lead to the perception of longer paybacks and increased effort required to "go the extra mile" for energy efficiency. They are barriers to the adoption, implementation, and use of high efficiency technology.

6. Program Rationale

The SPC Program promotes procurement and installation of high efficiency energy technologies by providing incentive payments, and design/audit assistance in some cases, to partially offset incremental equipment costs. Customers can receive incentives for customized projects by calculating the amount of kWh saved or through a measurement and verification procedure. Providing incentives to shorten

payback periods and assistance to quantify equipment performance increases the adoption of new technologies.

The SPC program is a hardware/incentive program. It fulfills an important role in the portfolio of nonresidential energy-efficiency programs. The program incorporates the flexibility required to evaluate and influence the many custom projects initiated by customers throughout the program period. SPC has the capability to accommodate nearly all energy efficiency measures including lighting (day-lighting), air conditioning, refrigeration, natural gas end-use equipment, motors, controls, and other unique measures that provide verifiable energy savings. Additionally, measures that do not qualify for consideration under other energy efficiency programs can be considered under the SPC program. Future measures, based on new technologies and equipment as the marketplace evolves, can be addressed. The program promotes use of best practices in end-use applications. It allows customers an option to participate in a program that best meets their needs.

The SPC program is open to an unlimited variety of energy efficiency projects involving commercial, industrial and agricultural customers. Equipment must produce verifiable energy savings and exceed current market standards.

Customers will also be provided with Demand Response options.

7. Program Outcomes

Increase installation of high-efficiency, energy saving equipment in nonresidential buildings.

8. Program Strategy

Nonresidential Process Calculated Rebates

8.1.1. Program Strategy Description

An applicant follows a multi-step application process using forms supplied specifically for the SPC program. The various forms are submitted to the SDG&E Program Administrator for evaluation and payment. Depending on the nature of the project, the application process may involve one or more site inspections by the Program Administrator prior to payment. In all cases, the Program Administrator will work closely with the Project Sponsor to facilitate the review and payment process. Project Sponsors incur all costs associated with preparing and application, installing equipment, conducting measurement and verification (M&V) activities, and otherwise reviewing or executing the SPC Agreement. Receipt of incentive funds depends on careful adherence to program policies.

8.1.2. Program Indicators

The primary goal of the program strategy is to procure energy savings and demand reduction.

9. Program Implementation

Under the SPC program, an applicant follows a multi-step application process using forms supplied specifically for the SPC program. The various forms are submitted to the SDG&E Program Administrator for evaluation and payment. Depending on the nature of the project, the application process may involve one or more site inspections by the SDG&E Program Administrator prior to payment. In all cases, the SDG&E Program Administrator will work closely with the Project Sponsor to facilitate the review and payment process.

Project Sponsors incur all costs associated with preparing and application, installing equipment, conducting measurement and verification (M&V) activities, and otherwise reviewing or executing the SPC Agreement. Receipt of incentive funds depends on careful adherence to program policies. In return, Project Sponsors obtain cash payments (which they may pass on to their customers), while participating customers acquire high-efficiency equipment that will help lower energy costs and reduce energy consumption.

With the elimination of customer size as a program limitation, a majority of lighting projects will be funded through the itemized element of the BIS package. As a result, the 80/20 lighting rule will no longer be effective in 2006-2008. The program will continue to encourage comprehensive projects and SCE may explore opportunities to pay additional incentives for comprehensiveness in 2007, if necessary.

10. Customer Description

Industrial, commercial, and agricultural customers including manufacturing facilities, office buildings, and retail facilities and governmental facilities are the customers targeted by this program.

11. Customer Interface

This program is a modified version of the existing SPC program. Since the program has been in existence for six years it is familiar to customers and vendors. Changes to the program will be highlighted at the start of the program year and included in program documentation. Information will be delivered through direct presentations, a website, and direct customer contact. Applications, program manuals and software are available through the website. Direct assistance will be provided through telephone support and on-site support as required.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

12.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

12.3. Non-energy Activities

Not applicable.

12.3.1. Activity Description

12.3.2. Quantitative Activity Goals

12.3.3. Assigned attributes of the activity (market sector, end use)

13. Subcontractor Activities

Subcontractor activities are expected to include:

- Customer project design assistance
- Audit assistance
- Support for Statewide SPC software
- Energy savings research and documentation
- Industry specific marketing efforts

14. Quality Assurance and Evaluation Activities

An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E looks forward to participating and commenting on those activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs. Expected number/percent of inspections (planned percent of projects) Both pre-installation and post installation inspections are to be performed 100% of the time to assure program quality.

15. Marketing Activities

The SPC program will be marketed at trade and professional organizations, promotional fairs, and training seminars. In addition direct customer contact by Account Executives, Demand Response Program outreach, phone and e-mail support will be provided.

16. CPUC Objective

- Cost effective, long term energy efficient retrofits.
- Deployment of new and improved energy efficiency products.

	SDGE3025 SPC-Standard Performance Program	
BUDGET		
Administrative Costs	**$**	**1,337,906**
Overhead and G&A	$	520,379
Other Administrative Costs	$	817,527
Marketing/Outreach	**$**	**344,621**
Direct Implementation	**$**	**9,245,423**
Total Incentives and Rebates		
User Input Incentive	$	-
Direct Install Rebate	$	7,090,588
Direct Install Labor	$	-
Direct Install Materials	$	-
Activity	$	2,000,552
Installation	$	-
Hardware & Materials	$	75,000
Rebate Processing & Inspection	$	79,284
EM&V Costs	**$**	**-**
Budget	**$**	**10,927,950**
Costs recovered from other sources	**$**	**-**
Budget (plus other costs)	**$**	**10,927,950**
PROGRAM IMPACTS		
User Entered kW (kW)		4,542
Net Jul-Sept Peak (kW)		5,419
Net Dec-Feb Peak (kW)		5,228
Net NCP (kW)		4,760
Net CEC (kW)		7,911
Annual Net kWh		36,455,713
Lifecycle Net kWh		406,815,481
Annual Net Therms		501,287
Lifecycle Net Therms		7,519,298
Cost Effectiveness		
TRC		
Costs	$	11,173,174
Electric Benefits	$	22,677,029
Gas Benefits	$	3,439,691
Net Benefits (NPV)	$	14,943,547
BC Ratio		2.34
PAC		
Costs	$	10,112,807
Electric Benefits	$	22,677,029
Gas Benefits	$	3,439,691
Net Benefits (NPV)	$	16,003,914
BC Ratio		2.58
Levelized Cost		
Levelized Cost TRC ($/kWh)		
Discounted kWh		253,445,179
Cost	$	0.0389
Benefits	$	0.0895
Benefit-Cost	$	0.0505
Levelized Cost PAC ($/kWh)		
Discounted kWh		253,445,179
Cost	$	0.0354
Benefits	$	0.0895
Benefit-Cost	$	0.0541
Levelized Cost TRC ($/therm)		
Discounted Therms		4,211,766
Cost	$	0.3096
Benefits	$	0.8167
Benefit-Cost	$	0.5071
Levelized Cost PAC ($/therm)		
Discounted Therms		4,211,766
Cost	$	0.2702
Benefits	$	0.8167
Benefit-Cost	$	0.5465

Standard Performance Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 3,382,612	$ 2,188,484	$ 1,194,128	11,284,415	150,737	1,406
2007	$ 3,636,308	$ 2,371,496	$ 1,264,812	12,130,746	175,275	1,511
2008	$ 3,909,031	$ 2,530,608	$ 1,378,423	13,040,552	175,275	1,625

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	232001	Gas	-	1	-	0.7011	Therm	15	215,000	$ 1.00	$ 1.80	-	150,737	-
2006	232002	Lighting	1	-	0.00	0.7011	kWh	16	3,109,530	$ 0.05	$ 0.13	2,180,091	-	272
2006	232003	HVAC	1	-	0.00	0.7011	kWh	20	-	$ -	$ 0.15	-	-	-
2006	232004	Other	1	-	0.00	0.7011	kWh	10	12,985,770	$ 0.14	$ 0.22	9,104,323	-	1,134
2007	232001	Gas	-	1	-	0.7011	Therm	15	250,000	$ 1.00	$ 1.80	-	175,275	-
2007	232002	Lighting	1	-	0.00	0.7011	kWh	16	3,342,745	$ 0.05	$ 0.13	2,343,599	-	292
2007	232003	HVAC	1	-	0.00	0.7011	kWh	20	-	$ -	$ 0.15	-	-	-
2007	232004	Other	1	-	0.00	0.7011	kWh	10	13,959,703	$ 0.14	$ 0.22	9,787,148	-	1,219
2008	232001	Gas	-	1	-	0.7011	Therm	15	250,000	$ 1.00	$ 1.80	-	175,275	-
2008	232002	Lighting	1	-	0.00	0.7011	kWh	16	3,593,451	$ 0.05	$ 0.13	2,519,368	-	314
2008	232003	HVAC	1	-	0.00	0.7011	kWh	20	-	$ -	$ 0.15	-	-	-
2008	232004	Other	1	-	0.00	0.7011	kWh	10	15,006,680	$ 0.14	$ 0.22	10,521,183	-	1,311

2006-2008 Energy Efficiency Programs
Energy Savings Bid Program Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 558,718	$ 779,397	$ 1,087,756
Administrative Other	$ 233,958	$ 325,974	$ 324,735
Marketing & Outreach	$ 362,300	$ 515,256	$ 529,439
Direct Implementation			
Incentives	$ 8,905,473	$ 11,971,143	$ 16,113,607
Activity	$ 1,476,293	$ 2,485,238	$ 4,489,279
Installation	$ -	$ -	$ -
Hardware & Materials	$ 38,000	$ 32,500	$ 32,500
Rebate Processing & Inspection	$ 158,329	$ 257,829	$ 265,564
EM&V	$ -	$ -	$ -
Total	*$ 11,733,071*	*$ 16,367,337*	*$ 22,842,880*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
40,792,320	8,400	143,109	54,844,800	11,297	192,340	73,822,380	15,205	258,903

3. Program Cost Effectiveness

Attached.

4. Program Descriptors

The Energy Savings Bid Program (ESBP) is an existing local incentive program designed for large commercial or industrial energy-efficiency projects including the military and public agencies within SDG&E's service area. Projects may include large individual sites or an aggregation of smaller sites.

The program will incorporate a new component, the (Local Energy Action Program (LEAP), supported by the San Diego Regional Energy Office (SDREO). The LEAP consolidates and enhances several successful 2004-05 SDREO programs including: San Diego Regional Energy Partnership (SDREP)-Local Government Energy Efficiency Program (Program No. 1300-04), SDREP-San Diego Green Building Education and Technical Assistance (Program No. 1299-04), SDREP-Technical Assistance Program (Program No. 1304-04) and SDREO-San Diego Local Government Energy Efficiency Program (Program 1301-04).

5. Program Statement

ESBP is an incentive program that addresses the market barriers of: (1) higher costs for high energy-efficiency measures, (2) long payback periods for energy-efficiency measures, (3) reluctance to participate in other incentive and rebate programs, (4)

un-familiarity with energy-efficient equipment and technologies, (5) lack of design, and (6) limited flexibility of other programs. Public agencies in particular require a long project approval lead time which presents a time barrier when competing with private industry for incentive funds.

The targeted measure types include Lighting/Daylighting, HVAC/Refrigeration, central plant optimization via variable speed drives, and other technologies. ESBP provides financial incentives for SDG&E customers, contractors, vendors and/or project sponsors who submit unique and innovative nonresidential energy-savings projects and/or programs, and propose an incentive amount (within program guidelines) necessary to implement the project.

6. Program Rationale

ESBP is designed to meet customer and project sponsor needs, and quickly maximize energy savings and peak load reductions from nonresidential customers. The small customer component allows project sponsors to aggregate different customer sites to create participation from customers who are unable or unwilling to participate in the SDG&E Express Efficiency and Standard Performance Contract (SPC) programs. The LEAP component is designed to focus on the specific and unique needs of individual public agencies and will address the time, staffing, and technical resource barriers facing these organizations. The LEAP component provides targeted assistance to public agencies not in competition with the private sector. LEAP offers technical assistance services that include energy audits and project design/development in order to alleviate pressure on staffing and conquer the technical barriers blocking many public agency projects from being identified and implemented.

In general, ESBP is an energy efficiency retrofit hardware program designed to address additional barriers due to: (1) budgetary planning horizons (e.g., fiscal year planning versus calendar year planning) that differ from CPUC program funding cycles, (2) longer planning horizons that do not coincide with program funding period, (3) new and innovative technologies, and (4) statewide limitations on the maximum incentive payments to individual customers or project sponsors.

7. Program Outcomes

The desired results of ESBP are to encourage a higher degree of energy-efficiency market penetration by increasing the amount of comprehensive high efficiency measures being installed.

8. Program Strategy

As a local nonresidential innovative incentive program, ESBP focuses on promoting energy efficiency by influencing retrofit projects during the planning phase. The awarding of incentives for energy efficiency projects will be accomplished through an application process by customers, contractors, vendors, project sponsors and a review process by SDG&E. The LEAP component, represented by SDREO, will provide energy audits, comprehensive technical assistance, and incentive/financial

documentation support for public agency energy efficiency projects. The incentive payment for each project depends on project costs, defined as the amount of technical assistance services provided and project benefits defined as kWh and kW savings.

The targeted direct mailing of the program information and application forms will include nonresidential SDG&E customers, but also Energy Service Companies (ESCOs), trade associations, vendors, contractors, and local business groups in a position to create interest and generate additional program participation. Potential participants will receive information and program updates through direct e-mails, utility service representatives, Energy Service Providers, trade organizations and industry associations.

ESBP will continue coordination with other local, statewide, SDREO and other 3rd party programs to promote energy-efficiency, eliminate overlaps, and provide outreach to customers and project sponsors. In addition, the SDG&E ESBP, SPC and Express teams will continue to coordinate joint efforts at seminars, trade shows and conferences using all available resources including the San Diego Energy Resource Center (SDERC) Program. When a business customer contacts SDG&E to establish a new account, a lead will be generated to the energy efficiency group.

8.1.1. Program Strategy Description

The Program Strategy Description is included in Section 8.

8.1.2. Program Indicators

The primary goal of the program strategy is to procure energy savings and demand reduction.

9. Program Implementation

Implementation efforts will include any necessary updates to the development and design of program literature, application forms, promotional items, direct mailers, bill inserts, and other appropriate program literature, as needed to effectively implement the Program. Program implementation within the LEAP component consists of technical assistance services which will include, but not be limited to: energy audit consultation, project design assistance, Request for Proposal (RFP) development, funding identification, contractor coordination, facility staff education which may include SDREO case studies based on projects completed, incentive proposal, and coordination with other applicable programs. While this program does not specifically target new construction, initial assistance will be provided to ensure that any supported customer new construction activities are channeled to the SDG&E new construction program. This task will be included as part of the technical assistance provided to the participants.

The application process is both easy and friendly. Once the project has been approved, customers/Project Sponsors can track the progress of projects via a web based Extranet project tracking system. The SDG&E Program Manager will work closely with the Project Sponsor to facilitate the review and payment process.

Another innovative approach is how the project measurement & verification (M&V) is handled. Customers/Project Sponsors have the option of having SDG&E's independent third-party contractor perform the project M&V at no cost or the Project Sponsor can perform the project EM&V themselves. Public Agencies have the option of using SDREO services as part of the technical services provided to complete the project M&V analysis.

10. Customer Description

The ESBP will target large nonresidential customers, including public agencies that customers that can save a minimum of 500,000 kWh annually. Contractors, vendors and/or project sponsors are also targeted because of their involvement with customers and their retrofit projects. Smaller customers can be combined to meet the minimum kWh program criteria. .

A project may include a single customer or a combination of customers at multiple sites. Sites can have different measures, operating hours and energy use profiles. Participation is normally limited to projects and programs with annual energy savings of at least 500,000 kWh. Exceptions to the minimum savings amount could include pilot programs, measures that do not meet the qualifications for other SDG&E energy efficiency programs, and the discretion of the SDG&E program manager.

11. Customer Interface

ESBP will be presented to customers and contractors in a variety of formats, including but not limited to: (1) program kick-off meetings, (2) seminars, (3) e-mail, (4) mail, (5) internet web page, (6) direct contact by SDG&E's Account Executives and other representatives.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

12.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

12.3. Non-energy Activities

Not applicable.

12.3.1. Activity Description

12.3.2. Quantitative Activity Goals

12.3.3. Assigned attributes of the activity (market sector, end use)

13. Subcontractor Activities

Subcontractor activities are expected to include:

- Project EM&V
- Activities to implement the LEAP component (audits, inspections and project EM&V)

14. Quality Assurance and Evaluation Activities

An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E looks forward to participating and commenting on those activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs.

Pre and post inspections will be performed on 100% of the projects. For the public agency projects, SDREO will provide pre- and post- site inspections, energy consumption analysis (comparing pre- and post- installation data), and equipment monitoring/data logging to identify actual savings realized from the public agency participants. This data will be collected throughout the duration of the program and may be used for case studies

15. Marketing Activities

ESBP will continue to market the program through the SDG&E Account Executives, as well as through educational, outreach and other marketing activities targeting business customers, ESCOs, trade associations, other local business groups and government entities to generate interest and participation in the program. As part of the collaboration with SDREO, additional marketing activities will include, but are not limited to, program informational materials, website development and updates, participation in SDREO and other sponsored events, press releases and general media attention. SDREO will create program materials specifically to identify the LEAP component of ESBP and provide to any public agency as necessary.

16. CPUC Objective

ESBP meets the CPUC objectives of:

- Providing cost-effective energy efficiency
- Producing significant energy savings
- Focused cost-effective resource program
- Avoiding lost opportunities by utilizing an in tandem total approach
- Producing both short and long term energy savings
- Produces co-branding opportunities supporting the reduction of greenhouse gases

	SDGE3010 ESB-Energy Savings Bids
BUDGET	
Administrative Costs	**$ 3,310,538**
Overhead and G&A	$ 2,425,871
Other Administrative Costs	$ 884,668
Marketing/Outreach	**$ 1,406,995**
Direct Implementation	**$ 46,225,755**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ 36,990,224
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 8,450,810
Installation	$ -
Hardware & Materials	$ 103,000
Rebate Processing & Inspection	$ 681,721
EM&V Costs	**$ -**
Budget	**$ 50,943,289**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 50,943,289**
PROGRAM IMPACTS	
User Entered kW (kW)	34,902
Net Jul-Sept Peak (kW)	34,797
Net Dec-Feb Peak (kW)	21,077
Net NCP (kW)	28,934
Net CEC (kW)	36,773
Annual Net kWh	169,459,500
Lifecycle Net kWh	1,941,816,011
Annual Net Therms	594,353
Lifecycle Net Therms	6,870,869
Cost Effectiveness	
TRC	
Costs	$ 46,015,132
Electric Benefits	$ 116,332,001
Gas Benefits	$ 3,544,472
Net Benefits (NPV)	$ 73,861,342
BC Ratio	2.61
PAC	
Costs	$ 46,334,684
Electric Benefits	$ 116,332,001
Gas Benefits	$ 3,544,472
Net Benefits (NPV)	$ 73,541,789
BC Ratio	2.59
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	1,192,183,962
Cost	$ 0.0370
Benefits	$ 0.0976
Benefit-Cost	$ 0.0606
Levelized Cost PAC ($/kWh)	
Discounted kWh	1,192,183,962
Cost	$ 0.0374
Benefits	$ 0.0976
Benefit-Cost	$ 0.0602
Levelized Cost TRC ($/therm)	
Discounted Therms	4,183,678
Cost	$ 0.4476
Benefits	$ 0.8472
Benefit-Cost	$ 0.3996
Levelized Cost PAC ($/therm)	
Discounted Therms	4,183,678
Cost	$ 0.4103
Benefits	$ 0.8472
Benefit-Cost	$ 0.4369

Energy Savings Bids

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 11,733,071	$ 8,905,473	$ 2,827,598	40,792,320	143,109	8,400
2007	$ 16,367,338	$ 11,971,143	$ 4,396,195	54,844,800	192,340	11,297
2008	$ 22,842,880	$ 16,113,607	$ 6,729,273	73,822,380	258,903	15,205

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	212003	Lighting	1	-	0.00	0.8	kwh	11	31,104,144	$ 0.13	$ 0.13	24,883,315	-	6,793
2006	212004	Other	1	0	0.00	0.8	kwh	10	11,217,888	$ 0.24	$ 0.32	8,974,310	98,394	1,059
2006	212005	HVAC	1	0	0.00	0.8	kwh	15	8,668,368	$ 0.25	$ 0.38	6,934,694	44,715	548
2007	212003	Lighting	1	-	0.00	0.8	kwh	11	41,836,900	$ 0.13	$ 0.13	33,469,520	-	9,137
2007	212004	Other	1	0	0.00	0.8	kwh	10	15,088,700	$ 0.24	$ 0.32	12,070,960	132,346	1,424
2007	212005	HVAC	1	0	0.00	0.8	kwh	15	11,630,400	$ 0.25	$ 0.38	9,304,320	59,994	735
2008	212003	Lighting	1	-	0.00	0.8	kwh	11	56,312,000	$ 0.13	$ 0.13	45,049,600	-	12,299
2008	212004	Other	1	0	0.00	0.8	kwh	10	20,310,099	$ 0.24	$ 0.32	16,248,079	178,144	1,917
2008	212005	HVAC	1	0	0.00	0.8	kwh	15	15,655,876	$ 0.25	$ 0.38	12,524,701	80,759	989

NEW CONSTRUCTION PROGRAMS

2006-2008 Energy Efficiency Programs
Savings By Design Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 158,264	$ 201,213	$ 288,140
Administrative Other	$ 667,743	$ 673,372	$ 669,140
Marketing & Outreach	$ 722,301	$ 769,636	$ 706,455
Direct Implementation			
Incentives	$ 923,740	$ 1,847,480	$ 3,694,959
Activity	$ 269,843	$ 277,939	$ 286,277
Installation	$ -	$ -	$ -
Hardware & Materials	$ 574,518	$ 450,543	$ 400,518
Rebate Processing & Inspection	$ 7,130	$ 5,284	$ 5,443
EM&V	$ -	$ -	$ -
Total	*$ 3,323,539*	*$ 4,225,467*	*$ 6,050,932*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
2,951,502	649	50,215	5,903,003	1,299	100,429	11,806,006	2,597	200,859

3. Program Cost Effectiveness

Attached

4. Program Descriptors

Nonresidential new construction market sector; available statewide with common rules and criteria; a modification of the existing Savings By Design program.

Savings By Design (SBD) has been an energy efficiency program for the nonresidential new construction industry, developed and delivered by the investor-owned utilities (IOUs) since 1999, to provide statewide consistency, program stability, and savings persistence to the nonresidential new construction market. The 2006 nonresidential new construction program builds on the best elements of successful new construction programs run by the investor owned utilities since the early 1990's. The program promotes integrated design and emphasizes early design involvement by offering building owners and their design teams a wide range of services including education, design assistance, and owner incentives, as well as design team incentives.

5. Program Statement

The Savings By Design program will continue to provide the nonresidential new construction industry with a broad palette of technical and financial resources to aid them in designing new facilities to the most cost-effective energy efficiency standards. The program is targeted to owners/developers/tenants who are planning

new buildings, including expansions, additions, and major remodels, as well as their selected design professionals who are providing building plans and specialty consulting regarding energy or environmental quality. Integrated design is the program's top goal, which is exemplified by all building disciplines working together in the early design phases, to plan and construct a high performance project.

Though the concept of high performance building has continued to gain prominence over the last several years, still many design teams are only familiar with basic energy efficiency concepts and are often reluctant to incorporate innovative energy-efficient technologies into a particular project due to perceived higher upfront capital costs or the fear that doing so will result in unnecessary project delays. This lack of awareness and reluctance is addressed in the program's design by working with owner/developers and design teams from the ground up, early in the planning process, educating them by offering hands-on training and no-cost analysis resources, guiding them through the participation process with Account Executives who are dedicated program-specialists, and the strategic use of incentives. SDG&E's program can help overcome these market barriers, avoid lost opportunities, and assure that the best in energy efficiency and energy-related technologies are incorporated in each project.

6. Program Rationale

This program delivers cost-effective, permanent, and verifiable energy savings and peak demand reduction with long-term energy savings of between 15 to 20 years. By providing the technical and financial means to influence the basic design of commercial and industrial projects, the program assures that these projects are constructed correctly the first time. Nonresidential new construction interventions preclude demand from ever impacting electrical and gas supply and provide fundamental, if invisible, savings. Further, the program is able to influence decision makers and demonstrate energy savings potential at the time when achieving those savings is most cost effective for the building owner, thereby avoiding lost opportunities. With specific enhancements intended to help the market address the new Title 24 energy code changes being applied in 2006, the program will continue to serve the needs of project owners and design teams.

Since 1999 the statewide Savings By Design (SBD) program has involved thousands of participants and projects and has worked with scores of design teams. The program's innovative educational elements and implementation strategies target market barriers and failures that inhibit adoption of cost-effective energy efficiency measures while providing lead sources for future project involvement. The Savings By Design program has consistently met the California Public Utilities Commission's (CPUC) goals and objectives for energy efficiency programs and will continue to benefit the nonresidential new construction market in 2006 and beyond.

The program relies on three basic elements to avoid lost opportunities across all customer sizes: the Whole Building Approach, the Systems Approach and education and outreach. The core strategy centers on an integrated design approach

to optimize energy efficiency, known as the Whole Building Approach, which is appropriate for larger, more complex buildings and for those sophisticated customers with the ability to undertake such an approach. This approach has a tiered incentive structure to help pull projects towards high levels of energy efficiency and keep designers pushing the envelope. For those participants who would not normally consider or cannot use a fully integrated design approach, the Systems Approach provides a simplified, performance-based calculation method that moves owners and design teams far beyond simple prescriptive approaches and minimum code compliance. Delivery strategies utilizing training, education, and outreach, are integral to program design and also crosscut all program elements in order to reach the broadest possible audience. Intervention strategies mix information, technical assistance, and training with financial incentives to increase supply of, and demand for, high-performance buildings, high efficiency equipment and materials, to the broadest possible audience.

7. Program Outcomes

By using indicators such as energy simulation modeling, life cycle cost analysis and long term operating cost reduction goals, the program will educate, demonstrate, and encourage energy efficiency and demand reduction above and beyond California's Energy Code (Title 24). Early involvement with design decision-makers presents the best opportunity to provide influential information and enhance the energy performance of nonresidential new construction buildings with quantified financial incentive offers so that loads are reduced through right-sized equipment, leading to reduced capacity affecting the grid. The program is designed to have interactions with other programs influencing energy codes and education and training for nonresidential design professionals.

SDG&E will work to incorporate other existing offerings, internal and external to the utilities, to assist in realizing a project that reflects a cohesive sense of sustainability that may go beyond the traditional aspects of energy efficiency. Such offerings may include LEED (Leadership in Energy and Environmental Design) Green Building Rating System® certification, ENERGY STAR® rating, demand response and self-generation programs, and other programs, as applicable.

Savings By Design will:

- Collaborate with the statewide Savings By Design teams to share best practices and other successful tools and resources.
- Motivate customers and the design industry to integrate energy use and efficiency strategies early in the design process.
- Support and work in concert with the Sustainable Communities program goals and initiatives.
- Collaborate with the residential new construction Advanced Home Program to jointly solicit mixed-use projects.
- Introduce and support the time-dependent valuation of energy used as the basis of the new Title 24 energy standards.

- Move customers to design their facilities with the goal being long-term energy and cost savings, not just compliance with regulations.
- Promote available resources to market players regarding Title 24 Code changes and how to exceed them cost-effectively and manage the efficient use of on-site training resources.

8. Program Strategy

Nonresidential New Construction
Nonresidential Building Design Assistance
Nonresidential Building Calculated Incentives

8.1.1. Program Strategy Description

The program targets key "influencers" in the new construction market segment including: architects and designers, property developers and building owners, industry and trade associations (American Institute of Architects - AIA, American Society of Heating, Refrigeration, and Air-conditioning Engineers - ASHRAE, Building Owners and Managers Association - BOMA, Illuminating Engineers Society - IES, United States Green Building Council - USGBC, etc.), energy consultants and service providers, engineers, building-system contractors, building department inspectors and plan checkers. The program emphasizes intervention with no-cost design assistance and analysis early in the planning and design process and offers a wide range of customized services including education, design assistance, building calculated owner incentives and design team incentives.

The program influences nonresidential building market actors such as owners, tenants and design teams to exceed current Title 24 energy efficiency standards (or established standards for industrial and specialty processes) by a significant percentage better than code for their new construction or renovation/remodeling projects. It leverages resources from industry relationships, strategic alliances and other public purpose programs to accomplish the goals of energy savings, peak demand reductions and long-term market change. Such sustained intervention within the nonresidential new construction market impacts market practice and flattens projected procurement demand, allows for the continuing strengthening of codes and standards, while continuing to nurture commercial and industrial project development.

1. Nonresidential New Construction
   - Initial program launch will involve utility program personnel working with innovative midstream design professionals and owners of nonresidential buildings who have successfully participated in the Savings By Design program previously to provide feedback about program enhancements.

- Utility personnel will build on relationships to announce the updates to the Savings By Design program, which has been successful and influential in this market since 1999.
- Utility and statewide representatives offering Savings By Design, will design, develop, and provide marketing and outreach materials to the midstream and downstream market actors to inform them about the program and attract expanded interest.
- Market actors will demonstrate their interest in the program by taking action through program outreach channels, including websites, trade ally outreach, and personal contact by utility representatives.
- Utility representatives will then facilitate program participation by offering no-cost design assistance and specialized analysis to gain access to project decision makers. Design assistance and analysis is provided at no cost and targeted to early design intervention to increase building energy performance when it is least costly to make changes. This assistance identifies opportunities for energy efficiency enhancements beyond code compliance, early in the design phase, and is presented to the owner and design team to help convince them to pursue high performance building, well beyond state energy code requirements for new construction.
- Decision makers, facilitated by utility representatives, will consider different program options and be advised regarding the best program approach suited to their project, benefits of energy efficiency enhancements, and financial incentives available to help make energy efficiency investments. Once the program approach is selected and agreed upon, information is gathered to progress towards a formal commitment.
- Utility representatives prepare the energy efficiency commitment that identifies the targeted enhanced performance of the project, estimates the financial incentive offered through the program, and specifies a combination of energy efficiency strategies that are to be included in the constructed project to achieve this level of performance.
- Owners and design team members sign agreements offered by utility representatives to pursue high performance buildings and proceed through the phases of their project.
- Utility representatives monitor the project and when notified that construction is complete, verify that the energy efficiency strategies are installed in the completed building. Financial incentives and energy savings are quantified and appropriate checks are processed for the owner and qualifying design teams.
- The enhanced building, with better-than-code-required energy performance, is constructed and continues to save energy for many years when compared to a code-compliant building.

2. Nonresidential Building Design Assistance
   - Design assistance matched to the needs of the project and custom analysis at no-cost are provided by utility representatives. This assistance identifies opportunities for energy efficiency enhancements beyond code compliance, early in the design phase, and promotes integrated analysis that avoids lost opportunities. Results of design analysis and the benefits of energy efficiency enhancements are presented to the owner and design team to help convince them to pursue high performance strategies, well beyond state energy code requirements for new construction.
   - Decision makers, facilitated by utility representatives, will consider different program options and be advised regarding the best program approach suited to their project, benefits of energy efficiency enhancements, and financial incentives available to help make energy efficiency investments all associated with the design assistance results. Once the program approach and preferred package of energy efficiency options is selected and agreed upon, information is gathered to progress towards a formal commitment.

3. Nonresidential Building Calculated Incentives
   - Utility representatives, using computer simulation modeling software, estimate an eligible building's performance and energy savings in comparison to California's energy code requirements for nonresidential new construction projects (or industry's standard practice baseline for other processes or systems not addressed by code) to offer Savings By Design's building calculated incentives. Calculated savings are used to estimate potential financial incentives available through the program, using the Whole Building or Systems approach (which mirror the performance or prescriptive approach to code compliance).
   - Design teams who perform computer simulation modeling, consider various combinations of energy efficiency enhancements, achieve significantly increased performance over code requirements following the Whole Building Approach, and help educate and convince their clients to make energy efficiency investments, become eligible to receive incentives based on the building's calculated energy savings.
   - Owners of nonresidential new construction projects, who commit to construct their projects with the modeled energy efficiency enhancements, receive building calculated incentives following the Whole Building or the Systems approach.
   - Utility representatives use building calculated incentives to raise decision maker's awareness regarding the benefits of integrated design, avoid lost opportunities and cream-skimming due to

limited capitol budgets, overcome perceived first-cost and bounded rational barriers, and to cost-effectively motivate decisions makers to construct high performance buildings. The outcome is energy efficiency investment along with quantifiable and verifiable long-term operating savings and energy efficiency.

8.1.2. Program Indicators

The primary goal of the program's strategies is to procure energy savings and demand reduction in nonresidential new construction projects through early invention and design assistance and then following through construction and verification, to quantify energy efficiency savings and pay incentives following program commitments. To eventually report energy savings on a uniform basis, program management will also begin to track the source energy conserved by each approach on a kBtu/building platform.

9. Program Implementation

A coordinated array of intervention strategies is necessary to overcome the market barriers standing in the way of sizable net benefits available from integrated, comprehensive building design. Program representatives will contact customers who are building new buildings, and utilize relationships with design professionals working in the region, to inform decision makers about program opportunities and benefits. The nonresidential new construction program's approach targets the primary decision makers in new construction projects with an emphasis on customized design assistance offered through program-dedicated utility representatives. Design assistance and incentives target owners, architects, and engineers, with information and financial stimulus to encourage maximum effort in pursuit of comprehensive long-term savings.

The Savings By Design program will continue to build on the two successful components that are delivered to the industry via program representatives – the Whole Building Approach and the Systems Approach:

- The Whole Building Approach is the preferred method of estimating energy savings within SBD because it enables a design team to consider integrated, optimized energy efficiency solutions. This approach provides and requires a high level of energy analysis and interactive feedback, which leads to more efficient design decisions. It also includes a progressive, tiered incentive structure to pull projects to perform significantly better than code requirements.

- The Systems Approach is a simplified, performance-based method, utilizing a calculation tool to optimize efficiency choices. It is straightforward and participants may find it the best available option for certain types of projects. The Systems Approach makes it easy for designers to look at the interaction of systems within their project, rather than individual equipment or measures.

- SBD also offers Design Team Incentives to support the extra effort for integrated energy design and to provide a reward for exceptional design accomplishments within the context of the Whole Building Approach. The program will introduce new opportunities to receive incentives in a phased-manner – bringing payment closer in proximity to when designer's complete their services - to better address this important decision maker's needs.

Delivery strategies utilizing program representatives including training, education, and outreach are integral to program design as are alliances with organizations promoting energy efficiency and integrated design for the nonresidential new construction industry. In pursuit of these ends, the program will align itself with numerous organizations and agencies including, but not limited to, the American Institute of Architects, California Council (AIACC); the Collaborative for High Performance Schools (CHPS); the California Commissioning Collaborative (CCC); the Coalition for Adequate Schools Housing (CASH); the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE); the California Energy Commission (CEC); and the Department of the State Architect (DSA), among others.

A core component of the program's mission is to seek continuous improvement from the new construction industry and keep them aware of the on-going changes to Title 24 energy code. As such, the program will collaborate with the California Energy Commission on educational and program implementation strategies that prepare market actors for successive code changes in advance of code adoption within regularly scheduled update cycles.

10. Customer Description

The program targets distinct links in the new construction decision-making chain, reflecting differences in design activities and priorities between large and small buildings and various occupancies. The program offers services and incentives to owners, developers, design teams, and contractors. All end-uses in buildings are included within program offerings, as are all end uses found in commercial, governmental, institutional, and industrial or agricultural processes. .

11. Customer Interface

Both the Whole Building Approach and the System Approach follow the same implementation process. The process begins with an initial contact between the customer (and/or the customer's design team) and a Savings By Design representative. These program representatives are dedicated to program implementation and trained to understand the dynamics and language of the design and construction industry, focused only on the delivery of the Savings By Design program. Program representatives actively seek out customers with potential new construction projects and generate project leads from diverse sources.

Once the program representative has helped the customer complete the brief Letter of Interest that documents the owner's interest in participating and receiving

program benefits, further specifics are gathered regarding the project, such as design team members and construction timeline.

Initial meetings, between all members of the design team, the program representative, and appropriate technical staff, are held to discuss the parameters of the project and determine the best approach for the project. Design assistance, matched to the needs and scope of the project, is offered with the goal of identifying and validating energy savings strategies appropriate to the facility under design.

The program representative and supporting technical staff continue to provide recommendations, feedback, consulting, and energy use analysis, as needed, to the owner and design team as the project proceeds through the various design phases. Such activity can vary in duration from months to years. Culmination of this phase of the process will result in a list of agreed-upon energy efficiency strategies to be incorporated into the constructed project.

At this point, an Incentive Agreement between the owner and SDG&E is executed. The execution of the Agreement generally takes place before the construction of the new building is begun. When applicable, an Incentive Agreement between the design team leader and SDG&E is executed after the Owner Agreement has been finalized.

When the building's construction has been completed, SDG&E will make an on-site visit to each participating project to confirm compliance with the terms of the Agreement. Once the inclusion of all measures/strategies has been confirmed, the owner is paid the agreed-upon incentive amount and energy savings reported. Should the completed construction vary from the Agreement, the available incentive will be recalculated to reflect the modeled energy-efficiency performance of the building as constructed.

For nonresidential new construction projects, the utility representatives will work closely with the owner and their design team to obtain the documents necessary to assess the project's performance, propose customized enhancements, offer financial incentives for quantify energy savings, and follow-through upon construction completion to verify installed energy-efficient systems. In addition, the design team may qualify for partial payment of incentive upon design analysis submission and acceptance, by working closely with the program representative.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

12.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

12.3. Non-energy Activities

- Outreach/marketing activities, including an annual energy efficiency recognition awards (co-sponsored with trade allies, to raise awareness regarding energy-efficient design and construction, within the new construction industry).
- Training and resource enhancements targeted to the nonresidential new construction market and professionals.

12.3.1. Activity Description

Education and training courses will support the program concepts and will cover a number of construction and design issues, such as the 2005 Energy Efficiency Standards, daylighting strategies, designing for your climate, and energy simulation modeling.

12.3.2. Quantitative Activity Goals

The current education and training classes have proven extremely successful and well received with attendance increasing. The program will continue this offering with an expanded curriculum focusing on emerging technologies and integrated design.

12.3.3. Assigned attributes of the activity (market sector, end use)

The education and training classes are offered free of charge to all interested parties, and can be conducted on-site upon request. The target market sector is architects, lighting designers, engineers, energy consultants, and building department inspectors and plan reviewers.

13. Subcontractor Activities

- Project-specific, energy simulation design assistance and consulting
- Integrated energy design support
- Pilot program delivery in defined industry niches. A Request for Qualifications process will be used to select uniquely qualified contractors to address targeted industrial market segments to assess and implement a limited offering to these specialized segments. Selected contractors will have demonstrated, unique new construction design expertise, and will be tasked with influencing specified segments of the nonresidential new construction market, in an effort to better serve customers designing these types of projects.

14. Quality Assurance and Evaluation Activities

The program will conduct inspections on 100% of the projects that complete construction during the program period.

An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E looks forward to participating and commenting on those activities and plans to file

EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs.

15. Marketing Activities

The primary marketing agent for Savings By Design is the group of program-dedicated Account Executives working to leverage long-standing relationships and continually expand outreach to design professionals, allied organizations, and all customers. Additionally, individual memberships in pertinent local industry organizations such as AIA, ASHRAE, IES, USGBC, and others, are utilized to build a presence in, and an informational/educational resource for members of, these organizations. In addition, the program will:

- develop and distribute program brochures, informational inserts, industry-specific marketing pieces, informational articles, and design guidelines.
- offer technical assistance and project-specific design assistance to building owners, developers, architects, engineers and contractors, to identify and analyze efficiency opportunities, and perform integrated design.
- conduct market segment-appropriate training and continuing education in integrated design practice (e.g., integrated design best practices, energy simulation modeling and analysis, commissioning, high efficiency lighting systems, daylighting strategies, outperforming energy codes and standards).
- tailor targeted information and design incentives to architects, engineers, and/or building owners/developers to encourage energy efficiency, financial analyses, and building simulation modeling.
- continued expansion of Energy Design Resources, including energy simulation tools, financial analysis tools, and web-based resources, and case studies promoting high performance demonstration projects.
- support allied organizations such as CHPS, CCC, CASH, AIACC, ASHRAE, the CEC, and others, at their meetings, programs, conferences, and activities that promote energy efficiency and integrated design for nonresidential buildings to owners, design professionals, and energy professionals, as well as government agencies, cities, and counties.
- co-sponsor events, trade shows, and publications with the San Diego chapters of allied organizations.
- offer training opportunities, including scheduled sessions and on-site/upon request presentations at architects and engineers offices.

16. CPUC Objective

1. *Make Energy Efficiency the Utilities Highest Priority*:
Savings By Design compliments SDG&E's portfolio of resource-acquisition energy efficiency programs by concentrating on delivering compelling information to the market that leads to energy efficiency investment in the most cost-effective manner.

In nonresidential new construction projects, this is done by promoting integrated analysis, and thereby avoiding lost opportunities in the design phase of a project, because this is the time when the financial cost of energy efficiency enhancements is much lower, when compared to other options such as changes after design completion or retrofitting existing buildings.

2. *Pursue All Cost-effective Energy Efficiency Opportunities (over both the short- and long-term):*
Savings By Design contributes towards achievement of the energy savings targets set for SDG&E service territory in both the electric and natural gas savings categories, and assures the most valued long-term savings, as designing a building efficiently leads to less capacity ever affecting the grid, that is not easily re-introduced without significant construction. As one example, the program promotes mechanical system down-sizing to reflect efficient lighting system's reduced loads and other interactive effects between systems that can be optimized when a building is considered as an interactive whole during the design phase.

3. *Focus on programs that serve as alternatives to more costly supply-side resource options:*
Savings By Design has demonstrated its cost effectiveness through the results of its TRC and PAC tests over the 2006-08 program cycle.

4. *Avoid "lost opportunities" and "cream skimming":*
Savings By Design is an innovative program that was designed to avoid lost opportunities by focusing on the advantages of integrated design analysis and early intervention in the design process to demonstrate the benefits of energy efficiency optimization through computer simulation modeling. Its financial incentive structure clearly disadvantages limited scope, system-based energy analysis.

5. *Increase overall capacity utilization and lower peak loads:*
Savings By Design is effective at lowering peak loads by using the California energy code as a baseline, with its new Time Dependent Valuation methodology, and analyzing nonresidential new construction projects in comparison to code to develop a margin of compliance (or percentage better than code). In addition, Savings By Design offers an incentive rate structure that escalates as this percentage increases pulling the market to investigate higher performance and reduced loads.

6. *Include…information and education programs, support for codes and standards, and continue to build upon the success of existing program:*
Savings By Design is an existing statewide program that is being expanded and offered by more of California's utilities – including municipal utilities – and supports the distribution of energy efficiency information and educational training opportunities through its statewide website and educational effort known as Energy Design Resources. In addition, the program promotes codes and standards awareness and understanding by using the code as a benchmark, and by keeping the market updated about the current California energy code and supporting the

evolution and tightening of codes over time through demonstration of technologies and strategies that are not standard in the current code.

8. *Expand the Emerging Technologies programs and other PIER projects… with emphasis on commercialization within 6 years*:
Savings By Design works closely with the Emerging Technologies program to find innovative design professionals who are interested in demonstrating technologies that have not achieved market acceptance in new construction projects. This cooperation optimizes the opportunity to target emerging technologies and focus market attention on demonstration projects that will serve as case studies and break down market resistance.

10. *PGC funds must be spent in service territories collected; gas PGC collections must fund gas efficiency programs and electric PGC funds must fund electric efficiency programs:*
Savings By Design is a dual-fuel program (addressing electric and gas savings), implemented in SDG&E's service territory, while effectively reaching across utility boundaries as more of California municipal utilities show interest in offering the program in their service territories.

	SDGE3018 NEW-Savings By Design
BUDGET	
Administrative Costs	**$ 2,657,872**
Overhead and G&A	$ 647,616
Other Administrative Costs	$ 2,010,256
Marketing/Outreach	**$ 2,198,392**
Direct Implementation	**$ 8,743,674**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ 6,466,179
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 834,059
Installation	$ -
Hardware & Materials	$ 1,425,579
Rebate Processing & Inspection	$ 17,857
EM&V Costs	**$ -**
Budget	**$ 13,599,939**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 13,599,939**
PROGRAM IMPACTS	
User Entered kW (kW)	4,545
Net Jul-Sept Peak (kW)	6,723
Net Dec-Feb Peak (kW)	2,682
Net NCP (kW)	5,260
Net CEC (kW)	4,483
Annual Net kWh	20,660,512
Lifecycle Net kWh	309,907,675
Annual Net Therms	351,503
Lifecycle Net Therms	5,272,547
Cost Effectiveness	
TRC	
Costs	$ 10,395,912
Electric Benefits	$ 18,835,891
Gas Benefits	$ 2,803,652
Net Benefits (NPV)	$ 11,243,631
BC Ratio	2.08
PAC	
Costs	$ 12,695,403
Electric Benefits	$ 18,835,891
Gas Benefits	$ 2,803,652
Net Benefits (NPV)	$ 8,944,140
BC Ratio	1.70
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	168,714,857
Cost	$ 0.0496
Benefits	$ 0.1116
Benefit-Cost	$ 0.0620
Levelized Cost PAC ($/kWh)	
Discounted kWh	168,714,857
Cost	$ 0.0676
Benefits	$ 0.1116
Benefit-Cost	$ 0.0441
Levelized Cost TRC ($/therm)	
Discounted Therms	2,870,394
Cost	$ 0.7035
Benefits	$ 0.9767
Benefit-Cost	$ 0.2733
Levelized Cost PAC ($/therm)	
Discounted Therms	2,870,394
Cost	$ 0.4503
Benefits	$ 0.9767
Benefit-Cost	$ 0.5265

Savings By Design

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 3,323,540	$ 923,740	$ 2,399,800	2,951,502	50,215	649
2007	$ 4,225,467	$ 1,847,480	$ 2,377,987	5,903,003	100,429	1,299
2008	$ 6,050,932	$ 3,694,959	$ 2,355,973	11,806,006	200,859	2,597

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	221001	Whole Bldg - Elec	1	-	0.00	0.8212	kWh	15	3,594,133	$ 0.24	$ 0.12	2,951,502	-	649
2006	221002	Whole Bldg - Th	-	1	-	0.8212	Therm	15	61,148	$ 1.00	$ 3.62	-	50,215	-
2006	221003	Daylight+contols	1	-	0.00	0.8212	kWh	15	-	$ -	$ 0.18	-	-	-
2006	221004	Lighting	1	-	0.00	0.8212	kWh	15	-	$ -	$ 0.20	-	-	-
2006	221005	HVAC	1	-	0.00	0.8212	kWh	15	-	$ -	$ 0.26	-	-	-
2006	221006	Water Heating	-	1	-	0.8212	Therm	15	-	$ -	$ 2.83	-	-	-
2006	221007	Other - Elec (incl Refrig)	1	-	0.00	0.8212	kWh	15	-	$ -	$ 0.27	-	-	-
2006	221008	Other - Gas	-	1	-	0.8212	Therm	15	-	$ -	$ 3.09	-	-	-
2006	221009	Daylight+contols (gas)	-	1	-	0.8212	Therm	15	-	$ -	$ -	-	-	-
2006	221010	Lighting (gas)	-	1	-	0.8212	Therm	15	-	$ -	$ -	-	-	-
2006	221011	HVAC (gas)	-	1	-	0.8212	Therm	15	-	$ -	$ -	-	-	-
2007	221001	Whole Bldg - Elec	1	-	0.00	0.8212	kWh	15	7,188,265	$ 0.24	$ 0.12	5,903,003	-	1,299
2007	221002	Whole Bldg - Th	-	1	-	0.8212	Therm	15	122,296	$ 1.00	$ 3.62	-	100,429	-
2007	221003	Daylight+contols	1	0	0.00025	0.8212	kWh	15	0	$ -	$ 0.18	-	-	-
2007	221004	Lighting	1	0	0.00025	0.8212	kWh	15	0	$ -	$ 0.20	-	-	-
2007	221005	HVAC	1	0	0.0002	0.8212	kWh	15	0	$ -	$ 0.26	-	-	-
2007	221006	Water Heating	0	1	0	0.8212	Therm	15	0	$ -	$ 2.83	-	-	-
2007	221007	Other - Elec (incl Refrig)	1	0	0.00014286	0.8212	kWh	15	0	$ -	$ 0.27	-	-	-
2007	221008	Other - Gas	0	1	0	0.8212	Therm	15	0	$ -	$ 3.09	-	-	-
2007	221009	Daylight+contols (gas)	0	1	0	0.8212	Therm	15	0	$ -	$ -	-	-	-
2007	221010	Lighting (gas)	0	1	0	0.8212	Therm	15	0	$ -	$ -	-	-	-
2007	221011	HVAC (gas)	0	1	0	0.8212	Therm	15	0	$ -	$ -	-	-	-
2008	221001	Whole Bldg - Elec	1	0	0.00022	0.8212	kWh	15	14376530	$ 0.24	$ 0.12	11,806,006	-	2,597
2008	221002	Whole Bldg - Th	0	1	0	0.8212	Therm	15	244592	$ 1.00	$ 3.62	-	200,859	-
2008	221003	Daylight+contols	1	0	0.00025	0.8212	kWh	15	0	$ -	$ 0.18	-	-	-
2008	221004	Lighting	1	0	0.00025	0.8212	kWh	15	0	$ -	$ 0.20	-	-	-
2008	221005	HVAC	1	0	0.0002	0.8212	kWh	15	0	$ -	$ 0.26	-	-	-
2008	221006	Water Heating	0	1	0	0.8212	Therm	15	0	$ -	$ 2.83	-	-	-
2008	221007	Other - Elec (incl Refrig)	1	0	0.00014286	0.8212	kWh	15	0	$ -	$ 0.27	-	-	-
2008	221008	Other - Gas	0	1	0	0.8212	Therm	15	0	$ -	$ 3.09	-	-	-
2008	221009	Daylight+contols (gas)	-	$ 1.00	$ -	0.8212	Therm	15	0	$ -	$ -	-	-	-
2008	221010	Lighting (gas)	-	$ 1.00	$ -	0.8212	Therm	15	0	$ -	$ -	-	-	-
2008	221011	HVAC (gas)	-	$ 1.00	$ -	0.8212	Therm	15	0	$ -	$ -	-	-	-

2006-2008 Energy Efficiency Programs
Sustainable Communities Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 18,805	$ 27,331	$ 34,571
Administrative Other	$ 66,438	$ 75,718	$ 75,217
Marketing & Outreach	$ 72,390	$ 109,157	$ 137,962
Direct Implementation			
Incentives	$ 184,293	$ 301,406	$ 415,643
Activity	$ 49,518	$ 56,182	$ 57,867
Installation	$ -	$ -	$ -
Hardware & Materials	$ 900	$ 1,500	$ 2,000
Rebate Processing & Inspection	$ 2,565	$ 2,642	$ 2,725
EM&V	$ -	$ -	$ -
Total	*$ 394,909*	*$ 573,936*	*$ 725,985*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
392,116	86	7,145	604,587	147	14,479	814,222	205	22,556

3. Program Cost Effectiveness

Attached

4. Program Descriptors

Sustainable Communities Program (SCP) targets both residential and nonresidential Market Segments. It is a local program designed to work in concert with the cities and counties in the SDG&E service territory to promote sustainable development, showcase energy-efficient design and building practices, and encourage local developers to incorporate clean on-site energy generation systems in their multifamily and commercial new construction projects. The goal of this program is to create sustainable energy savings and demand reduction by creating a network of projects in SDG&E's service territory that incorporate high performance energy efficiency and demand reduction technologies, along with clean on-site generation, water conservation, transportation efficiencies and waste reduction strategies. This is a Modified program and is expected to impact, initially, a minor percent of both the non-residential and the residential new construction markets.

5. Program Statement

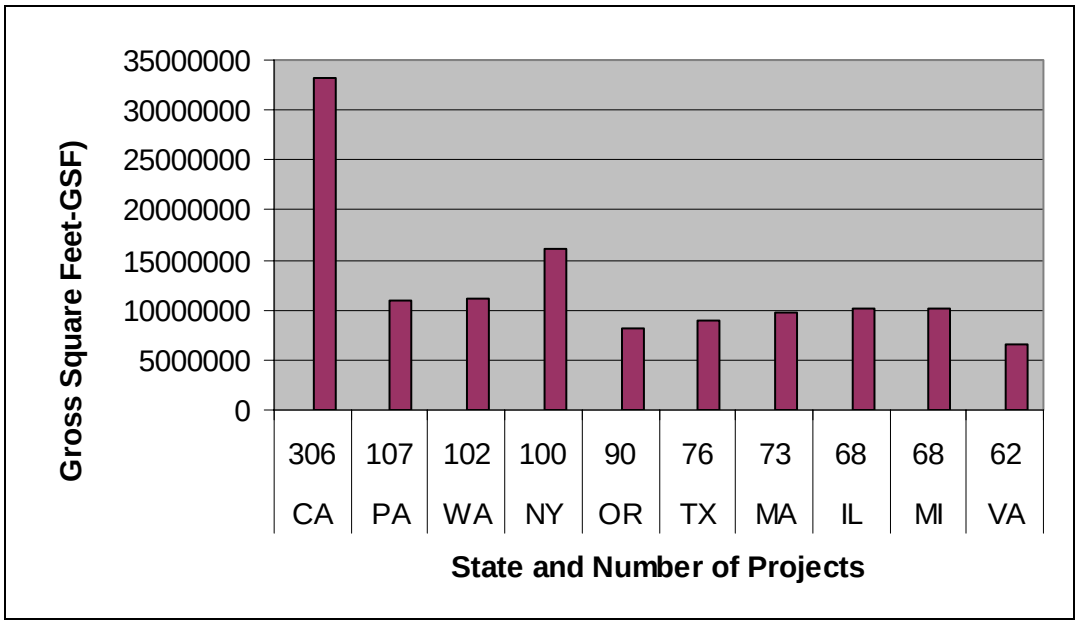
California is a leader in the construction of green buildings. Many cities have adopted or have begun to adopt green building policies. Additionally, the state of California has adopted LEED (Leadership in Energy and Environmental Design) Green Building Rating System® as a standard for its facilities. Although interest and activity continues to grow, sustainable design is still in the infancy stage particularly in the communities served by SDG&E. Further emphasis is needed to

optimize energy efficiency within sustainable building projects through good design practices beyond the current statewide program limitations. Continued growth can be achieved by demonstrating success on local projects representing good sustainable design and construction practices.

6. Program Rationale

The program responds to the growing interest in sustainable design practices. It emphasizes LEED due the its significant impact on energy and more holistic approach to building design, construction, performance and site development than the EPA's ENERGY STAR® rating system for buildings. LEED, created by the US Green Building Council (USGBC), has emerged as the recognized national standard for green building practices. It provides a complete framework for assessing building performance and meeting sustainability goals. LEED emphasizes state-of-the-art strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. It recognizes achievements and promotes expertise in green building through a comprehensive system offering project certification, professional accreditation, training and practical resources.

California is the leader in pursuing LEED certified buildings. As of May 2005, there were 306 registered projects in California of the 1921 projects nationally registered for LEED certification. By contrast, San Diego has been slower to pursue green buildings. As of May 2005, there were less than 25 projects registered with four certified buildings. Despite a slower adoption rate, momentum is growing.



Source: USGBC, "An Introduction to the U.S. Green Building Council and the LEED Green Building Rating System®", May 2005.

An impetus to growth was a project showcased through the Sustainable Communities program. This award-winning project was the first LEED Gold building in the San Diego region. It has drawn widespread attention with several

tours of the facility per month for SDG&E customers considering green building projects. The 2006–2008 program will capitalize on this groundwork to expand adoption of sustainable buildings further.

Energy efficient design is strongly encouraged within LEED NC v.2.1 and the newly launched LEED NC v 2.2. The SCP amplifies that encouragement by placing additional emphasis on energy efficient design to encourage building owners and developers to push the envelope.

To encourage owners and developers to push the envelope, financial incentives, design assistance, and education are needed. Although sustainable building projects should be reviewed from a lifecycle cost standpoint, most building owners and developers are concerned with additional upfront costs. The incremental costs for sustainable buildings vary widely and are project specific. An analysis completed by CTG Energenics, a local engineering consulting firm, estimates a LEED Certified or Silver rating can be achieved for less than a 5% increase in construction costs based upon their experience with dozens of LEED projects in Southern California. A study completed by Greg Kats, "The Costs and Financial benefits of Green Building" for the California Sustainable Building Task Force, found the average premium for green buildings is slightly less than 2%. Another study, "Measurement and Cost of Building Green" by Anthony Bernheim and Scott Lewis' which looked at four large LEED projects in California, concluded that the incremental cost of achieving LEED was between 0.7 and 2.4 percent. As more projects are completed and the building industry becomes more experienced, the incremental costs will decrease.

The program will also investigate quantifying both upstream and downstream energy savings that are not captured by Title 24. Of the total possible points possible for LEED, 30 points can be associated with energy savings not captured in Title 24. For example, LEED encourages water efficiency and wastewater reduction. Water savings associated with LEED projects directly attribute to less water pumping and therefore less energy use.

Additionally, many local governments in SDG&E's service territory are now considering the adoption of sustainable building policies, but do not have the experience or expertise to move forward. These jurisdictions have the unique ability to adopt and enforce local policies and statutes to facilitate energy efficiency at the local level, and can proactively promote programs through various local community based organizations that provide services to local residents. Further, local agencies administer rebate and incentive programs that can be utilized in areas of waste management, water efficiency, transportation and landscape planning.

7. Program Outcomes

The goal of the SCP is to generate sustainable energy and demand savings by creating a network of sustainable/green building projects in SDG&E's service territory. Its longer-term goal is to help mainstream new energy efficient

technologies and sustainable design practices by documenting the benefits and lifecycle cost savings achieved by these projects.

- Support sustainable design principles in a growing number of projects.
- Strategic support of raising the level of LEED certification for those participating projects.
- Design and implement a successful collaborative model to affect project sustainability design goals.
- Provide offerings and services that support the Green Buildings Executive Order goals to establish a "…campaign to inform building owners and operators about the compelling economic benefits of energy efficiency measures; improving commercial building efficiency programs to help achieve the 20% goal…"
- Develop materials that highlight and promote successful projects to raise the awareness and viability of the sustainable design process and the technologies used.
- Investigate and incorporate potential electric energy savings from indirect sources such as water conservation strategies. Any verifiable electric energy savings will be reported as part of this program offering.
- Develop a platform for future expansion of program to include neighborhood developments and community master plans.

8. Program Strategy

This local program is a natural extension of the statewide new construction programs that offers incentives for sustainable building projects that greatly exceed the state's Energy Code and that achieve LEED (or CHPS) certification. It will utilize several Program Strategies in pursuit of the Program Objectives. Those are:

- Nonresidential New Construction
- Nonresidential Building Design Assistance
- Residential New Construction
- Residential Building Design Assistance

8.1.1. Program Strategy Description

- These projects will encourage high performance energy efficiency and demand reduction technologies, along with clean on-site generation, water conservation, transportation efficiencies and waste reduction strategies.
- The program will leverage existing relationships, methodologies, and resources from the statewide new construction programs.
- SDG&E representatives will provide prospective participants, primarily building owners and developers, program plan materials and information and work to enhance their understanding of the programs.

- A SDG&E representative will coordinate with building design teams to provide expertise in sustainable design and ensure program requirements are met.
- Building evaluations will be completed for candidate projects and recommendations provided to increase energy efficiency and sustainability.
- Adopted recommendations will be verified and incentives provided in accordance with program guidelines.
- Case studies and/or fact sheets will be developed and distributed on selected projects to the target market to increase the sustainable building knowledge base locally.
- Projects with municipalities will be showcased to provide experience and community examples for developing and adopting sustainable building policies.

8.1.2. Program Indicators

The program will track achievements through identified energy savings and achieved building certifications.

9. Program Implementation

The SCP is a performance-based program. All projects funded under the SCP will be required to exceed the 2005 Title 24 energy code, consider the installation of on-site renewable generation and incorporate green building design as outlined in LEED or CHPS. To participate and qualify for incentives under the SCP, applicants must comply with the program requirements described below.

<u>Program Process and Requirements</u>

- Participants will be required to complete and return a Participation Letter/Letter of Interest to indicate the interest in the program.
- SDG&E will work with each participant to determine if the project is a good candidate and determine the best strategy to achieve energy performance and sustainable building requirements.
- Participants will sign an Incentive Agreement to reserve funds prior to construction.
- Participants will agree to commit to building and system designs that will improve building or system performance, not apply for or receive any other incentive offered by the statewide residential or non-residential programs, and allow SDG&E to create publicize the project at SDG&E's discretion.
- SDG&E will provide assistance to the design team to meet the program requirements and coordinate interactions with the utility and other entities.
- Upon commissioning, participants will provide required documentation, including selected construction documents, energy compliance documentation, integrated design analysis reports, manufacturer specifications, equipment cut sheets, and incremental cost verification, as requested.

- SDG&E will complete an on-site verification and, if desired, create a case study or fact sheet on the project.
- Funds will be provided to owner participants upon successful building commissioning and verification.
- Design team incentives will be provided upon completion of building design, energy efficiency design verification, and successful building commissioning and verification in accordance with program guidelines
- Participants will provide proof of registration for LEED and/or CHPS.

Incentive funding will be offered on a first-come, first-served basis. If the project's completion is delayed beyond the final date, the Agreement is voided, but the project may be eligible under the program guidelines in effect at that time. Subsequent eligibility will be considered on a case-by-case basis and will require SDG&E approval and execution of a new Incentive Agreement. Projects failing to meet the requirements of the program may be considered for other new construction program incentive funding.

10. Customer Description

Building owners, building contractors, architects, engineering firms, municipalities, and land developers.

11. Customer Interface

The SCP will utilize Account Executives from the new construction statewide programs to explain the program to customers and guide them to the best solutions for their project. Program literature will be provided explaining the program process and requirements. A Participant Handbook will be provided to explain the details of the program.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

12.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

12.3. Non-energy Activities

Not applicable.

12.3.1. Activity Description

12.3.2. Quantitative Activity Goals

12.3.3. Assigned attributes of the activity (market sector, end use)

13. Subcontractor Activities

Subcontractors may be employed to provide energy compliance and energy efficiency design recommendations. Subcontractors may be employed to provide LEED process education and assistance. Subcontractors will be employed to develop case studies.

14. Quality Assurance and Evaluation Activities

All projects will be inspected for verification of installed measures.

15. Marketing Activities

Marketing efforts include but are not limited to: the development and distribution of program website, brochures, informational inserts, and design guidelines. SCP will market to architects, engineers, energy design professionals, building owners, professional and industry associations, and contractors.

16. CPUC Objectives

This program substantially meets the following listed CPUC objectives:

1. Commission and state energy policy, as expressed in the Energy Action Plan and reaffirmed in Decision (D.) 04-12-048, make energy efficiency the utilities' highest priority procurement resource. In other words, cost-effective energy efficiency should be first in the "loading order" of resources used by the utilities to meet their customers' energy service needs. The Governor's and the state's policies also seek to reduce the environmental impact (including the greenhouse gas emissions) associated with the state's energy consumption, to protect the public's health and safety. Energy efficiency is a critical part of the state's strategy to achieve these goals.

This program focuses on both energy efficiency and sustainable design directly working to achieve the commission objects of cost-effective energy efficiency and reduction of environmental impacts.

2. The Commission's overriding goal guiding its energy efficiency efforts is to pursue all cost-effective energy efficiency opportunities over both the short- and long-term. By D.04-09-060, the Commission translated this policy into specific annual and cumulative numerical goals for electricity and natural gas savings by utility service territory. These goals shall be updated periodically by the Commission as provided for in that decision. The Commission-adopted energy savings goals are expressed in terms of annual and cumulative gigawatt hours, million-therms and peak megawatt load reductions. Program Administrators should develop their energy efficiency program portfolios so that they will meet or exceed these annual and cumulative savings goals, both over the short- and long-term.[1]

[1] While the energy savings achieved by LIEE programs will count towards the Commission's savings goals, per D.04-09-050, the Commission considers factors other than cost-effectiveness in determining LIEE program design and funding levels.

This program contributes energy savings and demand reductions to the portfolio of energy efficiency programs. It uniquely addresses markets not address by other programs within the portfolio.

3. In order to promote the resource procurement policies articulated in the Energy Action Plan and by this Commission, energy efficiency activities funded by ratepayers should focus on programs that serve as alternatives to more costly supply-side resource options ("resource programs"), Focusing energy efficiency efforts in this way is the most equitable way to distribute program benefits: By keeping energy resource procurement costs as low as possible through the deployment of cost-effective portfolio of resource programs, over time *all* customers will share in the resource savings from energy efficiency**.**

The program is emphasizes reduced energy consumption and demand significantly contributing to program portfolio's achievement of this CPUC goal.

4. "Lost opportunities" are those energy efficiency options which offer long-lived, cost-effective savings and which, if not exploited promptly or simultaneously with other low cost energy efficiency measures or in tandem with other load-reduction technologies or distributed generation technologies being installed at the site (e.g., solar heating or photovoltaics), are lost irretrievably or rendered much more costly to achieve. "Cream skimming" results in the pursuit of only the lowest cost energy efficiency measures, leaving behind other cost-effective opportunities. Cream skimming becomes a problem when lost opportunities are created in the process.

By participating and bringing energy efficiency considerations into focus at the earliest stages of construction projects this program reduces lost opportunities. Consideration of both energy, sustainability, and renewable generation early in the project planning process allows cost-effective opportunities to be identified and exploited by this Program.

5. Program Administrators should manage their portfolio of programs to meet or exceed the short- and long-term savings goals established by the Commission by pursuing the most cost-effective energy efficiency resource programs first, while minimizing lost opportunities. In addition, the Program Administrators should demonstrate in their program planning applications for PY2006-PY2008 how their proposed portfolio will aggressively increase overall capacity utilization and lower peak loads through the deployment of low load factor/high critical peak saving measures. The aggressive annual and cumulative savings goals established by the Commission will serve to discourage cream- skimming program designs or implementation approaches that create lost opportunities. Nonetheless, Program Administrators should actively develop strategies to minimize lost opportunities, and should describe those strategies in the applications they submit for each program cycle.

This program is one of the managed programs focusing on energy and demand reduction through traditional and innovative mechanisms.

6. Compliance with Rule II.5 will generally dictate the appropriate balance for portfolio funding of resource programs across market sectors (e.g., residential, industrial, commercial) and geography, as well as the most appropriate program designs. Program Administrators should also include a selection of statewide marketing and outreach programs, upstream market transformation programs, information and education programs, support for codes and standards and other activities in their proposed portfolios that support the Commission's short-term and long-term energy savings goals. Program administrators shall allocate a sufficient portion of portfolio funding to statewide marketing and outreach to continue and build upon the success of the existing program. Statewide measurement and outreach programs should convey a consistent statewide message to energy consumers in all sectors.

The Sustainable Communities Program is not yet a statewide program. The IOU's shall collaborate as appropriate to work toward a future statewide program.

7. To further support the Governor's and State's goals to reduce greenhouse gas emissions, Program Administrators should explore with their advisory groups ways in which to co-brand with the California Climate Action Registry that will encourage the accurate reporting of emissions in California. This might include, for example, marketing and outreach efforts that provide information about the Registry to IOU customers and encourage larger commercial and industrial customers to participate in the Registry reporting protocols. In their program plan applications, Program Administrators shall describe the ways in which such co-branding will be supported through their proposed programs.

The co-branding effort is not directly supported through this program.

8. The deployment of new and improved energy efficiency products and applications can help sustain or increase current savings yields from program dollars, and serves to create a new generation of technologies available to tap the cost-effective potential of energy efficiency in ways we cannot predict today. In order to provide higher levels of bridging between available upstream innovations and the marketplace, annual funding for emerging technologies programs should increase. Program Administrators should work with the California Energy Commission (CEC) and other appropriate stakeholders to include appropriate levels of funding to demonstrate and commercialize emerging technologies funded through the California Public Interest Energy Research (PIER) program and other sources that otherwise would not receive funding for pre-commercialization demonstration. In their program planning applications, the Program Administrators shall jointly propose emerging technologies programs and increases to current funding levels for these programs. The main purpose of these programs should be to increase the probability that promising technologies will be commercialized within 6 years of program funding and thereby increase the chance of obtaining additional energy savings from these technologies in the long run. Program strategies should focus on reducing both the performance uncertainties associated with new products and applications and the institutional barriers to introducing them into the market.

The Sustainable Communities Program indirectly supports the emerging technologies efforts through the promotion for adoption of new, high-efficiency and cost-effective technologies.

9. Per D.04-09-060, Program Administrators with input from the public and advisory groups will develop for Commission consideration their portfolios of energy efficiency programs utilizing selection criteria that are consistent with these Rules. Program Administrators will manage a portfolio of programs implemented by IOUs and non-IOUs that are selected and evaluated based on their ability to best meet the policy objectives articulated in these Rules.

This program benefited from considerable input by past participants, advisory groups, and the general public. Modifications were made to improve and adapt the program to the evolving marketplace.

10. Pursuant to PU Code sections 381, 381.1, 399 and 890-900, PGC funds must be spent in the service territory from which the funds were collected. Additionally, gas PGC collections must fund natural gas energy efficiency programs and electric PGC collections must fund electric energy efficiency programs. However, nothing in these Rules is intended to prohibit or limit the ability of the Commission to direct the IOUs to jointly fund with PGC or other collections (e.g., via procurement rates) selected measurement studies, statewide marketing and outreach programs, or other energy-efficiency activities that reach across service territory boundaries.

The Program identifies and funds projects within the SDG&E service territory.

	SDGE3021 SCP-Sustainable Communities Program
BUDGET	
Administrative Costs	**$ 298,080**
Overhead and G&A	$ 80,707
Other Administrative Costs	$ 217,373
Marketing/Outreach	**$ 319,509**
Direct Implementation	**$ 1,077,240**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ 901,341
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 163,567
Installation	$ -
Hardware & Materials	$ 4,400
Rebate Processing & Inspection	$ 7,932
EM&V Costs	**$ -**
Budget	**$ 1,694,830**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 1,694,830**
PROGRAM IMPACTS	
User Entered kW (kW)	438
Net Jul-Sept Peak (kW)	657
Net Dec-Feb Peak (kW)	228
Net NCP (kW)	614
Net CEC (kW)	393
Annual Net kWh	1,810,924
Lifecycle Net kWh	27,356,838
Annual Net Therms	44,180
Lifecycle Net Therms	678,344
Cost Effectiveness	
TRC	
Costs	$ 1,171,254
Electric Benefits	$ 1,737,385
Gas Benefits	$ 304,629
Net Benefits (NPV)	$ 870,760
BC Ratio	1.74
PAC	
Costs	$ 1,578,839
Electric Benefits	$ 1,737,385
Gas Benefits	$ 304,629
Net Benefits (NPV)	$ 463,175
BC Ratio	1.29
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	15,059,695
Cost	$ 0.0608
Benefits	$ 0.1154
Benefit-Cost	$ 0.0546
Levelized Cost PAC ($/kWh)	
Discounted kWh	15,059,695
Cost	$ 0.0921
Benefits	$ 0.1154
Benefit-Cost	$ 0.0233
Levelized Cost TRC ($/therm)	
Discounted Therms	367,173
Cost	$ 0.6960
Benefits	$ 0.8297
Benefit-Cost	$ 0.1337
Levelized Cost PAC ($/therm)	
Discounted Therms	367,173
Cost	$ 0.5220
Benefits	$ 0.8297
Benefit-Cost	$ 0.3076

Sustainable Communities Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 394,909	$ 184,293	$ 210,617	392,116	7,145	86
2007	$ 573,936	$ 301,406	$ 272,530	604,587	14,479	147
2008	$ 725,985	$ 415,643	$ 310,342	814,222	22,556	205

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	227001	Whole Bldg - Elec	1	-	0.00	0.8	kWh	15	481,750	$ 0.34	$ 0.12	385,400	-	77
2006	227002	Whole Bldg - Th	-	1	-	0.8	Therm	15	8,250	$ 1.23	$ 3.42	-	6,600	-
2006	227003	Multifamily All Zones 15% Above AB970	187	15	0.26	0.8	Home	18	45	$ 230.00	$ 294.01	6,716	545	9
2007	227001	Whole Bldg - Elec	1	-	0.00	0.8	kWh	15	727,750	$ 0.34	$ 0.12	582,200	-	116
2007	227002	Whole Bldg - Th	-	1	-	0.8	Therm	15	15,830	$ 1.23	$ 3.42	-	12,664	-
2007	227003	Multifamily All Zones 15% Above AB970	187	15	0.26	0.8	Home	18	150	$ 230.00	$ 294.01	22,387	1,815	31
2008	227001	Whole Bldg - Elec	1	-	0.00	0.8	kWh	15	973,750	$ 0.34	$ 0.12	779,000	-	156
2008	227002	Whole Bldg - Th	-	1	-	0.8	Therm	15	24,624	$ 1.23	$ 3.42	-	19,699	-
2008	227003	Multifamily All Zones 15% Above AB970	187	15	0.26	0.8	Home	18	236	$ 230.00	$ 294.01	35,222	2,856	49

2006-2008 Energy Efficiency Programs
Advanced Home Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 105,393	$ 105,393	$ 105,393
Administrative Other	$ 418,324	$ 427,194	$ 438,210
Marketing & Outreach	$ 125,400	$ 111,650	$ 85,501
Direct Implementation			
Incentives	$ 615,000	$ 615,000	$ 510,500
Activity	$ 731,705	$ 756,496	$ 835,611
Installation	$ -	$ -	$ -
Hardware & Materials	$ 117,428	$ 47,517	$ 38,036
Rebate Processing & Inspection	$ 100,000	$ 150,000	$ 200,000
EM&V	$ -	$ -	$ -
Total	*$ 2,213,250*	*$ 2,213,250*	*$ 2,213,250*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
1,842,839	2,020	73,441	1,842,839	2,020	73,441	1,468,380	1,610	57,799

3. Program Cost Effectiveness

Attached

4. Program Descriptors

The Advanced Home program of San Diego Gas and Electric promotes a comprehensive residential new construction concept with a cross-cutting focus on sustainable design and construction, green building practices and emerging technologies. Through a combination of education, design assistance and financial support, the program works with the building and related industries to exceed compliance with the California Building Energy Efficiency Standards (Standards), to prepare builders for future changes in the Standards, and to create future pathways to go beyond compliance and traditional energy savings objectives. This will be accomplished through demonstration projects, building performance and specific measures.

The program will review energy saving technologies to be incorporated in numerous demonstration projects. These projects will incorporate emerging energy savings technologies and low-impact construction practices. This innovative program will coordinate a variety of market opportunities and explore potentials from other programs to support the program concepts. The program will interact on a statewide basis to share best practices but will be implemented locally by the utility.

To provide continuity, the program will continue to promote the successful statewide **California Energy Star® New Homes Program** through a performance-based element. During 2004-2005 the statewide program was able to impact 15% of the residential new construction market.

The program encourages efficient heating, cooling, water heating system and building envelope design and installation through the support of specific prescriptive measures.

5. Program Statement

Residential new construction has been recognized as a rich ground for the promotion of new technologies, experimentation and analysis and has been the spawning ground for numerous technologies now considered mainstream in the vast retrofit market, such as high performance low-e windows, high performance water heaters and heating, ventilation and air conditioning (HVAC) systems. Many builders would like to explore further these and other technologies and innovations in their building designs, but require guidance and assistance to prevent lost opportunities. For effective use and maximum performance of many of these technologies, such as photovoltaic and alternative water and space heating applications, energy efficiency of the dwelling unit must be taken to a higher level requiring building design and construction to incorporate the efficiency measures promoted by the program.

The program will engage and partner with other programs inside and outside of the utility to help bring emerging technologies to the market place in the most cost effective way to overcome some of the economic barriers associated with pushing the technical envelope in residential new construction. With a multitude of elements available for evaluation, both envelope and mechanical, there are many approaches available for implementation. Once explored, incorporated and exhibited, these elements will demonstrate the potential to become utilized in residential construction.

The program will continue the successful California Energy Star® New Homes Program on a statewide basis. This program has gained tremendous momentum over the last four years, supporting the building industry through design assistance, training and incentives to increasing the overall performance of residential new construction.

Significant changes have recently taken place in the Standards. New credits for HVAC systems, insulation and revisions to the water heating methodologies offer opportunities to explore with the building industry inclusions of these measures in their project's designs.

6. Program Rationale

There is a need for comprehensive programs that address residential construction by incorporating the best practices of existing new construction programs, mainstream and emerging technologies and construction techniques. Such programs should place importance on conservation, a high quality urban and suburban life and the enhancement of natural areas. Further, the search for reducing grid and source energy consumption must lead to new approaches in demand side management,

such as the coordination with demand response programs, water conservation efforts and the use of construction materials and practices.

The Advanced Home program will address these needs and the needs of the builder for guidance in the incorporation of technology through training and design assistance. Further, through the use of financial support the builder will be able to explore technologies often avoided due to any cost barriers. By incorporating products and practices, such as photovoltaic, into single and multi-family new home design, opportunities for product suppliers, architects, designers, builders, contractors and others will surface to increase product awareness, utilization and as a result, lower costs. This more targeted approach to specific design solutions offers an opportunity to focus on technological solutions that are often ignored in performance based programs. Addressing more specific measures allows the builder to focus their attention on systems that may otherwise be ignored. The program implementation period also aligns with the Standard revisions and allows for the opportunity to prepare builders for the next cycle of changes.

Continuing the California Energy Star Homes® Program affords builders the opportunity to increase the overall energy efficiency of their products. With the changes that have taken place in the Standards, the challenge of reaching the new margin has increased significantly. To support the industry and the Environmental Protection Agency's Energy Star® Homes program offers a significant opportunity to increase energy efficiency.

The prescriptive measures proposed offer an opportunity to support the California Energy Commission in implementation of new credits, increase the energy efficiency and provide participation opportunities to all sectors of residential new construction.

7. Program Outcomes

The program will focus on four major activities: demonstration projects, support for the Energy Star Homes label through building design that exceeds minimum compliance with the Standards, prescriptive measures that increase the performance and industry education. The demonstration projects will focus on emerging technologies some of which will be identified through the statewide Emerging Technologies program. The California Energy Star® New Homes Program will continue to promote increased overall building performance to the 15% minimum threshold. The prescriptive measures will address HVAC design, installation and verification, proper insulation installation and water heating. Industry education will support the changes to the Standards and the program technologies.

8. Program Strategy

Residential New Construction

8.1.1. Program Strategy Description

The program will target single and multifamily builders whose projects will maximize energy savings and generate significant industry and homebuyer interest. The program will bring a renewed focus to emerging technologies and their incorporation into design and practice in residential new construction. Through site demonstration projects, the program will explore the evaluation and incorporation of these elements:

- Sustainable project sites
- Energy efficiency: efficient thermal envelopes, efficient space cooling, heating and water heating systems, alternatives to central air conditioning such as night ventilation, cool roofs, lighting and appliances
- Increased levels of energy performance above the minimum Standards
  Water efficiency
- Materials and resource, waste reduction and efficient use of materials
- Renewable energy such as photovoltaic systems
- Indoor environmental quality
- Operations and maintenance.

The Utility will act as program advisor and provide technical assistance to the design team for their projects. Through direct contact with the market actors, architects, energy analysts and the building industry, the program works to incorporate emerging and innovative technologies in the early stages of product design.

The program will continue to offer a performance-based program through the California Energy Star® New Homes Program. The program will provide support to encourage high performance single family and multi-family building design that exceed the 2005 Standards in an overall performance design of 15% or greater. Additionally, the Program will incorporate the Quality Insulation Installation Protocol and Thermal Bypass Checklist as a requirement for participation. Projects will be submitted for design review and recommendations. Once the builder commits to meeting the program guidelines the project will be reviewed. Following verification of all elements the incentives will be paid to the builder.

The program will also address the heating, cooling and water heating design and installation in residential construction. Through direct contact with the building industry and the market actors, greater efficiency in HVAC design and operation will be achieved through the incorporation of the following practices in construction:

- Maximum Cooling Capacity
  The program will require that air conditioners are sized according to the Alternative Calculation Method (ACM) methodology and the requirements for the combination of adequate air flow, duct sealing and improved refrigerant charge or TXV are met. Participation is open when the Maximum Cooling Capacity credit was not taken for minimum compliance with the Standards.

- Verified Ducting System
  The program will require that duct systems are sealed and diagnostic testing is performed to verify that leakage is less than the specified criteria. Participation is open when the Verified Ducting System credit was not taken for minimum compliance with the Standards.

- Insulation Quality Installation
  Insulation installation has been an area of concern and is currently addressed in the 2005 Standards. To support the California Energy Commission, the building industry and the installation trades the program will offer assistance to improve the overall quality of the insulation installation and meet the California Energy Commission protocols for installation and field verification. Participation is open when the Insulation Quality Installation credit was not taken for minimum compliance with the Standards.

- High Efficiency Water Heaters
  Increased efficiency of water heaters can have a significant impact on energy savings and water usage. Participating projects will be required to install water heaters with a Recovery Efficiency greater than or equal to 0.80. Tankless water heaters are an emerging technology that currently has been underutilized in the marketplace. To support this technology, the program will encourage its incorporation in residential new construction when the efficiency is greater than or equal to 0.80. Participation is open in either case when high efficiency water heaters were not taken for minimum compliance with the Standards.

Specific measures to be installed will be driven by the product type, design progress and appropriateness of measures to be incorporated. To allow flexibility in program design and implementation, program measures may be added or removed as changes take place in the industry, new technologies become available or market place demand warrants.

8.1.2. Program Indicators

Program management will track the participation of dwelling units in the California Energy Star® New Homes Program and the associated energy savings through its Database. Prescriptive measure participation will be

tracked in a similar fashion. The program will direct its efforts towards the greatest energy savings potential that is appropriate for each project.

To eventually report energy savings on a uniform basis, program management will also begin to track the source energy conserved by each unit or system on a kBtu/unit platform.

9. Program Implementation

The program is implemented through direct contact with the market actors, architects, mechanical engineers, energy analysts, home energy rating system (HERS) providers, HERS raters and the building industry. The program provides design assistance, education and training to these actors on the changes to the Standards, HVAC system design and methods to meet program requirements. Through design assistance and coordination with the builder and their consultants and contractors, projects will be evaluated for the most suitable approach to increasing energy savings.

The program will seek to collaborate with the California Energy Commission and other agencies in support of statewide goals such as the increased installation of photovoltaic and HVAC quality installation and verification and locally with agencies such as water departments, municipalities, and others to promote water conservation and energy efficiency. To assist the builder in achieving these goals, design assistance, technical and field support and financial support will be offered.

Joining utility program partners, such as Emerging Technology, Codes and Standards and building industry partners, the program will work with the building community to identify potential projects and locations for the incorporation of the program philosophy to create demonstration projects highlighting diverse technologies, not widely accepted or employed. Through the United States Green Building Council (USGBC) the utility will interact to promote the LEED (Leadership in Energy and Environmental Design) Green Building Rating System® concept. The USGBC has developed a LEED for Homes program that is currently in the demonstration pilot phase. The utility will work with USGBC to incorporate the LEED concepts into the demonstration projects.

Residential new construction program management has extensive experience in designing and implementing successful offerings to the building industry as has been demonstrated with the 2002-2004 California Energy Star® New Homes Programs. Recognized as an outstanding energy efficiency resource, this team has the ability to successfully work closely with other local, regional, statewide and national stakeholders to insure the widest opportunities for potential program participants.

10. Customer Description

The program will target the residential design and construction team; architects, energy analysts, HERS raters, trade contractors, and builders. The market segment is low-rise and high-rise residential new construction with participation is open to

all residential new construction including custom homes, single-family production housing, condominiums, town homes and rental apartments

11. Customer Interface

Program participants will be developed through a team of customer representatives, who, working with the builder and his design team, will evaluate each project and its design for participation. Additional customer base will be developed through attendance at conferences, presentations at conferences and to targeted audiences and related activities.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

12.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

12.3. Non-energy Activities

Education and Training

12.3.1. Activity Description

Education and training courses will support the program concepts and will cover a number of construction and design issues, such as the 2005 Energy Efficiency Standards, Proper HVAC sizing, Ducting System Design, Uniform Mechanical Code, and Standards compliance modeling.

12.3.2. Quantitative Activity Goals

The current education and training classes have proven extremely successful and well received with attendance increasing each year. The program will continue this offering with an expanded curriculum focusing on emerging technologies and HVAC systems.

12.3.3. Assigned attributes of the activity (market sector, end use)

The education and training classes are offered free of charge to all interested parties. The target market sector is architects and designers, builders, energy consultants, engineers, HVAC contractors and building department inspectors and plan reviewers.

13. Subcontractor Activities

The program will coordinate many of the program activities with subcontractors. The education and training courses will be prepared under the utility supervision and presented by key figures in energy efficiency, HVAC systems and Energy Standards implementation. HERS Raters will be engaged by the utility to provide field verification of measure installation.

14. Quality Assurance and Evaluation Activities

Projects receive a detailed review to insure that the as-designed structure is consistent with the program requirements. Field verification will be conducted during the construction process to insure that the as-built corresponds to the as-designed. All field verification procedures will conform to the California Energy Commission protocols as detailed in the Alternative Calculation Method (ACM) Approval Manual.

15. Marketing Activities

The program will be marketed directly to the building industry and the related market actors. Additional marketing activities will be explored through conference presentations, building and other industry meetings.

16. CPUC Objective

The following CPUC Energy Efficiency Policy Objectives and Program Funding Guidelines are met by the Advanced Home Program

The program will reduce energy consumption by increasing the efficiency of the product or system depending upon participation. Improving the HVAC systems insures that pollutants are not included in the ducting system.

Continuing support to the residential new construction market will afford the opportunity to explore new technologies and include the most cost effective elements during construction. This is much more effective than retrofitting homes after construction.

Residential new construction has long been recognized as a rich ground for the incorporation of energy efficiency. Without promoting the increased levels of performance through the Advanced Home Program the opportunity for them would be lost until the need for replacement takes place.

The Advanced Home Program is dedicated exclusively to the residential new construction market sector. This market includes single family production housing, low-rise multifamily, high-rise multifamily and affordable housing. The program also focuses on the “Hard to Reach” market by directing significant efforts to rental and low income projects.

The Advanced Home Demonstration Project will focus on emerging technologies and sustainable building elements to evaluate the new generation of technologies. Through the prescriptive measures new energy efficient elements available in the Standards will also be offered. Providing support to the building industry at this early stage will insure that they are incorporated properly.

	SDGE3007 EED-Advanced Home Program
BUDGET	
Administrative Costs	**$ 1,599,906**
Overhead and G&A	$ 316,179
Other Administrative Costs	$ 1,283,728
Marketing/Outreach	**$ 322,551**
Direct Implementation	**$ 4,717,293**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ 1,740,500
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 2,323,812
Installation	$ -
Hardware & Materials	$ 202,981
Rebate Processing & Inspection	$ 450,000
EM&V Costs	**$ -**
Budget	**$ 6,639,750**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 6,639,750**
PROGRAM IMPACTS	
User Entered kW (kW)	5,650
Net Jul-Sept Peak (kW)	7,097
Net Dec-Feb Peak (kW)	66
Net NCP (kW)	12,354
Net CEC (kW)	1,118
Annual Net kWh	5,154,058
Lifecycle Net kWh	83,990,858
Annual Net Therms	204,681
Lifecycle Net Therms	3,453,649
Cost Effectiveness	
TRC	
Costs	$ 6,824,264
Electric Benefits	$ 9,682,970
Gas Benefits	$ 1,613,837
Net Benefits (NPV)	$ 4,472,543
BC Ratio	1.66
PAC	
Costs	$ 6,451,991
Electric Benefits	$ 9,682,970
Gas Benefits	$ 1,613,837
Net Benefits (NPV)	$ 4,844,816
BC Ratio	1.75
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	45,450,684
Cost	$ 0.1255
Benefits	$ 0.2130
Benefit-Cost	$ 0.0875
Levelized Cost PAC ($/kWh)	
Discounted kWh	45,450,684
Cost	$ 0.1192
Benefits	$ 0.2130
Benefit-Cost	$ 0.0939
Levelized Cost TRC ($/therm)	
Discounted Therms	1,836,813
Cost	$ 0.6093
Benefits	$ 0.8786
Benefit-Cost	$ 0.2693
Levelized Cost PAC ($/therm)	
Discounted Therms	1,836,813
Cost	$ 0.5638
Benefits	$ 0.8786
Benefit-Cost	$ 0.3148

Advanced Home Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 2,213,250	$ 615,000	$ 1,598,250	1,842,839	73,441	2,020
2007	$ 2,213,250	$ 615,000	$ 1,598,250	1,842,839	73,441	2,020
2008	$ 2,213,250	$ 510,500	$ 1,702,750	1,468,380	57,799	1,610

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	220005	Single Family, Maximum Cooling Capacity, CZ 4	98	35	0.11	0.8	Dwelling Unit	15	-	$ 150.00	$ 225.00	-	-	-
2006	220006	Single Family, Maximum Cooling Capacity, CZ 5	40	35	0.04	0.8	Dwelling Unit	15	-	$ 150.00	$ 225.00	-	-	-
2006	220007	Single Family, Maximum Cooling Capacity, CZ 6	29	14	0.03	0.8	Dwelling Unit	15	-	$ 150.00	$ 225.00	-	-	-
2006	220008	Single Family, Maximum Cooling Capacity, CZ 7	59	11	0.06	0.8	Dwelling Unit	15	-	$ 150.00	$ 225.00	-	-	-
2006	220009	Single Family, Maximum Cooling Capacity, CZ 8	246	13	0.27	0.8	Dwelling Unit	15	400	$ 150.00	$ 225.00	78,766	4,285	86
2006	220010	Single Family, Maximum Cooling Capacity, CZ 9	499	15	0.55	0.8	Dwelling Unit	15	-	$ 150.00	$ 225.00	-	-	-
2006	220011	Single Family, Maximum Cooling Capacity, CZ 10	938	21	1.03	0.8	Dwelling Unit	15	500	$ 150.00	$ 225.00	375,244	8,246	411
2006	220012	Single Family, Maximum Cooling Capacity, CZ 13	1,386	37	1.52	0.8	Dwelling Unit	15	-	$ 150.00	$ 225.00	-	-	-
2006	220013	Single Family, Maximum Cooling Capacity, CZ 14	1,694	61	1.86	0.8	Dwelling Unit	15	-	$ 150.00	$ 225.00	-	-	-
2006	220014	Single Family, Maximum Cooling Capacity, CZ 15	4,364	10	4.78	0.8	Dwelling Unit	15	100	$ 150.00	$ 225.00	349,080	789	383
2006	220015	Single Family, Verified Ducting System, CZ 4	43	35	0.05	0.8	Dwelling Unit	15	-	$ 100.00	$ 125.00	-	-	-
2006	220016	Single Family, Verified Ducting System, CZ 5	19	35	0.02	0.8	Dwelling Unit	15	-	$ 100.00	$ 125.00	-	-	-
2006	220017	Single Family, Verified Ducting System, CZ 6	12	14	0.01	0.8	Dwelling Unit	15	-	$ 100.00	$ 125.00	-	-	-
2006	220018	Single Family, Verified Ducting System, CZ 7	22.375	10.9	0.02452801	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2006	220019	Single Family, Verified Ducting System, CZ 8	111.885	13.39	0.12265104	0.8	Dwelling Unit	15	750	$ 100.00	$ 125.00	67,131	8,034	74
2006	220020	Single Family, Verified Ducting System, CZ 9	271.965	14.975	0.29813459	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2006	220021	Single Family, Verified Ducting System, CZ 10	543.93	20.615	0.59626918	0.8	Dwelling Unit	15	500	$ 100.00	$ 125.00	217,572	8,246	239
2006	220022	Single Family, Verified Ducting System, CZ 13	824.505	37.18	0.90384227	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2006	220023	Single Family, Verified Ducting System, CZ 14	1096.47	60.965	1.20197686	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2006	220024	Single Family, Verified Ducting System, CZ 15	2874.58	9.865	3.15118392	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	220025	Single Family, Quality Insulation Installation, CZ 4	96.39	52.51	0.10566504	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2006	220026	Single Family, Quality Insulation Installation, CZ 5	37.87	57.09	0.04151401	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2006	220027	Single Family, Quality Insulation Installation, CZ 6	24.1	29.95	0.026419	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2006	220028	Single Family, Quality Insulation Installation, CZ 7	65.41	25.73	0.07170402	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2006	220029	Single Family, Quality Insulation Installation, CZ 8	182.46	27.84	0.20001705	0.8	Dwelling Unit	20	300	$ 175.00	$ 300.00	43,790	6,682	48
2006	220030	Single Family, Quality Insulation Installation, CZ 9	254.75	14.45	0.27926309	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2006	220031	Single Family, Quality Insulation Installation, CZ 10	468.19	38.41	0.51324117	0.8	Dwelling Unit	20	500	$ 175.00	$ 300.00	187,276	15,364	205
2006	220032	Single Family, Quality Insulation Installation, CZ 13	547.37	52.16	0.60004019	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2006	220033	Single Family, Quality Insulation Installation, CZ 14	647.21	73.65	0.70948721	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2006	220034	Single Family, Quality Insulation Installation, CZ 15	1270.32	20.79	1.39255542	0.8	Dwelling Unit	20	200	$ 175.00	$ 300.00	203,251	3,326	223
2006	220035	Single Family, Tank Less Water Heater, CZ 4	-	$ 79.99	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220036	Single Family, Tank Less Water Heater, CZ 5	-	$ 81.05	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220037	Single Family, Tank Less Water Heater, CZ 6	-	$ 85.63	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220038	Single Family, Tank Less Water Heater, CZ 7	-	$ 85.28	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220039	Single Family, Tank Less Water Heater, CZ 8	-	$ 84.22	$ -	0.8	Dwelling Unit	15	100	$ 200.00	$ 325.00	-	6,738	-
2006	220040	Single Family, Tank Less Water Heater, CZ 9	-	$ 83.52	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220041	Single Family, Tank Less Water Heater, CZ 10	-	$ 83.62	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220042	Single Family, Tank Less Water Heater, CZ 13	-	$ 75.41	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220043	Single Family, Tank Less Water Heater, CZ 14	-	$ 85.63	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220044	Single Family, Tank Less Water Heater, CZ 15	-	$ 73.65	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220045	Single Family, Air Conditioner EER, CZ 4	22	$ -	$ 0.06	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220046	Single Family, Air Conditioner EER, CZ 5	2	$ -	$ 0.00	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220047	Single Family, Air Conditioner EER, CZ 6	-	$ -	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220048	Single Family, Air Conditioner EER, CZ 7	3	$ -	$ 0.01	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	220049	Single Family, Air Conditioner EER, CZ 8	74	$ -	$ 0.19	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220050	Single Family, Air Conditioner EER, CZ 9	198	$ -	$ 0.50	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220051	Single Family, Air Conditioner EER, CZ 10	460	$ -	$ 1.16	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220052	Single Family, Air Conditioner EER, CZ 13	790	$ -	$ 1.99	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220053	Single Family, Air Conditioner EER, CZ 14	878	$ -	$ 2.21	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220054	Single Family, Air Conditioner EER, CZ 15	2,405	$ -	$ 6.03	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220055	Multi-family, Maximum Cooling Capacity, CZ 4	44	$ 13.43	$ 0.05	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2006	220056	Multi-family, Maximum Cooling Capacity, CZ 5	10	$ 13.73	$ 0.01	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2006	220057	Multi-family, Maximum Cooling Capacity, CZ 6	10	$ 5.68	$ 0.01	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2006	220058	Multi-family, Maximum Cooling Capacity, CZ 7	29	$ 4.53	$ 0.03	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2006	220059	Multi-family, Maximum Cooling Capacity, CZ 8	123	$ 5.52	$ 0.13	0.8	Dwelling Unit	15	250	$ 100.00	$ 150.00	24,582	1,104	27
2006	220060	Multi-family, Maximum Cooling Capacity, CZ 9	243	$ 6.14	$ 0.27	0.8	Dwelling Unit	15	100	$ 100.00	$ 150.00	19,426	491	21
2006	220061	Multi-family, Maximum Cooling Capacity, CZ 10	437	$ 8.75	$ 0.48	0.8	Dwelling Unit	15	345	$ 100.00	$ 150.00	120,593	2,415	132
2006	220062	Multi-family, Maximum Cooling Capacity, CZ 13	606	$ 14.58	$ 0.66	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2006	220063	Multi-family, Maximum Cooling Capacity, CZ 14	745	$ 24.63	$ 0.82	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2006	220064	Multi-family, Maximum Cooling Capacity, CZ 15	1,791	$ 4.30	$ 1.96	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2006	220065	Multi-family, Verified Ducting System, CZ 4	21	$ 13.43	$ 0.02	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2006	220066	Multi-family, Verified Ducting System, CZ 5	5	$ 13.73	$ 0.00	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2006	220067	Multi-family, Verified Ducting System, CZ 6	5	$ 5.68	$ 0.00	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2006	220068	Multi-family, Verified Ducting System, CZ 7	13	$ 4.53	$ 0.01	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2006	220069	Multi-family, Verified Ducting System, CZ 8	60	$ 5.52	$ 0.07	0.8	Dwelling Unit	15	200	$ 60.00	$ 100.00	9,594	883	11
2006	220070	Multi-family, Verified Ducting System, CZ 9	137	$ 6.14	$ 0.15	0.8	Dwelling Unit	15	200	$ 60.00	$ 100.00	21,944	982	24
2006	220071	Multi-family, Verified Ducting System, CZ 10	259	$ 8.75	$ 0.28	0.8	Dwelling Unit	15	400	$ 60.00	$ 100.00	82,979	2,800	91
2006	220072	Multi-family, Verified Ducting System, CZ 13	360	$ 14.58	$ 0.40	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	220073	Multi-family, Verified Ducting System, CZ 14	483	$ 24.63	$ 0.53	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2006	220074	Multi-family, Verified Ducting System, CZ 15	1,164	$ 4.30	$ 1.28	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2006	220075	Multi-family, High Quality Insulation Installation, CZ 4	34	$ 11.12	$ 0.04	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2006	220076	Multi-family, High Quality Insulation Installation, CZ 5	12	$ 11.89	$ 0.01	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2006	220077	Multi-family, High Quality Insulation Installation, CZ 6	10	$ 5.91	$ 0.01	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2006	220078	Multi-family, High Quality Insulation Installation, CZ 7	22	$ 5.14	$ 0.02	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2006	220079	Multi-family, High Quality Insulation Installation, CZ 8	57	$ 5.52	$ 0.06	0.8	Dwelling Unit	20	250	$ 50.00	$ 100.00	11,392	1,104	12
2006	220080	Multi-family, High Quality Insulation Installation, CZ 9	95	$ 6.06	$ 0.10	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2006	220081	Multi-family, High Quality Insulation Installation, CZ 10	126	$ 8.13	$ 0.14	0.8	Dwelling Unit	20	300	$ 50.00	$ 100.00	30,218	1,951	33
2006	220082	Multi-family, High Quality Insulation Installation, CZ 13	140	$ 11.20	$ 0.15	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2006	220083	Multi-family, High Quality Insulation Installation, CZ 14	160	$ 15.57	$ 0.17	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2006	220084	Multi-family, High Quality Insulation Installation, CZ 15	304	$ 4.22	$ 0.33	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2006	220085	Multi-family, Tank Less Water Heater, CZ 4	-	$ 13.89	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220086	Multi-family, Tank Less Water Heater, CZ 5	-	$ 13.96	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220087	Multi-family, Tank Less Water Heater, CZ 6	-	$ 15.34	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220088	Multi-family, Tank Less Water Heater, CZ 7	-	$ 15.50	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220089	Multi-family, Tank Less Water Heater, CZ 8	-	$ 15.34	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220090	Multi-family, Tank Less Water Heater, CZ 9	-	$ 15.27	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220091	Multi-family, Tank Less Water Heater, CZ 10	-	$ 15.34	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220092	Multi-family, Tank Less Water Heater, CZ 13	-	$ 13.81	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220093	Multi-family, Tank Less Water Heater, CZ 14	-	$ 15.34	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220094	Multi-family, Tank Less Water Heater, CZ 15	-	$ 14.81	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2006	220095	Multi-family, Air Conditioner EER, CZ 4	10	$ -	$ 0.01	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220096	Multi-family, Air Conditioner EER, CZ 5	1	$ -	$ 0.00	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	220097	Multi-family, Air Conditioner EER, CZ 6	-	$ -	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220098	Multi-family, Air Conditioner EER, CZ 7	2	$ -	$ 0.00	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220099	Multi-family, Air Conditioner EER, CZ 8	42	$ -	$ 0.05	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220100	Multi-family, Air Conditioner EER, CZ 9	109	$ -	$ 0.14	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220101	Multi-family, Air Conditioner EER, CZ 10	233	$ -	$ 0.29	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220102	Multi-family, Air Conditioner EER, CZ 13	363	$ -	$ 0.46	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220103	Multi-family, Air Conditioner EER, CZ 14	406	$ -	$ 0.51	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2006	220104	Multi-family, Air Conditioner EER, CZ 15	1,036	$ -	$ 1.30	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220005	Single Family, Maximum Cooling Capacity, CZ 4	98	$ 34.54	$ 0.11	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2007	220006	Single Family, Maximum Cooling Capacity, CZ 5	40	$ 34.54	$ 0.04	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2007	220007	Single Family, Maximum Cooling Capacity, CZ 6	29	$ 13.57	$ 0.03	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2007	220008	Single Family, Maximum Cooling Capacity, CZ 7	59	$ 10.93	$ 0.06	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2007	220009	Single Family, Maximum Cooling Capacity, CZ 8	246	$ 13.39	$ 0.27	0.8	Dwelling Unit	15	400	$ 150.00	$ 225.00	78,766	4,285	86
2007	220010	Single Family, Maximum Cooling Capacity, CZ 9	499	$ 14.98	$ 0.55	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2007	220011	Single Family, Maximum Cooling Capacity, CZ 10	938	$ 20.62	$ 1.03	0.8	Dwelling Unit	15	500	$ 150.00	$ 225.00	375,244	8,246	411
2007	220012	Single Family, Maximum Cooling Capacity, CZ 13	1,386	$ 37.18	$ 1.52	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2007	220013	Single Family, Maximum Cooling Capacity, CZ 14	1,694	$ 60.97	$ 1.86	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2007	220014	Single Family, Maximum Cooling Capacity, CZ 15	4,364	$ 9.87	$ 4.78	0.8	Dwelling Unit	15	100	$ 150.00	$ 225.00	349,080	789	383
2007	220015	Single Family, Verified Ducting System, CZ 4	43	$ 34.54	$ 0.05	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2007	220016	Single Family, Verified Ducting System, CZ 5	19	$ 34.54	$ 0.02	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2007	220017	Single Family, Verified Ducting System, CZ 6	12	$ 13.57	$ 0.01	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2007	220018	Single Family, Verified Ducting System, CZ 7	22	$ 10.90	$ 0.02	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2007	220019	Single Family, Verified Ducting System, CZ 8	112	$ 13.39	$ 0.12	0.8	Dwelling Unit	15	750	$ 100.00	$ 125.00	67,131	8,034	74
2007	220020	Single Family, Verified Ducting System, CZ 9	272	$ 14.98	$ 0.30	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	220021	Single Family, Verified Ducting System, CZ 10	544	$ 20.62	$ 0.60	0.8	Dwelling Unit	15	500	$ 100.00	$ 125.00	217,572	8,246	239
2007	220022	Single Family, Verified Ducting System, CZ 13	825	$ 37.18	$ 0.90	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2007	220023	Single Family, Verified Ducting System, CZ 14	1,096	$ 60.97	$ 1.20	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2007	220024	Single Family, Verified Ducting System, CZ 15	2,875	$ 9.87	$ 3.15	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2007	220025	Single Family, Quality Insulation Installation, CZ 4	96	$ 52.51	$ 0.11	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2007	220026	Single Family, Quality Insulation Installation, CZ 5	38	$ 57.09	$ 0.04	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2007	220027	Single Family, Quality Insulation Installation, CZ 6	24	$ 29.95	$ 0.03	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2007	220028	Single Family, Quality Insulation Installation, CZ 7	65	$ 25.73	$ 0.07	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2007	220029	Single Family, Quality Insulation Installation, CZ 8	182	$ 27.84	$ 0.20	0.8	Dwelling Unit	20	300	$ 175.00	$ 300.00	43,790	6,682	48
2007	220030	Single Family, Quality Insulation Installation, CZ 9	255	$ 14.45	$ 0.28	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2007	220031	Single Family, Quality Insulation Installation, CZ 10	468	$ 38.41	$ 0.51	0.8	Dwelling Unit	20	500	$ 175.00	$ 300.00	187,276	15,364	205
2007	220032	Single Family, Quality Insulation Installation, CZ 13	547	$ 52.16	$ 0.60	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2007	220033	Single Family, Quality Insulation Installation, CZ 14	647	$ 73.65	$ 0.71	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2007	220034	Single Family, Quality Insulation Installation, CZ 15	1,270	$ 20.79	$ 1.39	0.8	Dwelling Unit	20	200	$ 175.00	$ 300.00	203,251	3,326	223
2007	220035	Single Family, Tank Less Water Heater, CZ 4	-	$ 79.99	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220036	Single Family, Tank Less Water Heater, CZ 5	-	$ 81.05	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220037	Single Family, Tank Less Water Heater, CZ 6	-	$ 85.63	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220038	Single Family, Tank Less Water Heater, CZ 7	-	$ 85.28	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220039	Single Family, Tank Less Water Heater, CZ 8	-	$ 84.22	$ -	0.8	Dwelling Unit	15	100	$ 200.00	$ 325.00	-	6,738	-
2007	220040	Single Family, Tank Less Water Heater, CZ 9	-	$ 83.52	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220041	Single Family, Tank Less Water Heater, CZ 10	-	$ 83.62	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220042	Single Family, Tank Less Water Heater, CZ 13	-	$ 75.41	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220043	Single Family, Tank Less Water Heater, CZ 14	-	$ 85.63	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220044	Single Family, Tank Less Water Heater, CZ 15	-	$ 73.65	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	220045	Single Family, Air Conditioner EER, CZ 4	22	$ -	$ 0.06	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220046	Single Family, Air Conditioner EER, CZ 5	2	$ -	$ 0.00	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220047	Single Family, Air Conditioner EER, CZ 6	-	$ -	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220048	Single Family, Air Conditioner EER, CZ 7	3	$ -	$ 0.01	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220049	Single Family, Air Conditioner EER, CZ 8	74	$ -	$ 0.19	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220050	Single Family, Air Conditioner EER, CZ 9	198	$ -	$ 0.50	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220051	Single Family, Air Conditioner EER, CZ 10	460	$ -	$ 1.16	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220052	Single Family, Air Conditioner EER, CZ 13	790	$ -	$ 1.99	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220053	Single Family, Air Conditioner EER, CZ 14	878	$ -	$ 2.21	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220054	Single Family, Air Conditioner EER, CZ 15	2,405	$ -	$ 6.03	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220055	Multi-family, Maximum Cooling Capacity, CZ 4	44	$ 13.43	$ 0.05	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2007	220056	Multi-family, Maximum Cooling Capacity, CZ 5	10	$ 13.73	$ 0.01	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2007	220057	Multi-family, Maximum Cooling Capacity, CZ 6	10	$ 5.68	$ 0.01	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2007	220058	Multi-family, Maximum Cooling Capacity, CZ 7	29	$ 4.53	$ 0.03	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2007	220059	Multi-family, Maximum Cooling Capacity, CZ 8	123	$ 5.52	$ 0.13	0.8	Dwelling Unit	15	250	$ 100.00	$ 150.00	24,582	1,104	27
2007	220060	Multi-family, Maximum Cooling Capacity, CZ 9	243	$ 6.14	$ 0.27	0.8	Dwelling Unit	15	100	$ 100.00	$ 150.00	19,426	491	21
2007	220061	Multi-family, Maximum Cooling Capacity, CZ 10	437	$ 8.75	$ 0.48	0.8	Dwelling Unit	15	345	$ 100.00	$ 150.00	120,593	2,415	132
2007	220062	Multi-family, Maximum Cooling Capacity, CZ 13	606	$ 14.58	$ 0.66	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2007	220063	Multi-family, Maximum Cooling Capacity, CZ 14	745	$ 24.63	$ 0.82	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2007	220064	Multi-family, Maximum Cooling Capacity, CZ 15	1,791	$ 4.30	$ 1.96	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2007	220065	Multi-family, Verified Ducting System, CZ 4	21	$ 13.43	$ 0.02	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2007	220066	Multi-family, Verified Ducting System, CZ 5	5	$ 13.73	$ 0.00	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2007	220067	Multi-family, Verified Ducting System, CZ 6	5	$ 5.68	$ 0.00	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2007	220068	Multi-family, Verified Ducting System, CZ 7	13	$ 4.53	$ 0.01	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	220069	Multi-family, Verified Ducting System, CZ 8	60	$ 5.52	$ 0.07	0.8	Dwelling Unit	15	200	$ 60.00	$ 100.00	9,594	883	11
2007	220070	Multi-family, Verified Ducting System, CZ 9	137	$ 6.14	$ 0.15	0.8	Dwelling Unit	15	200	$ 60.00	$ 100.00	21,944	982	24
2007	220071	Multi-family, Verified Ducting System, CZ 10	259	$ 8.75	$ 0.28	0.8	Dwelling Unit	15	400	$ 60.00	$ 100.00	82,979	2,800	91
2007	220072	Multi-family, Verified Ducting System, CZ 13	360	$ 14.58	$ 0.40	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2007	220073	Multi-family, Verified Ducting System, CZ 14	483	$ 24.63	$ 0.53	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2007	220074	Multi-family, Verified Ducting System, CZ 15	1,164	$ 4.30	$ 1.28	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2007	220075	Multi-family, High Quality Insulation Installation, CZ 4	34	$ 11.12	$ 0.04	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2007	220076	Multi-family, High Quality Insulation Installation, CZ 5	12	$ 11.89	$ 0.01	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2007	220077	Multi-family, High Quality Insulation Installation, CZ 6	10	$ 5.91	$ 0.01	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2007	220078	Multi-family, High Quality Insulation Installation, CZ 7	22	$ 5.14	$ 0.02	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2007	220079	Multi-family, High Quality Insulation Installation, CZ 8	57	$ 5.52	$ 0.06	0.8	Dwelling Unit	20	250	$ 50.00	$ 100.00	11,392	1,104	12
2007	220080	Multi-family, High Quality Insulation Installation, CZ 9	95	$ 6.06	$ 0.10	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2007	220081	Multi-family, High Quality Insulation Installation, CZ 10	126	$ 8.13	$ 0.14	0.8	Dwelling Unit	20	300	$ 50.00	$ 100.00	30,218	1,951	33
2007	220082	Multi-family, High Quality Insulation Installation, CZ 13	140	$ 11.20	$ 0.15	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2007	220083	Multi-family, High Quality Insulation Installation, CZ 14	160	$ 15.57	$ 0.17	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2007	220084	Multi-family, High Quality Insulation Installation, CZ 15	304	$ 4.22	$ 0.33	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2007	220085	Multi-family, Tank Less Water Heater, CZ 4	-	$ 13.89	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220086	Multi-family, Tank Less Water Heater, CZ 5	-	$ 13.96	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220087	Multi-family, Tank Less Water Heater, CZ 6	-	$ 15.34	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220088	Multi-family, Tank Less Water Heater, CZ 7	-	$ 15.50	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220089	Multi-family, Tank Less Water Heater, CZ 8	-	$ 15.34	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220090	Multi-family, Tank Less Water Heater, CZ 9	-	$ 15.27	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220091	Multi-family, Tank Less Water Heater, CZ 10	-	$ 15.34	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220092	Multi-family, Tank Less Water Heater, CZ 13	-	$ 13.81	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-

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2007	220093	Multi-family, Tank Less Water Heater, CZ 14	-	$ 15.34	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220094	Multi-family, Tank Less Water Heater, CZ 15	-	$ 14.81	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2007	220095	Multi-family, Air Conditioner EER, CZ 4	10	$ -	$ 0.01	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220096	Multi-family, Air Conditioner EER, CZ 5	1	$ -	$ 0.00	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220097	Multi-family, Air Conditioner EER, CZ 6	-	$ -	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220098	Multi-family, Air Conditioner EER, CZ 7	2	$ -	$ 0.00	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220099	Multi-family, Air Conditioner EER, CZ 8	42	$ -	$ 0.05	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220100	Multi-family, Air Conditioner EER, CZ 9	109	$ -	$ 0.14	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220101	Multi-family, Air Conditioner EER, CZ 10	233	$ -	$ 0.29	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220102	Multi-family, Air Conditioner EER, CZ 13	363	$ -	$ 0.46	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220103	Multi-family, Air Conditioner EER, CZ 14	406	$ -	$ 0.51	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2007	220104	Multi-family, Air Conditioner EER, CZ 15	1,036	$ -	$ 1.30	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220005	Single Family, Maximum Cooling Capacity, CZ 4	98	$ 34.54	$ 0.11	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2008	220006	Single Family, Maximum Cooling Capacity, CZ 5	40	$ 34.54	$ 0.04	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2008	220007	Single Family, Maximum Cooling Capacity, CZ 6	29	$ 13.57	$ 0.03	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2008	220008	Single Family, Maximum Cooling Capacity, CZ 7	59	$ 10.93	$ 0.06	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2008	220009	Single Family, Maximum Cooling Capacity, CZ 8	246	$ 13.39	$ 0.27	0.8	Dwelling Unit	15	250	$ 150.00	$ 225.00	49,229	2,678	54
2008	220010	Single Family, Maximum Cooling Capacity, CZ 9	499	$ 14.98	$ 0.55	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2008	220011	Single Family, Maximum Cooling Capacity, CZ 10	938	$ 20.62	$ 1.03	0.8	Dwelling Unit	15	400	$ 150.00	$ 225.00	300,195	6,597	329
2008	220012	Single Family, Maximum Cooling Capacity, CZ 13	1,386	$ 37.18	$ 1.52	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2008	220013	Single Family, Maximum Cooling Capacity, CZ 14	1,694	$ 60.97	$ 1.86	0.8	Dwelling Unit	15	0	$ 150.00	$ 225.00	-	-	-
2008	220014	Single Family, Maximum Cooling Capacity, CZ 15	4,364	$ 9.87	$ 4.78	0.8	Dwelling Unit	15	50	$ 150.00	$ 225.00	174,540	395	191
2008	220015	Single Family, Verified Ducting System, CZ 4	43	$ 34.54	$ 0.05	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2008	220016	Single Family, Verified Ducting System, CZ 5	19	$ 34.54	$ 0.02	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-

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2008	220017	Single Family, Verified Ducting System, CZ 6	12	$ 13.57	$ 0.01	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2008	220018	Single Family, Verified Ducting System, CZ 7	22	$ 10.90	$ 0.02	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2008	220019	Single Family, Verified Ducting System, CZ 8	112	$ 13.39	$ 0.12	0.8	Dwelling Unit	15	600	$ 100.00	$ 125.00	53,705	6,427	59
2008	220020	Single Family, Verified Ducting System, CZ 9	272	$ 14.98	$ 0.30	0.8	Dwelling Unit	15	100	$ 100.00	$ 125.00	21,757	1,198	24
2008	220021	Single Family, Verified Ducting System, CZ 10	544	$ 20.62	$ 0.60	0.8	Dwelling Unit	15	400	$ 100.00	$ 125.00	174,058	6,597	191
2008	220022	Single Family, Verified Ducting System, CZ 13	825	$ 37.18	$ 0.90	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2008	220023	Single Family, Verified Ducting System, CZ 14	1,096	$ 60.97	$ 1.20	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2008	220024	Single Family, Verified Ducting System, CZ 15	2,875	$ 9.87	$ 3.15	0.8	Dwelling Unit	15	0	$ 100.00	$ 125.00	-	-	-
2008	220025	Single Family, Quality Insulation Installation, CZ 4	96	$ 52.51	$ 0.11	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2008	220026	Single Family, Quality Insulation Installation, CZ 5	38	$ 57.09	$ 0.04	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2008	220027	Single Family, Quality Insulation Installation, CZ 6	24	$ 29.95	$ 0.03	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2008	220028	Single Family, Quality Insulation Installation, CZ 7	65	$ 25.73	$ 0.07	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2008	220029	Single Family, Quality Insulation Installation, CZ 8	182	$ 27.84	$ 0.20	0.8	Dwelling Unit	20	200	$ 175.00	$ 300.00	29,194	4,454	32
2008	220030	Single Family, Quality Insulation Installation, CZ 9	255	$ 14.45	$ 0.28	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2008	220031	Single Family, Quality Insulation Installation, CZ 10	468	$ 38.41	$ 0.51	0.8	Dwelling Unit	20	300	$ 175.00	$ 300.00	112,366	9,218	123
2008	220032	Single Family, Quality Insulation Installation, CZ 13	547	$ 52.16	$ 0.60	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2008	220033	Single Family, Quality Insulation Installation, CZ 14	647	$ 73.65	$ 0.71	0.8	Dwelling Unit	20	0	$ 175.00	$ 300.00	-	-	-
2008	220034	Single Family, Quality Insulation Installation, CZ 15	1,270	$ 20.79	$ 1.39	0.8	Dwelling Unit	20	200	$ 175.00	$ 300.00	203,251	3,326	223
2008	220035	Single Family, Tank Less Water Heater, CZ 4	-	$ 79.99	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220036	Single Family, Tank Less Water Heater, CZ 5	-	$ 81.05	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220037	Single Family, Tank Less Water Heater, CZ 6	-	$ 85.63	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220038	Single Family, Tank Less Water Heater, CZ 7	-	$ 85.28	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220039	Single Family, Tank Less Water Heater, CZ 8	-	$ 84.22	$ -	0.8	Dwelling Unit	15	50	$ 200.00	$ 325.00	-	3,369	-
2008	220040	Single Family, Tank Less Water Heater, CZ 9	-	$ 83.52	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	220041	Single Family, Tank Less Water Heater, CZ 10	-	$ 83.62	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220042	Single Family, Tank Less Water Heater, CZ 13	-	$ 75.41	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220043	Single Family, Tank Less Water Heater, CZ 14	-	$ 85.63	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220044	Single Family, Tank Less Water Heater, CZ 15	-	$ 73.65	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220045	Single Family, Air Conditioner EER, CZ 4	22	$ -	$ 0.06	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220046	Single Family, Air Conditioner EER, CZ 5	2	$ -	$ 0.00	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220047	Single Family, Air Conditioner EER, CZ 6	-	$ -	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220048	Single Family, Air Conditioner EER, CZ 7	3	$ -	$ 0.01	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220049	Single Family, Air Conditioner EER, CZ 8	74	$ -	$ 0.19	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220050	Single Family, Air Conditioner EER, CZ 9	198	$ -	$ 0.50	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220051	Single Family, Air Conditioner EER, CZ 10	460	$ -	$ 1.16	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220052	Single Family, Air Conditioner EER, CZ 13	790	$ -	$ 1.99	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220053	Single Family, Air Conditioner EER, CZ 14	878	$ -	$ 2.21	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220054	Single Family, Air Conditioner EER, CZ 15	2,405	$ -	$ 6.03	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220055	Multi-family, Maximum Cooling Capacity, CZ 4	44	$ 13.43	$ 0.05	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2008	220056	Multi-family, Maximum Cooling Capacity, CZ 5	10	$ 13.73	$ 0.01	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2008	220057	Multi-family, Maximum Cooling Capacity, CZ 6	10	$ 5.68	$ 0.01	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2008	220058	Multi-family, Maximum Cooling Capacity, CZ 7	29	$ 4.53	$ 0.03	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2008	220059	Multi-family, Maximum Cooling Capacity, CZ 8	123	$ 5.52	$ 0.13	0.8	Dwelling Unit	15	200	$ 100.00	$ 150.00	19,666	883	22
2008	220060	Multi-family, Maximum Cooling Capacity, CZ 9	243	$ 6.14	$ 0.27	0.8	Dwelling Unit	15	100	$ 100.00	$ 150.00	19,426	491	21
2008	220061	Multi-family, Maximum Cooling Capacity, CZ 10	437	$ 8.75	$ 0.48	0.8	Dwelling Unit	15	300	$ 100.00	$ 150.00	104,863	2,100	115
2008	220062	Multi-family, Maximum Cooling Capacity, CZ 13	606	$ 14.58	$ 0.66	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2008	220063	Multi-family, Maximum Cooling Capacity, CZ 14	745	$ 24.63	$ 0.82	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-
2008	220064	Multi-family, Maximum Cooling Capacity, CZ 15	1,791	$ 4.30	$ 1.96	0.8	Dwelling Unit	15	0	$ 100.00	$ 150.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	220065	Multi-family, Verified Ducting System, CZ 4	21	$ 13.43	$ 0.02	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2008	220066	Multi-family, Verified Ducting System, CZ 5	5	$ 13.73	$ 0.00	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2008	220067	Multi-family, Verified Ducting System, CZ 6	5	$ 5.68	$ 0.00	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2008	220068	Multi-family, Verified Ducting System, CZ 7	13	$ 4.53	$ 0.01	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2008	220069	Multi-family, Verified Ducting System, CZ 8	60	$ 5.52	$ 0.07	0.8	Dwelling Unit	15	400	$ 60.00	$ 100.00	19,187	1,766	21
2008	220070	Multi-family, Verified Ducting System, CZ 9	137	$ 6.14	$ 0.15	0.8	Dwelling Unit	15	400	$ 60.00	$ 100.00	43,888	1,965	48
2008	220071	Multi-family, Verified Ducting System, CZ 10	259	$ 8.75	$ 0.28	0.8	Dwelling Unit	15	500	$ 60.00	$ 100.00	103,724	3,500	114
2008	220072	Multi-family, Verified Ducting System, CZ 13	360	$ 14.58	$ 0.40	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2008	220073	Multi-family, Verified Ducting System, CZ 14	483	$ 24.63	$ 0.53	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2008	220074	Multi-family, Verified Ducting System, CZ 15	1,164	$ 4.30	$ 1.28	0.8	Dwelling Unit	15	0	$ 60.00	$ 100.00	-	-	-
2008	220075	Multi-family, High Quality Insulation Installation, CZ 4	34	$ 11.12	$ 0.04	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2008	220076	Multi-family, High Quality Insulation Installation, CZ 5	12	$ 11.89	$ 0.01	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2008	220077	Multi-family, High Quality Insulation Installation, CZ 6	10	$ 5.91	$ 0.01	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2008	220078	Multi-family, High Quality Insulation Installation, CZ 7	22	$ 5.14	$ 0.02	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2008	220079	Multi-family, High Quality Insulation Installation, CZ 8	57	$ 5.52	$ 0.06	0.8	Dwelling Unit	20	200	$ 50.00	$ 100.00	9,114	883	10
2008	220080	Multi-family, High Quality Insulation Installation, CZ 9	95	$ 6.06	$ 0.10	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2008	220081	Multi-family, High Quality Insulation Installation, CZ 10	126	$ 8.13	$ 0.14	0.8	Dwelling Unit	20	300	$ 50.00	$ 100.00	30,218	1,951	33
2008	220082	Multi-family, High Quality Insulation Installation, CZ 13	140	$ 11.20	$ 0.15	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2008	220083	Multi-family, High Quality Insulation Installation, CZ 14	160	$ 15.57	$ 0.17	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2008	220084	Multi-family, High Quality Insulation Installation, CZ 15	304	$ 4.22	$ 0.33	0.8	Dwelling Unit	20	0	$ 50.00	$ 100.00	-	-	-
2008	220085	Multi-family, Tank Less Water Heater, CZ 4	-	$ 13.89	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220086	Multi-family, Tank Less Water Heater, CZ 5	-	$ 13.96	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220087	Multi-family, Tank Less Water Heater, CZ 6	-	$ 15.34	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220088	Multi-family, Tank Less Water Heater, CZ 7	-	$ 15.50	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	220089	Multi-family, Tank Less Water Heater, CZ 8	-	$ 15.34	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220090	Multi-family, Tank Less Water Heater, CZ 9	-	$ 15.27	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220091	Multi-family, Tank Less Water Heater, CZ 10	-	$ 15.34	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220092	Multi-family, Tank Less Water Heater, CZ 13	-	$ 13.81	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220093	Multi-family, Tank Less Water Heater, CZ 14	-	$ 15.34	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220094	Multi-family, Tank Less Water Heater, CZ 15	-	$ 14.81	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 325.00	-	-	-
2008	220095	Multi-family, Air Conditioner EER, CZ 4	10	$ -	$ 0.01	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220096	Multi-family, Air Conditioner EER, CZ 5	1	$ -	$ 0.00	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220097	Multi-family, Air Conditioner EER, CZ 6	-	$ -	$ -	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220098	Multi-family, Air Conditioner EER, CZ 7	2	$ -	$ 0.00	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220099	Multi-family, Air Conditioner EER, CZ 8	42	$ -	$ 0.05	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220100	Multi-family, Air Conditioner EER, CZ 9	109	$ -	$ 0.14	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220101	Multi-family, Air Conditioner EER, CZ 10	233	$ -	$ 0.29	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220102	Multi-family, Air Conditioner EER, CZ 13	363	$ -	$ 0.46	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220103	Multi-family, Air Conditioner EER, CZ 14	406	$ -	$ 0.51	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-
2008	220104	Multi-family, Air Conditioner EER, CZ 15	1,036	$ -	$ 1.30	0.8	Dwelling Unit	15	0	$ 200.00	$ 225.00	-	-	-

CROSSCUTTING PROGRAMS

2006-2008 Energy Efficiency Programs
On-Bill Financing Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 118,803	$ 120,004	$ 127,242
Administrative Other	$ 434,540	$ 425,610	$ 416,411
Marketing & Outreach	$ 102,321	$ 102,491	$ 96,666
Direct Implementation			
Incentives	$ -	$ -	$ -
Activity	$ 229,411	$ 235,994	$ 242,774
Installation	$ -	$ -	$ -
Hardware & Materials	$ -	$ -	$ -
Rebate Processing & Inspection	$ 364,925	$ 365,901	$ 366,907
EM&V	$ -	$ -	$ -
Total	*$ 1,250,000*	*$ 1,250,000*	*$ 1,250,000*

Notes:

1. Other Administrative includes build-out of IT assets to automate the billing process. The IT costs will be coordinated with Demand Response Programs.
2. Financial Incentives is shown as zero dollars in the budget. Up to $5 million of loan funds will be made available during 2006 and 2007 by SDG&E from non-PGC funds.

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
-	-	-	-	-	-	-	-	-

Note: Not applicable to the pilot phase of this program. Results of EM&V may indicate whether energy savings can be directly attributed to this program at some time in the future. Energy savings will be credited to the participating rebate programs in the interim.

3. Program Cost Effectiveness

N/A.

4. Program Descriptors

The SDG&E On-Bill Financing (OBF) Program is a new local program that provides financing for energy efficiency measures. The OBF program will target the following market sectors:

- Phase I ("pilot"):
  - Residential: Owners of multifamily units who do not live on the premises
  - Nonresidential: Small commercial and industrial customers
  - Local government

Later Phases: expansion into additional market segments could be warranted and would occur during later phases of the program.

5. Program Statement

Historically, the multifamily and small business segments have been considered hard-to-reach, with limited participation in energy efficiency programs, while representing largely untapped energy efficiency potential. Local government entities have similarly limited participation driven by capital constraints and long budget cycles that have restricted their ability to participate in one-and two-year energy efficiency program cycles.

The On-Bill Financing program would facilitate the purchase and installation of qualified energy efficiency measures by customers who might otherwise not be able to act given capital constraints and administrative and time burdens to participation as well as concerns about or lack of understanding of the benefits of energy efficiency. The participating customer would be eligible to receive a reduced rebate from the participating rebate/incentive program(s) and to finance the balance of comprehensive, qualified energy efficiency and demand response measures in lieu of another available program rebate or incentive. Monthly payment on a term loan would be billed as part of the participating customer's utility bill.

The program will also address utility concerns with the risks and costs of offering this type of program in the State of California. Historically, these concerns have focused on the costs to upgrade customer information and billing systems as well as the imposition of and exposure to additional legal and regulatory requirements on the utility.

6. Program Rationale

On-Bill Financing programs have been offered by other utilities with varying levels of success. SDG&E's On-Bill Financing program is designed to build on the successful programs run by others. Proponents advocating for the inclusion of on-bill financing options in overall utility portfolios argue that the availability of this type of program will allow more customers to participate in energy efficiency programs. Phase I of this program will test whether customers who face market barriers to participation in energy efficiency programs will actually increase their participation level. When customers utilize this program, their previous "lost opportunities" to manage and reduce their energy consumption will be minimized.

7. Program Outcomes

On-Bill Financing will leverage existing energy efficiency rebate/incentive programs. Through provision of a reduced rebate/incentive level in conjunction with financing, participating energy efficiency rebate/incentive programs will be able to rebate/incent additional units and generate additional energy savings. Desired results of the program are:

- Incremental program participation in the rebate/incentive programs targeted in the pilot phase
- Incremental energy savings flowing from increased customer participation and ability to install a more comprehensive package of measures
- Convenience for customers to access financing through energy efficiency programs and ease of repayment through the utility bill
- Demonstration that the utility customer and billing systems can be upgraded at reasonable cost to handle a financing option

Establish necessary procedures to comply with any additional legal and regulatory requirements imposed on the utility by this program.

8. Program Strategy

8.1.1. Program Strategy Description

Methods deployed in order to obtain program outcomes:

- Design and implementation of changes necessary to utility billing and accounting systems to provide on-bill presentment of a loan repayment as a new, single line item on the bill. There are two parts to Phase I implementation of systems changes. Part 1 of the phase will implement a manual billing process, making limited modifications to the billing system in order to allow for manual processing of monthly bills for customers participating in the OBF program. The manual billing process would be available in early 2006. Part 2, occurring concurrently with Part 1, will design and implement an automated billing process, making more extensive modifications to the customer information system and billing systems to accommodate OBF program transactions. The automated billing process is expected to be available at the end of 2006.
- Training for contractors to provide information on the participating energy efficiency rebate/incentive programs, including the financing option, to customers seeking energy efficiency improvements. It is expected that using contractors will be an important element in the success of this program. Contractors, along with utility account executives, will recruit customers and initiate the loan application for customer's energy efficiency project with the utility. A list of pre-screened/qualified contractors offering the financing option will be made available to any customer who requests it from the utility.
- Eligible market segments will be provided a reduced rebate/incentive for qualified energy efficiency equipment with zero-percent financing for 100% of the balance of project cost (up to loan maximum), including installation costs. Minimum loan available is $5,000 per meter; maximum loan available

is $25,000 per meter. Maximum total loan funds available during the pilot phase are capped at $5 million for program years 2006 and 2007.

- Utility will complete credit screening on customer application and review payback analysis, reserving loan funds for approved projects. Customers not qualified for financing option will be referred back to the appropriate rebate/incentive program.

8.1.2. **Program Indicators**

- The manual billing process to be available in early 2006. The automated billing process to be available at the end of 2006.
- Initial recruiting and training of contractors to be completed in second Quarter 2006.
- Loan funding will be allocated to the three market segments – 20% to multifamily, 30% to small business, and 50% to local government. Expected number of loans during each of the 2 loan years is 300 (for a total of 600 loans over the life of the program). Number of loans could be between 100 to 500 each year.
- Number of customers not qualified for financing option and referred back to the appropriate rebate/incentive programs will be tracked with reasons for loan disqualification documented.
- OBF is designed to provide an additional means to facilitate customer participation in energy efficiency programs that deliver permanent and verifiable energy savings from the targeted market segments. Objectives of the pilot phase are to: 1) establish internal procedures and systems upgrades to provide financing option to customers, 2) evaluate the benefits to customers and contribution to energy savings goals provided by on-bill financing, 3) provide loans using manual processing in PY 2006, 4) provide loans using automated processing in PY 2007, and 5) propose next generation On-Bill Financing program.

Milestone 1: Manual billing systems in place and loans available to customers by end of first quarter 2006.
Milestone 2: Automated billing systems in place and loans available to customers by the beginning of 2007.
Milestone 3: Evaluation and analysis of program processes and contribution to increased customer participation and increased real energy savings to be determined by internal assessment and EM&V plan.
Milestone 4: Utility filing of report on program results and request for next generation program consideration to Commission by the end of 2007.

9. Program Implementation

OBF program will be offered in conjunction with the Residential Multifamily Energy Efficiency Program, the Statewide Nonresidential Express Efficiency Program, and the Local Business Energy Efficiency Program. Loans will be offered

in program years 2006 and 2007, or until loan funds are spent and/or committed. Marketing efforts for OBF will be coordinated with these programs.

- Utility Perspective
  SDG&E will need to make a number of modifications to existing systems and procedures to facilitate implementation of OBF. These modifications will be transparent to the customer, involving enhancements to the customer information database, billing system and bill format. Additionally, changes to tariffs and rules will be filed with the Commission and internal procedures and processes updated.

  For 2006, a manual billing system will be implemented to include the loan payment as a line item on the customer's utility bill. Concurrently, work will begin to implement changes to the information systems that will enable loan payments to be handled automatically by the systems. Automated systems are expected to be available at the beginning of 2007.

  Marketing messages and materials will be developed in conjunction with the participating rebate/incentive programs as well as utility information and outreach programs. Program materials such as application forms, loan agreements and disclosure notices will be developed.

  A contractor/utility interface will be developed to facilitate communication between participating contractors and the utility. Training materials will be prepared to train utility account executives and contractors on the OBF option and the contractor/utility interface. Contractors will be selected (through OBF and/or in conjunction with participating rebate/incentive programs) and training conducted.

  Program will officially open for submission of project and loan application. Utility will review applications submitted by contractors and account executives for compliance with credit check criteria and project payback. Utility will notify parties of approved applications and provide loan documents for customer signature; customers failing to meet the credit check criteria will be referred to the appropriate rebate/incentive program(s). Upon notification that installation is complete, utility will verify installation and release funds.

  Upon release of funds, utility will enter loan payment into the billing system. Utility will begin monitoring remittance activity, track accounts moving into collections and analyze any loans going into default.

- Contractor Perspective
  Contractors interested in offering the OBF as an option to its customers may be asked to respond to an RFI/RFP initiated by either the participating rebate/incentive program or OBF. Once selected, the contractor may participate in training on the OBF program, including use of the contractor/utility interface and coordination with the participating rebate/incentive programs. Upon

completion of training, contractors should be able to recruit customers to participate in the OBF program.

Contractor will submit customer project and loan application. Upon notification from utility that customer and project qualify for OBF and loan document has been signed by customer, contractor will install project measures. Upon completion of installation, utility will verify and inspect installation.

- Customer Perspective
  Customers interested in installing energy efficiency improvements at their facilities may become aware of the utility's energy efficiency programs in a number of ways: on their own or through their contractor or utility account executive. A customer who inquires about the OBF option will be referred to their account executive or referred to the list of pre-qualified contractors. The customer, working with their account executive or contractor, will decide upon the comprehensive package of energy efficiency measures to be installed and assist in the preparation of the program application and loan agreement, including the OBF option. Upon notification of approval to participate in the OBF option, the customer will schedule installation by the contractor and post-installation inspection by the utility. After installation is complete, utility will release the funds for the project's authorized costs and customer's loan repayment will begin appearing on the monthly utility bill.

10. Customer Description

The customers targeted by the OBF program are:

- MF Owner not living on the premises
- Small C&I
  - 20-100 kW (gas measures included)
- Local Government (cities, schools, etc.)
  - Under 500 kW (gas measures included)

11. Customer Interface

The program shall be presented to the customer through face-to-face contact from pre-screened installation contractors and SDG&E Energy Program Representatives. Marketing materials, including coordination with participating rebate/incentive programs and outreach/information programs, and program contracts will be developed detailing the terms and conditions for participation in the financing option. Efforts will include the development and design of program literature, application forms, loan agreement, and other appropriate program literature as needed.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures

Not applicable.

12.2. kWh Level Data

Not applicable.

12.3. Non-energy Activities

12.3.1. End Use Load (if applicable)

12.3.2. Targeted Sector (if applicable)

12.3.3. Activity Description

Loan funding of up to $5 million will be provided by SDG&E from non-PGC funds and will be made available in PY 2006 and PY 2007. No loans will be issued during PY 2008, pending assessment of program effectiveness. Zero percent interest rate. Two to three year loan term for multifamily and small business market segments; three to five year loan term for local government segment. No penalty for early repayment. Partial or non-payment of loan could result in shut-off of utility service and turned over for collection. Balance of loan will become payable when customer closes utility account. Loan is not transferable.

12.3.4. Quantitative Activity Goals

- Loan funding will be allocated to the three market segments – 20% to multifamily, 30% to small business, and 50% to local government
- Expected number of loans during each of the 2 loan years is 300 (for a total of 600 loans over the life of the program). Number of loans could be as few as 100 each year (if all for maximum amount) to as many as 500 each year (if all for minimum amount). Average loan is expected to be $8,000.

12.3.5. Assigned attributes of the activity

13. **Subcontractor Activities**

Subcontractors may conduct training of energy services contractors.

14. Quality Assurance and Evaluation Activities

An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E looks forward to participating and commenting on those activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs.

Expected number/percent of inspections (planned percent of projects): One hundred percent of the projects will be verified and inspected. Any failures will need to be corrected before funds are released.

15. Marketing Activities

Marketing efforts would be coordinated with the participating rebate/incentive programs to include a cross-reference to the on-bill financing option. These efforts would include development of program forms and applications, brochures and/or program summary sheets and contractor outreach.

16. CPUC Objective

The availability of on-bill financing at other utilities has allowed more customers to participate in those energy efficiency programs. SDG&E's On-Bill Financing program will facilitate the purchase and installation of qualified energy efficiency measures by customers who might otherwise not be able to act given capital constraints or other market barriers. Leveraging existing energy efficiency rebate/incentive programs and offering an on-bill financing option will enable SDG&E to increase program participation, rebate/incent additional units and generate additional energy savings while offering customers an easy, convenient means to afford and install the equipment that will enable them to manage and reduce their energy usage. By helping SDG&E meet its aggressive energy savings targets, the OBF program helps to meet CPUC's objectives to pursue all cost-effective energy efficiency options while minimizing lost opportunities.

	SDGE3019 OBF-On-Bill Financing for Energy Efficiency Equipment	
BUDGET		
Administrative Costs	**$**	**1,642,610**
Overhead and G&A	$	366,049
Other Administrative Costs	$	1,276,561
Marketing/Outreach	**$**	**301,478**
Direct Implementation	**$**	**1,805,912**
Total Incentives and Rebates		
User Input Incentive	$	-
Direct Install Rebate	$	-
Direct Install Labor	$	-
Direct Install Materials	$	-
Activity	$	708,179
Installation	$	-
Hardware & Materials	$	-
Rebate Processing & Inspection	$	1,097,733
EM&V Costs	**$**	**-**
Budget	**$**	**3,750,000**
Costs recovered from other sources	**$**	**-**
Budget (plus other costs)	**$**	**3,750,000**
PROGRAM IMPACTS		
User Entered kW (kW)		-
Net Jul-Sept Peak (kW)		
Net Dec-Feb Peak (kW)		
Net NCP (kW)		-
Net CEC (kW)		-
Annual Net kWh		-
Lifecycle Net kWh		-
Annual Net Therms		-
Lifecycle Net Therms		-
Cost Effectiveness		
TRC		
Costs	$	3,750,000
Electric Benefits	$	-
Gas Benefits	$	-
Net Benefits (NPV)	$	(3,750,000)
BC Ratio		-
PAC		
Costs	$	3,750,000
Electric Benefits	$	-
Gas Benefits	$	-
Net Benefits (NPV)	$	(3,750,000)
BC Ratio		-
Levelized Cost		
Levelized Cost TRC ($/kWh)		
Discounted kWh		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-
Levelized Cost PAC ($/kWh)		
Discounted kWh		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-
Levelized Cost TRC ($/therm)		
Discounted Therms		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-
Levelized Cost PAC ($/therm)		
Discounted Therms		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-

2006-2008 Energy Efficiency Concept Paper - Statewide Crosscutting Codes and Standards

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 19,048	$ 19,048	$ 19,048
Administrative Other	$ 161,520	$ 163,470	$ 163,470
Marketing & Outreach	$ 5,950	$ 2,950	$ 2,950
Direct Implementation			
Activity	$ 213,482	$ 214,532	$ 214,532
Installation	$ -	$ -	$ -
Hardware & Materials	$ -	$ -	$ -
Procurement	$ -	$ -	$ -
Incentives	$ -	$ -	$ -
EM&V	$ -	$ -	$ -
Total	*$ 400,000*	*$ 400,000*	*$ 400,000*

2. Projected Program

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
8,880,000	2,590	110,000	9,160,000	2,780	90,000	12,250,000	3,280	80,000

3. Program Cost Effectiveness

Attached

4. Program Descriptors

Codes and Standards (C&S) is an existing statewide program that promotes upgrades and enhancements in energy efficiency standards and codes. Codes and Standards Enhancement (CASE) studies are performed for promising design practices and technologies. The studies' results are presented to standards and code-setting bodies to encourage adoption of energy efficiency measures. In addition, C&S develops and conducts training seminars to inform the building community regarding applicable codes and prepare them for upcoming code changes.

5. Program Statement

The Codes & Standards (C&S) program directs initiatives that will enhance building and appliance standards to codify cost effective, reliable and verifiable demand side measures in support of maximizing portfolio energy and demand savings. The C&S program is transitioning from an information-only program to a resource acquisition oriented program that advocates upgrades and enhancements in energy efficiency standards and codes. Program activities are conducted over long-term code upgrade cycles. Support of building code cycles, for example, may require four years of continuous support. The C&S program offers the state expert testimony to promote standards that approach best practices in energy efficiency, which becomes critically important as stakeholders voice opposition to improvements to building and appliance standards throughout the public workshops and hearings process. It should be noted that SDG&E often works closely with the National Builders Institute (NBI) in developing best practices programs for future energy efficiency

programs. Additionally, the program supports implementation of energy efficiency standards through strategic initiatives and/or training. The program targets all market segments.

6. Program Rationale

Saving energy and capturing resource and societal benefits from California's diverse energy efficiency program are the primary reasons behind the Codes and Standards program. These advancements are achieved by assisting the state in modifying existing standards or setting new codes into law. Enhancements to codes and standards lead to significant energy and electric and gas demand savings by advancing the identification and early adoption of innovative technologies. Following this progression, C&S activities create synergies with other programs, such as Emerging Technologies, IOU energy efficiency equipment rebates, and energy audits.

7. Program Outcomes

The C&S program is designed to enhance state and federal appliance and building energy efficiency codes, standards and guidelines. In 2006 through 2008, the C&S program will specifically support implementation of the California Energy Commission's Title 24 Building Energy Efficiency Standards and revisions to Title 20 Appliance Efficiency Standards. CASE initiatives may target enhancements to Title 24 Building Energy Efficiency Standards rulemaking. Additionally, San Diego Gas and Electric has looked beyond Title 24 and Title 20 to urge those industries that are not currently regulated by this code to embrace "baseline" technologies and best management practices until they are formalized into industry-accepted standards.

8. Program Strategy

- Codes and Standards Advocacy, Training, and Enforcement

8.1.1. Program Strategy Description

Program staff will assess technologies that present the strongest opportunities to direct and influence code enhancements with significant energy savings. C&S activities create synergies with other programs, such as Emerging Technologies, energy efficiency equipment rebates and energy audits. C&S program staff will work with the statewide Emerging Technologies program staff as they provide comprehensive analysis of a technology's market potential, market barriers, incremental cost, adoptability, life expectancy, and life cycle costs – all of which determine at which point the technology could drive future code modifications. Implementation activities may include:

- Scoping studies addressing retrofit residential and nonresidential building code opportunities, or advanced energy codes

- CASE studies developed through contracts with consultants managed by utility staff

- Providing expert testimony to promote standards that approach best practices in energy efficiency
- Conducting informal workshops to solicit concepts, reconcile divergent opinions, and solve problems
- Compliance improvement training
- Participation in standards and ratings organizations
- Development of compliance options
- Development surveys to obtain information necessary to address knowledge gaps that constrain future building and appliance code enhancement proposals

8.1.2. Program Indicators

Progress will be measured through the following two metrics:

- **SDG&E will initiate twelve (12) CASE studies.** The completion and presentation of a CASE study may take up to four years.
  - SDG&E is participating with the California Commissioning Collaborative for 2008 code enhancements including a potential CASE study on commercial HVAC systems for large buildings.
  - A report will be completed that summarizes the status of each CASE study active.
- **SDG&E will conduct a variety training classes for builders and local code officials over the next 3 years**.
  - Classes will address enhancements to the standards or efficiency guidelines that customers may use to construct and install code-compliant buildings and appliances, respectively.

9. Program Implementation

Codes & Standards program managers will work closely with California Energy Commission (CEC) staff, and other codes and standards advocates, since advocacy efforts within the public rulemaking process are more effective if carried out in a coordinated manner. Prioritization of C&S activities will consider the applicable rulemaking proceedings; measure cost effectiveness, potential long-term energy savings, and demand savings of the enhancements. The IOU's C&S program staffs will meet throughout each year to coordinate inter-utility activities so that the limited program funding is leveraged efficiently through all of the IOU codes and standards efforts. Activities will also be coordinated with other IOU programs, as needed.

Pacific Gas & Electric Company (PG&E), Southern California Edison Company (SCE), San Diego Gas & Electric Company (SDG&E), and Southern California Gas Company (SoCalGas) will collectively consider CASE initiatives on various cost effective building and appliance energy efficiency measures. SDG&E will work with the CEC and the other IOU's to explore opportunities to reduce the use of non-energy efficient lighting systems. Implementation activities may include CASE

studies, targeted training, or other strategic efforts. Additionally, projects such as scoping studies addressing retrofit residential and nonresidential building code opportunities, or advanced energy codes, may be included.

Reports on presentations to the CEC will be available through transcripts of CEC standards workshops, typically posted on the CEC web site after public hearings. The transcripts include comments made by the IOUs, stakeholders and advocates.

To insure transparency and up to date status of the nature and focus of the IOU's CASE study activities, the IOUs will provide an annual report that briefly summarizes activities in core program areas during the year including, but not limited to: CASE study development, market and information surveys, and compliance support. The summary will provide a detailed list of technologies or market areas identified for CASE study development. The annual report will be posted on a central website at the end of each year, and energy savings will be provided as available.

Initial energy savings projections for the next cycle of building and appliance standards will be based on the level of effort relative to residential building standards, nonresidential building standards, and appliance standards. Energy savings will be updated after reaching key milestones, including: completion of draft CASE studies, selection of CASE studies by the CEC, and adoption.

10. Customer Description

Through the statewide C&S program, expert testimony is provided to promote standards that approach best practices in energy efficiency. Key stakeholders impacted by these regulatory changes include equipment manufacturers, standards enforcement agencies, government institutions, agencies responsible for standard enforcement such as building departments, architects, engineers, designers, and building industry associations, among others.

11. Customer Interface

Interface with key stakeholders impacted by regulatory changes include manufacturers, government institutions, standard enforcement agencies of various jurisdictions, architects, engineers, and manufacturing/building associations, among other interested parties. This program is intended to inform the process of modifying existing or developing new energy efficiency measures for utility energy efficiency programs or third party efforts.

12. Energy Measures and Program Activities

The 2006-2008 program will focus on new opportunities to address retrofit residential and nonresidential building codes or advanced energy codes. Projects will share the objectives of informing state and federal agencies, verifying and enhancing the CEC's appliance energy efficiency and building code standards, and,

in some cases, enhancing manufacturers' specifications and developing new statewide measures.

12.1. **Prescriptive Measures**

Not applicable.

12.2. Energy Savings and Demand Reduction Level Data

Energy savings and demand reductions are currently under development in accordance with D. 05-09-043 "The final protocols for estimating … savings shall be established during the EM&V phase.[1]" Energy and demand savings projections will be updated in annual reports as soon as protocols are developed and key milestones are completed.

12.3. Non-energy Activities (Audits, trainings, etc.)

One of the key goals of the C&S program is to conduct relevant training and/or seminars to help in the dissemination of code changes and enhancements. The target audience is code officials, builders, developers, engineers and equipment specifiers. Trainings are performed by internal labor and subcontracted labor.

13. Subcontractor Activities

Although subcontractors may be employed, none are specifically planned at this time.

14. Quality Assurance and Evaluation Activities

In accordance with D. 05-09-043, the protocols for estimating and verifying savings from this program shall be established during the EM&V phase of this proceeding.

15. Marketing Activities

As an information-only program, marketing efforts are those conducted for information dissemination and training. SDG&E will deliver studies and reports to code-making bodies or organizations that would benefit from technology information as it relates to the code-making process. As seminars or training are conducted as a part of a C&S program, marketing materials promote the events through e-mail, web site access, newspaper and trade association advertisements and flyers mailings to the appropriate target audiences.

16. CPUC Objective

With reference to the EE Policy Manual (V#3;II, 1-10) the following can be said about the Statewide Crosscutting Codes and Standards Program:

- The program seeks to discover and promote new cost-effective energy saving options in alignment with the Energy Action Plan. (#1)

The program will support the Commission's short-term and long-term energy efficiency goals.(#6)

[1] D. 05-09-043, Interim Opinion: Energy Efficiency Portfolio Plans and Programs Funding Levels for 2006-2008 – Phase 1 Issues, September 22, 2005,Ordering paragraph 14, (e),

	SDGE3004 CS-Codes & Standards Program
BUDGET	
Administrative Costs	**$ 545,603**
Overhead and G&A	$ 57,143
Other Administrative Costs	$ 488,460
Marketing/Outreach	**$ 11,850**
Direct Implementation	**$ 642,547**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 642,547
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 1,200,000**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 1,200,000**
PROGRAM IMPACTS	
User Entered kW (kW)	8,650
Net Jul-Sept Peak (kW)	9,857
Net Dec-Feb Peak (kW)	3,932
Net NCP (kW)	8,614
Net CEC (kW)	6,573
Annual Net kWh	30,290,000
Lifecycle Net kWh	302,900,000
Annual Net Therms	280,000
Lifecycle Net Therms	2,800,000
Cost Effectiveness	
TRC	
Costs	$ 1,200,000
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (1,200,000)
BC Ratio	-
PAC	
Costs	$ 1,200,000
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (1,200,000)
BC Ratio	-
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

Codes & Standards Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 400,000	$ -	$ 400,000	8,880,000	110,000	2,590
2007	$ 400,000	$ -	$ 400,000	9,160,000	90,000	2,780
2008	$ 400,000	$ -	$ 400,000	12,250,000	80,000	3,280

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	243001	C&S from Mahone Report - kWh	1			0.5		10	17,760,000		$ -	8,880,000	-	-
2006	243002	C&S from Mahone Report - kW			1.00	0.5		10	5,180		$ -	-	-	2,590
2006	243003	C&S from Mahone Report - Therms		1		0.5		10	220,000		$ -	-	110,000	-
2007	243001	C&S from Mahone Report - kWh	1			0.5		10	18,320,000		$ -	9,160,000	-	-
2007	243002	C&S from Mahone Report - kW			1.00	0.5		10	5,560		$ -	-	-	2,780
2007	243003	C&S from Mahone Report - Therms		1		0.5		10	180,000		$ -	-	90,000	-
2008	243001	C&S from Mahone Report - kWh	1			0.5		10	24,500,000		$ -	12,250,000	-	-
2008	243002	C&S from Mahone Report - kW			1.00	0.5		10	6,560		$ -	-	-	3,280
2008	243003	C&S from Mahone Report - Therms		1		0.5		10	160,000		$ -	-	80,000	-

2006-2008 Energy Efficiency Programs
Statewide Emerging Technologies

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 64,905	$ 64,905	$ 64,905
Administrative Other	$ 388,960	$ 388,960	$ 388,960
Marketing & Outreach	$ 95,000	$ 95,000	$ 95,000
Direct Implementation			
Incentives	$ -	$ -	$ -
Activity	$ 814,136	$ 814,136	$ 814,136
Installation	$ -	$ -	$ -
Hardware & Materials	$ -	$ -	$ -
Rebate Processing & Inspection	$ -	$ -	$ -
EM&V	$ -	$ -	$ -
Total	*$ 1,363,000*	*$ 1,363,000*	*$ 1,363,000*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
-	-	-	-	-	-	-	-	-

3. Program Cost Effectiveness

N/A

4. Program Descriptors

The statewide Emerging Technologies (ET) program is a new product/process evaluation activity best grouped with information-only programs that seek to accelerate the commercial introduction of novel energy-efficient technologies, applications, and analytical tools that are not widely adopted in California.

5. Program Statement

The ET program is an information-only program that seeks to accelerate the introduction of innovative energy efficient technologies, applications and analytical tools that are not widely adopted in California. Emerging technologies may include hardware, software, design tools, strategies and services. There are a daunting amount of market barriers that must be overcome for a new energy efficient product to gain acceptance. As the typical product life cycle in Figure 1 illustrates, during initial marketing efforts, products accepted by “innovators” may fail to gain wider acceptance with more risk-adverse customers, and the product’s adoption rate may fall off into “the chasm.” The ET program intends to help accelerate a product’s market acceptance through a variety of approaches, but mainly by reducing the performance uncertainties associated with new products and applications. The program targets all market segments. In addition, the program managers may investigate opportunities with industry, the California Energy Commission and others to develop new, innovative and cost effective energy efficient technology enhancements to existing products.

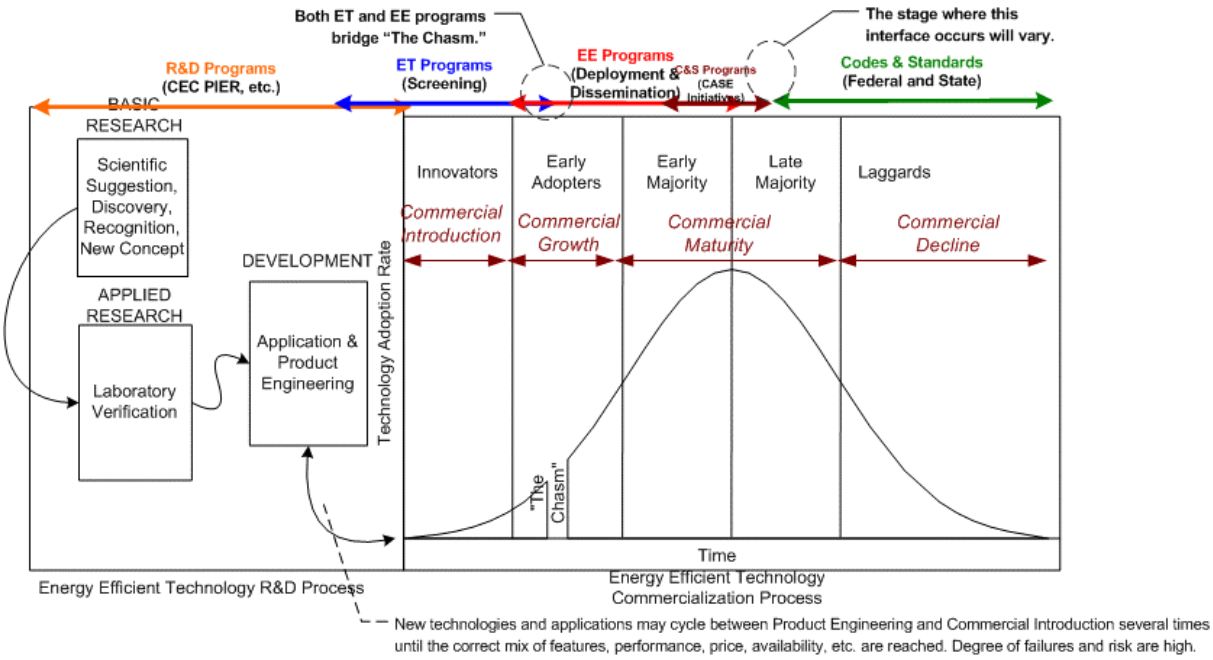

Figure 1. Energy Efficient Technology Commercialization Process

6. Program Rationale

The energy efficiency portfolio cannot remain static in the face of ever tightening energy markets and changing regulations. As the next generation of energy efficient technologies and applications emerge, they face market hurdles that may either delay their introduction or even consign them to failure. The ET program is a statewide Investor Owned Utility (IOU) effort that seeks to clarify and overcome many of those market barriers, and to raise the customer acceptance of innovative energy efficiency options that are not widely adopted in California. As shown in Figure 1, the program forms an important link between new energy efficient technologies and applications emerging from the Research & Development (R&D) cycle and their introduction into the broader marketplace. It also shows the relationship of the ET program, the energy efficiency programs, and the Codes and Standards (C&S) program over the product life of the technology.

The proposed 2006-2008 statewide ET program will be slightly different from the 2004 and 2005 program. In 2004 and 2005, the IOUs and the California Energy Commission's (CEC) Public Interest Energy Research (PIER) staff met to discuss and coordinate statewide activities through the Emerging Technologies Coordinating Council (ETCC). Through PIER, the CEC helps to develop, test and demonstrate products up to the end of the R&D cycle. During the 2004-05 meetings, the PIER program managers and contractors reviewed with the IOUs those projects and technologies that have advanced enough to warrant utility ET program consideration. At SDG&E, work is in progress on several ET assessment projects based on PIER technologies that are in their final development stages. In addition, ET program staff briefed and prepared materials for the energy efficiency

program planners regarding emerging technology applications that may be considered ready for the 2006 - 2008 energy efficiency programs. The synergy between R&D programs, like PIER, and the utilities ET programs is working well and should continue. However, the overall objective for the energy efficiency programs is to verify the performance of new innovations for the integrated utility portfolio for resource acquisition programs. The success of the energy efficiency program will depend on the types of technologies that can achieve the greatest cost effective demand reduction and energy savings. A modified selection criterion was developed to meet the more challenging energy efficiency program objectives. It is also important that a balance of new innovations for various market segments, including residential, commercial, industrial and agricultural, be achieved.

7. Program Outcomes

The aim of the ET program is to develop all the necessary information required for the energy efficiency Program segment manager to employ the technology to achieve their energy savings goal. That information includes verified energy savings and demand reductions, market potential and market barriers, incremental cost, and the technology's life expectancy.

The outcome of each individual energy technology is very difficult to predict especially for high-risk projects. It is expected that some assessment projects may not turn out to be successful. Even unsuccessful assessments may provide insight so that improvement can be made in the future. The evaluations are critical to inform other EE program measure development and refined estimates and expectations of future energy savings.

8. Program Strategy

- Residential Technology Commercialization
- Non-residential Technology Commercialization

8.1.1 Program Strategy Description

The utilities will deliver the program through custom demonstration projects, working with targeted "innovators" and coordinated efforts such as the ETCC ET database. Information transfer efforts disseminate project results through many different outlets, such as the Energy Centers, utility personnel and community organizations and the ETCC web site. These Information transfer activities leverage the utilities' overall energy efficiency communication efforts to disseminate information resources such as reports, fact sheets, design methods and tools developed through the demonstration projects.

Some key activities include:

- Indentification of new energy saving equipment and process improvements and screening them for gross potential

- Hunting for, identifying, qualifying and negotiating with early adopter candidates
- Managing an assessment study through construction/installation, startup and commissioning, data collection and performance evaluation to conclusion
- Reporting and communication of results
- Close-out activities

8.1.2 Program Indicators

The ET program will initiate a variety of new Emerging Technology Application Assessments during 2006 - 2008. New technologies will be developed depending upon the market potential of the innovation, market barriers, incremental cost, life expectancy of the technology, the cost of the assessment, and the time required for the assessment. Since the energy efficiency Program managers are the recipients of those technologies, they will be involved in the project selection process. In order to guarantee a truly integrated portfolio, it is necessary to assess and evaluate technologies for all market segments although some of them may seem to offer less savings than others.

Assessments initiated in prior program years will continue until completion. Project results and information will be made available to targeted markets and the utilities' energy efficiency program planners will be briefed on emerging technology applications that may be considered ready for future efficiency program efforts. Once an assessment project concludes and the results are understood, many of the demonstrated applications become part of the portfolios of mainstream energy efficiency programs, form the basis of future energy-related codes and standards, or are adopted as standard design practice in the marketplace and with industry.

The ET program performs assessments of emerging technologies. The number of emerging technology assessments initiated each year will be reported to the CPUC and can be verified. Some of those assessments may include performance of field demonstrations at customer sites. These field demonstrations may take as long as four years to complete, especially at new customer sites. The progress of the project will be reported throughout the funding cycle.

The statewide Emerging Technologies Program progress will be measured through the following three annual metrics:

- SDG&E will initiate 20 new technology assessments over the course of the 3-year period from January 2006 through December 2008.
- SDG&E will collaborate with the other participating utilities to create and maintain a new and more useful database for reporting and transferring information connected with ET program activities. It will succeed that which is currently available on the ETCC website (www.ca-etcc.com) and each IOU as well as the CEC will be responsible for providing the project

information to the contractor who will incorporate it into the new database.

- SDG&E will continue to be a working member of the Emerging Technologies Coordinating Council and target participation in 4 quarterly meetings per year to ensure adequate inter-utility communication and cooperation. The ETCC will assess whether energy efficient emerging technology applications have reached a sufficient stage of maturity for the utilities to consider them in the statewide program efforts. In addition, to better monitor PIER progress, utility program staff members will attend PIER project meetings as often as possible. This will allow the utilities to remain current of PIER project changes and developments

After the emerging technologies are assessed, it is important to have the information transferred to the energy efficiency program managers as well as the customers. Information Transfer efforts disseminate project results through many different outlets, including the Energy Centers, utility personnel, community organizations and other entities. These Information Transfer activities leverage the utilities' overall energy efficiency communication efforts to disseminate information resources such as reports, fact sheets, design methods and tools developed through the demonstration projects.

9. Program Implementation

The Emerging Technologies program consists of two parts: Assessment and Information Transfer, and the ETCC. Assessment and Information Transfer focuses on analysis of promising, early prototypes or commercially available technologies which have not yet obtained adequate penetration or acceptance in the marketplace. Emerging Technologies may include hardware, software, design tools, strategies and services. Part of the assessment may include field demonstrations, conducted at either customer sites or in controlled environments, which provide design and performance information, and verify novel energy efficient systems. Verification helps to reduce market barriers inhibiting wider acceptance of a technology. Demonstration projects help to measure, verify, analyze, and quantify the potential demand and energy savings. Small scale market potential studies will aid in understanding and document customer acceptance of specific applications in different market segments better informing the process to create and prioritize a new EE measure. Information transfer disseminates the results of emerging technology application assessment projects in a way that is customized to reach the most appropriate target markets as we work with the market segment program planners.

The ETCC is a statewide information exchange and coordination effort among San Diego Gas & Electric (SDG&E), Southern California Gas (SCG), Pacific Gas & Electric (PG&E), Southern California Edison (SCE), and the CEC PIER programs. The Public Interest Energy Research (PIER) programs, like other public and private R&D efforts, develop, tests, and demonstrate prototype products. The utilities ET efforts form an important link in the commercialization of emerging energy efficient natural gas and electric technologies and their applications. Program efforts to

select technology applications for assessment projects include working with the CEC PIER program, members of the research and design communities, manufacturers, energy efficiency advocates, and public entities such as Electric Power Research Institute (EPRI), Gas Technology Institute (GTI), universities, E-Source, California Institute for Energy Efficiency (CIEE), The Air-Conditioning and Refrigeration Institute (ARI), American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Illuminating Engineering Society (IES), Institute of Electrical and Electronics Engineers (IEEE), national laboratories, Department of Energy (DOE), Environmental Protection Agency (EPA), NASA, engineering firms, industry and trade groups and customers. Contacts with these groups through both the individual utilities and the CEC PIER program constitute a large part of the public input the ETCC receives concerning energy efficient emerging technologies.

The ETCC will hold quarterly meetings to coordinate project activities, exchange information about specific customer projects and technologies, and discuss ways to enhance the utilities' statewide ET Program efforts and collaboration with the CEC PIER, the ETCC website and the ET database. During ETCC business meetings, discussions concerning ongoing and/or proposed projects at times involve privileged customer information, business strategic and operational details, or privileged manufacturer product details that are too sensitive to discuss in an open forum. These exchanges are necessary to ensure truly effective coordination and collaboration effort between the utilities and the CEC PIER. For this reason, ETCC business meetings will not be open to the general public. At times, the ETCC may invite speakers to a portion of a work meeting to present advances in energy efficient emerging technologies that fit within the context and interests of the existing statewide ET program.

Each utility's program consists of activities that may be coordinated with other utilities' approved ET programs and the CEC, and activities that are unique to each utility service territory and customer base. The efforts that each utility undertakes, as part of the statewide ET program, will be guided and prioritized based on the following criteria: customer needs, coordinated ETCC activities, technology opportunity and readiness, potential cost effective energy and demand savings, potential market size and likely adoption rate estimate, approved program funding levels, and other relevant objectives.

The program will focus on new energy efficient emerging technology assessment projects in 2006 through 2008. The ET Program efforts form an important link between ongoing R&D efforts on energy efficient technology applications and their commercialization. Applications mature out of the R&D cycle at different times and are not always available for consideration during initial program planning efforts. Thus, program staff works to remain informed on a broad range of emerging technology applications from many information sources, and any of the technologies may prove to be a viable project candidate. Currently, some of the

technology areas that SDG&E may assess through the program and coordinate through the ETCC, include, but are not limited to:

- Advanced motor and compressor technologies for HVAC and refrigeration equipment
- Intelligent controls for industrial equipment
- Building system diagnostics that advance toward 'continuous' commissioning
- Advanced lighting system designs and controls for many different markets including schools and hotels. This also includes advanced solar pathway lights as a replacement for outdoor lighting.
- New lighting products including integrated solar an LED lighting
- New water heating products and advanced distribution systems
- Emerging technologies connected with cost effective solar energy
- Assessment of "Cool Roof " technologies
- Accelerated efforts to lay the groundwork for ENERGY STAR® specifications for televisions and set top boxes. Along with these efforts will come the encouragement for increased energy efficiency and corresponding labeling of these products
- "Key activated" lighting and HVAC systems in hotel rooms

It is important to note that the less mature a technology is, the higher the risk that the technology may fail in an application. The identified risks are among the many factors that the utilities use to select technology applications for demonstration projects and to establish project contingency requirements. Starting in 2006, SDG&E may direct some resources toward market research to achieve a better initial understanding of a technology's market potential in order to improve the overall selection process. The significant increase in budget requested for program years 2006 through 2008 will be used to improve the ETCC website and ET database, increase assessment goals and information transfer activities, comply with added program tracking requirements and increased risks due to working with less mature products emerging from research. In past program years, the estimated specific costs of projects undertaken are reported in quarterly workbooks once the projects are committed. These costs will continue to be reported as required in the reporting workbooks. Likewise, narratives discussing initiated assessment projects and their progress are provided in past quarterly narrative reports. These narratives will be expanded to include projects initiated in previous program years. As assessment projects are concluded, their results will be summarized in the annual report narratives including which associated products have since been incorporated into the utilities' energy efficiency program efforts.

10. Customer Description

Customers from all markets segments are eligible to host emerging technology application demonstration projects. In general, the information the program generates through its demonstration activities benefits all customers. One of the aims of an ET program is to explore the extent an application of a new technology has in various market segments, in order to characterize the widest possible deployment. Thus, the utilities seek opportunities to host appropriate demonstration projects at hard-to-reach customer sites.

The IOUs implement the program through custom demonstration projects. For projects that require a customer demonstration site, the program works with customers that are willing to accept the potential risks and expenses associated with relatively new energy efficient technology applications. Residential and non-residential customers from all market segments are potential participants. Figure 2 illustrates the general project and customer selection process. Customer site demonstration projects may come about in one of two ways:

- *Customer "Pull."* A utility account representative may approach the program staff on behalf of a customer interested in pursuing energy efficiency. The ET program staff will help the account representative address the customer's needs, and at the same time, consider a range of potential energy efficient emerging technology applications.

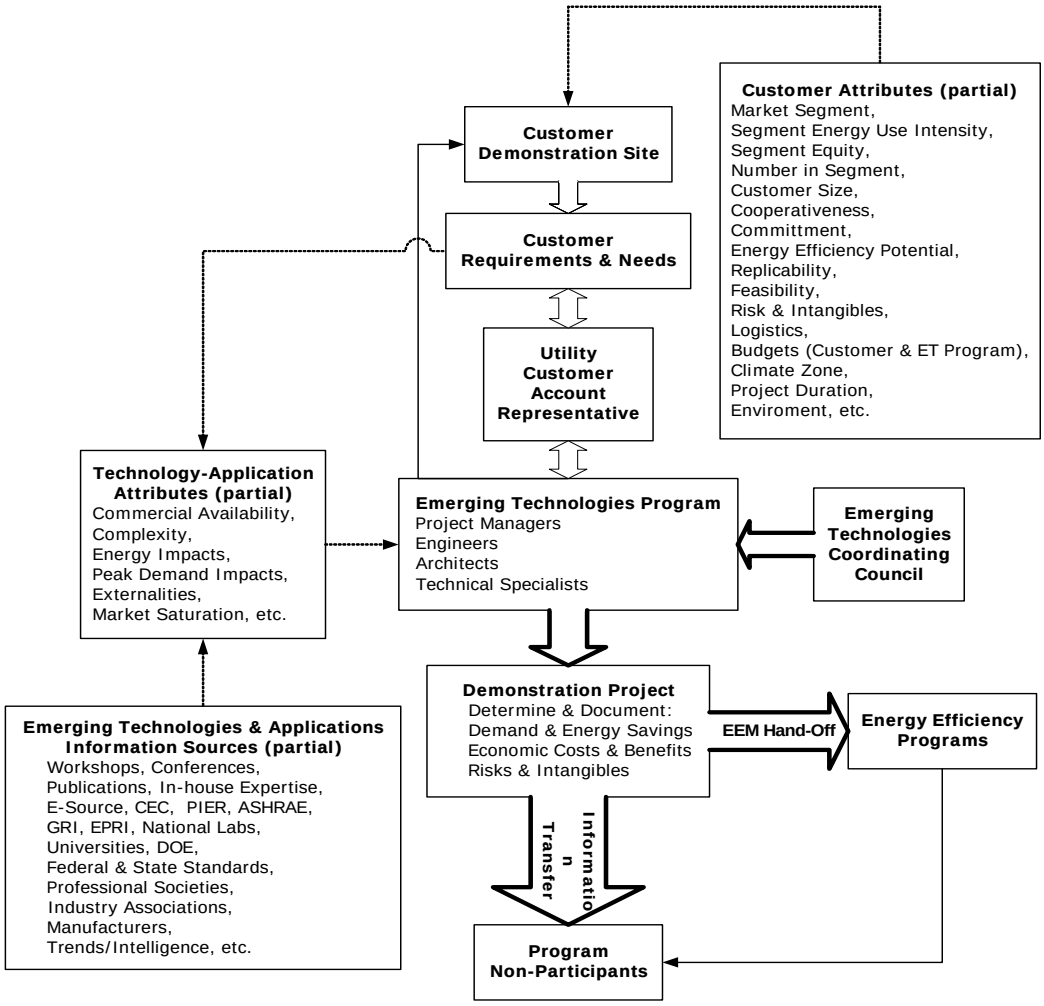

Figure 2. General Emerging Technologies Program Process

Technology "Push." The second manner that a project may come about is when a significant new technology application emerges. ET program staff then approach the utility account representatives for a particular market segment, inform them about the new technology application, and ask them to help identify a potential demonstration site from among their customers. The program follows a targeted marketing approach to work with "innovators." These "innovators" may further influence other customers. Note that the utility's customer account representative plays an important role in the overall process. For those projects that do not require a field demonstration at a customer site, the program staff seeks to frame the project targeting customer's needs and requirements. This helps ensure that project objectives are aligned with customer needs and expectations.

Before a customer site demonstration project can take place, a legal agreement acceptable to both the customer and the utility is developed, negotiated, and signed. These agreements specify the terms of the projects, maximum duration, dispute resolution methods, termination provisions, general liability, etc. It is important to note that some demonstration projects may require up to four years to complete, commencing on the date an agreement is signed with a customer. The time required to complete a project will vary due to how complex a new technology application is, construction schedules, building and process commissioning, logistics, etc. ***Speed to market will be emphasized in this program wherever possible.***

11. Customer Interface

Interaction with customers is unique to this program and typically results from the discovery from researchers, or utility staff that a customer is willing to take a higher level of risk and serve as a test bed for a new or improved product or process control scheme.

Other customers will benefit at a later stage through the different channels for information dissemination (e.g. workshops, training seminars, visits to the demonstrations, literature, etc.). Predominantly, this program is meant to inform the process of modifying existing or developing new energy efficiency measures for utility energy efficiency programs. It is usually by this method that the successes of the ETP will be made known to the residential commercial and industrial energy customers.

12. Energy Measures and Program Activities - Not Applicable

12.1. Prescriptive Measures

Not Applicable

12.2. kWh Level Data

Not Applicable

12.3. Non-Energy Activities

12.4. Activity Description
Not Applicable

12.5. Quantitative Activity Goals
Not Applicable

12.6. Assigned attributes of the activity (market sector, end use) –
Not Applicable

13. Subcontractor Activities

Subcontractors may be used to perform the actual construction and installation of the equipment and hardware at customers' demonstration sites. They may also be employed to help develop market potential data

14. Quality Assurance and Evaluation Activities

An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E looks forward to participating and commenting on those activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs.

15. Marketing Activities

ET will be marketed through custom demonstration projects, working with targeted "innovators," and coordinated efforts like the ETCC ET database. Information Transfer efforts disseminate project results through many different outlets, including the Energy Centers, utility personnel, community organizations, etc. These Information Transfer activities are typically specific to the utility and the circumstances of the product, manufacturer, and market and potential. We leverage the utilities' overall energy efficiency communication efforts to disseminate information resources such as reports, fact sheets, design methods and tools developed through the demonstration projects

16. CPUC Objectives

With a consideration of the EE Policy Manual (V#3;II, 1-10) the following can be said about the Emerging Technologies Programs:

- The program seeks to discover and promote new cost-effective energy saving options in alignment with the Energy Action Plan. (#1,3)

- It strives to achieve a cross-cutting market approach and to balance resources with short- and long-term opportunities. It also seeks to discover combinations of solutions that will minimize lost opportunities. (#2,5)
- The program seeks to deploy and conduct evaluations of new generations of technologies as they emerge as marketed options from CEC/PIER programs and other research pipelines (e.g. DOE, universities, manufacturers, etc.) (#8)

	SDGE3011 ETP-Emerging Tech Program
BUDGET	
Administrative Costs	**$ 1,361,594**
Overhead and G&A	$ 194,714
Other Administrative Costs	$ 1,166,880
Marketing/Outreach	**$ 285,000**
Direct Implementation	**$ 2,442,407**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 2,442,407
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 4,089,001**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 4,089,001**
PROGRAM IMPACTS	
User Entered kW (kW)	-
Net Jul-Sept Peak (kW)	
Net Dec-Feb Peak (kW)	
Net NCP (kW)	-
Net CEC (kW)	-
Annual Net kWh	-
Lifecycle Net kWh	-
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 4,089,001
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (4,089,001)
BC Ratio	-
PAC	
Costs	$ 4,089,001
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (4,089,001)
BC Ratio	-
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

2006-2008 Energy Efficiency Concept Paper
Upstream Lighting Program

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 244,989	$ 267,877	$ 290,841
Administrative Other	$ 125,067	$ 131,807	$ 143,361
Marketing & Outreach	$ 45,344	$ 53,661	$ 57,045
Direct Implementation			
Incentives	$ 4,656,813	$ 5,090,000	$ 5,532,000
Activity	$ 39,798	$ 48,552	$ 49,890
Installation	$ -	$ -	$ -
Hardware & Materials	$ 206	$ -	$ -
Rebate Processing & Inspection	$ 32,550	$ 33,527	$ 34,533
EM&V	$ -	$ -	$ -
Total	*$ 5,144,766*	*$ 5,625,424*	*$ 6,107,670*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
88,616,113	8,441	-	95,896,196	8,994	-	98,941,038	9,240	-

3. Program Cost Effectiveness

See attached.

4. Program Descriptors

The Upstream Lighting program provides rebate(s) to consumers via manufacturer-to-retailer discounts or buy-downs to motivate consumers to purchase and install qualifying energy-efficient lighting products. The program targets single-family homeowners, renters and multi-family tenants, and will offer the following in 2006-2008:

Screw-in CFLs Standard
Specialty CFLs and Fixtures
Interior and Exterior Fixtures
Table & Floor Lamps, Torchieres
Night Lights (including LED) NEW
Interior LEDs (non Night lights) NEW
Cold Cathode NEW

5. Program Statement

Residential customers are often reluctant to purchase energy efficient lights due to the comparatively high initial cost, a steeper learning curve, limited availability, and quality concerns lighting incentives and promotions influence customers to purchase energy saving lighting products at retail outlets and install them in homes and small businesses. Although California continues to be a forerunner in CFL sales

outpacing the rest of the nation[1], there is a huge potential to expand market share for energy efficient lighting.

The current CFL market share for Residential Lighting is between 3-4% and CFL specialty bulbs such as globes, dimmable and 3-way bulbs are less than 1%. Even though the energy efficient lighting market is growing with a greater variety of bulbs, smaller size bulbs, dimmable bulbs and covered bulbs as well as more attractive fixtures and lamps, these products are not widely available in the retail market. The demand by retailers and manufacturers lighting program participation far exceeds the supply each year, indicating a continued, strong demand for future CFL programs.

6. Program Rationale

There continues to be a need to provide incentives for energy efficient lighting in order to support technological advances, product availability and to continue to stimulate/create consumer demand. The Upstream program features discounted ENERGY STAR® products, and will introduce new and advanced lighting technologies to the market as they become available. For example, 50 % of all light bulbs are purchased in Grocery/Drug stores. Of the 50% purchased, less than 1% of those were CFLs prior to 2004. During 2004 and 2005, the statewide utility programs have increased sales of CFLs in Grocery/Drug to 3-5%. The program reduces customer initial cost, increases product availability at the retail level, and strongly influences manufacturers to improve product quality. This program element provides maximum ease for customers to participate. To continue the success of the Lighting program going forward, a "Whole House" approach will be stressed. Incentives for reflector bulbs, recessed cans, globes, decorative lighting and dimmable bulbs as well as the introduction of LED lights, LED Christmas lights, and Cold Cathode bulbs will help to provide customers energy efficient alternatives to incandescent lighting. The addition of these types of lighting will open up additional areas of the home such as bathrooms and kitchens. It will address accent lighting for such areas as dining rooms, cabinets and outdoor landscaping. SDG&E will also increase the amount of rebates provided for pin-based fixtures, which include fan lighting kits.

7. Program Outcomes

- SDG&E will expand by 20% its lighting program in Grocery/Drug and with non-traditional retail establishments by 2008.
- In the next three years, SDG&E would also strive to expand the energy efficient lighting market share by 10%.

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[1] The Statewide Residential Market Share Tracking Studies have shown over the years while the share of CFL sales has been rising, in California compared to the rest of the nation, the numbers still hover around 14% - California Lamp Trend 2003

- SDG&E will continue to work with retailers to stock specialty CFLs so that customers have access to energy efficient lighting from a variety of uses in their home.
- SDG&E will continue to help to increase the quality energy efficient lighting by supporting ENERGY STAR's plans to establish 3rd party testing of products.
- SDG&E will continue to support new technologies as they are introduced.

8. Program Strategy

Residential Upstream Rebates

8.1.1. Program Strategy Description

The program provides incentives in two ways:

1) Directly to the retailer at the wholesale level via the manufacturer discount.
2) To the retailer directly via a discount at the register.

The incentives are tiered by product type and lumen range in the form of instant price discounts.

Flexibility for trying new approaches and penetrating new markets will help expand the base for customer participation. Currently, marketing is directed to manufacturers and retailers.

Non-residential customers (such as small business owners/customers) are also targeted. Many of who shop at big box retailers, thus expanding the programs reach into other opportune areas.

Participation in the program is handled through an open RFP to manufacturers and retailers. All proposals are evaluated based on variety of product, areas of distribution, and type of retailer targeted. Additional strategies incorporate marketing methods such as:

- Bill Inserts
- In-store promotional materials
- Direct mailings
- Promotional sales events
- Product competitions

8.1.2. Program Indicators

The goal is to procure kW and kWh savings and to achieve a significant increase in the acceptance of energy efficient lighting in lieu of less efficient sources via market penetration activities.

9. Program Implementation

Describe the expected mechanics of the program to the extent that they are known.

Program is implemented via an RFP promotional announcement to manufacturers and retailers. Funds are allocated to participants based on their proposals in response to the RFP. There will continue be two methods of discounting the products at the time of sale.

1) Wholesale discount to the retailer - In this case the retailer discounts the product by the amount of the incentive but the manufacturer receives the incentive payment. The incentives are paid to manufacturers based on verification of delivery to the stores and product sold.

2) Point of sale discount provided by the retailer - In this case the retailer signs an agreement with the utility to provide a discount at the register. The incentive is paid directly to the retailer based sales information.

Products are displayed with labeling and/or signage indicating discounts are provided through SDG&E. The manufacturer and retailer participate to promote the discounted products through advertising, circulars, and in-store materials. In most cases, the lighting manufacturer reduces the wholesale price to the retailer who passes it on to the customer in the form of a POS discount. Sometimes retailers apply POS discounts directly to products purchased at the normal wholesale price.

The incentive levels are such that products can competitively compete with its inefficient counterpart, while providing retail price points that are attractive to the consumer. The current incentive levels provide for continued growth and sustained momentum in the CFL market during the IOU's promotional periods. Structured incentive levels allows for a diversified measure portfolio.

Specialized promotions will occur at various times and can be customized to locales and market channels. They can be mass customer promotions or could be targeted to manufacturers and retailers of specific kinds of products. Examples include exchange/turn-in events and outreach for torchiere, table, desk, and floor lamps, specialty bulb promotions, targeted bill inserts, direct mailings, up-selling promotions, internet campaigns, and efforts to open new long-term sales channels. All program results will be tracked on an ongoing basis and reported according to the protocols reflected in both the program workbook and supporting work papers.

10. Customer Description

This program is a crosscutting program that targets customers who shop at home improvement stores such as single-family homeowners, renters and multi-family tenants as well as some apartment and small business owners.

11. Customer Interface

SDG&E will continue to provide opportunity to expand manufacturer participation in the program via our request for proposal (RFP) promotion to manufacturers and retailers. We will continue to work with the other IOUs and municipal utilities to maintain program consistency on a statewide basis. The incentives are provided to the customer through a discounted price or a discount at the register so there is no application needed.

For lighting measures participating is as easy as putting a program product in the shopping cart and taking it to the register for check out. In locales where customers cannot find program-discounted product in stores, internet sales will be available as will centralized toll free phone ordering directly from retailers and manufacturers.

In addition, customer bounce back cards will be added to the product packaging to monitor customer behavior and to capture comments regarding the product.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

12.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

12.3. Non-energy Activities

None

12.3.1. Activity Description

None

12.3.2. Quantitative Activity Goals

12.3.3. Assigned attributes of the activity (market sector, end use)

13. Subcontractor Activities

None

14. Quality Assurance and Evaluation Activities

On site inspections of retailer displays and products will be conducted on a regular basis to ensure program compliance and execution. In addition, customers will receive a bounce-back card attached to the product to fill out and return. In addition, SDG&E serves on quality assurance advisory groups such as those that interface with the DOE and EPA's Third Party Testing program

An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E looks forward to participating and commenting on those

activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs.

15. Marketing Activities

On a national level, SDG&E will continue to support ENERGY STAR products and coordinate with the ENERGY STAR lighting campaign such as, "Change A Light, Change The World", to maximize marketing efforts. On a state level, SDG&E will coordinate statewide promotions with Flex Your Power advertising and the use of their POP materials in retail stores.

SDG&E will continue to participate in ENERGY STAR and CEE sponsored partnership meetings to foster relationships with manufacturers and retailers

16. CPUC Objective

The Residential Upstream lighting program is one of the most cost-effective energy efficient programs being offered. The reduction energy consumption by the consumer equals load reduction for the utility and cost savings to the customer.

The Lighting program complies with the commissions desire for "cost-effective energy efficiency opportunities over both the short- and long-term" as wells as support the Governor's and State's goals to reduce greenhouse gas emissions.

	SDGE3016 LIT-Upstream Lighting Program	
BUDGET		
Administrative Costs	**$**	**1,203,942**
Overhead and G&A	$	803,708
Other Administrative Costs	$	400,235
Marketing/Outreach	**$**	**156,050**
Direct Implementation	**$**	**15,517,868**
Total Incentives and Rebates		
User Input Incentive	$	-
Direct Install Rebate	$	15,278,813
Direct Install Labor	$	-
Direct Install Materials	$	-
Activity	$	138,240
Installation	$	-
Hardware & Materials	$	206
Rebate Processing & Inspection	$	100,610
EM&V Costs	**$**	-
Budget	**$**	**16,877,861**
Costs recovered from other sources	**$**	-
Budget (plus other costs)	**$**	**16,877,861**
PROGRAM IMPACTS		
User Entered kW (kW)		26,715
Net Jul-Sept Peak (kW)		38,638
Net Dec-Feb Peak (kW)		38,638
Net NCP (kW)		35,265
Net CEC (kW)		61,600
Annual Net kWh		283,871,113
Lifecycle Net kWh		2,799,506,777
Annual Net Therms		-
Lifecycle Net Therms		-
Cost Effectiveness		
TRC		
Costs	$	35,848,250
Electric Benefits	$	157,948,179
Gas Benefits	$	-
Net Benefits (NPV)	$	122,099,928
BC Ratio		4.41
PAC		
Costs	$	15,112,351
Electric Benefits	$	157,948,179
Gas Benefits	$	-
Net Benefits (NPV)	$	142,835,827
BC Ratio		10.45
Levelized Cost		
Levelized Cost TRC ($/kWh)		
Discounted kWh		1,825,289,484
Cost	$	0.0196
Benefits	$	0.0865
Benefit-Cost	$	0.0669
Levelized Cost PAC ($/kWh)		
Discounted kWh		1,825,289,484
Cost	$	0.0083
Benefits	$	0.0865
Benefit-Cost	$	0.0783
Levelized Cost TRC ($/therm)		
Discounted Therms		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-
Levelized Cost PAC ($/therm)		
Discounted Therms		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-

Upstream Lighting Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 5,144,767	$ 4,656,813	$ 487,955	88,616,113	-	8,441
2007	$ 5,625,425	$ 5,090,000	$ 535,425	95,896,196	-	8,994
2008	$ 6,107,671	$ 5,532,000	$ 575,671	98,941,038	-	9,240

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	235019	Lighting - CFL Bulb (14 watt)	35	-	0.00	0.8	Bulb	9.4	60,000	$ 1.25	$ 4.64	1,697,268	-	161
2006	235021	Lighting - CFL Bulb (15 watt)	35	-	0.00	0.8	Bulb	9.4		$ 1.25	$ 5.01	-	-	-
2006	235023	Lighting - CFL Bulb (20 watt)	42	-	0.00	0.8	Bulb	9.4	236,250	$ 1.75	$ 6.47	7,990,533	-	758
2006	235025	Lighting - CFL Bulb (25 watt<1,600 Lumens)	38	-	0.00	0.8	Bulb	9.4	-	$ 1.75	$ 8.24	-	-	-
2006	235027	Lighting - CFL Bulb (30 watt)	54	-	0.01	0.8	Bulb	9.4	1,000	$ 2.00	$ 8.65	43,047	-	4
2006	235029	Lighting - CFL Bulb (32 watt)	57	-	0.01	0.8	Unit	8	-	$ 2.50	$ 4.28	-	-	-
2006	235031	Lighting - CFL Bulb (<= 12 watt)	13	-	0.00	0.8	Unit	8	-	$ 1.00	$ 4.28	-	-	-
2006	235033	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 13 watt < 800 Lumens	31	-	-	0.8	Lamp	16	-	$ 5.00	$ 17.88	-	-	-
2006	235035	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 27 watt	83	-	-	0.8	Unit	16	-	$ 10.00	$ 19.00	-	-	-
2006	235037	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 13	21	-	0.00	0.8	Bulb	16	-	$ 5.00	$ 17.88	-	-	-
2006	235039	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 16 W	34	-	0.00	0.8	Bulb	16	-	$ 5.00	$ 19.36	-	-	-
2006	235041	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 25 < 1,600 Lumens - pin based	38	-	0.00	0.8	Bulb	16	-	$ 10.00	$ 23.80	-	-	-
2006	235043	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 30 > 1100	69	-	0.01	0.8	Bulb	16	20,000	$ 10.00	$ 26.27	1,106,914	-	105
2006	235045	Lighting - Torchiere - Energy Star (55 /70watt averaged -) Retail	197.6475	0	0.0192375	0.8	Fixture	9	0	$ 10.00	$ -	-	-	-
2006	235052	Lighting - CFL Bulb (>39 watt)	87.381	0	0.021	0.8	Unit	8	300	$ 2.50	$ 4.28	20,971	-	5
2006	235057	Lighting - CFL Bulb (13 watt >= 800 Lumens)	36.12843	0	0.0034263	0.8	Bulb	9.4	430000	$ 1.25	$ 4.26	12,428,180	-	1,179
2006	235061	Lighting - CFL Bulb (18 watt >= 1,100 Lumens)	43.81533	0	0.0041553	0.8	Bulb	9.4	500000	$ 1.75	$ 5.77	17,526,132	-	1,662
2006	235063	Lighting - CFL Bulb (23 watt)	59.18913	0	0.0056133	0.8	Bulb	9.4	700000	$ 2.00	$ 6.05	33,145,913	-	3,143

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	235065	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 18 watt <1,100 Lumens	47.523	0	0	0.8	Lamp	16	0	$ 5.00	$ 20.35	-	-	-
2006	235067	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 18 watt >= 1,100 Lumens	64.4955	0	0	0.8	Lamp	16	12000	$ 5.00	$ 20.35	619,157	-	-
2006	235069	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 20 watt	62.2325	0	0	0.8	Lamp	16	0	$ 10.00	$ 21.34	-	-	-
2006	235071	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 65 watt	152.7525	0	0	0.8	Lamp	16	20000	$ 10.00	$ 43.54	2,444,040	-	-
2006	235073	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 18 W< 1,100 Lumens	32.28498	0	0.0030618	0.8	Bulb	16	0	$ 5.00	$ 20.35	-	-	-
2006	235074	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 18 W >= 1,100 Lumens	43.81533	0	0.0041553	0.8	Bulb	16	6400	$ 10.00	$ 20.35	224,334	-	21
2006	235076	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 26 < 1,600 Lumens	37.66581	0	0.0035721	0.8	Bulb	16	0	$ 5.00	$ 24.30	-	-	-
2006	235079	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 26>=1,600 Lumens	56.88306	0	0.0053946	0.8	Bulb	16	0	$ 10.00	$ 24.30	-	-	-
2006	235081	Lighting - CFL Bulb (26 watt<1,600 Lumens)	37.66581	0	0.0035721	0.8	Bulb	9.4	0	$ 1.75	$ 8.60	-	-	-
2006	235083	Lighting - CFL Bulb (26 watt>=1,600 Lumens)	56.88306	0	0.0053946	0.8	Bulb	9.4	10000	$ 2.00	$ 6.92	455,064	-	43
2006	235085	Lighting - CFL Bulb (25 watt>=1,600 Lumens)	57.65175	0	0.0054675	0.8	Bulb	9.4	60000	$ 2.00	$ 6.63	2,767,284	-	262
2006	235086	Lighting - LED Bulbs 3w	24.46	0	0.0067	0.8	Unit	8	83500	$ 1.25		1,633,928	-	448
2006	235091	20W CFL Table Lamp	46	$ -	$ 0.00	0.8	Bulb	16	5000	$ 5.00	$ 50.43	183,084	-	18
2006	235092	25W CFL Table Lamp	62	$ -	$ 0.01	0.8	Bulb	16	5000	$ 5.00	$ 61.13	249,660	-	24
2006	235093	15 Watt Intergral CFL (Reflector)	35	$ -	$ 0.00	0.8	Bulb	9.4	0	$ 1.00	$ 5.01	-	-	-
2006	235094	15 Watt Intergral CFL (Dimmable)	35	$ -	$ 0.00	0.8	Bulb	9.4	20000	$ 3.25	$ 5.01	553,457	-	52
2006	235095	15 Watt Intergral CFL (Globes)	35	$ -	$ 0.00	0.8	Bulb	9.4	30000	$ 2.75	$ 5.01	830,185	-	79
2006	235096	18 Watt Intergral CFL - (Reflectors)	44	$ -	$ 0.00	0.8	Lamp	9.4	10000	$ 3.25	$ 5.77	350,523	-	33
2006	235097	13 Watt Integral CFL < 800 Lumens	21	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 4.40	-	-	-
2006	235098	18 Watt Integral CFL < 1,100 Lumens	32	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 6.14	-	-	-
2006	235099	30W CFL Table Lamp	75	$ -	$ 0.01	0.8	Fixture	16	0	$ 5.00	$ 63.20	-	-	-
2006	235100	13 Watt Integral CFL (A-Lamp)	21	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 4.40	-	-	-
2006	235101	14 Watt Integral CFL (A-Lamp)	35	$ -	$ 0.00	0.8	Lamp	9.4	12000	$ 2.75	$ 4.64	339,454	-	32

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	235102	15 Watt Integral CFL (A-Lamp)	35	$ -	$ 0.00	0.8	Lamp	9.4	12000	$ 2.75	$ 5.01	332,074	-	31
2006	235103	18 Watt Integral CFL (A-Lamp)	44	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 5.77	-	-	-
2006	235104	23 Watt Integral CFL (Dimmable)	59	$ -	$ 0.01	0.8	Lamp	9.4	60000	$ 3.25	$ 6.05	2,841,078	-	269
2006	235105	20 Watt Integral CFL < 800 (Reflectors)	42	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 6.47	-	-	-
2006	235106	20 Watt Integral CFL > 800 (Reflectors)	42	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 6.47	-	-	-
2006	235107	23 Watt Integral CFL <1100 (Reflectors)	59	$ -	$ 0.01	0.8	Lamp	9.4	3500	$ 2.50	$ 6.05	165,730	-	16
2006	235108	23 Watt Integral CFL >= 1100 (Reflectors)	59	$ -	$ 0.01	0.8	Lamp	9.4	0		$ 6.05	-	-	-
2006	235109	25 Watt Integral CFL <1100 (Reflectors)	38	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 8.24	-	-	-
2006	235110	25 Watt Integral CFL >= 1100 (Reflectors)	58	$ -	$ 0.01	0.8	Lamp	9.4	0		$ 6.63	-	-	-
2006	235111	26 Watt Integral CFL >= 1100 (Reflectors)	57	$ -	$ 0.01	0.8	Lamp	9.4	10000	$ 3.50	$ 6.92	455,064	-	43
2006	235112	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 15 Watt > 1100	51	$ -	$ -	0.8	Lamp	16	0		$ 18.87	-	-	-
2006	235113	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 15 Watt <1100	51	$ -	$ -	0.8	Lamp	16	0		$ 18.87	-	-	-
2006	235114	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 30 < 1100	69	$ -	$ 0.01	0.8	Lamp	16	0		$ 26.27	-	-	-
2006	235115	Lighting Hardwired Fluorescent Lighting Fixtures (int) 15 <1100	35	$ -	$ 0.00	0.8	Lamp	16	0		$ 18.87	-	-	-
2006	235116	Lighting Hardwired Fluorescent Lighting Fixtures (int) 15 > 1100	35	$ -	$ 0.00	0.8	Lamp	16	0		$ 18.87	-	-	-
2006	235117	Lighting - CFL Bulb (<= 12 Watt) Globes	13	$ -	$ 0.00	0.8	Unit	8	20000	$ 2.50	$ 4.28	213,040	-	51
2006	235118	Lighting - CFL Bulb (<= 12 watts) Reflectors	13	$ -	$ 0.00	0.8	Unit	8	0		$ 4.28	-	-	-
2007	235019	Lighting - CFL Bulb (14 watt)	35	$ -	$ 0.00	0.8	Bulb	9.4	60000	$ 1.25	$ 4.64	1,697,268	-	161
2007	235021	Lighting - CFL Bulb (15 watt)	35	$ -	$ 0.00	0.8	Bulb	9.4	0	$ 1.25	$ 5.01	-	-	-
2007	235023	Lighting - CFL Bulb (20 watt)	42	$ -	$ 0.00	0.8	Bulb	9.4	400000	$ 1.75	$ 6.47	13,528,944	-	1,283
2007	235025	Lighting - CFL Bulb (25 watt<1,600 Lumens)	38	$ -	$ 0.00	0.8	Bulb	9.4	0	$ 1.75	$ 8.24	-	-	-
2007	235027	Lighting - CFL Bulb (30 watt)	54	$ -	$ 0.01	0.8	Bulb	9.4	1000	$ 2.00	$ 8.65	43,047	-	4
2007	235029	Lighting - CFL Bulb (32 watt)	57	$ -	$ 0.01	0.8	Unit	8	0	$ 2.00	$ 4.28	-	-	-
2007	235031	Lighting - CFL Bulb (<= 12 watt)	13	$ -	$ 0.00	0.8	Unit	8	0	$ 1.00	$ 4.28	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	235033	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 13 watt < 800 Lumens	31	$ -	$ -	0.8	Lamp	16	0	$ 5.00	$ 17.88	-	-	-
2007	235035	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 27 watt	83	$ -	$ -	0.8	Unit	16	0	$ 10.00	$ 19.00	-	-	-
2007	235037	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 13	21	$ -	$ 0.00	0.8	Bulb	16	0	$ 5.00	$ 17.88	-	-	-
2007	235039	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 16 W	34	$ -	$ 0.00	0.8	Bulb	16	0	$ 5.00	$ 19.36	-	-	-
2007	235041	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 25 < 1,600 Lumens - pin based	38	$ -	$ 0.00	0.8	Bulb	16	0	$ 10.00	$ 23.80	-	-	-
2007	235043	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 30 > 1100	69	$ -	$ 0.01	0.8	Bulb	16	20000	$ 10.00	$ 26.27	1,106,914	-	105
2007	235045	Lighting - Torchiere - Energy Star (55 /70watt averaged -) Retail	198	$ -	$ 0.02	0.8	Fixture	9	0	$ 10.00	$ -	-	-	-
2007	235052	Lighting - CFL Bulb (>39 watt)	87	$ -	$ 0.02	0.8	Unit	8	300	$ 2.50	$ 4.28	20,971	-	5
2007	235057	Lighting - CFL Bulb (13 watt >= 800 Lumens)	36	$ -	$ 0.00	0.8	Bulb	9.4	430000	$ 1.25	$ 4.26	12,428,180	-	1,179
2007	235061	Lighting - CFL Bulb (18 watt >= 1,100 Lumens)	44	$ -	$ 0.00	0.8	Bulb	9.4	500000	$ 1.75	$ 5.77	17,526,132	-	1,662
2007	235063	Lighting - CFL Bulb (23 watt)	59	$ -	$ 0.01	0.8	Bulb	9.4	700000	$ 2.00	$ 6.05	33,145,913	-	3,143
2007	235065	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 18 watt <1,100 Lumens	48	$ -	$ -	0.8	Lamp	16	0	$ 5.00	$ 20.35	-	-	-
2007	235067	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 18 watt >= 1,100 Lumens	64	$ -	$ -	0.8	Lamp	16	25000	$ 5.00	$ 20.35	1,289,910	-	-
2007	235069	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 20 watt	62	$ -	$ -	0.8	Lamp	16	0	$ 10.00	$ 21.34	-	-	-
2007	235071	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 65 watt	153	$ -	$ -	0.8	Lamp	16	30000	$ 10.00	$ 43.54	3,666,060	-	-
2007	235073	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 18 W< 1,100 Lumens	32	$ -	$ 0.00	0.8	Bulb	16	0	$ 5.00	$ 20.35	-	-	-
2007	235074	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 18 W >= 1,100 Lumens	44	$ -	$ 0.00	0.8	Bulb	16	8000	$ 10.00	$ 20.35	280,418	-	27
2007	235076	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 26 < 1,600 Lumens	38	$ -	$ 0.00	0.8	Bulb	16	0	$ 5.00	$ 24.30	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	235079	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 26>=1,600 Lumens	57	$ -	$ 0.01	0.8	Bulb	16	0	$ 10.00	$ 24.30	-	-	-
2007	235081	Lighting - CFL Bulb (26 watt<1,600 Lumens)	38	$ -	$ 0.00	0.8	Bulb	9.4	0	$ 1.75	$ 8.60	-	-	-
2007	235083	Lighting - CFL Bulb (26 watt>=1,600 Lumens)	57	$ -	$ 0.01	0.8	Bulb	9.4	10000	$ 2.00	$ 6.92	455,064	-	43
2007	235085	Lighting - CFL Bulb (25 watt>=1,600 Lumens)	58	$ -	$ 0.01	0.8	Bulb	9.4	60000	$ 2.00	$ 6.63	2,767,284	-	262
2007	235086	Lighting - LED Bulbs 3w	24	$ -	$ 0.01	0.8	Unit	8	100000	$ 1.25		1,956,800	-	536
2007	235091	20W CFL Table Lamp	46	$ -	$ 0.00	0.8	Bulb	16	5000	$ 5.00	$ 50.43	183,084	-	18
2007	235092	25W CFL Table Lamp	62	$ -	$ 0.01	0.8	Bulb	16	5000	$ 5.00	$ 61.13	249,660	-	24
2007	235093	15 Watt Intergral CFL (Reflector)	35	$ -	$ 0.00	0.8	Bulb	9.4	0	$ 2.50	$ 5.01	-	-	-
2007	235094	15 Watt Intergral CFL (Dimmable)	35	$ -	$ 0.00	0.8	Bulb	9.4	25000	$ 3.25	$ 5.01	691,821	-	66
2007	235095	15 Watt Intergral CFL (Globes)	35	$ -	$ 0.00	0.8	Bulb	9.4	10000	$ 2.75	$ 5.01	276,728	-	26
2007	235096	18 Watt Intergral CFL - (Reflectors)	44	$ -	$ 0.00	0.8	Lamp	9.4	10000	$ 3.25	$ 5.77	350,523	-	33
2007	235097	13 Watt Integral CFL < 800 Lumens	21	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 4.40	-	-	-
2007	235098	18 Watt Integral CFL < 1,100 Lumens	32	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 6.14	-	-	-
2007	235099	30W CFL Table Lamp	75	$ -	$ 0.01	0.8	Fixture	16	0		$ 63.20	-	-	-
2007	235100	13 Watt Integral CFL (A-Lamp)	21	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 4.40	-	-	-
2007	235101	14 Watt Integral CFL (A-Lamp)	35	$ -	$ 0.00	0.8	Lamp	9.4	20000	$ 2.75	$ 4.64	565,756	-	54
2007	235102	15 Watt Integral CFL (A-Lamp)	35	$ -	$ 0.00	0.8	Lamp	9.4	20000	$ 2.75	$ 5.01	553,457	-	52
2007	235103	18 Watt Integral CFL (A-Lamp)	44	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 5.77	-	-	-
2007	235104	23 Watt Integral CFL (Dimmable)	59	$ -	$ 0.01	0.8	Lamp	9.4	60000	$ 3.25	$ 6.05	2,841,078	-	269
2007	235105	20 Watt Integral CFL < 800 (Reflectors)	42	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 6.47	-	-	-
2007	235106	20 Watt Integral CFL > 800 (Reflectors)	42	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 6.47	-	-	-
2007	235107	23 Watt Integral CFL <1100 (Reflectors)	59	$ -	$ 0.01	0.8	Lamp	9.4	3500	$ 2.50	$ 6.05	165,730	-	16
2007	235108	23 Watt Integral CFL >= 1100 (Reflectors)	59	$ -	$ 0.01	0.8	Lamp	9.4	0		$ 6.05	-	-	-
2007	235109	25 Watt Integral CFL <1100 (Reflectors)	38	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 8.24	-	-	-
2007	235110	25 Watt Integral CFL >= 1100 (Reflectors)	58	$ -	$ 0.01	0.8	Lamp	9.4	0		$ 6.63	-	-	-
2007	235111	26 Watt Integral CFL >= 1100 (Reflectors)	57	$ -	$ 0.01	0.8	Lamp	9.4	0		$ 6.92	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	235112	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 15 Watt > 1100	51	$ -	$ -	0.8	Lamp	16	0		$ 18.87	-	-	-
2007	235113	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 15 Watt <1100	51	$ -	$ -	0.8	Lamp	16	0		$ 18.87	-	-	-
2007	235114	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 30 < 1100	69	$ -	$ 0.01	0.8	Lamp	16	0		$ 26.27	-	-	-
2007	235115	Lighting Hardwired Fluorescent Lighting Fixtures (int) 15 <1100	35	$ -	$ 0.00	0.8	Lamp	16	0		$ 18.87	-	-	-
2007	235116	Lighting Hardwired Fluorescent Lighting Fixtures (int) 15 > 1100	35	$ -	$ 0.00	0.8	Lamp	16	0		$ 18.87	-	-	-
2007	235117	Lighting - CFL Bulb (<= 12 Watt) Globes	13	$ -	$ 0.00	0.8	Unit	8	9900	$ 2.50	$ 4.28	105,455	-	25
2007	235118	Lighting - CFL Bulb (<= 12 watts) Reflectors	13	$ -	$ 0.00	0.8	Unit	8	0		$ 4.28	-	-	-
2008	235019	Lighting - CFL Bulb (14 watt)	35	$ -	$ 0.00	0.8	Bulb	9.4	60000	$ 1.25	$ 4.64	1,697,268	-	161
2008	235021	Lighting - CFL Bulb (15 watt)	35	$ -	$ 0.00	0.8	Bulb	9.4	0	$ 1.25	$ 5.01	-	-	-
2008	235023	Lighting - CFL Bulb (20 watt)	42	$ -	$ 0.00	0.8	Bulb	9.4	500000	$ 1.75	$ 6.47	16,911,180	-	1,604
2008	235025	Lighting - CFL Bulb (25 watt<1,600 Lumens)	38	$ -	$ 0.00	0.8	Bulb	9.4	0	$ 1.75	$ 8.24	-	-	-
2008	235027	Lighting - CFL Bulb (30 watt)	54	$ -	$ 0.01	0.8	Bulb	9.4	1000	$ 2.00	$ 8.65	43,047	-	4
2008	235029	Lighting - CFL Bulb (32 watt)	57	$ -	$ 0.01	0.8	Unit	8	0	$ 2.00	$ 4.28	-	-	-
2008	235031	Lighting - CFL Bulb (<= 12 watt)	13	$ -	$ 0.00	0.8	Unit	8	0	$ 2.00	$ 4.28	-	-	-
2008	235033	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 13 watt < 800 Lumens	31	$ -	$ -	0.8	Lamp	16	0	$ 5.00	$ 17.88	-	-	-
2008	235035	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 27 watt	83	$ -	$ -	0.8	Unit	16	0	$ 10.00	$ 19.00	-	-	-
2008	235037	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 13	21	$ -	$ 0.00	0.8	Bulb	16	0	$ 5.00	$ 17.88	-	-	-
2008	235039	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 16 W	34	$ -	$ 0.00	0.8	Bulb	16	0	$ 5.00	$ 19.36	-	-	-
2008	235041	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 25 < 1,600 Lumens - pin based	38	$ -	$ 0.00	0.8	Bulb	16	0	$ 10.00	$ 23.80	-	-	-
2008	235043	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 30 > 1100	69	$ -	$ 0.01	0.8	Bulb	16	35000	$ 10.00	$ 26.27	1,937,099	-	184
2008	235045	Lighting - Torchiere - Energy Star (55 /70watt averaged -) Retail	198	$ -	$ 0.02	0.8	Fixture	9	0	$ 10.00	$ -	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	235052	Lighting - CFL Bulb (>39 watt)	87	$ -	$ 0.02	0.8	Unit	8	400	$ 2.50	$ 4.28	27,962	-	7
2008	235057	Lighting - CFL Bulb (13 watt >= 800 Lumens)	36	$ -	$ 0.00	0.8	Bulb	9.4	450000	$ 1.25	$ 4.26	13,006,235	-	1,233
2008	235061	Lighting - CFL Bulb (18 watt >= 1,100 Lumens)	44	$ -	$ 0.00	0.8	Bulb	9.4	600000	$ 1.75	$ 5.77	21,031,358	-	1,995
2008	235063	Lighting - CFL Bulb (23 watt)	59	$ -	$ 0.01	0.8	Bulb	9.4	545000	$ 2.00	$ 6.05	25,806,461	-	2,447
2008	235065	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 18 watt <1,100 Lumens	48	$ -	$ -	0.8	Lamp	16	0	$ 5.00	$ 20.35	-	-	-
2008	235067	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 18 watt >= 1,100 Lumens	64	$ -	$ -	0.8	Lamp	16	30000	$ 5.00	$ 20.35	1,547,892	-	-
2008	235069	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 20 watt	62	$ -	$ -	0.8	Lamp	16	0	$ 10.00	$ 21.34	-	-	-
2008	235071	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 65 watt	153	$ -	$ -	0.8	Lamp	16	40000	$ 10.00	$ 43.54	4,888,080	-	-
2008	235073	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 18 W< 1,100 Lumens	32	$ -	$ 0.00	0.8	Bulb	16	0	$ 5.00	$ 20.35	-	-	-
2008	235074	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 18 W >= 1,100 Lumens	44	$ -	$ 0.00	0.8	Bulb	16	10000	$ 10.00	$ 20.35	350,523	-	33
2008	235076	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 26 < 1,600 Lumens	38	$ -	$ 0.00	0.8	Bulb	16	0	$ 5.00	$ 24.30	-	-	-
2008	235079	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 26>=1,600 Lumens	57	$ -	$ 0.01	0.8	Bulb	16	0	$ 10.00	$ 24.30	-	-	-
2008	235081	Lighting - CFL Bulb (26 watt<1,600 Lumens)	38	$ -	$ 0.00	0.8	Bulb	9.4	0	$ 1.75	$ 8.60	-	-	-
2008	235083	Lighting - CFL Bulb (26 watt>=1,600 Lumens)	57	$ -	$ 0.01	0.8	Bulb	9.4	25000	$ 2.00	$ 6.92	1,137,661	-	108
2008	235085	Lighting - CFL Bulb (25 watt>=1,600 Lumens)	58	$ -	$ 0.01	0.8	Bulb	9.4	30000	$ 2.00	$ 6.63	1,383,642	-	131
2008	235086	Lighting - LED Bulbs 3w	24	$ -	$ 0.01	0.8	Unit	8	125000	$ 1.25		2,446,000	-	670
2008	235091	20W CFL Table Lamp	46	$ -	$ 0.00	0.8	Bulb	16	6000	$ 5.00	$ 50.43	219,701	-	21
2008	235092	25W CFL Table Lamp	62	$ -	$ 0.01	0.8	Bulb	16	6000	$ 5.00	$ 61.13	299,592	-	29
2008	235093	15 Watt Intergral CFL (Reflector)	35	$ -	$ 0.00	0.8	Bulb	9.4	0	$ 1.00	$ 5.01	-	-	-
2008	235094	15 Watt Intergral CFL (Dimmable)	35	$ -	$ 0.00	0.8	Bulb	9.4	25000	$ 3.25	$ 5.01	691,821	-	66
2008	235095	15 Watt Intergral CFL (Globes)	35	$ -	$ 0.00	0.8	Bulb	9.4	12000	$ 2.75	$ 5.01	332,074	-	31
2008	235096	18 Watt Intergral CFL - (Reflectors)	44	$ -	$ 0.00	0.8	Lamp	9.4	12000	$ 3.25	$ 5.77	420,627	-	40
2008	235097	13 Watt Integral CFL < 800 Lumens	21	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 4.40	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	235098	18 Watt Integral CFL < 1,100 Lumens	32	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 6.14	-	-	-
2008	235099	30W CFL Table Lamp	75	$ -	$ 0.01	0.8	Fixture	16	0		$ 63.20	-	-	-
2008	235100	13 Watt Integral CFL (A-Lamp)	21	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 4.40	-	-	-
2008	235101	14 Watt Integral CFL (A-Lamp)	35	$ -	$ 0.00	0.8	Lamp	9.4	25000	$ 2.75	$ 4.64	707,195	-	67
2008	235102	15 Watt Integral CFL (A-Lamp)	35	$ -	$ 0.00	0.8	Lamp	9.4	25000	$ 2.75	$ 5.01	691,821	-	66
2008	235103	18 Watt Integral CFL (A-Lamp)	44	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 5.77	-	-	-
2008	235104	23 Watt Integral CFL (Dimmable)	59	$ -	$ 0.01	0.8	Lamp	9.4	65000	$ 3.25	$ 6.05	3,077,835	-	292
2008	235105	20 Watt Integral CFL < 800 (Reflectors)	42	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 6.47	-	-	-
2008	235106	20 Watt Integral CFL > 800 (Reflectors)	42	$ -	$ 0.00	0.8	Lamp	9.4	0		$ 6.47	-	-	-
2008	235107	23 Watt Integral CFL <1100 (Reflectors)	59	$ -	$ 0.01	0.8	Lamp	9.4	0		$ 6.05	-	-	-
2008	235108	23 Watt Integral CFL >= 1100 (Reflectors)	59	$ -	$ 0.01	0.8	Lamp	9.4	0		$ 6.05	-	-	-
2008	235109	25 Watt Integral CFL <1100 (Reflectors)	38	$ -	$ 0.00	0.8	Lamp	9.4	4000	$ 2.50	$ 8.24	122,990	-	12
2008	235110	25 Watt Integral CFL >= 1100 (Reflectors)	58	$ -	$ 0.01	0.8	Lamp	9.4	0		$ 6.63	-	-	-
2008	235111	26 Watt Integral CFL >= 1100 (Reflectors)	57	$ -	$ 0.01	0.8	Lamp	9.4	0		$ 6.92	-	-	-
2008	235112	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 15 Watt > 1100	51	$ -	$ -	0.8	Lamp	16	0		$ 18.87	-	-	-
2008	235113	Lighting - Hardwired Fluorescent Lighting Fixtures (ext) 15 Watt <1100	51	$ -	$ -	0.8	Lamp	16	0		$ 18.87	-	-	-
2008	235114	Lighting - Hardwired Fluorescent Lighting Fixtures (int) 30 < 1100	69	$ -	$ 0.01	0.8	Lamp	16	0		$ 26.27	-	-	-
2008	235115	Lighting Hardwired Fluorescent Lighting Fixtures (int) 15 <1100	35	$ -	$ 0.00	0.8	Lamp	16	0		$ 18.87	-	-	-
2008	235116	Lighting Hardwired Fluorescent Lighting Fixtures (int) 15 > 1100	35	$ -	$ 0.00	0.8	Lamp	16	0		$ 18.87	-	-	-
2008	235117	Lighting - CFL Bulb (<= 12 Watt) Globes	13	$ -	$ 0.00	0.8	Unit	8	15300	$ 2.50	$ 4.28	162,976	-	39
2008	235118	Lighting - CFL Bulb (<= 12 watts) Reflectors	13	$ -	$ 0.00	0.8	Unit	8	0		$ 4.28	-	-	-

PARTNERSHIPS

2006-2008 Energy Efficiency Concept Paper
City of Chula Vista & San Diego Gas & Electric InitiativeConservation Outreach Program (ECO Program)

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 36,554	$ 36,554	$ 36,554
Administrative Other	$ 255,876	$ 255,876	$ 255,876
Marketing & Outreach	$ -	$ -	$ -
Direct Implementation			
Incentives	$ -	$ -	$ -
Activity	$ 438,645	$ 438,645	$ 438,645
Installation	$ -	$ -	$ -
Hardware & Materials	$ -	$ -	$ -
Rebate Processing & Inspection	$ -	$ -	$ -
EM&V	$ -	$ -	$ -
Total	*$ 731,075*	*$ 731,075*	*$ 731,075*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
1,277,626	133	36,593	1,277,626	133	36,593	1,277,626	133	36,593

Savings identified in this paper are estimated based on the Energy Efficient Housing Project component. The kW, kWh and therm savings along with incentives and rebates for City of Chula Vista retrofit projects for City facilities are included in the SDG&E Energy Savings Bid Program (see City Energy Efficient Facilities Showcase Project below). There are no projected kW, kWh and therm direct savings for the ECO Exhibit and the Municipal Energy BMPs Education Projects.

3. Program Cost Effectiveness

Attached

4. Program Descriptors

The Energy Efficiency and Conservation Outreach Program (ECO Program) is being offered by San Diego Gas & Electric Company, (SDG&E) and the City of Chula Vista (Chula Vista). The ECO Program aims to enable Chula Vista, residents, developers, and Southbay cities to implement energy efficiency and conservation measures by overcoming existing barriers. Southbay includes Chula Vista, Coronado, Imperial Beach, National City and unincorporated areas of the San Diego County. The ECO Program also aims to increase public awareness about energy efficiency and conservation through non-traditional education and outreach outlets and channels used by cities and the County.

5. Program Statement

The ECO Program will enable target customers to implement energy efficiency and conservation measures by overcoming barriers that they face. The target customers and barriers for each customer include:

- **City of Chula Vista:** The City does not have adequate resources to assign dedicated staff to pursue and implement energy efficiency projects on a consistent basis.
- **Residents:** Residents do not have a clear understanding of what programs are available to them and which programs they qualify for. Residents also need face-to-face assistance to access and participate in energy efficiency programs.
- **Condominium Conversion Developers:** Developers do not have the appropriate motivations to enhance the energy efficiency level of condominium conversion projects beyond Title 24 compliance.
- **Southbay Cities:** Southbay Cities lack policies, procedures and plans to institutionalize energy efficiency and conservation measures into how they do business.

6. Program Rationale

- **City Energy Efficient Facilities Showcase Project:** Chula Vista has over 100 City owned buildings and infrastructure that consume electricity and natural gas. The City has about 550 electricity and natural gas meters and uses approximately 18 million kW-hrs of electricity and approximately 800,000 therms of natural gas annually. Due to addition of new City buildings and infrastructure, the City's energy use is projected to increase by at least 5% in 2006. The City's annual energy budget is approximately $3.4 million. The City's actual energy costs are also projected to increase due to new City load and rising energy rates. Although the City has aggressively pursued energy efficiency retrofits to reduce energy use, to reduce cost, to improve maintenance and to reduce its impact on the environment, there are still many opportunities to improve how the City uses energy. An opportunity to position City facilities to participate in SDG&E's demand response programs also exists. The ECO Program seeks to enable the City to manage its energy use more effectively and consistently by providing funding to the City for dedicated energy staff.

- **ECO Exhibit Project**: Chula Vista has co-sponsored Hard-to-Reach lighting events with SDG&E for the past three years at various City venues. Year after year, an average of 600 households (.01% of Chula Vista's housing stock) participate in the one-day events to exchange their inefficient incandescent light bulbs for more efficient compact fluorescent lights. Approximately 15% of the participating households also sign up for SDG&E programs available to low income and senior citizens. The City believes that the success of the events can be attributed to effective execution of a marketing plan developed by SDG&E and City staff, face-to-face assistance from SDG&E and City staff and customer convenience. The mobile ECO Exhibits aims to provide face-to-face assistance and convenience on a more predictable basis by placing the staffed ECO Exhibits in high traffic community

locations. The City's believes that it can reach more than the .01% of the households in the City by providing a predictable location where residents can go to for assistance on energy issues.

- **Energy Efficient Housing Project:** There are currently about 800 apartment units at various stages of the condominium conversion process by the City's Planning and Building Department. The Chula Vista Planning and Building department estimates that at least 500 units per year will undergo conversions from apartments to condominiums from 2006 to 2008 in. There is an untapped potential for energy efficiency since condominium conversion developers are not often required to meet the most current Title 24 requirements. Under this project, condominium conversion projects with three or more units will be eligible for expedited plan review and permitting if they commit to incorporating energy efficiency measures to exceed Title 24 requirements by at least 10% or if they incorporate measures to reduce the average energy use for each unit by 515 kW-hr and 15 therms per month. Note: SDG&E, along with the City of Chula Vista, City of San Diego, and the County of San Diego will continue to review various options for implementing Title 24 guidelines. Where necessary, standard thresholds may be applied Although it is preferred that program participants not receive utility incentives payments, in exchange for expedited approval of their requested building permits or land use, ability to participate in both the expedite and incentive programs may be considered. Both strategies will be reviewed during the initial phases of the program.

- **Municipal Energy BMPs Education Project:** Staff from Southbay cities have continually expressed their desire to participate in energy efficiency programs available from SDREO and SDG&E. Unfortunately, due to competing priorities, staff from Southbay cities have not dedicated time or resources to pursuing potential energy retrofit projects. Staff believes that the major barrier to participating in energy efficiency programs is their City's lack of policies related to energy management. The goal of the Municipal Energy BMPs Education project workshop series is to assist cities develop energy action plans for Council adoption to manage energy more effectively. The City of Chula Vista's CO2 Reduction Plan will be used as a model for the workshops. By the end of the fourth workshop, participating cities will have an Energy Action Plan to reduce their energy use.

7. Program Outcomes

The program is a savings, education and outreach program, which will deliver net energy savings, peak demand savings and sustained efficiency at City facilities, for residents, multi-family housing units and at other Cities.

The desired outcomes of the ECO Partnership are to:

- Enable the City to pursue energy efficiency projects and implement demand response at City owned facilities,

- Enable residents to take action by educating residents about energy efficient technology and energy conservation best management practices,
- Enable and motivate developers to invest in energy efficiency upgrades for multi-dwelling units by expediting the City's plan review and permitting process,
- Enable Southbay cities to institutionalize energy efficiency and conservation into their practices by providing a step-by-step approach to developing and implementing locally adopted policies.

8. Program Strategy

The City will assign an Energy Administrator to oversee general management of the ECO Program. The Energy Administrator will be responsible for coordinating with SDG&E, SDREO and other third party provider staff to ensure ECO Program projects work plans are developed and implemented to meet established goals and objectives. The Energy Administrator will also coordinate efforts with internal and external partners to develop effective outreach and marketing material to ensure program clarity. The program strategies that will be used are:

- Residential New Construction
- Residential Target Marketing

8.1.1 Program Strategy Description

Residential New Construction:

The program strategy for this part of the program is to expedite plan review and permitting to incent builders to include more energy efficient measures into condos converted from apartments. The City will reach condominium conversions developers by modifying plan review and permit applications to inform developers about the expedite process.

Residential Target Marketing

There are several parts to this strategy. The first is to provide face-to-face energy efficiency and conservation outreach to low income, elderly and other hard-to-reach customers. This will be done thorough mobile energy efficiency and conservation outreach exhibits (ECO Exhibits) staffed by trained personnel. The mobile ECO Exhibits will be located at City facilities and at regional centers such as shopping centers and malls throughout the Southbay. The second is to share lessons learned and best management practices (BMPs) with Southbay cities through a series of four workshops. The last element is to provide the City with funding to hire dedicated energy staff. Energy staff funded by the partnership will develop retrofit projects for both new and existing City buildings and facilities, working with SDG&E's Saving's by Design and Sustainable Communities Program to design and build City facilities that are at least 20% more energy efficient than state standards.

8.1.2 Program Indicators

Encourage condominium conversion developers to upgrade the energy efficiency of converted units by committing to complying with applicable Title 24 requirements and by

further incorporate measures that go beyond Title 24 requirements by at least 10% or by reducing energy use for each unit

Increase public awareness by assisting an average of 160 people per day (average of 40 people per day at each ECO Exhibit) access and participate in energy efficiency and conservation programs.

Sponsor and coordinate at least four energy efficiency and conservation workshops for cities every year. The goal of the workshop series is to initially assist South Bay cities develop energy action plans to manage energy.

Major program objectives for the ECO Program projects are as follows:

City Energy Efficient Facilities Showcase Project: Reduce the City's energy use by 5% per year for a cumulative reduction of 15% by 2008 relative to 2005 energy use.

ECO Exhibit Project: Increase public awareness by assisting an average of 160 people per day (average of 40 people per day at each ECO Exhibit) access and participate in energy efficiency and conservation programs.

Energy Efficient Housing Project: Encourage condominium conversion developers to upgrade the energy efficiency of converted units by committing to complying with applicable Title 24 requirements and by further incorporate measures that go beyond Title 24 requirements by at least 10% or by reducing energy use for each unit by an average of 515 kW-hr and 15 therms per month. Participating developers will receive expedited plan review and permitting. At least 500 condominiums per year will be targeted for upgrades for a total of 1,500 energy efficient condominiums by 2008.

Municipal Energy BMPs Education Project: Sponsor and coordinate at least four energy efficiency and conservation workshops for cities every year. The goal of the workshop series is to initially assist South Bay cities develop energy action plans to manage energy. By the fourth workshop, participating cities will have an Energy Action Plan to reduce their energy use. Workshops will be targeted to east county cities in year 2 and north county cities in year 3.

9. Program Implementation

The ECO Program consists of four projects to overcome barriers to implementing and participating in energy efficiency and conservation programs. Each project aims to achieve energy efficiency and conservation through a combination of energy efficiency retrofit projects at City facilities, public education and outreach at high traffic community destinations, expedited plan review and permitting services for condominium conversion projects and best management practices workshops for County cities. The projects and implementation plans are described below:

a) City Energy Efficient Facilities Showcase Project

The goal of this element is to facilitate installation of energy efficiency measures and development of efficiency and conservation outreach best management practices (BMPs) for City facilities and employees by providing the City with funding to hire dedicated energy staff. Energy staff funded by the partnership will develop retrofit projects for City buildings and facilities. For existing facilities, energy staff will work with the San Diego Regional Energy Office's (SDREO) to participate in SDG&E's Energy Savings Bid Program. SDREO will assist the City to assess opportunities through audits and identify incentives, development of an implementation plan, access project incentives, develop a funding mechanism and coordinate project execution to achieve energy savings. For new facilities, energy staff will work with SDG&E's Saving's by Design and Sustainable Communities Program to design and build City facilities that are at least 20% more energy efficient than state standards. Energy staff will also work to develop, implement and train City personnel about energy BMPs to improve energy conservation practices by employees. The City's goal is to reduce baseline energy use at City facilities by at least 5% per year over the three-year period. The City's energy goals are captured in SDG&E's Energy Savings Bid Program.

b) ECO Exhibit Project

The goal of this element is to provide face-to-face energy efficiency and conservation outreach to low income, elderly and other hard-to-reach customers. This project will reach the target audience through mobile energy efficiency and conservation outreach exhibits (ECO Exhibits) staffed by trained personnel. The mobile ECO Exhibits will be located at City facilities and at regional centers such as shopping centers and malls throughout the Southbay and potentially countywide. Specifically, the mobile ECO Exhibits locations will include but are not limited to a local City hall, at libraries, recreational centers, police stations, local shopping centers and regional shopping malls. The ECO Exhibits will be used to engage the target audience to learn about energy efficiency and energy conservation. Trained personnel will demonstrate energy efficient technology available in the marketplace to residents, educate residents about low or no-cost energy conservation practices, assist residents access programs offered by energy conservation program providers such as SDG&E and SDREO, allow residents to conduct home energy audits via the internet and direct residents to EnergyStar product retailers. The ECO Exhibits will also coordinate with SDG&E's Hard-to-Reach Lighting Turn-in Program to market and provide a venue for hard to reach customers to exchange inefficient lights for more efficient lights. Lastly, the ECO Exhibits will serve as an outlet to recruit participants for SDREO's Shade Tree Program.

c) Energy Efficient Housing Project:

The goal of this element is to improve the energy efficiency of existing multi-family housing units that are proposed for conversion from apartments to condominiums by providing expedited plan review and permitting services. The

City will reach condominium conversions developers by modifying plan review and permit applications to inform developers about the expedite process.

d) Municipal Energy BMPs Education Project

The goal of this element is to share lessons learned and BMPs with Southbay cities through a series of four workshops. In November 2000, the City adopted a CO2 Reduction Plan to reduce the City's greenhouse gas emissions. The CO2 Plan's goals are to reduce the City's reliance on fossil fuel and to improve the energy efficiency of City buildings and facilities. Since 1990, the City has retrofitted and constructed buildings and facilities that are more energy efficient than the State's conservation standards (Title 24). The City will use existing forums and outlets to reach Southbay cities. The City will use the CO2 Plan as a model to encourage and assist other cities develop their own strategic plan to achieve energy efficiency at their facilities and to incorporate low or no cost energy conservation BMPs into how they do business. The project's goal is to enable Southbay cities to develop and adopt strategic policies to improve their energy efficiency and reduce their environmental impact.

10. Customer Description

City facilities and staff, residents, condominium conversion developers, Southbay cities in San Diego County are eligible to participate in ECO Partnership programs.

11. Customer Interface

- **City Energy Efficient Facilities Showcase Project:** The Energy Administrator will coordinate internally with city staff to develop and implement retrofit projects for City facilities. As described in the SDG&E's Energy Savings Bid Program, public agencies including the City of Chula Vista will receive the following energy efficiency project related services from the San Diego Regional Energy Office (SDREO) at no cost:
  - Energy audits
  - Technical assistance, and
  - Incentive documentation/processing

- **ECO Exhibit Project**: The Energy Administrator will coordinate with SDREO, SDG&E, cities and the County to develop and place the mobile ECO Exhibits in high traffic locations. The ECO Exhibits staff will serve to engage customers to participate in energy efficiency and conservation programs. ECO Exhibits customers will have an opportunity to learn about energy efficient technology, receive information about low-or-no cost energy conservation best management practices and receive direct assistance to access offerings from other program providers.

- **Energy Efficient Housing Project:** The Energy Administrator will coordinate with SDG&E and the City's Planning and Building staff to streamline the City's plan review and permitting process application for condominium conversions projects.

The Energy Administrator will also act as a liaison between the City's Planning and Building staff and developers to resolve any potential issues.

- **Municipal Energy BMPs Education Project:** The Energy Administrator will work with SDREO and SDG&E to develop a series of four workshops per year to assists cities develop individual strategic plans to manage their energy use and budget more effectively. The Energy Administrator will base the workshops on the City of Chula Vista's CO2 Reduction Plan. The CO2 Plan guides the City's effort to reduce reliance on fossil fuel, improve energy efficiency for buildings and vehicles and to reduce the City's overall impact on the environment. The workshops will be marketed to cities through existing working group technical committees such as San Diego County's Pollution Prevention Committee and SANDAG's Energy Working Group.

12. Energy Measures and Program Activities

12.1. **Prescriptive Measures**
See SDG&E February 1, 2006 Filing Workbook.

12.2. **kWh Level Data –**
See SDG&E February 1, 2006 Filing Workbook.- Savings are included in the Energy Savings Bid Program

12.3. **Non-Energy Activities** –
Audits, Education and Technical Assistance may be utilized

13. Subcontractor Activities

None

14. Quality Assurance and Evaluation Activities

Quality assurance for city facilities projects will consist of on-site inspections by SDREO through SDG&E's Energy Savings Bid Program. Quality assurance for condominium conversion projects will consist of on-site inspections by SDG&E's utility inspection department.

An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E looks forward to participating and commenting on those activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs

15. Marketing Activities

The City will work with, SDREO, SDG&E, City of San Diego and the County of San Diego to develop and distribute marketing material to promote the ECO Partnership Programs to target customers through new and existing distribution channels. These channels will include but are limited to the four mobile ECO Exhibits, governing board

meetings, public access cable stations, partner websites, partner publications (Chula Vista Spotlight), employee newsletters and local community newspapers.,

16. CPUC Objective

The Energy ECO Partnership between SDG&E and the City of Chula Vista is a community wide effort that will enable the City, residents, developers and Southbay cities to implement sustainable energy efficiency and conservation measures. The program supports the CPUC objectives of minimizing lost opportunities and increasing the pursuit and implementation of cost-effective energy efficiency.

	SDGE3002 CCV-City of Chula Vista Partnership
BUDGET	
Administrative Costs	**$ 877,290**
Overhead and G&A	$ 109,661
Other Administrative Costs	$ 767,629
Marketing/Outreach	**$ -**
Direct Implementation	**$ 1,315,935**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 1,315,935
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 2,193,225**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 2,193,225**
PROGRAM IMPACTS	
User Entered kW (kW)	399
Net Jul-Sept Peak (kW)	5,277
Net Dec-Feb Peak (kW)	49
Net NCP (kW)	8,928
Net CEC (kW)	832
Annual Net kWh	3,832,877
Lifecycle Net kWh	50,082,775
Annual Net Therms	109,778
Lifecycle Net Therms	1,445,088
Cost Effectiveness	
TRC	
Costs	$ 10,126,402
Electric Benefits	$ 6,285,493
Gas Benefits	$ 750,459
Net Benefits (NPV)	$ (3,090,450)
BC Ratio	0.69
PAC	
Costs	$ 2,193,225
Electric Benefits	$ 6,285,493
Gas Benefits	$ 750,459
Net Benefits (NPV)	$ 4,842,727
BC Ratio	3.21
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	29,841,214
Cost	$ 0.3004
Benefits	$ 0.2106
Benefit-Cost	$ (0.0898)
Levelized Cost PAC ($/kWh)	
Discounted kWh	29,841,214
Cost	$ 0.0657
Benefits	$ 0.2106
Benefit-Cost	$ 0.1450
Levelized Cost TRC ($/therm)	
Discounted Therms	858,388
Cost	$ 1.3523
Benefits	$ 0.8743
Benefit-Cost	$ (0.4780)
Levelized Cost PAC ($/therm)	
Discounted Therms	858,388
Cost	$ 0.2725
Benefits	$ 0.8743
Benefit-Cost	$ 0.6017

City of Chula Vista Partnership

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 731,075	$ -	$ 731,075	1,277,626	36,593	133
2007	$ 731,075	$ -	$ 731,075	1,277,626	36,593	133
2008	$ 731,075	$ -	$ 731,075	1,277,626	36,593	133

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	239002	Package 1	807	58	0.32	0.8	unit	14	63	$ -	$ 4,467.00	40,673	2,928	16
2006	239003	Package 2	882	61	0.13	0.8	unit	14	63	$ -	$ 4,872.00	44,453	3,064	7
2006	239004	Package 3	2,385	61	0.22	0.8	unit	13	625	$ -	$ 5,013.00	1,192,500	30,600	110
2007	239002	Package 1	807	58	0.32	0.8	unit	14	63	$ -	$ 4,467.00	40,673	2,928	16
2007	239003	Package 2	882	61	0.13	0.8	unit	14	63	$ -	$ 4,872.00	44,453	3,064	7
2007	239004	Package 3	2,385	61	0.22	0.8	unit	13	625	$ -	$ 5,013.00	1,192,500	30,600	110
2008	239002	Package 1	807	58	0.32	0.8	unit	14	63	$ -	$ 4,467.00	40,673	2,928	16
2008	239003	Package 2	882	61	0.13	0.8	unit	14	63	$ -	$ 4,872.00	44,453	3,064	7
2008	239004	Package 3	2,385	61	0.22	0.8	unit	13	625	$ -	$ 5,013.00	1,192,500	30,600	110

City of San Diego Partnership
2006-2008 Energy Efficiency Program

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ -	$ -	$ -
Administrative Other	$ 250,704	$ 291,756	$ 291,756
Marketing & Outreach	$ 32,296	$ 32,296	$ 32,296
Direct Implementation			
Incentives	$ -	$ -	$ -
Activity	$ 637,000	$ 657,832	$ 657,832
Installation	$ -	$ -	$ -
Hardware & Materials	$ -	$ -	$ -
Rebate Processing & Inspection	$ -	$ -	$ -
EM&V	$ -	$ -	$ -
Total	*$ 920,000*	*$ 981,884*	*$ 981,884*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
1,277,626	133	36,593	1,277,626	133	36,593	1,277,626	133	36,593

Savings identified in this paper are estimated based on the Condo Conversion Expedite component. In addition, the City would derive additional energy savings from retrofitting its municipal facilities for energy efficiency. Savings derived from these retrofit projects will be calculated under SDG&E's various incentives programs.

3. Program Cost Effectiveness (Provided by Program Builder Report)

Attached

4. Program Descriptors

The City of San Diego and San Diego Gas & Electric (the Partnership) propose to administer a new program for residential customers, developers and government agencies. This program will be a combination of education, training, and incentives. The program will facilitate the retrofitting for energy efficiency of the least energy efficient facilities owned by the City; offer incentives to developers to include additional energy efficiency in condo conversion projects to qualify for the expedited permitting; make use of the City's existing community outreach infrastructure to inform residents about energy efficient technologies and available incentives for the installation of energy efficiency measures; and take advantage of the City's experience in running a successful energy program to help other local governments implement energy efficiency practices that they can afford and maintain.

Under the program, the City would assign staff to facilitate the performance of comprehensive energy efficiency retrofits and installation of energy management systems at City facilities. The City expects to derive significant energy savings from these retrofits, and the installation of energy management systems at these locations will allow the City to better manage its consumption and demand, maximize the potential energy savings, and participate in demand reduction programs during critical peak hours.

The program provides incentives to developers who install energy efficiency measures in their condo conversion units by giving them the opportunity to participate in the City's Sustainable Building Expedite Program free of charge. The program will pay for the anticipated $550 (incentive) per dwelling cost of participation on the Sustainable Building Expedite Program for those developers that meet the City's Sustainable Building Policy. This policy requires among other things that the developer install on each unit of a conversion project energy efficiencies that achieve at least 15% better than California's Title 24, and it requires that the conversion project provide 50% of their projected total energy use utilizing renewable energy resources.

This program will offer the use of City facilities to provide outreach to City residents. The City will dispense energy conservation, efficiency, and renewable energy sources information and encourage activity in those areas by educating the public of current energy efficiency programs and technologies available to them.

Finally, this program will allow the City to provide training and assistance to local government agencies in the implementation of energy conservation, efficiency, and management programs. Local agencies will learn from the City's experience in implementing policy to promote energy efficiency and conservation at existing and new municipal facilities; installing energy management systems to participate in demand reduction programs; using existing community outreach infrastructure to educate and promote energy efficiency among City residents; and working with contractors and developers to promote energy efficiency in new residential developments.

5. Program Statement

Potential obstacles to achieving an acceptable level of energy efficiency and energy conservation that the City has identified in its facilities and among its residents:

The City owns and operates several older facilities that use energy inefficiently. The process to identify facilities for retrofitting, going through the City Council approval process, obtaining financing, working with SDREO through the proposed BID program to obtain energy efficiency audits, issuing RFPs for the installation of the energy efficiency measures recommended on the audits, and working with SDG&E to obtain available energy efficiency incentives is a long and intensive process that requires a full-time project manager.

The City is experiencing a tremendous surge in condo conversions. Most of these condo conversions involve buildings built prior to 1978 that use energy inefficiently. The City does not have construction standards requiring developers to install energy efficiency measures when converting old apartments into condominiums. The City will be using the planning and processing time that occurs using the Sustainable Expedite Program to entice Developers to the Program. This program will provide Title 24 upgrades that would not otherwise be required for condo conversions.

A great number of low-income and elderly residents need information about available energy efficiency incentives and technologies, as evidenced by phone calls the City receives from residents asking about available programs for energy efficiency. Additionally, the City has noticed a relaxation of energy conservation efforts among its work force, which reflects a need for long-term energy conservation education.

Many local governments operate in old inefficient buildings, but don't have the staffing to dedicate to establishing sound energy efficiency program. The City has already established a road-map for energy conservation management, and it can assist others in developing energy programs.

6. Program Rationale

Currently, SDREO offers the LGEEP program that successfully satisfies the project management funding and other needs that local governments have when retrofitting facilities. However, SDREO is merging the LGEEP program and its current TAP program with SDG&E's Bid program to provide full project management, audits, and other services to retrofit facilities owned by government agencies. While the BID program alone will work well for smaller government agencies, there are further challenges with larger government agencies that have numerous facilities to be retrofitted. This partnership with SDG&E will allow the City to better take advantage of some features of the BID and the SPC programs to manage the retrofitting of its facilities.

This program will provide an incentive for developers to install energy efficiency measures to all units of a condo conversion project. Currently none of the packages of measures required by this program contains all the requirements of the current Title 24, however, three of the core requirements of the program are measures contained in Title 24; including, central air conditioning with SEER 14 rating (exceeds Title 24 requirements by 36%) , ceiling insulation with R30 rating (exceeds Title 24 requirements by 58%), and double pane windows. Note: SDG&E, along with the City of San Diego.
The program will provide an incentive to developers to install energy efficiency measures in all units of a condo conversion project by giving them the opportunity to participate in the City's Sustainable Building Expedite Program. The program will pay for the anticipated $550 (incentive) per dwelling cost of participation on

the Sustainable Building Expedite Program for those developers that meet the City's Sustainable Building Policy. This policy requires among other things that the developer install on each unit of a conversion project energy efficiencies that achieve at least 15% better than California's Title 24, and it requires that the conversion project provide 50% of their projected total energy use utilizing renewable energy resources.

This program will provide funding to allow the City to use its community service credibility and its community outreach infrastructure to inform the hard-to-reach residents abut energy efficient technologies and available incentives for the installation of energy efficiency measures. The City's outreach/education efforts offer a long-term, comprehensive educational approach to energy conservation and the use of energy-efficient technology and renewable energy in the community.

Finally, the program will provide funding for the City to offer its experience in running a successful program to other local governments.

7. Program Outcomes

- To encourage developers to install energy efficiency measures in condo conversion projects,
- To increase the number of local government agencies that participate in energy efficiency retrofit projects and encourage their residents to conserve energy, and
- To provide City residents with a local clearinghouse for general programs and city specific energy efficiency and conservation information

8. Program Strategy

To facilitate the retrofitting of City facilities, the City will use the Nonresidential Audits, Nonresidential Financing, and Nonresidential Building Calculated Rebates strategies.

To encourage Developers to retrofit condominium unit conversions for energy efficiency, the City will use the Residential Comprehensive Retrofits and the Residential Targeted Marketing strategies.

8.1.1. Program Strategy Description

- The City will assign staff to identify facilities that use energy inefficiently. City staff will work with the San Diego Regional Energy Office (SDREO) to obtain energy audits under the BID Program to determine the facilities with the best potential for energy savings.
- City staff will apply for low-interest California Energy Commission loans to finance the retrofitting of those buildings that are recommended by the SDREO audits.
- City staff will work with SDG&E and SDREO to obtain available rebates and other incentives.
- The City will encourage Developers to install a package of energy efficiency measures as described in Attachment A by allowing Developers to participate in

the City's Sustainable Expedite Program at no cost to them. The estimated $550 per unit fee will be paid by the Program for the Developers.

- In order to market the Program, the City will produce Program fliers that will be mailed to regional Developers and will be posted at City facilities where Developers apply for condo conversion permits. The City will also participate in workshops and/or conferences attended by Developers to promote the Program.

8.1.2. Program Indicators

The goal of this partnership is to produce energy savings and demand reduction in our region. Program Objectives Include:

- Encourage developers to install a package of energy efficiency measures in condo conversion projects,
- Establish two City facilities as energy information clearinghouses with displays and energy information,
- Participate in community events to promote energy efficiency and conservation and to provide energy efficiency and energy conservation information to the community,
- Deliver presentations to community groups to promote energy efficiency and conservation and to provide information on energy efficiency, energy conservation, and available energy help for the low-income and the disabled,
- Work with other local governments and SDG&E to provide workshops for Peer-to-Peer education.

9. Program Implementation

Under this Program, the City will assign staff to carry out energy efficiency retrofits at City facilities that use energy inefficiently. The Project Officer will identify facilities that are candidates for retrofits; work with SDREO to obtain energy efficiency audits to determine the facilities with the best potential for energy savings; obtain financing to carry out the projects; issue RFPs to implement recommendations of SDREO audits and energy management systems; and work with SDG&E and SDREO to obtain available rebates. The City of San Diego will require the help of SDREO under SDG&E's BID program to accomplish these goals. After these projects are completed, the City will be better equipped to participate in demand reduction programs due to its new capability to manage its energy consumption.

The City will encourage developers to install a package of energy efficiency measures to all units of condo conversion projects by allowing developers to participate in the City's Sustainable Expedite Program at no cost to them. The city plans to advertise this program through workshops for developers and through fliers available at the different City locations where Developers apply for construction permits. The estimated $550 per unit fee to participate in the City's Sustainable Building Expedite Program will be paid by the program for the Developer. SDG&E will inspect a percentage of the completed conversions for the successful installation of the required energy efficiency measures.

The City will assign staff to manage the City's outreach/education efforts City staff will stock the Environmental Services Library and another City facility with information, materials, and displays about energy efficiency and energy conservation to serve as clearing houses for energy information; he will provide energy information services at both of these sites; and he will promote the clearinghouses and energy conservation at community events and through community presentations.

Finally, the City will work with SDG&E and other local government agencies to provide workshops to share energy efficiency experience with other local governments.

10. Customer Description

The customers for this program will be the City of San Diego, Developers converting existing apartments into condominiums, and San Diego residents (especially hard-to-reach residents), and other local governments.

11. Customer Interface

The City of San Diego will have assign staff in charge of managing the retrofit projects, who understands how to use this program and other incentives programs offered by SDG&E, SDREO, and the CEC.

The City will produce fliers and workshops for the purpose of informing condo conversion Developers about the program.

The City will have staff in charge of managing the two proposed clearinghouses and promoting the clearinghouses, energy conservation and energy efficiency at community events and community presentations.

Finally, the City will work with SDG&E and other local government agencies to provide workshops with the purpose of sharing energy efficiency experience with other local governments.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

12.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

12.3. Non-energy Activities

12.3.1. Activity Description

12.3.2. Quantitative Activity Goals

12.3.3. Assigned attributes of the activity (market sector, end use)

13. Subcontractor Activities

All subcontractor activities will be managed by SDG&E

14. Quality Assurance and Evaluation Activities

EM&V or other subcontractor activities will be managed by SDG&E

15. Marketing Activities

The City will produce Program fliers that will be mailed to regional Developers and will be posted at City facilities where Developers apply for condo conversion permits. The City will also participate in workshops and/or conferences attended by Developers to promote the Program

The City will participate in community events and deliver presentations to community groups to promote energy efficiency and conservation.

16. CPUC Objective

This Program meets CPUC Objectives 1, 2, and 3 of the Energy Efficiency Policy Objectives and Programs Funding Guidelines section of the Energy Efficiency Policy Manual, Version 3.

Objective 1 specifies that "cost-effective energy efficiency should be first in the loading order of resources used by the utilities to meet their customer's energy service needs," and Objective 2 specifies that the Commission is establishing "specific annual and cumulative numerical goals for electricity and natural gas savings by utility service territory." The City facilities retrofit facilitation portion of this partnership will help SDG&E meet this objective, since the City will retrofit energy inefficient facilities provided the retrofits are cost-effective. Cost-effectiveness is a requirement for incentives offered by SDG&E and it is also a requirement for obtaining low-interest CEC loans.

	SDGE3005 CSD-City of San Diego Partnership
BUDGET	
Administrative Costs	**$ 834,216**
Overhead and G&A	$ -
Other Administrative Costs	$ 834,216
Marketing/Outreach	**$ 96,888**
Direct Implementation	**$ 1,952,664**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 1,952,664
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 2,883,768**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 2,883,768**
PROGRAM IMPACTS	
User Entered kW (kW)	399
Net Jul-Sept Peak (kW)	5,277
Net Dec-Feb Peak (kW)	49
Net NCP (kW)	8,928
Net CEC (kW)	832
Annual Net kWh	3,832,877
Lifecycle Net kWh	50,082,775
Annual Net Therms	109,778
Lifecycle Net Therms	1,445,088
Cost Effectiveness	
TRC	
Costs	$ 10,816,945
Electric Benefits	$ 6,285,493
Gas Benefits	$ 750,459
Net Benefits (NPV)	$ (3,780,993)
BC Ratio	0.65
PAC	
Costs	$ 2,883,768
Electric Benefits	$ 6,285,493
Gas Benefits	$ 750,459
Net Benefits (NPV)	$ 4,152,184
BC Ratio	2.44
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	29,841,214
Cost	$ 0.3211
Benefits	$ 0.2106
Benefit-Cost	$ (0.1105)
Levelized Cost PAC ($/kWh)	
Discounted kWh	29,841,214
Cost	$ 0.0863
Benefits	$ 0.2106
Benefit-Cost	$ 0.1243
Levelized Cost TRC ($/therm)	
Discounted Therms	858,388
Cost	$ 1.4381
Benefits	$ 0.8743
Benefit-Cost	$ (0.5638)
Levelized Cost PAC ($/therm)	
Discounted Therms	858,388
Cost	$ 0.3583
Benefits	$ 0.8743
Benefit-Cost	$ 0.5159

City of San Diego Partnership

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 920,000	$ -	$ 920,000	1,277,626	36,593	133
2007	$ 981,884	$ -	$ 981,884	1,277,626	36,593	133
2008	$ 981,884	$ -	$ 981,884	1,277,626	36,593	133

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	241002	Package 1	807	58	0.32	0.8	Home	14	63	$ -	$ 4,467	40,673	2,928	16
2006	241003	Package 2	882	61	0.13	0.8	Home	14	63	$ -	$ 4,872	44,453	3,064	7
2006	241004	Package 3	2,385	61	0.22	0.8	Home	13	625	$ -	$ 5,013	1,192,500	30,600	110
2007	241002	Package 1	807	58	0.32	0.8	Home	14	63	$ -	$ 4,467	40,673	2,928	16
2007	241003	Package 2	882	61	0.13	0.8	Home	14	63	$ -	$ 4,872	44,453	3,064	7
2007	241004	Package 3	2,385	61	0.22	0.8	Home	13	625	$ -	$ 5,013	1,192,500	30,600	110
2008	241002	Package 1	807	58	0.32	0.8	Home	14	63	$ -	$ 4,467	40,673	2,928	16
2008	241003	Package 2	882	61	0.13	0.8	Home	14	63	$ -	$ 4,872	44,453	3,064	7
2008	241004	Package 3	2,385	61	0.22	0.8	Home	13	625	$ -	$ 5,013	1,192,500	30,600	110

2006-2008 Energy Efficiency Programs

County of San Diego and San Diego Gas & Electric Energy Initiative

Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administrative			
Other Administrative	$ 251,200	$ 264,000	$ 276,000
Overhead	$ 62,800	$ 66,000	$ 69,000
Direct Implementation			
Financial Incentives			
Activity			
Installation			
Hardware & Materials			
Rebate Processing and Inspection			
Marketing			
Program Specific Marketing			
Statewide Marketing			
Total Program Budget	**$ 314,000**	**$ 330,000**	**$ 345,000**

2. Projected Program Impacts

2006			2007			2008		
kW	kWh	Therms	kW	kWh	Therms	kW	kWh	Therms

The kW, kWh and therm savings along with incentives and rebates for County of San Diego retrofit projects for County facilities are included in the SDG&E Energy Savings Bid Program.

3. Program Cost Effectiveness

N/A

4. Program Descriptors

The County of San Diego/SDGE Energy Initiative Partnership (COSD/SDGE EIP) is a local program within the SDG&E territory. This is a new program that targets small and large commercial county government facilities and county residential public housing units as well as promotion of the County's Green Building Program to business and commercial property owners that work with the County of San Diego's (County) Department of Planning and Land Use (DPLU).

5. Program Statement

The County faces a number of barriers that limit its ability to participate in implementing energy efficiency projects. These barriers include a lengthy approval process, time consuming application processes, appropriate staffing levels to train

and educate county employees in facilitation of energy efficiency initiatives, and competing funding demands.

6. Program Rationale

There is a large untapped potential to achieve energy efficiency and demand response at the County's more than 7 Million Sq. Ft. of commercial space as well as County public housing units, peer-to-peer education and promotion of green building energy efficiency in new and remodeled residential and commercial building owners that work with the County's DPLU. The barriers to implementing energy efficiency projects and demand response within County facilities along with training and education of County staff can be overcome by providing administrative support funding for County and SDGE staff who will: (1) Facilitate energy project and demand response implementation at County facilities and public housing units, (2) Coordinate an on-bill financing pilot project development and implementation, (3) Provide peer-to-peer education to other local governments, and (4) Promote energy efficiency in County facilities to County staff along with county-wide energy efficiency promotion for public and private entities. Along with the administrative support funding, the County will participate in the Energy Savings Bid Program with the assistance of the San Diego Regional Energy Office (SDREO) which will address time, technical resource, staffing and funding barriers for implementing County facilities projects.

7. Program Outcomes

The program is a savings and education program designed to deliver net energy savings, peak demand savings and sustained efficiency through the implementation of energy efficiency activities at County facilities and Public Housing units. The desired outcome of the COSD/SDGE EIP is to (1) Achieve a comprehensive understanding of the energy conservation opportunities at County facilities and County public housing units (2) Implement energy projects and demand response opportunities at up to 7 million square feet of County commercial space and County public housing units through County staff participation in the REAP's customized incentive and rebate program, (3) Implement on-bill financing for appropriate projects, (4) Peer-to-peer, County staff and public education in energy efficiency and demand response.

8. Program Strategy

County will achieve program objectives thru

- *Nonresidential and Residential quality installation including audits, energy efficiency project implementation, benchmarking and building commissioning at County occupied non-residential facilities as well as residential public housing*

- *Nonresidential financing for appropriate projects, focusing on pilot project development and implementation with SDG&E*
- *Nonresidential Upstream and Downstream Training providing peer-to-peer education to other local governments and educating county staff on energy efficiency*

8.1.1. Program Strategy Description

- *Nonresidential and Residential quality installation including audits, energy efficiency project implementation, benchmarking and building commissioning at County occupied non-residential facilities as well as residential public housing*

The County of San Diego has an ongoing capital improvement/major maintenance plan (CIP) for County facilities. Through this program, county facilities and project management staff will incorporate cost-effective, short and long-term energy efficient retrofits in all applicable major maintenance/capital improvement projects (projects). Energy efficiency audits, benchmarking and building commissioning/re-commissioning will incorporate a "whole building approach" to energy efficiency to avoid lost opportunities and cream skimming of efficiency opportunities. Audits, benchmarking and building commissioning/re-commissioning will be overseen by county staff implementing projects.

  - *Initial program will establish core group of county facilities and project management staff (Staff) who will establish relationships with county department staff (Approvers) who approve CIP projects*
  - *With applicable projects, Staff will initiate and oversee energy efficient audits conducted through available CPUC funded programs*
  - *When the audit is complete, Staff will present audit findings to Approvers including amount of rebate included by implementing the project from other CPUC funded programs or loan proceeds from CEC financing source, highlighting the incremental cost of using energy efficient upgrades, end use efficiency and amount of greenhouse gas reduction.*

- *Nonresidential financing for appropriate projects, focusing on pilot project development and implementation with SDG&E*
  - *Staff will work with SDGE to identify projects that will benefit from on-bill financing*
  - *Staff will design, develop and provide to Approvers, marketing and outreach materials that identify available financing for energy efficiency portion of CIP projects*

- *Nonresidential Upstream and Downstream Training providing peer-to-peer education to other local governments and educating county staff on energy efficiency*
    - *Staff will design, develop and provide to county employees marketing and outreach materials that outline the value of incorporating energy efficient tools in the workplace and at home*
    - *Staff will provide specific information via website, group presentation, and email on county efficiency projects to county employees, emphasizing reduced costs and emissions through implementation and support of energy efficiency projects*
    - *Staff will design, develop and provide peer-to-peer education to other local governments through meetings, emails and public forums*

8.1.2. Program Indicators

- *Identify core group of Staff who will implement program*
- *Number of CIP projects that included energy efficiency upgrades where the efficiency upgrades would not otherwise have been done*
- *Number of audits done*
- *Number of projects presented to Approvers*
- *Number of projects identified for on-bill financing*
- *Number of projects designed and implemented due to on-bill financing or CEC financing alternative that leveraged available county funds*
- *Number of County employees reached with energy efficiency/outreach materials*
- *Number of County employees reporting to be successfully implementing energy efficiency practices at their worksite*
- *Number of local government officials and local governments reached through peer-to-peer outreach*

Specific milestones (preferably measurable but not necessarily quantitative) that are expected to be accomplished by implementing the program strategies.
The table below shows the key areas that likely will be the focus of the energy project facilitation, outreach/demand response program, peer-to-peer education and green building program.

Measure	Typical Items Addressed
County Energy Project Facilitation	• Lighting retrofits at up to 67 County sites; example: T-8 lamps to second generation T-8 lamps; T-12 lamps to second generation T-8 lamps • Energy efficiency mechanical projects at up to 12 County sites • Energy management systems and demand response opportunities at up to 67 county facilities • Coordinate installation with SDGE of metering and County web access for up to 45 county facilities to enable demand response initiatives • Heat recovery systems at detention facility • Retro/continuous commissioning at up to 67 county facilities
Outreach/ Demand Response Program	• Demand Response education for County facility managers • Demand Response education for up to 17,000 County staff • Continue to work with SDGE staff to outreach to County residential and business customers in areas services by the County's DPLU. • Up to 30 joint training/education sessions provided to County employees (residents) by both SDG&E and County staff.
Peer to Peer Education	• Best practices networking with other Local Governments • Assistance with project ideas and expertise • Assistance with identification of resources available to Local Governments
County's Green Building Program	• The County of San Diego has a Green Building Incentive Program designed to promote the use of resource efficient construction materials, water conservation and energy efficiency in new and remodeled residential and commercial buildings. The program offers a non-financial incentive of reduced plan check turnaround time and a 7.5% reduction in plan check and building permit fees for projects meeting program requirements. To qualify for the incentives, the project must comply with energy use that is below CEC Standards. Residential projects that exceed the minimum Title 24 standards by 15% and commercial projects that exceed the standards by 25% qualify for the Green Building Incentive Program. The applicant must demonstrate to the Building Division that the project exceeds the Title 24 minimum standards by submitting compliance documentation done on a computer program approved by the California Energy Commission. Note: SDG&E, along with the County of San Diego, The City of San Diego and the City of Chula Vista will continue to review various options for

Measure	Typical Items Addressed
	implementing Title 24 guidelines. Where necessary, standard thresholds may be applied. • Although it is preferred that program participants not receive utility incentives payments, in exchange for expedited approval of their requested building permits or land use, ability to participate in both the expedite and incentive programs may be considered. Both strategies will be reviewed during the initial phases of the program • SDGE staff to validate installation of measures

9. Program Implementation

The County will assign a Project Manager to spend 100% of his time for the duration of the program to work with SDG&E staff to achieve the objectives of this program. A list of facilities that can potentially participate will be provided by the County and submitted to the San Diego Regional Energy Office for enrollment into the Energy Savings Bid program which will provide energy audits to determine which facilities are good candidates for energy retrofits and potential energy savings to be achieved at each facility. A list of best candidates will be compiled and targeted for implementation. Project implementation will be coordinated through the County Project Manager, SDGE staff and the Energy Savings Bid program based on potential energy savings and demand management opportunities.

SDGE and County staff will provide joint training/education sessions to County employees, along with outreach to other local governments, and residential and business customers in areas served by the County's DPLU.

This program will provide funding to allow the County to use its community service credibility and its community outreach infrastructure to inform "hard-to-reach" residents about energy efficient technologies and available incentives for the installation of energy efficiency measures. The County's outreach/education efforts off a long-term, comprehensive educational approach to energy conservation and the use of energy efficient technology and renewable energy in the community

10. Customer Description

County staff along with residential and business customers located in areas served by the County's DPLU *and local government officials and employees.*

11. Customer Interface

County Project Manager will provide a single point of contact to coordinate all programs. Additional staff and consultant resources will be utilized to provide training and outreach services.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.
See SDG&E February 1, 2006 Filing Workbook.

12.2. kWh Level Data
See SDG&E February 1, 2006 Filing Workbook.- Savings are included in the Energy Savings Bid Program.

12.3. Non-energy Activities
Audits, Education and Technical Assistance may be utilized. SDGE and County staff will provide joint training/education sessions to County employees, along with outreach to other local governments, and residential and business customers in areas served by the County's DPLU.

12.3.1. Activity Description

12.3.2. Quantitative Activity Goals

12.3.3. Assigned attributes of the activity (market sector, end use)

13. Subcontractor Activities
None

14. Quality Assurance and Evaluation Activities
An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these Protocols. SDG&E looks forward to participating and commenting on those activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs

15. Marketing Activities
Marketing activities will include but not be limited to program informational materials, website development and updates, and participation in County, San Diego Regional Energy Office, SDGE and other sponsored events.

16. CPUC Objective
- *Implementation of cost-effective energy efficient retrofits in CIP projects at County facilities*
- *Includes cost effective energy efficiency opportunities over both the short and long term through use of the whole building approach to capital and maintenance improvements in County facilities*

- *Low cost and long-lived cost effective savings combined in the design and implementation of energy efficient projects in County facilities*
- *Marketing and outreach programs to County employees and other local government officials to support codes and standards activities that support short-term and long-term energy savings*
- *Staff to encourage County employees and other local governments to co-brand with California Climate Registry*
- *Staff to include new and improved energy efficiency products in CIP projects implemented at County facilities*
- *PGC funds collected in SDGE territory are being spent in SDGE territory by funding County of San Diego energy staff and project implementation*

	SDGE3022 SDP-County of San Diego Partnership
BUDGET	
Administrative Costs	**$ 989,000**
Overhead and G&A	$ 197,800
Other Administrative Costs	$ 791,200
Marketing/Outreach	**$ -**
Direct Implementation	**$ -**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ -
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 989,000**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 989,000**
PROGRAM IMPACTS	
User Entered kW (kW)	-
Net Jul-Sept Peak (kW)	
Net Dec-Feb Peak (kW)	
Net NCP (kW)	-
Net CEC (kW)	-
Annual Net kWh	-
Lifecycle Net kWh	-
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 989,000
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (989,000)
BC Ratio	-
PAC	
Costs	$ 989,000
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (989,000)
BC Ratio	-
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

2006-2008 Energy Efficiency Programs
San Diego Energy Resource Center Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 158,336	$ 158,209	$ 166,850
Administrative Other	$ 369,449	$ 369,153	$ 389,318
Marketing & Outreach	$ 175,929	$ 175,788	$ 185,389
Direct Implementation			
Incentives	$ -	$ -	$ -
Activity	$ 649,583	$ 649,062	$ 684,515
Installation	$ -	$ -	$ -
Hardware & Materials	$ -	$ -	$ -
Rebate Processing & Inspection	$ -	$ -	$ -
EM&V	$ -	$ -	$ -
Total	*$ 1,353,297*	*$ 1,352,212*	*$ 1,426,072*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
-	-	-	-	-	-	-	-	-

3. Program Cost Effectiveness

Not applicable, the San Diego Energy Resource Center is an information only program.

4. Program Descriptors

SDERC is collaborative effort between two existing successful programs – SDREO's Energy Resource Center and SDG&E's Statewide Education and Training Program. SDERC is a local (SDG&E Territory) program that provides energy efficiency information, education and outreach. The combined program will serve both the residential and non-residential sectors.

5. Program Statement

Lack of information and education have been identified as the main reasons for ineffective consumer behavior towards energy conservation and implementation of energy efficient technologies. Education and outreach are key components in transforming the energy market. In order to obtain hard energy savings people must understand the compelling economic and environmental benefits of energy efficiency and conservation. Over the past four years, SDREO's Energy Resource Center has definitively demonstrated that focused marketing and outreach in the form of workshops, specialized trainings, technical assistance, industry collaboration and partnering will lead to hard energy savings. SDG&E has been undertaking a similar effort through their participation in a Statewide Education and Training Program.

6. Program Rationale

To address this lack of information and education the SDERC's main objective will be to educate customers and therefore increase their knowledge of the importance of energy efficiency and its economic benefits for the region and the individual customer. Past experience has shown that true energy savings will only come through public education and a change in consumer behavior that will push market transformation. The programs offered through the joint collaboration of SDG&E and SDREO through the SDERC will provide the education, assistance, and outreach that are a necessary precursor to achieving substantial energy savings.

To maximize outreach opportunities, SDG&E will collaborate with SDREO to develop a comprehensive education and training portfolio. While it is difficult to quantify the results of educational efforts, through ongoing contact with previous ERC users and attendees of SDG&E seminars there is clear indication that the services provided through the various components have led to documented reductions in energy use. It is known in fact, that both SDERC's and SDG&E's programs and resources have been the catalyst for numerous local Public Agencies, military commands, commercial enterprises, contractors and engineering firms to implement energy efficient technologies and measures that have ultimately resulted in significant kWh and kW savings.

Currently, the SDERC is the region's single physical center for energy information, education and technical assistance. Given the noted importance of education and outreach, combining the services of both SDREO and SDG&E will increase the value and efficiency of the current SDERC. In addition to the existing SDERC program elements and in an effort to continue other ongoing educational/outreach efforts as well as increase overall program efficiency, SDREO will incorporate elements from several other successful SDREO programs into the SDERC, including the Green Building Education and Technical Assistance (GBETA), and Technical Assistance (TAP) programs.

7. Program Outcomes

The primary objective of the SDERC Program is to educate customers and increase their awareness and knowledge of the significance of energy efficiency and the regional and individual economic benefits of energy efficiency. True energy savings will only come through public education and market transformation. The programs offered by the joint collaboration of SDG&E and SDREO through the SDERC will provide the education, technical assistance, and outreach that are necessary to bring about substantial energy savings for the entire region.

8. Program Strategy

To achieve the program outcome of increased customer awareness and value of energy efficiency, the SDERC may employ the following strategies:

- Non-Residential Targeted Marketing

- Residential Targeted Marketing
- Non-Residential Building Design Assistance
- Residential Building Design Assistance
- Non-Residential Downstream Training
- Residential Downstream Training

8.1.1. Program Strategy Description

Non-Residential Targeted Marketing
- E-mail blasts to SDREO and SDGE&E contacts
- Event mailers to SDREO and SDG&E contacts

Residential Targeted Marketing
- Attendance at community events
- Ads in publications read by residential customers

Non Residential Building Design Assistance
- Attendance at industry events to promote technical assistance service
- Ads in related association newsletters

Residential Building Design Assistance
- Attendance at community events to promote technical assistance service
- Ads in publications read by residential customers

Non-Residential Downstream Training
- Provide workshops for non-residential customers on energy efficiency
- Provide customized trainings for public agencies
- Provide tool lending service to encourage energy efficiency

Residential Downstream Training
- Provide outreach to residential customers
- Provide technical assistance to residential customers
- Provide tool lending service to encourage energy efficiency

8.1.2. Program Indicators

The indicators of achievement for each energy program strategy will be as follows:
- Number of event mailers sent
- Number of workshop and outreach events conducted
- Number of workshop attendees
- Number of technical assistance sessions

- Number of tools lent from the Tool Lending Library

9. Program Objectives

Not applicable, the San Diego Energy Resource Center is an information only program.

10. Program Implementation

The overall implementation strategy contains three critical elements: community education, community outreach, and community resources. Local government, associations and community group partners will be utilized to support outreach to residential and commercial customers including those considered "hard to reach". SDREO in coordination with SDG&E will use available databases to insure maximum outreach to all market sectors. This will allow SDERC staff to effectively conduct the targeted marketing campaigns necessary to draw the various audiences addressed in workshops and events. SDREO and SDG&E will continue to provide resources to the community to help increase their practice of energy efficiency measures. Both SDREO's and SDG&E's websites' will continue to be comprehensive regional sources of energy information for all market segments and will be used to promote classes and events, handle on-line course registration for workshops, RSVPs for community events, provide access to vendor databases, and provide post-workshop support and follow up. The SDERC will also continue to provide an energy efficiency resource library and Diagnostic Tool Lending Program.

- **Community Education:**
  - Provide onsite workshops in one of the SDERC's multipurpose classrooms, as well as offsite locations. Topics will include energy efficiency, green building practices, building commissioning, sustainable design and other appropriate topics.
  - Provide customized trainings for public agencies, business, and other groups upon request.
  - Customized information for hard-to-reach sectors including seniors and non-English speakers.
  - Regional energy information forums.

- **Community Outreach**
  - Participation in local "energy fairs," trade shows, and other public forums appropriate for promoting energy efficiency.
  - Collaboration with professional/trade associations, and local, regional, state and federal agencies that promote energy efficiency.
  - San Diego Excellence in Energy Awards (SANDEE).
  - Partnership with the Regional and local Chamber(s) of Commerce to help meet the needs of the business community.

- **Community Resources**

    - Online resources including the vendor database, energy-related links, and an online newsletter.
    - A Learning Center for technical workshops, educational programs and meetings.
    - Comprehensive energy resource library and Tool Lending program.
    - A Technology Center featuring energy efficiency related equipment, displays, and exhibits.
    - Technical Assistance Sessions that "coach" customers through project design, equipment purchase and installation, commissioning, and ongoing operation and maintenance.
    - Follow up on educational trainings to provide additional resources and information including SDG&E incentive and rebate offers.

Demand Response workshops will also be facilitated by the SDERC, the costs for which will be coordinated with the Demand Response Program and is not included in the budget proposed in this paper.
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11. Customer Description

The SDERC will continue to provide energy efficiency support to all market sectors, however, the program specifically targets:

- Local, state and federal agencies
- Local institutions and schools
- Architectural and engineering firms
- Contractors
- Commercial food service operations
- Technical, trade and vendor businesses
- Building owners and facility managers
- Residential customers (renters and homeowners)

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12. Customer Interface

The primary customer interface between the SDERC and the customer is through the education and outreach services provided. Direct customer related activities include workshops, training, on-line resources and promotional events. Technical Assistance sessions with individual customers will provide follow-up information for appropriate implementation as customers research ideas learned during SDERC programs. These services will be presented to the customer through the SDERC program brochure, event mailers, SDREO & SDG&E websites, the online newsletter and through attendance at community events.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures-

Not applicable, SDERC is an information only program.

13.2. kWh Level Data

Not applicable, SDERC is an information only program.

13.3. Non-energy Activities

13.3.1. Activity Description

Education, outreach and technical assistance for both residential and non-residential sectors

13.3.2. Quantitative Activity Goals

- Quarterly Workshops and other training/outreach events – (SDREO + SDG&E)
- SANDEE Energy Awards – Held every year.
- Diagnostic tools – "lends."
- Customer Coaching & Assistance

13.3.3. Assigned attributes of the activity (market sector, end use)

As noted in Section 10 (Project Implementation), there are three major areas of emphasis within the SDERC program:

- **Community Education**: workshops, customized trainings, information programs, and energy forums.
- **Community Outreach**: energy fairs, trade shows, collaboration with professional/trade associations, energy awards, and partnership with the local business community.
- **Community Resources**: online resources, a learning center, energy resource library, tool lending program, technology center, technical assistance, education follow-up, and training materials library.

All of these will focus on both residential and non-residential customers with the end use goal being market transformation and reduced energy usage

14. Subcontractor Activities

No specific subcontractor tasks are anticipated, although some training and educations opportunities will be provided by subcontractor/consultants with expertise in specific areas.

15. Quality Assurance and Evaluation Activities

This will be handled at the State level.

16. Marketing Activities

The SDERC marketing strategy is dependant on using all available resources including: local government, associations and community partners for outreach and targeted marketing to residential, commercial and hard-to-reach customers. To maximize outreach to all sections, the SDERC will continue to utilize SDG&E and SDREO databases for quarterly event mailings. The SDERC will also promote SDERC workshops, technical assistance and the lending library at strategic offsite events. SDG&E's and SDREO's websites will continue to be used to promote workshops and events, handle on-line registration for workshops, RSVPs for community events, provide access to vendor database, and provide post-workshop support and follow up. This strategy will allow SDERC staff to effectively conduct the type of targeted marketing campaigns necessary to draw the various audiences addressed in workshops and events. For a more detailed list of marketing activities please see section 8.1.1.

17. CPUC Objective

The SDERC meets several of the CPUC objectives. Objectives met include: implementation of energy efficiency through education, outreach and technical assistance. Cost effectiveness achieved by the partnership between the SDREO ERC and SDG&E's Statewide Education Program. The deployment of new and improved energy efficiency products and application through the educational workshops and technical assistance provided by the SDERC.

	SDGE3009 ERC-SDREO Energy Resource Center Partnership
BUDGET	
Administrative Costs	**$ 1,611,315**
Overhead and G&A	$ 483,395
Other Administrative Costs	$ 1,127,920
Marketing/Outreach	**$ 537,106**
Direct Implementation	**$ 1,983,160**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 1,983,160
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 4,131,581**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 4,131,581**
PROGRAM IMPACTS	
User Entered kW (kW)	-
Net Jul-Sept Peak (kW)	
Net Dec-Feb Peak (kW)	
Net NCP (kW)	-
Net CEC (kW)	-
Annual Net kWh	-
Lifecycle Net kWh	-
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 4,131,581
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (4,131,581)
BC Ratio	-
PAC	
Costs	$ 4,131,581
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (4,131,581)
BC Ratio	-
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

2006-2008 Energy Efficiency Programs
SDG&E University of California and California State University
Program Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 17,934	$ 17,934	$ 17,934
Administrative Other	$ 5,373	$ 5,373	$ 5,373
Marketing & Outreach	$ -	$ -	$ -
Direct Implementation			
Incentives	$ 1,400,000	$ 1,400,000	$ 1,400,000
Activity	$ 567,394	$ 567,394	$ 567,394
Installation	$ -	$ -	$ -
Hardware & Materials	$ -	$ -	$ -
Rebate Processing & Inspection	$ 9,299	$ 9,299	$ 9,299
EM&V	$ -	$ -	$ -
Total	*$ 2,000,000*	*$ 2,000,000*	*$ 2,000,000*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
4,046,926	652	156,568	4,046,926	652	156,568	4,046,926	652	156,568

3. Program Cost Effectiveness

Attached

4. Program Descriptors

The SDG&E, University of California and California State University (SDG&E/UC/CSU) program is an existing statewide nonresidential program that will continue in the 2006 through 2008. The program will continue to offer incentives for retrofit projects, continuous commissioning, and educational training for campus energy managers.

5. Program Statement

The University of California (UC) and California State University (CSU) systems consume vast quantities of energy and, as a combined entity, make up a significant portion of the both the electric and natural gas load in the State of California. These are large, complex organizations with a broad set of goals, stakeholders, processes and constituencies. They are diverse from a geographic, climate, and operational needs standpoint. But with this size and diversity also comes a considerable opportunity to save energy use and cost on a scale that is meaningful to the State of California. The University of California/California State University (UC/CSU) and Investor-Owned Utility (IOU) Energy Efficiency program is designed to meet this challenge.

6. Program Rationale

The Program is a unique, statewide energy efficiency program that accomplishes immediate, long-term peak energy and demand savings, and establishes a permanent framework for a sustainable, long-term, comprehensive energy management program at the UC and CSU campuses served by California's four large IOUs. This program capitalizes on the vast resources and expertise of UC/CSU and California IOUs to ensure a successful and cost-effective program that meets all objectives of the California Public Utilities Commission (CPUC or Commission) as articulated in Decision 03-08-067. The program is an extension of the same partnership first established in the 2004-2005 Energy Efficiency Program cycle, and will capitalize on lessons learned in the areas of improved program delivery efficiency and communication between the stakeholders. The new program will also address a backlog of cost effective projects that were identified in the previous cycle but could not be completed because of budget limitation. The previous 2004-2005 partnership not only provided a comprehensive energy efficiency program for UC/CSU, but also established a model for statewide partnership programs and which could allow expansion of this program, or establish new programs, to other partners such as the California's community colleges in the 2006-2008 funding cycle.

7. Program Outcomes

The Program will continue the progress made with the 2004-2005 US/CSU/IOU Energy Efficiency Partnership in developing the framework and implementing the energy savings strategies developed in that cycle, as well as achieving new energy and demand savings goals as outlined in the estimates that accompany this narrative.

8. Program Strategy

To support the program's success, the following strategies will be used:

- Nonresidential Building Calculated Rebates
- Nonresidential Building Commissioning
- Nonresidential Downstream Training

8.1.1. Program Strategy Description

Like the 2004-2005 program, the 2006-2008 UC/CSU/IOU partnership program is comprised of three elements, which will operate on a statewide, integrated basis, providing immediate energy savings and setting the foundation for a long-term program focused on sustainability and best practices:

- *Energy Efficiency Retrofits*

  The Energy Efficiency Retrofit element of the program involves implementation of energy efficiency retrofit projects providing cost-effective energy savings during the 2006-2008 program implementation period. UC and CSU have an existing and extensive inventory of cost-effective energy saving measures, as well as many new projects developed as

part of the 2004-2005 program cycle. This inventory will be reviewed and finalized during the initial stages of the program to finalize an implementation plan and schedule. Projects that were started in the previous cycle will be completed during this phase of the program. The process of finalizing the inventory and installation of measures will be well documented and passed on for use in the retro- and continuous commissioning element and the development of best practices and training and education in the third element of the program.

- *Monitoring Based Commissioning (MBCx)*

  This element of the program is a unique approach to obtaining savings that combines the expertise of the Universities' statewide campus facility management staff, additional utility and subcontractor expertise, and the installation of energy monitoring and metering equipment at the building submeter and system level. Through these resources, the program developed a systematic, comprehensive continuous commissioning program in the last cycle. Until the establishment of this program in the 2004-2005 cycle, almost every retro-commissioning program has consisted of a one-time review of building operations, installation of equipment control measures, one or two training workshops, and possibly development of commissioning documents. The approach of this portion of the partnership program is far different. It includes the usual first step, a review of building operations and installation of equipment. However, it goes beyond the typical program to date in three aspects. First, the campuses that participate in this aspect of the program will install sufficient equipment to insure an extensive and comprehensive built-in measurement and verification capability. Second, this element of the program will be combined with the third element (Energy Efficiency Education and Best Practices Development and Training) to become a "continuous commissioning" program, that is institutionalized at the campuses for the foreseeable future. In this way, savings will be sustained well beyond those from the more typical and limited retro-commissioning programs. Third, the program will use the campus facilities management staff to identify new cost-effective retrofit opportunities efficiently and at low cost.

The Monitoring Based Commissioning projects implemented during the 2004-2005 cycle have been thoroughly reviewed and evaluated for

effectiveness; best-practices have been documented and processes will be streamlined for MBCx activities during the 2006-2008 program cycle.

- *Energy Efficiency Education and Best Practices Development and Training*

  The Energy Efficiency Education and Best Practices Development and Training element of the program will continue the comprehensive program for energy education and information exchange among the UC/CSU campus energy managers, project managers, and facility staff and with the IOUs that began with the 2004-2005 program cycle. This program provides a venue for those individuals responsible for managing energy use on campuses to share information and experiences related to facility operations, best practices, and successful retrofit projects, among other issues. This is an information and education program that develops and shares best practice operating methods and technologies applicable to university campus facilities. The primary vehicles for training and dissemination of information will be and a series of training sessions and workshops (covering new construction, building operator training, retrofits, retro-commissioning, and monitoring based commissioning) to be held in Northern and Southern California. Course offerings, curriculum and content will be based on extensive material and best-practices documentation developed during the 2004-2005 cycle.

  Work is ongoing to refine the program elements and consider sub-elements to best meet the needs of the campuses and utility partners.

8.1.2. Program Indicators

The primary goal of the program strategy is to procure energy savings and demand reduction. However, for training and education, the number of classes and number of participants will also be tracked.

9. Program Objectives

The objectives of the program are as follows:

A. Immediate, Cost-Effective Energy Savings and Demand Reduction
Retrofit projects will be efficiently implemented to meet or exceed all savings goals as outlined in the program economics.

B. Improved Energy Efficient Operations and Maintenance Practices
Campus energy managers and other staff will be trained on initial and continuous commissioning and will receive tools to reduce energy consumption and peak demand through energy information at the building systems level.

C. UC/CSU Energy Managers Trained To Identify and Implement Energy Efficient Opportunities

Similarly, this program will fund training campus energy managers, project managers and other staff in use of a "best practices" methodology for identifying and implementing energy efficiency projects.

10. Program Implementation

The UC/CSU/IOU Energy Efficiency Program will use the same implementation strategy for the 2006-2008 cycle as was used in the last cycle. A more detailed description of these implementations tasks will be provided in future, comprehensive program descriptions. The implementation plan for this cycle will be refined to account for progress already made and will include:

A. Coordination with other energy efficiency programs and ongoing campus projects
B. Energy Efficiency Retrofit Program Element Implementation (including project selection and implementation).
C. Facility Monitoring Based Commissioning Implementation
D. Energy Efficiency Education and Best Practices Development and Training Implementation

11. Customer Description

The customer is the UC/CSU campus facilities in the four IOU service areas.

12. Customer Interface

The 2006-2008 Program will utilize the same program management and team interface structure that was established during the program previous cycle. UC/CSU and the four IOUs have formed a partnership to manage and implement the UC/CSU Energy Efficiency Program. Staff from each utility and from both UC and CSU will be responsible for the successful execution of the program. The 2006-2008 program will benefit from the significant progress that has been made during the previous cycle in developing program processes and improving communication between the many partner organizations.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

13.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

13.3. Non-energy Activities

13.3.1. Activity Description

The training and education component of the partnership program will continue progress made on the establishment of a statewide approach to

training and building operation so that this best energy practices approach can be used for ensuring long-term energy efficiency savings. The training and education component will work hand-in-hand with the first two program components – energy retrofits and retro- and continuous commissioning.

13.3.2. Quantitative Activity Goals

As noted above, the number of classes and number of participants will also be tracked.

13.3.3. Assigned attributes of the activity (market sector, end use)

Training and education involves training of campus design staff, project managers, energy managers and others on using best energy practices in the construction, retrofit, and monitoring based commissioning of campus buildings and central plant infrastructures.

14. Subcontractor Activities

Subcontractors will be used to assist in program administration and management, and in each of the three program elements. This approach was used successfully in the program previous cycle.

A consultant will assist in day-to-day coordination and communication among the partners (the Universities and four utilities) and provide staffing to the Management and Administration Team and Program Specific Implementation Teams. Consultant will assist in identifying project tasks, establishing a schedule of deliverables and responsibilities, helping UC/CSU ensure successful program implementation, and obtaining UC/CSU input and decision-making on key program elements. Consultant will also assist in the three program elements, especially in facilitating coordination and communications with and among campuses, providing analytical assistance to UCOP and the CSU Chancellor's Office as needed, provide assistance with successful retention of subcontractors through competitive procurement processes, and helping to track and ensure successful program implementation based on specific deliverables required by the CPUC. Finally, the consultant will assist the IOUs and UC/CSU in CPUC reporting and regulatory communications. For the third program component, Training and Education, the consultant may assist in development of workshop agendas and materials, identification of experts, facilitation of workshops and training sessions, and preparation of the minutes. Newcomb|Anderson|McCormick, Inc., is in the process of being retained by the Partnership to fulfill this consulting role.

The campuses will hire Energy Efficiency Retrofit subcontractors to install the energy efficiency measures for the retrofit component.

As in the 2004-2005 program, the campus facilities management staff will play a major role in this program component with the assistance of subcontractors will assist, particularly in campuses in their commissioning efforts. The Program Team

will conduct a competitive process to develop a pool of qualified commissioning agents/trainers that will be available to the campuses.

15. Quality Assurance and Evaluation Activities

An evaluation plan will be developed in accordance with the 2006-2008 EM&V Protocols.

16. Marketing Activities

Since the UC/CSU/IOU team already has an established communication network with campus energy managers and staff, the Training and Education program element, the CSU Facilities Conference, and the UC Sustainability Conference will base marketing on the pre-established channels that include the classes offered. In addition, the program website will provide program details and program updates.

17. CPUC Objective

The program has been developed in conjunction with UC/CSU to meet the applicable CPUC objectives and guidelines as outline in the Energy Efficiency Policy Manual. This program supports the following CPUC objectives: (2) To pursue all cost-effective energy efficiency opportunities over both the short- and long-term; (5) Program Administrators should manage their portfolio of programs to meet or exceed the short- and long-term savings goals established by the Commission by pursuing the most cost-effective energy efficiency resource programs first, while minimizing lost opportunities; and (9) Program Administrators will manage a portfolio of programs implemented by IOUs and non-IOUs that are selected and evaluated based on their ability to best meet the policy objectives articulated in these Rules. Emphasis has been to develop the program with the UC/CSU on more equal footing as compared to other programs. The organization and governance of the program is achieved in partnership with the University of California Office of the President, California State Chancellor's Office, and four IOUs via the Executive Team, Management Team, MBCx Team, and Training and Education Team. Although all partnership share some common elements, the UC/CSU Partnership has been specifically tailored to the needs and unique characteristics of the UC and CSU campuses.

	SDGE3026 UCP-IOU/UC/CSU Partnership	
BUDGET		
Administrative Costs	**$**	**69,921**
Overhead and G&A	$	53,802
Other Administrative Costs	$	16,119
Marketing/Outreach	**$**	**-**
Direct Implementation	**$**	**5,930,079**
Total Incentives and Rebates		
User Input Incentive	$	-
Direct Install Rebate	$	4,200,000
Direct Install Labor	$	-
Direct Install Materials	$	-
Activity	$	1,702,181
Installation	$	-
Hardware & Materials	$	-
Rebate Processing & Inspection	$	27,898
EM&V Costs	**$**	**-**
Budget	**$**	**6,000,000**
Costs recovered from other sources	**$**	**-**
Budget (plus other costs)	**$**	**6,000,000**
PROGRAM IMPACTS		
User Entered kW (kW)		1,955
Net Jul-Sept Peak (kW)		3,237
Net Dec-Feb Peak (kW)		1,545
Net NCP (kW)		2,894
Net CEC (kW)		2,635
Annual Net kWh		12,140,779
Lifecycle Net kWh		160,993,771
Annual Net Therms		469,703
Lifecycle Net Therms		4,912,308
Cost Effectiveness		
TRC		
Costs	$	5,667,761
Electric Benefits	$	9,940,611
Gas Benefits	$	2,514,506
Net Benefits (NPV)	$	6,787,356
BC Ratio		2.20
PAC		
Costs	$	5,530,519
Electric Benefits	$	9,940,611
Gas Benefits	$	2,514,506
Net Benefits (NPV)	$	6,924,598
BC Ratio		2.25
Levelized Cost		
Levelized Cost TRC ($/kWh)		
Discounted kWh		94,664,404
Cost	$	0.0474
Benefits	$	0.1050
Benefit-Cost	$	0.0576
Levelized Cost PAC ($/kWh)		
Discounted kWh		94,664,404
Cost	$	0.0416
Benefits	$	0.1050
Benefit-Cost	$	0.0634
Levelized Cost TRC ($/therm)		
Discounted Therms		3,160,375
Cost	$	0.3721
Benefits	$	0.7956
Benefit-Cost	$	0.4235
Levelized Cost PAC ($/therm)		
Discounted Therms		3,160,375
Cost	$	0.5043
Benefits	$	0.7956
Benefit-Cost	$	0.2913

IOU/UC/CSU Partnership

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 2,000,000	$ 1,400,000	$ 600,000	4,046,926	156,568	652
2007	$ 2,000,000	$ 1,400,000	$ 600,000	4,046,926	156,568	652
2008	$ 2,000,000	$ 1,400,000	$ 600,000	4,046,926	156,568	652

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	238002	Gas Measures	-	1	-	0.8	Therm	10	172,000	$ 2.46	$ 1.80	-	137,600	-
2006	238003	Lighting	1	-	0.00	0.8	KWH	11	1,544,158	$ 0.19	$ 0.13	1,235,326	-	371
2006	238004	Other	1	0	0.00	0.8	KWH	10	524,500	$ 0.22	$ 0.32	419,600	4,616	42
2006	238005	HVAC	1	0	0.00	0.8	KWH	15	2,990,000	$ 0.19	$ 0.38	2,392,000	14,352	239
2007	238002	Gas Measures	-	1	-	0.8	Therm	10	172,000	$ 2.46	$ 1.80	-	137,600	-
2007	238003	Lighting	1	-	0.00	0.8	KWH	11	1,544,158	$ 0.19	$ 0.13	1,235,326	-	371
2007	238004	Other	1	0	0.00	0.8	KWH	10	524,500	$ 0.22	$ 0.32	419,600	4,616	42
2007	238005	HVAC	1	0	0.00	0.8	KWH	15	2,990,000	$ 0.19	$ 0.38	2,392,000	14,352	239
2008	238002	Gas Measures	-	1	-	0.8	Therm	10	172,000	$ 2.46	$ 1.80	-	137,600	-
2008	238003	Lighting	1	-	0.00	0.8	KWH	11	1,544,158	$ 0.19	$ 0.13	1,235,326	-	371
2008	238004	Other	1	0	0.00	0.8	KWH	10	524,500	$ 0.22	$ 0.32	419,600	4,616	42
2008	238005	HVAC	1	0	0.00	0.8	KWH	15	2,990,000	$ 0.19	$ 0.38	2,392,000	14,352	239

2006-2008 Energy Efficiency Programs
SDG&E California Community Colleges Program Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 19,343	$ 19,343	$ 19,343
Administrative Other	$ 35,795	$ 35,795	$ 35,795
Marketing & Outreach	$ -	$ -	$ -
Direct Implementation			
Incentives	$ 1,400,000	$ 1,400,000	$ 1,400,000
Activity	$ 535,563	$ 535,563	$ 535,563
Installation	$ -	$ -	$ -
Hardware & Materials	$ -	$ -	$ -
Rebate Processing & Inspection	$ 9,299	$ 9,299	$ 9,299
EM&V	$ -	$ -	$ -
Total	*$ 2,000,000*	*$ 2,000,000*	*$ 2,000,000*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
4,046,926	618	156,568	4,046,926	618	156,568	4,046,926	618	156,568

3. Program Cost Effectiveness

Attached

4. Program Descriptors

The SDG&E/California Community Colleges program is a new statewide nonresidential program that will be very similar to the existing SDG&E UC/CSU Partnership program. The program will offer incentives for retrofit and new construction projects, continuous commissioning, and educational training for the community colleges.

5. Program Statement

The California Community College (CCC) system includes 110 campuses statewide. These facilities consume vast quantities of energy and make up a significant portion of the both the electric and natural gas loads in the State of California. This is a large, complex organization with a broad set of goals, stakeholders, processes and constituencies. The organization is diverse from a geographic, climate, and operational needs standpoint. But with this size and diversity also comes a considerable opportunity to save energy use and cost on a scale that is meaningful to the State of California. The California Community College (CCC) and Investor-Owned Utility (IOU) Energy Efficiency program is designed to meet this challenge.

6. Program Rationale

The Program is modeled after the successful UC/CSU/IOU Energy Efficiency Partnership program that was funded in the 2004-2005 CPUC energy efficiency program cycle. This program capitalizes on the vast resources and expertise of Community College system and California IOUs to ensure a successful and cost-effective program that meets all objectives of the California Public Utilities Commission (CPUC or Commission). The new CCC/IOU program will incorporate lessons learned from previous statewide partnership programs in the areas of improved program delivery efficiency and communication between the stakeholders. The timing of the CCC/IOU Partnership is critical; the CCC is embarking on a major construction cycle and needs technical and financial input from the IOUs to ensure that the resulting new buildings are as energy efficient as possible.

7. Program Outcomes

The Program will adopt the framework and methodology of the UC/CSU/IOU Partnership Program to design and implement a sustainable, long-term, comprehensive energy management program at the CCC campuses served by California's four large IOUs. This will be a statewide energy efficiency program that is designed to efficiently accomplish immediate and long-term peak energy and demand savings goals as outlined in the estimates that accompany this narrative.

8. Program Strategy

To support the program's success, the following strategies will be used:

- Nonresidential Building Calculated Rebates
- Nonresidential Building Commissioning
- Nonresidential Downstream Training

8.1.1. Program Strategy Description

To best meet the need of the CCC system and optimize opportunities for energy savings and load reduction, the CCC/IOU Partnership is comprised of four program elements. These elements will operate on a statewide, integrated basis, providing immediate energy savings and setting the foundation for a long-term program focused on sustainability and best practices:

- *Energy Efficiency Retrofits and Load Management Projects*

  The Energy Efficiency Retrofit and Load Management Retrofit element of the program involves implementation of energy efficiency retrofit projects and retro-commissioning projects that will provide cost-effective energy savings during the 2006-2008 program implementation period. CCC has an existing and extensive inventory of cost-effective energy saving measures, as well as many new projects to be

developed as part of the 2006-2008 program cycle. Methodology for further screening and selection of eligible project will be standardized as part of the program, based on previous project identification tools the CCC has successfully used in the past. The resulting inventory of potential projects will be reviewed and finalized during the initial stages of the program to develop an overall implementation plan and schedule. Load management will be achieved through retro-commissioning and monitoring-based commissioning (MBCx) projects. These projects will be implemented where there are opportunities to achieve sustainable savings through operational changes. The MBCx projects involved installation of submetering equipment and will be based on best practices as developed during the 2004-2005 UC/CSU Partnership. The project plan assumes that the CCC will co-fund projects, paying for 20% of implementation cost.

- *New Construction Assistance*

  The New Construction Assistance element of the program focuses on the unique needs and opportunities of the CCC as they embark on a major construction cycle associated with bond funding as approved by Proposition 39. There are many demands on the budgets associated with these projects, and the buildings will be built to Title-24 minimum standards for energy efficiency without input from the IOUs that exceeds that available through general new construction programs. The needs of the CCC are both specific and vast and this program capitalizes on a unique window of opportunity to optimize the efficiency of millions of square feet of new building stock that will be added in the State of California over the next five years.

  New Construction Assistance will include design review, development of design guidelines and equipment specification standards, and incentivizing of the incremental cost of energy efficiency measure in new construction projects. The program will provide a uniform, statewide approach that will offer the CCC consistency and ease-of-access not available from standard programs like Savings By Design. The program will all directly focus on the CCC system's needs in implement the Governor's Green Building Initiative Executive order and LEED certification.

- *Energy Efficiency Education and Training*

  The Energy Efficiency Education and Training focuses on the specific needs of the CCC and is designed to compliment

existing training programs available to the Campuses including those offered internally, by the IOUs, and by the UC/CSU Partnership. Training class elements will focus on three primary opportunities:

- Training CCC staff on the identification and implementation of energy efficiency projects and MBCx projects and operation best practices,
- Training project managers on the elements of green building design and energy efficient specification and construction practices by exceeding Title-24,
- Developing and implementing vocational education training curriculum for students and trade technicians, including topics such a refrigeration and HVAC service and installation, duct testing and sealing, energy code compliance, lighting retrofits, and others.

Courses will be held statewide. Where applicable, course offerings, curriculum and content will be based on extensive material and best-practices documentation developed for the UC/CSU program during the 2004-2005 cycle.

•*Emerging Technologies Demonstration Program*

The Emerging Technologies Demonstration element capitalizes on the unique opportunities associated with the upcoming new construction projects at CCC campuses throughout the state. Along with New Construction Assistance and related training, the program provides specific opportunities for well planned and highly visible demonstration projects. A methodology will be developed to screen potential projects and determine the best applications for new and emerging technologies including high efficiency lighting, HVAC, and building envelope measures. Incremental cost will be funded through the partnership program at levels exceeding those offered through the New Construction Assistance program for selected demonstration projects.

8.1.2. Program Indicators

The primary goal of the program strategy is to procure energy savings and demand reduction. However, for training and education, the number of classes and number of participants will also be tracked.

9. Program Objectives

The objectives of the program are as follows:

A. Immediate, Cost-Effective Energy and Demand Savings

Retrofit projects will be efficiently implemented to meet or exceed all savings goals as outlined in the program economics.

B. On-going Improved Energy Efficient Operations and Maintenance Practices

Campus energy managers and other staff will be trained on initial and continuous commissioning and will receive tools to reduce energy consumption and peak demand through energy information at the building systems level.

C. CCC Facilities Staff and Project Managers Trained To Identify and Implement Energy Efficient Opportunities

Similarly, this program will fund training campus facilities staff, project managers and other staff in use of a "best practices" methodology for identifying and implementing energy efficiency projects.

D. Optimization of the Energy Efficiency of New Construction projects

The Partnership will provide technical and financial resources and a systematic program approach to ensure that millions of square feet of CCC new construction projects are built to optimal energy efficiency levels, avoiding significant future load growth.

E. Future savings through Vocational Training and Technology demonstration

Although it is not quantified, the Partnership will impact future energy and demand savings by helping to training the next generation of building technicians and through the demonstration of emerging technologies.

10. Program Implementation

The CCC/IOU Energy Efficiency Program will use a similar implementation strategy that was used in the UC/CSU program during the 2004-2005 cycle. A more detailed description of these implementations tasks will be provided in future with comprehensive program descriptions. The implementation plan for this cycle will include:

A. Coordination with other energy efficiency programs and ongoing campus projects
B. Energy Efficiency Retrofit and Load Management Project program implementation.
C. New Construction Assistance program implementation
D. Energy Efficiency Education and Training implementation
E. Emerging technologies Demonstration Program implementation

11. Customer Description

The program will be offered to all California Community College campus facilities in the four IOU service areas.

12. Customer Interface

The 2006-2008 Program will utilize a similar program management and team interface structure that was established during the UC/CSU/IOU Partnership in the

previous cycle. The Community Colleges and the four IOUs will form a partnership to manage and implement the CCC Energy Efficiency Program. Staff from each utility and from the CCC Chancellors Office and system will be responsible for the successful execution of the program. The CCC/IOU program will benefit from the significant progress that has been made with the UC/CSU/IOU program during the previous cycle in developing program processes and improving communication between the many partner organizations.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

13.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

13.3. Non-energy Activities

13.3.1. Activity Description

The training and education component of the partnership program involves training of campus facilities staff, project managers, energy managers and others on using best energy practices in the construction, retrofit and monitoring based commissioning of campus buildings and central plant infrastructures. This will continue progress made on the establishment of a statewide approach to training and building operation so that this best energy practices approach can be used for ensuring long-term energy efficiency savings. The training and education component will work hand-in-hand with the other program components.

13.3.2. Quantitative Activity Goals

As noted above, the number of classes and number of participants will also be tracked.

13.3.3. Assigned attributes of the activity (market sector, end use)

Training and education involves training of district and campus design staff, project managers, energy managers and others on using best energy practices in the construction, retrofit, and monitoring based commissioning of campus buildings and central plant infrastructures.

14. Subcontractor Activities

Subcontractors will be used to assist in program administration and management, and in each of the three program elements. This approach was used successfully in the UC/CSU/IOU partnership program in the previous cycle.

A consultant will assist in day-to-day coordination and communication among the partners (the colleges and four utilities) and provide staffing to the Management and Administration Team and Program Specific Implementation Teams. Consultant

will assist in identifying project tasks, establishing a schedule of deliverables and responsibilities, helping the CCC ensure successful program implementation, and obtaining CCC input and decision-making on key program elements. Consultant will also assist in the four program elements, especially in facilitating coordination and communications with and among campuses, providing analytical assistance to the CCCCO and campuses as needed, provide assistance with successful retention of subcontractors through competitive procurement processes, and helping to track and ensure successful program implementation based on specific deliverables required by the CPUC. Finally, the consultant will assist the IOUs and the CCC in CPUC reporting and regulatory communications. For the third program component, Training and Education, the consultant may assist in development of workshop agendas and materials, identification of experts, facilitation of workshops and training sessions, and preparation of the minutes. Newcomb|Anderson| McCormick, Inc., is in the process of being retained by SDG&E on behalf of the Partnership to fulfill this consulting role. In addition, the Foundation for California Community Colleges is also in process of being retained by SDG&E on behalf of the Partnership to function as a district and campus liaison.

The campuses will hire Energy Efficiency Retrofit subcontractors to install the energy efficiency measures for the retrofit component.

15. Quality Assurance and Evaluation Activities

An evaluation plan will be developed in accordance with the 2006-2008 EM&V Protocols.

16. Marketing Activities

Since the CCC team already has an established communication network with campus energy managers and staff, marketing will be based on the pre-established channels via the Chancellor's Office and the Foundation for California Community Colleges that will include the classes offered by the Training and Education program element and the CCFC Conference. In addition, the program website will provide program details and program updates.

17. CPUC Objective

The program has been developed in conjunction with CCC to meet the applicable CPUC objectives and guidelines as outline in the Energy Efficiency Policy Manual. This program supports the following CPUC objectives: (2) To pursue all cost-effective energy efficiency opportunities over both the short- and long-term; (5) Program Administrators should manage their portfolio of programs to meet or exceed the short- and long-term savings goals established by the Commission by pursuing the most cost-effective energy efficiency resource programs first, while minimizing lost opportunities; and (9) Program Administrators will manage a portfolio of programs implemented by IOUs and non-IOUs that are selected and evaluated based on their ability to best meet the policy objectives articulated in these Rules. Emphasis has been to develop the program with the CCC on more equal footing as compared to other programs. The organization and governance of

the program is achieved in partnership with the Chancellor's Office, the Foundation for California Community Colleges, and four IOUs via the Management Team, Program Team and Training and Education Team. Although all partnership share some common elements, the CCC Partnership has been specifically tailored to the needs and unique characteristics of the CCC Districts and campuses.

	SDGE3001 CCP-IOU/Community College Partnership
BUDGET	
Administrative Costs	**$ 165,414**
Overhead and G&A	$ 58,029
Other Administrative Costs	$ 107,385
Marketing/Outreach	**$ -**
Direct Implementation	**$ 5,834,586**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ 4,200,000
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 1,606,688
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ 27,898
EM&V Costs	**$ -**
Budget	**$ 6,000,000**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 6,000,000**
PROGRAM IMPACTS	
User Entered kW (kW)	1,855
Net Jul-Sept Peak (kW)	3,237
Net Dec-Feb Peak (kW)	1,545
Net NCP (kW)	2,894
Net CEC (kW)	2,635
Annual Net kWh	12,140,779
Lifecycle Net kWh	160,993,771
Annual Net Therms	469,703
Lifecycle Net Therms	4,912,308
Cost Effectiveness	
TRC	
Costs	$ 5,674,344
Electric Benefits	$ 9,940,611
Gas Benefits	$ 422,048
Net Benefits (NPV)	$ 4,688,315
BC Ratio	1.83
PAC	
Costs	$ 5,530,519
Electric Benefits	$ 9,940,611
Gas Benefits	$ 422,048
Net Benefits (NPV)	$ 4,832,140
BC Ratio	1.87
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	94,664,404
Cost	$ 0.0506
Benefits	$ 0.1050
Benefit-Cost	$ 0.0544
Levelized Cost PAC ($/kWh)	
Discounted kWh	94,664,404
Cost	$ 0.0446
Benefits	$ 0.1050
Benefit-Cost	$ 0.0604
Levelized Cost TRC ($/therm)	
Discounted Therms	3,160,375
Cost	$ 0.2804
Benefits	$ 0.1335
Benefit-Cost	$ (0.1468)
Levelized Cost PAC ($/therm)	
Discounted Therms	3,160,375
Cost	$ 0.4125
Benefits	$ 0.1335
Benefit-Cost	$ (0.2790)

IOU/Community College Partnership

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 2,000,000	$ 1,400,000	$ 600,000	4,046,926	156,568	618
2007	$ 2,000,000	$ 1,400,000	$ 600,000	4,046,926	156,568	618
2008	$ 2,000,000	$ 1,400,000	$ 600,000	4,046,926	156,568	618

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	237002	Lighting	1	-	0.00	0.8	kwh	11	1,544,158	$ 0.19	$ 0.13	1,235,326	-	337
2006	237003	Other	1	0	0.00	0.8	kwh	10	524,500	$ 0.22	$ 0.32	419,600	4,616	42
2006	237004	HVAC	1	0	0.00	0.8	kwh	15	2,990,000	$ 0.19	$ 0.38	2,392,000	14,352	239
2006	237005	Gas Measures	-	1	-	0.8	Therm	10	172,000	$ 2.46	$ 1.80	-	137,600	-
2007	237002	Lighting	1	-	0.00	0.8	kwh	11	1,544,158	$ 0.19	$ 0.13	1,235,326	-	337
2007	237003	Other	1	0	0.00	0.8	kwh	10	524,500	$ 0.22	$ 0.32	419,600	4,616	42
2007	237004	HVAC	1	0	0.00	0.8	kwh	15	2,990,000	$ 0.19	$ 0.38	2,392,000	14,352	239
2007	237005	Gas Measures	-	1	-	0.8	Therm	10	172,000	$ 2.46	$ 1.80	-	137,600	-
2008	237002	Lighting	1	-	0.00	0.8	kwh	11	1,544,158	$ 0.19	$ 0.13	1,235,326	-	337
2008	237003	Other	1	0	0.00	0.8	kwh	10	524,500	$ 0.22	$ 0.32	419,600	4,616	42
2008	237004	HVAC	1	0	0.00	0.8	kwh	15	2,990,000	$ 0.19	$ 0.38	2,392,000	14,352	239
2008	237005	Gas Measures	-	1	-	0.8	Therm	10	172,000	$ 2.46	$ 1.80	-	137,600	-

2006-2008 Energy Efficiency Programs
SDG&E California Department of Corrections and Rehabilitation
Program Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ 4,104	$ 4,104	$ 4,104
Administrative Other	$ 681	$ 681	$ 681
Marketing & Outreach	$ -	$ -	$ -
Direct Implementation			
Incentives	$ 300,002	$ 300,002	$ 300,002
Activity	$ 91,327	$ 91,327	$ 91,327
Installation	$ -	$ -	$ -
Hardware & Materials	$ -	$ -	$ -
Rebate Processing & Inspection	$ 3,886	$ 3,886	$ 3,886
EM&V	$ -	$ -	$ -
Total	*$ 400,000*	*$ 400,000*	*$ 400,000*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
1,192,956	192	9,504	1,192,956	192	9,504	1,192,956	192	9,504

3. Program Cost Effectiveness

Attached

4. Program Descriptors

The SDG&E/California Department of Corrections and Rehabilitation (CDCR) Program is a new statewide nonresidential program that will be very similar to the existing SDG&E UC/CSU Partnership program. The program will offer incentives for retrofit projects, continuous commissioning, and educational training for the prisons and youth facilities.

5. Program Statement

The State of California Department of Corrections and Rehabilitation facilities consume vast quantities of energy and makes up a significant portion of the both the electric and natural gas load in the State of California. The more than 30 institutions that make up this system are large and complex and are diverse from a geographic, climate, infrastructure and operational needs standpoint. But with this size and diversity also comes a considerable opportunity to save energy use and cost on a scale that is meaningful to the State of California. The Department of Corrections and Investor-Owned Utility (IOU) Energy Efficiency Program is designed to meet this challenge.

6. Program Rationale

The Program is a customized statewide energy efficiency program that accomplishes immediate, long-term peak energy and demand savings, and establishes a permanent framework for a sustainable, long-term, comprehensive energy management program at the CDCR institutions served by California's four large IOUs. This program capitalizes on the vast opportunities for efficiency improvements and utilized the resources and expertise of CDCR and IOU staff to ensure a successful and cost-effective program that meets all objectives of the California Public Utilities Commission (CPUC or Commission). The program will be modeled after the UC/CSU partnership program first established in the 2004-2005 Energy Efficiency Program cycle, however assumes greater financial contribution from the CDCR. The new program will also address a significant backlog of cost effective projects that have been previously identified by the CDCR but could not be completed because of budget limitations. The previous 2004-2005 UC/CSU partnership established a model for statewide partnership programs facilitating expansion to other partners such as the CDCR in the 2006-2008 funding cycle.

7. Program Outcomes

The Program will continue the progress made during the last program cycle for establishing a statewide partnership programs delivery and will achieve new energy and demand savings goals as outlined in the estimates that accompany this narrative. It is anticipated that this program will also include the network of California Youth Authority facilities that were recently added the CDCR portfolio.

8. Program Strategy

To support the program's success, the following strategies will be used:

- Nonresidential Building Calculated Rebates
- Nonresidential Building Commissioning
- Nonresidential Downstream Training

8.1.1. Program Strategy Description

Like the 2004-2005 UC/CSU program, the 2006-2008 CDCR/IOU partnership program is comprised of three elements, which will operate on a statewide, integrated basis, providing immediate energy savings and setting the foundation for a long-term program focused on sustainability and best practices: In each case, the program elements will be customized to meet the specific needs of the CDCR and the specific barriers to implementing projects in the past.

- *Energy Efficiency Retrofits*

  The Energy Efficiency Retrofit element of the program involves implementation of energy efficiency retrofit projects providing cost-effective energy savings during the 2006-2008 program

implementation period. CDCR has an existing and extensive inventory of cost-effective energy saving measures. This inventory will be reviewed and finalized during the initial stages of the program to finalize an implementation plan and schedule. Project identification processes will incorporate the specific needs of the CDCR accounting for additional costs and processes of completing work in high security facilities. The process of finalizing the inventory and installation of measures will be well documented and establish guidelines implementation standards systemwide.

- *Monitoring Based Commissioning (MBCx)*
  This element of the program is a unique approach to obtaining savings that combines the expertise of the CDCR's statewide facility management staff, additional utility and subcontractor expertise, and the installation of energy monitoring and metering equipment at the building submeter and system level. Through these resources, a systematic, comprehensive continuous commissioning program was developed by the UC/CSU program in the last cycle. This approach involves the usual first step of commissioning, a review of building operations and installation of equipment. However, it goes beyond the typical program to date in three aspects. First, the institutions that participate in this aspect of the program will install sufficient equipment to insure an extensive and comprehensive built-in measurement and verification capability. Second, this element of the program will be combined with the third element (Energy Efficiency Education and Best Practices Development and Training) to become a "continuous commissioning" program, that is institutionalized at the facilities for the foreseeable future. In this way, savings will be sustained well beyond those from the more typical and limited retro-commissioning programs. Third, the program will use the institution's facilities management staff to identify new cost-effective retrofit opportunities efficiently and at low cost.

- *Energy Efficiency Education and Best Practices Development and Training*
  The Energy Efficiency Education and Best Practices Development and Training element of the program will focus on meeting the specific needs of the CDCR to establish operational guidelines and improve retention of facilities staff. This element will establish a comprehensive program for energy education and information exchange among the CDCR project managers, and facility staff and with the IOUs that began with the 2004-2005 program cycle. This program provides a venue for those individuals responsible for managing energy and operating systems at institutions to share information and experiences related to facility operations, best

practices, and successful retrofit projects, among other issues. This is an information and education program that develops and shares best practice operating methods and technologies applicable to institutional facilities. The primary vehicles for training and dissemination of information will be and a series of training sessions and workshops (covering new construction, building operator training, retrofits, retro-commissioning, and monitoring based commissioning) to be held in locations statewide. Where applicable, course offerings, curriculum and content will be based on extensive material and best-practices documentation developed for the UC/CSU partnership during the 2004-2005 cycle, but will focus on the specific needs of the CDCR.

8.1.2. Program Indicators

Describe the units or other indicators used to internally track the achievements for each program strategy. If the primary goal of the program strategy is to procure energy savings and demand reduction, then that is all that needs to be stated. (Examples: Number of students reporting to be successfully implementing energy efficiency practices in their businesses, number of classes held, number of TV ads placed, number of customer contacts made)

9. Program Objectives

The primary goal of the program strategy is to procure energy savings and demand reduction. However, for training and education, the number of classes and number of participants will also be tracked.

10. Program Implementation

The objectives of the program are as follows:

A. Immediate, Cost-Effective Energy and Demand Savings
Retrofit projects will be efficiently implemented to meet or exceed all savings goals as outlined in the program economics.

B. Improved Energy Efficient Operations and Maintenance Practices
CDCR staff will be trained on initial and continuous commissioning and will receive tools to reduce energy consumption and peak demand through energy information at the building systems level.

C. CDCR Staff Trained To Identify and Implement Energy Efficient Opportunities
Similarly, this program will fund training of CDCR project managers and other staff in use of a “best practices” methodology for identifying and implementing energy efficiency projects.

11. Customer Description

The CDCR institutional facilities in the four IOU service areas.

12. Customer Interface

The 2006-2008 Program will utilize a program management team to interface with the CDCR management and facilities staff. Staff from each utility and the CDCR will be responsible for the successful execution of the program.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

See SDG&E February 1, 2006 Filing Workbook.

13.2. kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

13.3. Non-energy Activities

13.3.1. Activity Description

The training and education component of the partnership program involves training of CDCR design staff, project managers, facilities staff, and others on using best energy practices in the construction, retrofit and monitoring based commissioning of buildings and central plant infrastructures. This will continue progress made on the establishment of a statewide approach to training and building operation so that this best energy practices approach can be used for ensuring long-term energy efficiency savings. The training and education component will work hand-in-hand with the first two program components – energy retrofits and retro- and continuous commissioning.

13.3.2. Quantitative Activity Goals

As noted above, the number of classes and number of participants will also be tracked.

13.3.3. Assigned attributes of the activity (market sector, end use)

Training and education involves training of CDCR design staff, project managers, energy managers and others on using best energy practices in the construction, retrofit, and monitoring based commissioning of facilities and central plant infrastructures.

14. Subcontractor Activities

Subcontractors will be used to assist in program administration and management, and in each of the three program elements. This approach was used successfully in partnerships in the program previous cycle.

A consultant will assist in day-to-day coordination and communication among the partners (the CDCR and four utilities) and provide staffing to the Management and Administration Team and Program Specific Implementation Teams. Consultant will assist in identifying project tasks, establishing a schedule of deliverables and

responsibilities, helping CDCR ensure successful program implementation, and obtaining CDCR input and decision-making on key program elements. Consultant will also assist in the three program elements, especially in facilitating coordination and communications with and among institutions, providing analytical assistance as needed, provide assistance with successful retention of subcontractors through competitive procurement processes, and helping to track and ensure successful program implementation based on specific deliverables required by the CPUC. Finally, the consultant will assist the IOUs and CDCR in CPUC reporting and regulatory communications. For the third program component, Training and Education, the consultant may assist in development of workshop agendas and materials, identification of experts, facilitation of workshops and training sessions, and preparation of the minutes.

The CDCR will hire Energy Efficiency Retrofit subcontractors to install the energy efficiency measures for the retrofit component.

As in the 2004-2005 program, the facilities management staff will play a major role in this program component but that one or more subcontractors will assist, particularly in their commissioning efforts. The Program Team will conduct a competitive process to develop a pool of qualified commissioning agents/trainers that will be available to the facilities.

15. Quality Assurance and Evaluation Activities

An evaluation plan will be developed in accordance with the 2006-2008 EM&V Protocols.

16. Marketing Activities

Since the CDCR already has an established communication network with its facilities' energy managers and staff, marketing will be based on the pre-established channels.

17. CPUC Objective

The program has been developed in conjunction with CCC to meet the applicable CPUC objectives and guidelines as outline in the Energy Efficiency Policy Manual. This program supports the following CPUC objectives: (2) To pursue all cost-effective energy efficiency opportunities over both the short- and long-term; (5) Program Administrators should manage their portfolio of programs to meet or exceed the short- and long-term savings goals established by the Commission by pursuing the most cost-effective energy efficiency resource programs first, while minimizing lost opportunities; and (9) Program Administrators will manage a portfolio of programs implemented by IOUs and non-IOUs that are selected and evaluated based on their ability to best meet the policy objectives articulated in these Rules. Emphasis has been to develop the program with the CCC on more equal footing as compared to other programs. The organization and governance of the program is achieved in partnership with the Chancellor's Office, the Foundation for California Community Colleges, and four IOUs via the Management Team,

Program Team and Training and Education Team. Although all partnership share some common elements, the CCC Partnership has been specifically tailored to the needs and unique characteristics of the CCC Districts and campuses.

	SDGE3003 CDC-CA Department of Corrections Partnership	
BUDGET		
Administrative Costs	**$**	**14,356**
Overhead and G&A	$	12,312
Other Administrative Costs	$	2,044
Marketing/Outreach	**$**	**-**
Direct Implementation	**$**	**1,185,644**
Total Incentives and Rebates		
User Input Incentive	$	-
Direct Install Rebate	$	900,005
Direct Install Labor	$	-
Direct Install Materials	$	-
Activity	$	273,980
Installation	$	-
Hardware & Materials	$	-
Rebate Processing & Inspection	$	11,659
EM&V Costs	**$**	**-**
Budget	**$**	**1,200,000**
Costs recovered from other sources	**$**	**-**
Budget (plus other costs)	**$**	**1,200,000**
PROGRAM IMPACTS		
User Entered kW (kW)		576
Net Jul-Sept Peak (kW)		954
Net Dec-Feb Peak (kW)		455
Net NCP (kW)		853
Net CEC (kW)		777
Annual Net kWh		3,578,868
Lifecycle Net kWh		47,455,020
Annual Net Therms		28,512
Lifecycle Net Therms		348,570
Cost Effectiveness		
TRC		
Costs	$	1,264,393
Electric Benefits	$	2,930,069
Gas Benefits	$	183,905
Net Benefits (NPV)	$	1,849,580
BC Ratio		2.46
PAC		
Costs	$	1,099,396
Electric Benefits	$	2,930,069
Gas Benefits	$	183,905
Net Benefits (NPV)	$	2,014,577
BC Ratio		2.83
Levelized Cost		
Levelized Cost TRC ($/kWh)		
Discounted kWh		27,904,151
Cost	$	0.0424
Benefits	$	0.1050
Benefit-Cost	$	0.0626
Levelized Cost PAC ($/kWh)		
Discounted kWh		27,904,151
Cost	$	0.0365
Benefits	$	0.1050
Benefit-Cost	$	0.0685
Levelized Cost TRC ($/therm)		
Discounted Therms		210,751
Cost	$	0.3868
Benefits	$	0.8726
Benefit-Cost	$	0.4859
Levelized Cost PAC ($/therm)		
Discounted Therms		210,751
Cost	$	0.3803
Benefits	$	0.8726
Benefit-Cost	$	0.4923

CA Department of Corrections Partnership

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 400,000	$ 300,002	$ 99,998	1,192,956	9,504	192
2007	$ 400,000	$ 300,002	$ 99,998	1,192,956	9,504	192
2008	$ 400,000	$ 300,002	$ 99,998	1,192,956	9,504	192

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	240002	Gas Measures	-	1	-	0.8	Therm	10	4,888	$ 2.46	$ 1.80	-	3,910	-
2006	240003	Lighting	1	-	0.00	0.8	kwh	11	455,000	$ 0.19	$ 0.13	364,000	-	109
2006	240004	Other	1	0	0.00	0.8	kwh	10	155,000	$ 0.22	$ 0.32	124,000	1,364	12
2006	240005	HVAC	1	0	0.00	0.8	kwh	15	881,195	$ 0.19	$ 0.38	704,956	4,230	70
2007	240002	Gas Measures	-	1	-	0.8	Therm	10	4,888	$ 2.46	$ 1.80	-	3,910	-
2007	240003	Lighting	1	-	0.00	0.8	kwh	11	455,000	$ 0.19	$ 0.13	364,000	-	109
2007	240004	Other	1	0	0.00	0.8	kwh	10	155,000	$ 0.22	$ 0.32	124,000	1,364	12
2007	240005	HVAC	1	0	0.00	0.8	kwh	15	881,195	$ 0.19	$ 0.38	704,956	4,230	70
2008	240002	Gas Measures	-	1	-	0.8	Therm	10	4,888	$ 2.46	$ 1.80	-	3,910	-
2008	240003	Lighting	1	-	0.00	0.8	kwh	11	455,000	$ 0.19	$ 0.13	364,000	-	109
2008	240004	Other	1	0	0.00	0.8	kwh	10	155,000	$ 0.22	$ 0.32	124,000	1,364	12
2008	240005	HVAC	1	0	0.00	0.8	kwh	15	881,195	$ 0.19	$ 0.38	704,956	4,230	70

2006-2008 Energy Efficiency Concept Paper
High-Efficiency Clothes Washer Voucher Incentive Program

1. Projected Program Budget -

	2006	2007	2008
Administration			
Administrative Overheads	$ -	$ -	$ -
Administrative Other	$ -	$ -	$ -
Marketing & Outreach	$ 25,000	$ 4,000	$ 8,000
Direct Implementation			
Incentives	$ 650,000	$ 650,000	$ 650,000
Activity	$ -	$ -	$ -
Installation	$ -	$ -	$ -
Hardware & Materials	$ -	$ -	$ -
Rebate Processing & Inspection	$ 50,000	$ 50,000	$ 50,000
EM&V	$ -	$ -	$ -
Total	*$ 725,000*	*$ 704,000*	*$ 708,000*

Note: SDG&E has re-integrated clothes washer rebates into its Residential Rebate program for first quarter 2006. It is anticipated that the Water Authority will receive internal approval to move forward with its original proposal by second quarter 2006.

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
-	-	197,805	-	-	197,805	-	-	197,805

3. Program Cost Effectiveness

Attached

4. Program Descriptors.

The high-efficiency clothes washer component of the Voucher Incentive Program offers point-of-purchase vouchers to encourage consumers to purchase high-efficiency clothes washers. Water customers of participating water agencies are eligible as long as vouchers are available for those agencies. Vouchers are provided to single-family and multi-family (in unit only) residences.

5. Program Statement

The high price of high-efficiency clothes washers (HEW) discourages many consumers from purchasing them in lieu of standard top-loading machines. Offering a point-of-purchase discount immediately reduces the cost of these machines.

6. Program Rationale

The Water Authority has offered vouchers to consumers since 2000. Since then almost 40,000 HEWs being installed in San Diego households resulting in water savings of 1,600 acre feet. All of these machines were required to meet a 9.5 or less water efficiency factor. This requirement also amounted in reduced energy costs.

We also offer vouchers to laundromats and common use laundry rooms through the commercial component of the program.

7. Program Outcomes

An estimated 30,000 residential HEWs will be installed in the San Diego region by December 31,2008. This will amount in 11,600 acre-feet of water savings. Through a partnership with SDG&E 1,500 coin-operated washers can be installed. In 2001, commercial customers saved an estimated 254,000 kWh as a result of this program.

8. Program Strategy

The Water Authority contracts with Honeywell DMC (HDMC) to provide program administration. HDMC has been operating the Voucher Incentive Program since 1995. The current contract with HDMC expires June 30, 2007.

To facilitate this partnership, the Water Authority will use Residential Downstream Deemed Rebates strategies.

8.1.1. Program Strategy Description

- This voucher program to the residential market will encourage people to purchase the more expensive energy efficient model that will save energy.
- The Water Authority will be offering a water rebate for the purchase of this energy efficient washing machine. This partnership will provide the additional monies to the consumer to pay for the incremental cost difference.
- In order to market the Program, information will be provided to the Dealers (stores) to dispense to customers. Customer can obtain instant point-of-purchase vouchers at the Dealer be calling the Voucher Processing Center and requesting a voucher.

8.1.2. Program Indicators

9. Program Objectives

Refer to section 7.

10. Program Implementation

This is an ongoing program. It is proposed that one program be presented to residents in San Diego for customer ease and cost benefits. Should SDG&E join our program, it will be a partner in a highly successful program. The Water Authority operates on a fiscal year (July – June) so the program will begin in July 2005 for the New Year. We anticipate SDG&E joining the program in January 2006 and operating the program virtually seamlessly. We will offer residential HEW vouchers for $125 per machine but will increase it to $175 when SDG&E joins. The current $150 voucher offered for commercial sectors can increase to $250 with SDG&E cost sharing.

11. Customer Description

Single-family and multi-family (in unit) for residential washers. Laundromats and multi-family common use laundries for coin-operated machines.

12. Customer Interface

Program information is provided to the Dealers (stores) to dispense to customers. Customer can obtain instant point-of-purchase vouchers at the Dealer be calling the Voucher Processing Center and requesting a voucher. In most cases, the voucher will be faxed directly to the store within 30 minutes to be used immediately. The customer does not have to deal with filling out paperwork and submitting for an after-purchase rebate. Information is also provided by the individual water agencies through billings and newsletters. The Water Authority and most of the participating retail water agencies have information on the respective web sites.

The commercial component does not utilize instant vouchers but the program Dealer liaison works closely with the San Diego Coin-Op Laundry Association and BOMA.

13. Energy Measures and Program Activities

13.1 Prescriptive Measures

See SDG&E February 1, 2006 Filing Workbook.

13.2 kWh Level Data

See SDG&E February 1, 2006 Filing Workbook.

13.3 Non-Energy Activities

Audits, Education and Technical Assistance may be utilized

13.3.1 Activity Descriptions

13.3.2 Quantitative Activity Goals

13.3.3 Assigned attributes of the activity (market sector, end use)

14. Subcontractor Activities -none

15. Quality Assurance and Evaluation Activities –

Expected number/percent of inspections (planned percent of projects) .The Water Authority requires HDMC inspect at least 15% of the HEWs purchased using a voucher. As part of its quality control program, the Water Authority conducts random inspections on HDMC to insure they are complying with program requirements and conducting inspections. The Water Authority also requires HDMC provide all original paperwork, which the Water Authority reviews for accuracy and program compliance.

An evaluation plan will be developed in accordance with the soon to be developed EM&V Protocols. The CPUC Energy Division will be holding meetings, workshops and possibly hearings throughout the summer to develop these

Protocols. SDG&E looks forward to participating and commenting on those activities and plans to file EM&V plans for all programs on October 1, 2005 in conjunction with the ED, CEC, and the other IOUs.

16. Marketing Activities

HDMC contracts with WSA Marketing to serve as Dealer liaison and as the marketing arm of the program. WSA provides annually updates the program brochure and distributes to Dealers, along with other market tools such as the program's brand to put on floor models. WSA issues news releases twice a year and provides inserts in two Cox Communications billings in September and October. WSA also maintains continuous communications with the Dealers.

17. CPUC Objectives

The San Diego County Water Authority's program to provide funding incentives to consumers to purchase high-efficiency clothes washers (HEW) has operated successfully for over five years. This partnership will meet the CPUC objectives and will become the nexus between water and energy savings that is is becoming more of an issue in California. Collaborating on programs that reduce both water and energy use will better serve water/energy customers. The Water Authority's unique program provides customers the incentive up front, thus immediately reducing the cost of the machine. The Voucher Incentive Program is designed to encourage those consumers on limited incomes to purchase the higher efficient models by providing the instant discount.

The Water Authority partnered with SDG&E prior to implementing our residential HEW program. For that successful venture, SDG&E administered the program, with the Water Authority and Metropolitan Water District providing funding to enhance the customer incentive. We look forward to duplicating that collaboration.

	SDGE3023 SDW-San Diego Co. Water Authority Partnership
BUDGET	
Administrative Costs	**$ -**
Overhead and G&A	$ -
Other Administrative Costs	$ -
Marketing/Outreach	**$ 37,000**
Direct Implementation	**$ 2,100,000**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ 1,950,000
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ -
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ 150,000
EM&V Costs	**$ -**
Budget	**$ 2,137,000**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 2,137,000**
PROGRAM IMPACTS	
User Entered kW (kW)	-
Net Jul-Sept Peak (kW)	-
Net Dec-Feb Peak (kW)	-
Net NCP (kW)	-
Net CEC (kW)	-
Annual Net kWh	-
Lifecycle Net kWh	-
Annual Net Therms	593,416
Lifecycle Net Therms	8,307,818
Cost Effectiveness	
TRC	
Costs	$ 20,757,152
Electric Benefits	$ -
Gas Benefits	$ 3,711,421
Net Benefits (NPV)	$ (17,045,732)
BC Ratio	0.18
PAC	
Costs	$ 1,919,027
Electric Benefits	$ -
Gas Benefits	$ 3,711,421
Net Benefits (NPV)	$ 1,792,394
BC Ratio	1.93
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost TRC ($/therm)	
Discounted Therms	4,812,466
Cost	$ 4.3132
Benefits	$ 0.7712
Benefit-Cost	$ (3.5420)
Levelized Cost PAC ($/therm)	
Discounted Therms	4,812,466
Cost	$ 0.3988
Benefits	$ 0.7712
Benefit-Cost	$ 0.3724

San Diego Co. Water Authority Partnership

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 725,000	$ 650,000	$ 75,000	-	197,805	-
2007	$ 704,000	$ 650,000	$ 54,000	-	197,805	-
2008	$ 708,000	$ 650,000	$ 58,000	-	197,805	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	242001	Energy Star Clothes Washer - 3.5 cf (Res)	-	22	-	0.8	Clothes Washer	14	10,000	$ 50.00	$ 853.00	-	174,855	-
2006	242002	Energy Star Clothes Washer - 3.5 cf (Comm'l)	-	22	-	0.7	Clothes Washer	14	1,500	$ 100.00	$ 853.00	-	22,950	-
2007	242001	Energy Star Clothes Washer - 3.5 cf (Res)	-	22	-	0.8	Clothes Washer	14	10,000	$ 50.00	$ 853.00	-	174,855	-
2007	242002	Energy Star Clothes Washer - 3.5 cf (Comm'l)	-	22	-	0.7	Clothes Washer	14	1,500	$ 100.00	$ 853.00	-	22,950	-
2008	242001	Energy Star Clothes Washer - 3.5 cf (Res)	-	22	-	0.8	Clothes Washer	14	10,000	$ 50.00	$ 853.00	-	174,855	-
2008	242002	Energy Star Clothes Washer - 3.5 cf (Comm'l)	-	22	-	0.7	Clothes Washer	14	1,500	$ 100.00	$ 853.00	-	22,950	-

STATEWIDE MARKETING AND OUTREACH PROGRAMS

Statewide Marketing & Outreach - Flex Your Power

Projected Program Budget	$6,133,605
Projected Program Impacts MWH MW (CEC Factor)	N/A
Program Cost Effectiveness	N/A

Note – The budget amount shown reflects only the funding associated with SDG&E service territory for this statewide program.

4. Program Descriptors

Market Sector: Residential/Nonresidential - All sectors (Commercial, industrial, Government, agricultural and residential)

Program Classification: Statewide

Program Status: Existing

5. Program Statement

The Flex Your Power statewide energy efficiency marketing and outreach program is an extension of the innovative and historically successful *Flex Your Power* public education and outreach effort initiated by the State of California in 2001. The program works in partnership with the investor-owned utilities (IOUs), third parties and businesses, local governments, water agencies, non-profits and others including the state and federal government agencies with responsibility for energy and water efficiency.

The campaign is designed to educate Californians on the energy, financial and environmental benefits of energy efficiency and to support the energy efficiency programs of the Investor Owned Utilities (IOUs), third-party program providers and other organizations. The campaign does so through a full and synergistic range of marketing and outreach strategies including television; radio and newspaper ads; earned media; printed educational materials; events; a website resource; a biweekly electronic newsletter; and cooperative marketing and outreach efforts with businesses, government and nonprofit organizations.

The campaign will continue to coordinate with IOUs, municipal utilities, water agencies, non-utility program providers, manufacturers, retailers of energy-efficient products, and other energy efficiency service providers. The campaign also coordinates closely with demand response and renewable energy generation marketing and outreach programs including a combined energy efficiency/demand response Flex Your Power campaign (the CPUC-approved Flex Your Power NOW! campaign). .

California's economy and population are expected to grow over the next three years, which means that, without action, so will the state's demand for electricity. In fact, energy consumption is projected to grow by as much as 2% annually over the next 10 years.

The lessons learned during the 2001-02 energy crisis as well as Energy Star sales data showing increased sales of energy-efficient equipment and products over the last five years demonstrate that Californians can be motivated to reduce energy use.

- *Continuity in marketing and outreach*. To be effective, statewide marketing and outreach programs need long-term planning cycles to build and maintain lasting relationships, cost-effectively take advantage of mass media strategies and leverage additional public and private resources to make the most of the limited funding available.

- *Constant information*. Consumers must have constant and consistent messages to take action.

- *Compelling information*. To effectively communicate to consumers through mass media, the Internet and other forms, the messages conveyed must be clear, compelling and concise.

- *Consistency and coordination across the state*. In order to avoid confusing customers and amply compelling messages, California should coordinate messages and timing with the myriad of programs offered by program providers in the state – IOUs, municipal utilities, water agencies, manufacturers, retailers, third parties and contractors.

- *Leverage resources to promote energy efficiency*. Given their limited funding, energy efficiency marketing and outreach programs need to leverage private sector and other resources.

6. Program Rationale

Continuity. The Flex Your Power campaign will:

- Build on the existing momentum, structure, relationships, materials, and strategies.
- Continue to work with existing and build new relationships with sector leaders across the state.
- Maintain the equity of the campaign's "call to action" brand, Flex Your Power.

Constant information. The Flex Your Power campaign will:

- Continue to employ a wide range of message delivery vehicles, including paid and free media, outreach and partnerships, to reach targeted audience within each sector.
- Continue to utilize a variety of marketing and outreach tools to support energy efficiency programs.

Compelling information. The Flex Your Power campaign will:

- Convey the energy, financial and environmental savings potential of energy efficiency measures.
- Utilize market, focus group and other research to develop and test compelling messages for all sectors.

Consistency and coordination across the state. The Flex Your Power campaign will:

- Serve as a statewide umbrella for energy efficiency marketing and outreach and communicate across service areas, private sector market territories and media markets.
- Provide opportunities for regional and local educational efforts to benefit from identification with the Flex Your Power umbrella campaign in a way that would be cost prohibitive for them to undertake individually.
- Continue to coordinate with programs and partners to reduce confusion, eliminate duplication, and amplify each program's messages.
- Work with stakeholders and participants in the coordinated campaign through regular meetings and calls, the Flex Your Power website and e-Newswire.

Leveraged resources. The Flex Your Power campaign will:

- Continue to develop cooperative marketing and outreach programs with municipal utilities, water agencies, government and the private sector.
-
- Pending approval of the Flex Your Power NOW! campaign from the CPUC, provide integrated marketing and outreach of energy efficiency and demand response.

7. Program Outcomes

The campaign seeks to:

- Educate its target audiences on the economic, environmental and system reliability benefits of energy efficiency;
- Support the energy efficiency programs of the Investor Owned Utilities (IOUs), third-party program providers and other organizations; and
- Coordinate with the marketing and outreach efforts of other program providers, other energy industry stakeholders and customers from all sectors.

8. Program Strategy

The 2006-08 Flex Your Power statewide energy efficiency marketing and outreach program will use a full and synergistic range of marketing and outreach strategies including television; radio and newspaper ads; earned media; printed educational materials; events; a website resource; an electronic newsletter; and cooperative marketing and outreach programs with businesses, government and nonprofit organizations. The program works in cooperation with the investor-owned utilities (IOUs), third parties and businesses, local governments, water

agencies, non-profits and others including the state and federal government agencies with responsibility for energy and water efficiency.

When appropriate, Flex Your Power will coordinate closely with all the abovementioned entities. The campaign will also coordinate with demand response and renewable energy generation marketing and outreach programs such as Flex Your Power NOW!, which is an existing partnership between the IOUs, the ISO, CEC the administration and Flex Your Power.

The campaign design is intentionally flexible to allow Flex Your Power to take advantage of new opportunities over the course of the three years. In 2004-05, for example, this flexibility allowed Flex Your Power to take advantage of the Administration's request to host regional energy summits statewide to educate business and government leaders about energy efficiency. The summits drew more than 900 business and government leaders together with state officials and the utilities.

Another reason for flexibility is California's changing energy needs. In both 2004 and 2005, Flex Your Power was able to respond to requests from the CPUC, ISO Governor's office and the utilities to integrate peak energy use reduction messaging during the summers. Also, when natural gas prices began to skyrocket in late 2005, Flex Your Power was able, once again, to respond to a request from the CPUC, Governor's office and utilities to redirect media and outreach messaging and strategies to educate the general and ethnic markets about reducing natural gas use.

Finally, flexibility allows Flex Your Power to develop cooperative marketing and outreach strategies with manufacturers and retailers. These cooperative partnerships, which cannot be anticipated ahead of time and respond to the private sector's view of opportunities, augment the state's energy efficiency marketing and outreach.

9. Program Objectives

As an information-only program, Flex Your Power's efforts are not currently tied to direct energy savings goals. Flex Your Power's objectives include maximizing targeted reach and frequency of our general energy efficiency communications through paid advertising, continuing to build the subscriber base of the e-Newswire; continuing to drive traffic to Flex Your Power's website; and building new, and expanding existing, cooperative marketing and outreach programs.

Another objective is to support IOU and third party programs. Once the IOUs select these programs and the final plans are approved by the CPUC, EP will work with program providers on specific strategies.

10. Program Implementation

10.1 Mass-Media Advertising

EP will continue to produce and place television, radio and newspapers ads to educate California residents about the energy, financial and environmental benefits of energy efficiency.

The development of these ads will be informed by the results from a baseline (benchmark poll) in early 2006 measuring the awareness, education, propensity to act, motivators, messengers, sources of information, and tone. Before finalizing the ads, EP will test the ad concepts and messages, targeted to different audiences, in focus groups and gather feedback from the integrated campaign steering committee (comprised of members from the other marketing and outreach firms and the IOUs). All technical data in the ads will be vetted with the CEC and Energy Star when appropriate.

As it did in the past, EP will continue to refine media buys to ensure broadcast messages have the greatest impact on targeted markets. For instance, the general market media buy will reflect a targeted approach to reach those residents that are most likely to purchase energy-efficient products and appliances.

The media buy will also be run seasonally to help ease strain on the grid during seasons with high peak demand (e.g., during the summer months to keep energy at the top of residents' minds), and during winter when natural gas usage is high.

The Flex Your Power campaign will explore other mass-media opportunities, including online, direct mail and outdoor. As mentioned above, EP will also incorporate and coordinate where appropriate or as requested by the CPUC demand response and renewable energy generation messages into the overall efficiency messages.

10.2 Ethnic media partnerships

The Flex Your Power campaign will continue to work with its existing relationships with ethnic media publications to reach non-English speaking residents. EP will continue to place advertising for a wide range of cultural groups and work with the papers to run editorial content in support of energy efficiency.

The Flex Your Power campaign will continue to coordinate advertising with partner publications to outreach to their readers, which represent 16 different ethnicities and 13 different languages. Advertising, co-developed with the ethnic press, will follow the overarching themes of the general market campaign and be culturally relevant to the audience. Potential joint outreach strategies between Flex Your Power and partner publications include educating residents and businesses through editorial content (press releases, op-eds or articles); creating web links between media's and Flex Your Power's websites; and communicating with ethnic community leaders.

10.3 Educational Materials

EP will continue to produce written educational materials. The design and content of the materials will be targeted to the audience. All materials contain consistent messages and have data and facts checked by the CEC and Energy Star when appropriate. Past and potentially future, examples of informational materials include energy saving tip cards, grocery store flyers, appliance stickers, bill inserts and payroll stuffers. All materials will be presented to the integrated campaign steering committee for input and coordination of delivery channels (e.g., retailers).

EP will also continue to write and disseminate industry-specific case studies and best practice guides of successful projects to provide guidance on investment in energy efficiency. EP will work with program providers and partners to identify successful projects. The materials will be displayed on the Flex Your Power website and promoted via e-Newswire and through Flex Your Power campaign partner organizations.

10.4 Earned Media

The earned media will be a mix of opportunistic and planned events. For 2006, the press events will most likely include:

- An annual summer energy assessment press conference, held jointly with the Flex Your Power NOW! campaign, IOUs, ISO and Governor's office.
- An announcement of Flex Your Power Awards, both the call for applications and winners.

EP will participate in other opportunities in support of the IOUs, administration, and 3rd parties (e.g., ethnic small business gatherings with newspapers).

10.5 Events

EP will continue to convene and participate in events throughout 2006-08. In these events, EP will provide attendees access to information and resources to help them understand the benefits of energy efficiency and the state's long-term goals and needs (e.g., meeting the goals of the Governor's Green Building Initiative), as well as learn about successful programs from peers in their sector. At these events, EP will facilitate these organizations interaction with utilities, third parties, state agencies and other stakeholders.

While participation in many 2006-08 events will be opportunistic and cannot be described at this point (e.g., fairs, ethnic festivals), there are certain proposed events. For example EP will work with business and government associations to introduce Flex Your Power's Best Practice Guides and other resources that the utilities, third parties and others offer.

EP will disseminate materials at events and promote important energy efficient events through e-Newswire and website.

10.6 Flex Your Power Website

EP will continue to host and expand the Flex Your Power website. The Flex Your Power campaign will keep the web content timely, useful and relevant through regular communication and coordination with energy efficiency program providers and other stakeholders. The web address will be published in ads and materials and promoted through online outreach and link exchanges.

The website will continue to provide:

- Energy efficiency, demand response, and water efficiency programs (including rebates, grants, loans, technical assistance, classes, and audits offered by utilities, 3rd parties, water agencies, municipal utilities, and other relevant providers).
- Energy efficiency product guides describing the benefits and savings potential of high-efficiency products/equipment.
- Links to relevant information, program providers and other sites.
- Additional tools, such as Best Practice Guides.
- Information in Spanish and Chinese.

10.7 Direct Mail and Newsletters

EP will continue use of direct and electronic mail in support of programs and general awareness and education. Additionally, EP will continue to pursue cooperative mailings with manufacturers and retailers.

EP will also continue to communicate regularly with subscribers of the Flex Your Power e-Newswire. Through this medium, EP will bring timely information to Californian's desktops and link them to more in-depth information on the Flex Your Power website and the websites of program providers. EP will publish success stories to demonstrate what can be done and show that energy efficiency measures have many benefits.

10.8 Flex Your Power Awards

EP will recognize the successful energy efficiency efforts of entities statewide – businesses, governments, organizations, manufacturers, retailers, new home builders and water agencies through the Fifth (2006), Sixth (2007) and Seventh (2008) Annual Flex Your Power Awards. The winners will be acknowledged for their achievements through Flex Your Power-developed case studies, the Flex Your Power website and the e-Newswire. Their leadership and energy savings measures will be highlighted in congratulatory newspapers ads.

10.9 Joint Marketing and Outreach

- Retailers and manufacturers: (e.g., cooperative marketing and outreach promotions).
- State agencies and administration (e.g., marketing and outreach with the governor's office and state agencies to develop to promote the Green Building Initiative).

- Associations (e.g., CUWCC, League of Cities, BOMA, Sustainable Silicon Valley, Climate Registry, etc.).
- National and regional organizations (e.g., energy efficiency promotions of Energy Star, utilities and third parties).
- Water agencies (e.g., leverage the numerous synergies between water and energy efficiency strategies).

11. Customer Description

EP targets a range of customers and market segments and actors across the state, including hard-to-reach. Customers include:

- Residents: English-speaking, non-English speaking residents.
- Commercial: large commercial facilities (e.g., office buildings) and small commercial (e.g., small retail and restaurants).
- Industrial: fabrication, process, heavy industrial manufacturing, hi-tech facilities and wineries.
- Government: state government facilities, local government facilities and water agencies.
- Institutional
- Agriculture: irrigation and processing (integrated into industrial outreach)

12. Customer Interface

EP will work and coordinate with IOUs, third parties and other program providers to develop materials, events, the Flex Your Power website and other outreach strategies that provide program information using consistent and compelling messages.

13. Energy Measures and Program Activities [1]

13.5. Quality Assurance and Evaluation Activities

EP will conduct ongoing quality assurance activities to ensure the program runs efficiently and cost-effectively. EP will continue to work with groups such as BOMA and Flex Your Power Silicon Valley, to improve and coordinate energy efficiency marketing and outreach. EP will also meet regularly with the integrated steering committee to find the most effective ways to promote programs to help the utilities and third parties meet their goals.

EP will also conduct ongoing quality assurance activities of each marketing tool. The proposed tracking includes:

Mass-media advertising

- Vetting all technical data with the CEC and Energy Star when appropriate
- Running pre-production focus groups
- Compiling tear sheets and confirming run of each ad, reconciling any credits

[1] Not all of the categories in the Program Plans template applied to Statewide Marketing and Outreach Programs.

- Confirming reach and frequency with consultant

Ethnic-media newspaper advertising
- Vetting all technical data with the CEC and Energy Star when appropriate
- Compiling tear sheets and confirming run of each ad, reconciling any credits
- Collecting editorial content and tracking publication dates

Educational materials
- Vetting all technical data with the CEC and Energy Star when appropriate
- Running pre-production focus groups
- Tracking the number materials distributed, by whom, to who, where and when

Events
- Providing sign-in sheets for events when appropriate
- Distributing, where permitted, attendee survey to participants

Flex Your Power Website
- Tracking web usage data (e.g., page hits and downloads). Activity patterns will be compared before and after any major changes.
- Posting an online website appraisal questionnaire

Direct mail and e-Newswire
- Verifying distribution from mail house
- Tracking subscriber usage data (e.g., page hits and downloads). Activity patterns will be compared before and after any major changes.
- Sending a subscriber survey

Joint Marketing & Outreach
- Monitoring whether the partners are successfully fulfilling joint work plans
- Gathering assessment from partners about the joint promotions

The three statewide marketing and outreach programs and the IOUs jointly suggested principles and methods to evaluate overall marketing and outreach for the coordinated campaign. These recommendations were given to the statewide PRG and CPUC. EM&V is the subject of a separate proceeding at the CPUC. It goes without saying that EP will follow the CPUC's guidance and facilitate a thorough evaluation.

Projected Program Budget	$1,022,250
Projected Program Impacts MWH MW (CEC Factor)	N/A
Program Cost Effectiveness	N/A

Note – The budget amount shown reflects only the funding associated with SDG&E service territory for this statewide program.

4. Program Descriptors

Market Sector: Rural
Program Classification: Statewide
Program Status: Existing

5. Program Statement

The *Flex Your Power* rural marketing campaign, formerly called *Reach for the Stars*, is a comprehensive statewide energy efficiency communications effort designed to encourage residential energy users in rural areas to make permanent upgrades to their homes and to participate in statewide gas and electric energy efficiency activities.

In California, a typical homeowner is spending more on electricity than necessary. In fact, the average household could cut up to one-third of its current energy bill by switching to energy-efficient appliances, equipment and lighting, which use less energy than standard products. For rural communities, this issue is especially critical, given they are often situated in remote areas with extreme summer and/or winter climates and significantly greater electricity and/or natural gas requirements. They also historically have been underrepresented in energy efficiency programs. The rural campaign exposure is critical to the overall effectiveness of the California Public Utilities Commission's (CPUC) energy efficiency effort because many California communities are under-reached by traditional mass-market media.

6. Program Rationale

By extending RS&E's contract to implement one of three statewide energy efficiency marketing and outreach programs through 2008, we will be able to maintain the momentum built during the last three years. Since RS&E was awarded this contract in April 2003, we have made notable headway within the rural communities of California. However, ongoing education is imperative in changing people's attitudes and purchasing behaviors and creating social norms where communities and individuals understand and act responsibly when it comes to saving energy. Our program's advertising, public relations and grass roots outreach components, which have a synergistic effect in the rural communities, are intended to teach consumers about ways to reduce their energy consumption, while emphasizing long-term residential improvements.

As noted above, this program has been extremely successful in reaching the rural consumers in IOU territories and delivering energy efficiency messages. Some highlights of our 2004 campaign include:

- Generation of more than 85 million advertising impressions via radio.
- Outreach through ads in newspapers that had a total readership of almost 52 million.
- Outreach to more than 1.5 million Hispanic rural California residents throughout the state through media relations activities and radio and print partnerships.
- Dissemination of more than 111,000 pieces of collateral, including informational brochures and branding items at conferences, fairs and community events in rural areas statewide.
- Outreach to more than 100 community-based organizations (CBOs) and state organizations in recruitment of 15 grassroots organizations as partners.

7. Program Outcomes

RS&E has identified (through research) two key outcomes of its marketing and outreach activities:

Rural consumers have learned about ways to reduce their energy consumption and lower their utility bills, with emphasis on long-term residential improvements.

Rural residential energy users have made permanent upgrades to their homes and participated in statewide gas and electric energy efficiency activities.

8. Program Strategy

RS&E will maintain the key components of its current effort, recognizing the importance of grass roots outreach and the necessity of targeting rural communities through local media outlets. RS&E will also maintain flexibility in it's program structure in order to accommodate for opportunities that present themselves over the course of the campaign, i.e. spikes in energy costs or weather related. To reach the target audience and achieve its program objectives, RS&E intends to:

- Continue placing newspaper ads and radio commercials in rural markets throughout California.
- Expand the activities of the CBO network to facilitate direct access to rural consumers in need of energy efficiency information by coordinating more closely with other statewide marketing and outreach programs.
- Participating in a bi-weekly conference call between M&O contractors, as well as the IOUs and representatives of the CPUC.
- Sharing information, including a monthly report of marketing activities as well as collateral and advertising creative, in order to avoid duplication of marketing efforts.
- Continue providing consumers with an easy-to-access point of contact through the 24-hour toll-free phone line that provides information for energy efficiency programs. Additionally, RS&E will add messaging regarding the Flex Your

Power marketing program to the introductory information on the toll-free phone line.
- Produce advertising and outreach messages with energy efficiency information that is relevant to all rural customers.

9. Program Objectives

RS&E's statewide program will provide information about IOU and third-party energy-efficiency programs and the related energy saving benefits to the target group of all households in rural areas in order to ultimately reduce energy consumption by the target audience. Rural areas of California are based upon zip code data provided by the IOUs.

To reach these program objectives, our team will:
- Place newspaper ads in rural markets throughout the state.
- Develop a radio campaign to air in rural markets statewide.
- Augment the network of CBOs that will provide outreach to rural consumers seeking energy efficiency information.
- Continue the toll-free phone line service to provide energy efficiency program contact information and support throughout the contract.
- Implement a Spanish-language public relations effort throughout rural California.
- Evaluate messaging and awareness levels related to energy efficiency.

10. Program Implementation

RS&E firmly believes in the importance of coordination between marketing and outreach implementers. Coordination and consistency can only enhance results achieved by everyone. Since all marketing and outreach efforts support the IOU and statewide energy efficiency programs, we believe it is vitally important that the contractors work closely with each other and continually share information to avoid duplication. To that end, RS&E will coordinate its campaign efforts with those of both other marketing and outreach programs:

- Efficiency Partnership/McGuire & Co., Inc.'s (EP) statewide general market media campaign.
- Univision Television Group and Staples/Hutchinson and Associates' (Univision) Spanish-language media and outreach campaign.

RS&E will participate in regular conference calls and meetings between the M&O contractors listed above, as well as the IOUs and representatives of the CPUC. Additionally, all marketing and outreach materials will be accessible to these groups so information can be shared and the duplication of efforts can be avoided.

In order to implement a successful program, it will be imperative that we begin planning for the 2006 – 2008 program during the end of the 2005 campaign. We will coordinate the messaging and the timing of that messaging with the other

statewide marketing and outreach contractors. In addition we will send out requests for proposal to CBOs, research vendors and suppliers to ensure that the 2006-2008 program is as cost efficient as possible. Additionally, our media planning work will also begin early in order to negotiate the most beneficial rates for this program.

11. Customer Description

The populations targets for our 2006-2008 extended energy efficiency advertising component are rural "hard-to-reach" IOU customers who do not have easy access to information or generally do not participate in energy efficiency programs.

We will utilize zip code data provided by the IOUs to guide our media and marketing planning. Only those zip codes categorized by the utilities as "rural" and where the majority of households receive service from a participating IOU will be considered for advertising coverage. This is the same strategy RS&E used in identifying and targeting the appropriate customers in the past.

12. Customer Interface

In order to ensure that energy efficiency program information is accessible, RS&E will continue to direct consumers to the existing toll-free phone line, as well as to the Flex Your Power Web site. The toll-free phone number and the Web site address will be displayed on all our advertising and outreach materials. Additionally, RS&E added a Spanish-language option to the phone line in 2004 in an effort to support the Spanish-language collateral and Spanish language PR efforts, which will continue in the 2006 – 2008 contract term.

13. Energy Measures and Program Activities

13.1. Measures Information

Not applicable.

13.2. Energy Savings and Demand Reduction Level Data

Not applicable.

13.3. Non-energy Activities

All of the activities of the *Flex Your Power* rural campaign fall under the category of "non-energy activities" since the entire program is focused on marketing and outreach. That said, below is an outline of projected activities and tactics proposed for the 2006 – 2008 campaign. We should note that these are estimated projections that will be more clearly defined as development of the program implementation plan gets underway.

<u>Advertising</u>

RS&E will produce between 4 and 6 radio spots to air statewide each year. We will run more than 30,000 radio spots in 12 California metro markets and nine remote counties, including:

Metro Markets include:

- Bakersfield
- Chico
- Fresno
- Merced
- Modesto
- Palm Springs
- Redding
- Riverside/San Bernardino
- Sacramento
- San Luis Obispo
- Santa Maria
- Visalia/Tulare

Non-rated remote counties include:

- Humboldt
- Inyo
- Kern
- Lake
- Mendocino
- Plumas
- Riverside East
- San Bernardino West
- Tuolumne

RS&E will produce between 4 and 6 print ads per year to support the three seasonally appropriate messages (i.e. appliance replacement, cooling and heating and lighting). Print media will run in rural communities throughout the state. RS&E will place between 10 and 15 insertions per year in approximately 120 newspapers statewide.

CBO Outreach

RS&E's program will include the recruitment of between 16 and 18 CBOs strategically located in IOU rural territories throughout the state. These CBOs will be trained and monitored to disseminate materials and garner public relations locally to promote the energy efficiency messages associated with the *Reach for the Stars* program.

In order to ensure proper messaging is delivered in a quality manner, RS&E will also offer media training opportunities and host an annual gathering where best practices and ideas can be shared between grassroots organizations.

Each CBO will be required under contract to annually:

- Staff the campaign portable exhibit and distribute campaign materials at no less than three community events.
- Conduct a minimum of three presentations for local organizations or groups appropriate to the energy efficiency message (e.g., business groups, PTAs, etc.).
- Develop events or products themselves to further extend campaign messages (e.g., poster contests, public service announcements, etc.).
- Distribute press releases to local print media outlets and place campaign advertisements in local venues such as newspapers, newsletters or movie slides.

Hispanic Marketing and Public Relations

Through our Hispanic marketing and public relations efforts, RS&E will distribute press releases to more than 140 media outlets statewide. Additionally, we will secure radio partnerships with two radio networks covering the following markets:

- Placerville
- Grass Valley
- Auburn
- Palm Desert
- Hemet
- Moreno Valley
- Murrieta Hot Springs
- Temecula
- Sun City
- Tracy
- Bakersfield
- Tehachapi
- Hanford
- Atascadero
- Paso Robles
- Porterville
- Visalia

These radio partners will distribute promotional items at various community events, conduct live remotes, air 60-second spots and promote press coverage in the Hispanic markets. RS&E will also secure several print partners to run ads and place stories that support the energy efficiency messages directed at the Hispanic market.

13.4. Subcontractor Activities

RS&E plans to retain SG Henderson Consulting (SGH) to coordinate CBO activities acceptable for the 2006 – 2008 cycle. SGH, led by Suzane Henderson,

has been actively involved in the *Reach for the Stars* program since RS&E was awarded the contract in 2003. For the next three years, these efforts will include:

- Implementing a request for proposal process to secure 18 CBOs throughout the state for a one-year term. (We will seek new participants as part of this process.)
- Conducting a two-day training session for all CBOs upon award of their contracts to educate them on the program.
- Coordinating CBO marketing activities in partnership with RS&E.
- Providing a final report of all CBO marketing activities each year of the contract.

RS&E will review proposals and select a research vendor to perform focus groups, the results of which will be used to guide creative development of the campaign. We will secure this vendor in 2006 for a three-year term to ensure continuity.

13.5. Quality Assurance and Evaluation Activities

While the evaluation and verification of marketing activities will be conducted by the California Public Utilities Commission, RS&E will conduct quality assurance and evaluation activities including:

- Tracking of incoming phone calls to toll-free line.
- Measuring the number of advertisements and media placements.
- Measuring the quantity of information distributed by participants in the grass roots outreach component.
- Conducting focus groups that help guide the messaging.

RS&E's focus groups will be conducted by a research firm based in California that has experience with energy related issues and marketing techniques.

13.5.1. Expected Number/Percent of Inspections

In order to ensure work is performed in a quality and timely manner as stated in agreements secured with vendors, RS&E will conduct a review process for each CBO under contract each fiscal year. This review will consist of a monthly report submitted by contractors to detail their marketing activities, as well as a monthly follow up call conducted by RS&E staff. Additionally, RS&E will conduct random inspections of marketing and outreach activities performed by all subcontractors. These inspections will be conducted, at a minimum, on a monthly basis and will include random site visits to events and trainings hosted by grassroots organizations.

13.6. Marketing Activities

Our experience tells us that the sole use of a traditional medium, such as television, will not be successful in breaking down the barriers faced by this campaign's target audiences. As a result, we propose continuing with a multi-tiered, synergistic marketing approach, utilizing the following tactics:

- Placement of media specifically geared to consumers in the IOU rural service territories, using radio and local newspapers as primary mediums.
- A strong community connection in which CBOs will be encouraged and rewarded for spreading the word about these energy-saving programs within their communities.
- Hispanic/general market rural public relations (PR) activities to secure maximum interest in energy efficiency programs through the engagement of the news media, community leaders, etc.
- A toll-free telephone line to provide information in several languages for people who are confused about energy efficiency products or hesitant about taking advantage of IOU or local programs.

Statewide Marketing & Outreach - Univision Television Energy Efficiency Marketing

Projected Program Budget	$1,227,375
Projected Program Impacts MWH MW (CEC Factor)	N/A
Program Cost Effectiveness	N/A

Note – The budget amount shown reflects only the funding associated with SDG&E service territory for this statewide program.

4. Program Descriptors

Market Sector: Residential Crosscutting
Program Classification: Statewide
Program Status: Existing

5. Program Statement

Hispanics represent one-third of California's population. According to the state's IOUs, Hispanics have been underrepresented in residential energy efficiency programs. Barriers to participation have included language, income, and location. In addition. Hispanics do not have the level of access to the web that the population in general enjoys.

6. Program Rationale

Despite the fact that Hispanics are responsible for the majority of the population growth in California and make-up one-third of the population, this audience is underserved by Spanish-language media. In fact, there is only one Spanish-language daily newspaper in the state. Growth in the Spanish market has been better realized in the broadcast media.

According to a recent study in Adweek, ethnic media fills the emotional, cultural and credibility gap link that is crucial to marketers building brand loyalty in ethnic communities. Research into the Spanish-speaking market, both in California and the rest of the nation, consistently identifies television as the number one preferred source for news and information.

Between 1990 and 2000 the Hispanic population grew more than four times as fast as the population as a whole (57.9% vs. 13.2%). Hispanic consumers are now driving forces in most of the largest markets in the country, including Los Angeles. Despite its importance, the Hispanic market is still underserved by many consumer-products companies and continues to offer significant opportunities for growth.

According to research by Yankelovich, 2000, *Hispanic Monitor*:

> *Latinos tend to "adopt and adapt" to customs and habits in the U.S. without shedding traditions and value systems. Along that line, marketers, and those trying to tap into the Hispanic segment, cannot simply transfer*

> *directly to the U.S. Latino market the conceptualizations or marketing strategies that work with more traditional, general market consumers. Latinos are assimilating to prevalent U.S. culture, but they are not, and probably never will be, fully assimilated. Instead, theirs is a path of acculturation. It is a process of integration of native and traditional immigrant cultural values with dominant cultural ones.*

Language is one of the most obvious examples of this, with studies predicting that Spanish is likely to remain the language of preference among U.S. Latinos. In fact, Univision is now the #5 network in the United States, behind ABC, NBC, CBS and Fox.
Univision reaches over 97% of all Hispanic households.

Television is, in virtually al studies, the primary source of news and information for California's Hispanics. Research shows that Spanish language television commercials are 40% more effective at increasing awareness levels and twice as persuasive as English language commercials for the Hispanic audience.* The visual confirmations provided in television advertising are extremely important, especially so for Spanish-dominant Hispanics.

Univision often considered the fifth full time broadcast network in the US, is also the nations' fastest growing network, broadcast or cable, among the most highly prized audience segments, viewers aged 18-34 and 18-49. It is important to note that, whereas the prized demographic for the population at large is 25-54, Hispanics trend younger in terms of marrying and having families.

The UTEEM statewide marketing and outreach program was specifically designed to take advantage of this powerhouse medium – Spanish language television --in reaching California's Hispanic population with energy efficiency messages.

This program proposes to build on past success in reaching California's Hispanic population with information about and access to statewide energy efficiency programs. UTEEM utilizes a statewide network of Hispanic television stations to provide energy efficiency messages in Spanish, generating in-depth editorial coverage of energy efficiency subjects; deploying an aggressive program of outreach activities in Hispanic communities and distributing bilingual informational materials to Hispanic audiences. The program has encouraged audience acceptance of the messages by using well-known Hispanic media personalities as spokespersons.

Statewide Marketing & Outreach - Univision Television Energy Efficiency Marketing

7. Program Outcomes

This is an information-only program designed to increase participation in residential energy efficiency programs by Hispanic customers.

8. Program Strategy

Since 2001, this program has used the Univision Television Group as the sole media subcontractor. Univision has 11 stations strategically located throughout the state of California which reach up to 98% of the IOUs customers with their broadcast signals.

The primary component of the program is an annual 20-week schedule of 30-second commercials promoting energy efficiency programs and initiatives. By focusing the advertising campaign in a single media, we have been able to effectively negotiate value-added opportunities worth over $1 million.

Delivered at no charge to the program, these bonus components include interviews on locally produced talk shows and news programming, distribution of program materials and information at Hispanic-oriented outreach activities throughout the state, and a bonus 10-second schedule worth 50% of the 30-second schedule.

To ensure that we are effectively reaching the statewide Hispanic audience and achieving the highest value for the available budget, Staples Marketing will investigate other statewide Hispanic media outlets that could be used alone or in combination with other media. At the time this program plan was submitted, Staples Marketing was reviewing a proposal from Telemundo television network.

For example, Univision has proposed to include its “sister” Telefutura network for the 2006-2008 program cycle. TeleFutura is the first 24-hour national broadcast network to premiere with network programming in every day part. TeleFutura is the first 24-hour national broadcast network to premiere with network programming in every daypart. TeleFutura counter programs existing Spanish-language television networks, airing alternative genres during nearly every daypart. For example, TeleFutura broadcasts hit movies against primetime novelas, first-run talk shows against daytime novelas, and original novelas against news and talk shows. TeleFutura also features original news briefs, original Latin American talk shows, first-run and encore novelas for all members of the family and a weekend morning kids block. In addition, TeleFutura broadcasts teen-related hit programming, and blockbuster sports programming.

A sister station to Univision, Telefutura serves nine major media markets in California.

Spanish-language television stations have a special commitment to their communities, including aggressive public service activities that lend stations credibility with the pubic. Over the years, Univision has been interested in increasing home ownership among California's Hispanics. California Energy Efficiency Programs are relevant because Hispancs can decrease the total cost of home ownership by reducing their utility bills each month.

9. Program Objectives

This is an information only program and, therefore, is not tied to energy savings goals.

Staples Marketing has a goal of achieving 161,418,000 gross impressions in the Hispanic market per year. This translates to reaching 5,380,600 Hispanic consumers per year at least three times with energy efficiency messages.

The program also proposes to accomplish at least 14 talk show/public affairs programming/news interviews with IOU, CPUC, local government partnership or other relevant spokesperson each year among the statewide network of stations.

In addition, the program has a goal of at least two special events per station per year during which the public is provided with program information and materials.

Finally, the ultimate goal of the UTEEM program is to increase the number of Hispanics who are aware of and participate in the energy efficiency programs provided through the IOUs.

10. Program Implementation

Staples Marketing will investigate, plan and place an integrated advertising schedule designed to reach the statewide audience of Spanish-speaking Californians with market-specific information about energy efficiency programs available through SCE and the other IOUs.

Staples Marketing will augment the advertising campaign with outreach activities in the Hispanic community, providing outreach staff with training and orientation, as well as supplies of informational materials and handouts.

Handouts include a program-specific brochure developed for statewide marketing and outreach, as well as materials from the IOUs and third-party program implementers.

To provide Hispanic customers with more in-depth information regarding energy efficiency and statewide and local programs, Staples Marketing will work with the subcontracted media to identify opportunities for editorial coverage, such as interview shows or news programming, depending on availability. In addition, Staples Marketing will coordinate with all IOUs , CPUC and other stakeholders to identify bilingual representatives willing to be interviewed by the media subcontractor.

On a quarterly and as-needed basis, Staples Marketing will meet with the Marketing and Outreach Steering Committee to ensure program coordination.

11. Customer Description

The program targets California's Hispanic population, ages 18-54, with a primary focus on customers who speak Spanish as their first or second language. The majority of customers reached are moderate and middle income, with a large proportion of renters in certain SCE markets where there the economy is dependent on agriculture.

12. Customer Interface

The goal of this program is help Hispanic customers understand the value of and provide access to energy efficiency programs. Specifically, the advertising and marketing materials will provide phone and web contacts that allow them to access information about residential and small business energy efficiency programs in Spanish.

For the 2006-2008 program cycle, Staples Marketing will coordinate with Runyon Saltzman & Einhorn and Efficiency Partnership to offer a new toll-free phone number. The number will be provided, along with the Flex Your Power website, on all UTEEM materials. When an energy customer dials the number, he will have the opportunity to choose either English or Spanish language. The phone company offers a product, Call Navigator, which will ask the customer which utility he belongs to and then directly connect him to the correct utility. For example, a caller from the Sacramento area code will have the choice of being connected to PG&E or SMUD. The phone line will allow us to more closely coordinate the efforts of UTEEM with Flex Your Power and the RS&E program, 2) avoid boundary confusion among IOUs and muni's and 3) facilitate more frequent tracking of activity generated by the marketing efforts.

13. Energy Measures and Program Activities

Staples Marketing will not be installing any energy measures.

Statewide Marketing & Outreach - Univision Television Energy Efficiency Marketing

13.1. Measures Information

This does not apply.

13.2. Energy Savings and Demand Reduction Level Data

This is an information-only program and, therefore, does not have energy savings and demand reduction level data attached to it.

13.3. Non-energy Activities (Audits, Trainings, etc.)

All activities associated with this program involve marketing and the distribution of information.

13.4. Subcontractor Activities

The media subcontractor will broadcast the advertising campaign; schedule, sponsor and staff outreach activities; and provide vehicles for editorial coverage and facilitate interviews with SCE representatives.

UTEEM is unusual in its level of commitment to the program and the value added to the paid media schedule in terms of bonus spots, editorial opportunities on talk shows and public affairs programming, and outreach at special events.

Staples Marketing continues to invite proposals from Spanish language television other than Univision, with a requirement that any new media partner provide the same level of reach into California's Hispanic market for the budget dollars. For example, in 2005, Univision provided Staples Marketing a schedule at a cost per thousand that was under $15.

13.5. Quality Assurance and Evaluation Activities

For quality assurance, Staples Marketing will monitor advertising schedules and review monthly reports from the media subcontractor. Any advertising that doesn't not appear as ordered will be compensated for in the form of a no-charge "make good." Monthly media reports will update progress toward the program goals in terms of number of paid and no-charge ads realized on all media outlets and approximate audience reached.

Prior to the production of advertising, Staples Marketing will facilitate message testing on the previous year's marketing materials. An independent third-party research firm will use focus group(s) to review and comment on previous messages and creative approaches. The results of this message testing will drive

the development and production of all future advertising and marketing materials for greatest effectiveness.

Staples Marketing will monitor outreach activities and editorial coverage on a monthly basis.

As in the past, Staples Marketing will provide all draft materials to the program administrator for review and approval. In addition, Staples Marketing will make the program administrator aware of each upcoming commercial flight, make any necessary adjustments, and identify and pursue new opportunities.

Marketing is, by its very nature, opportunistic. The UTEEM program schedule and budget will be designed with adequate flexibility to take advantage of opportunities that arise as a result of extreme weather or market conditions not that were not originally anticipated by the marketing plan.

The evaluation project will be three-pronged in its approach:

Tier I will involve verification of program activities, including the commercial schedule, outreach activities and talk show opportunities. It is expected that the program tracking database of information will be available for use within the verification portion of this evaluation as well as any other information gathered by the program implementer.

Univision uses NHSI (Nielsen Hispanic Service Index),

Nielsen Media Research (U.S.), an independently owned broadcast research firm, provides audience estimates for all national program sources, including broadcast networks, cable networks, Spanish language networks, and national syndicators. Local ratings estimates are produced for television stations, regional cable networks, MSOs, cable interconnects, and Spanish language stations in each of the 210 television markets, including electronic metered service in 56 markets.

To be responsive to customer needs, Nielsen Media Research is organized vertically by customer segments and aligned by the different sources of data.

Tier II will involve a combination of qualitative and quantitative research. Staples Marketing will subcontract with an independent third-party research firm to conduct focus groups of Spanish-speaking consumers. These groups will be used to test message effectiveness and identify issues that will guide a more extensive and statistically meaningful survey into the target market.

The survey will address impacts (effects) of the marketing on awareness, knowledge, attitudes and stated intentions to take energy efficiency purchase actions. The EM&V subcontractor will determine the best method to field the

survey and locate a database of phone numbers or addresses of the targeted market (depending on the type of survey to be fielded). The survey will be statistically representative of Spanish-speaking population and enable 90/10 certainty that the results represent the population for the areas being analyzed.

Tier III will involve quarterly tracking of activity on the Spanish-language toll-free phone line to identify the immediate impact of marketing efforts in generating response to the call for action.

13.5.1. Expected Number/Percent of Inspections (planned percent of projects)

This does not apply.

13.6. Marketing Activities

This is an information only program and, therefore, entirely a marketing effort

Production of Marketing/Outreach Materials

Based on the results of the previous year's message testing, accomplished through focus groups, Staples Marketing will script and produce a series of 30-second, Spanish-language commercials. They will be designed to deliver important energy efficiency messages to California's Hispanic population and motivate them to action.

Specifically, the call to action will direct viewers to the new toll-free phone line or Flex Your Power website. Whichever route of access the viewer chooses, he or she will be connected to the appropriate utility for access to rebate applications, online home or business energy surveys, appliance recycling instructions, and so on.

As in previous years, Staples Market will use on-air (television or radio) talent provided through the media contractor. Use of well-known personalities increases the memorability and credibility of the message among Hispanic viewers.

Staples Marketing will also produce compatible 10-second messages to compliment and enhance the 30-second spots. These 10-second spots will be used in the bonus schedule.

Staples Marketing is working with Efficiency Partnership and Runyon Saltzman & Einhorn to investigate either coordinating the graphics and messages of our respective program brochures or creating one brochure that can be used by all three statewide marketing and outreach programs.

Statewide Marketing & Outreach - Univision Television Energy Efficiency Marketing

Schedule of 30-Second Television Commercials

Staples Marketing will coordinate the Spanish-language television schedule with the statewide marketing and outreach programs of Efficiency Partnership, Runyon Saltzman & Einhorn and the four IOUs to present a more seamless program of energy efficiency messages to the public.

Commercials will be aired in a series of flights – totaling 20 weeks -- that coordinate with the program roll-outs of Efficiency Partnership and Runyon Saltzman & Einhorn:

January-February:	Natural Gas Demand Reduction
May-June:	Energy Efficient Appliances
July-August:	Energy Efficient Cooling Equipment
September:	Lighting

Marketing is, by its very nature, opportunistic. The UTEEM program schedule and budget will be designed with adequate flexibility to take advantage of opportunities that arise as a result of extreme weather or market conditions not that were not originally anticipated by the marketing plan.

Messages will be designed to promote the goals of the 2006-2008 portfolio. For example, the lighting promotion in August will focus on hardwired fixtures, as opposed to CFLs.

We might also include a message about installation quality in any central air conditioning commercials prepared for the 2006-2008 program cycle. In other words, the messages will relate directly to key issues identified as priorities for the portfolio.

Because 2006 is an election year, Staples Marketing will avoid placing television schedules during September-November when availabilities are low and rates are high.

The same will hold true in 2008.

The inclusion of the natural gas focus in the late fall-early winter is a result of a request from Sempra Utilities that the statewide marketing and outreach programs help customers reduce their demand for natural gas in light of rising prices.

Statewide Marketing & Outreach - Univision Television Energy Efficiency Marketing

In 2005, Staples Marketing prepared four 10-second commercials on the topics of energy efficient water heaters, programmable thermostats, furnaces and insulation. It is anticipated that compatible 30-second commercials will be produced on the same topics for 2006-2008 to take further advantage of this opportunity for savings.

The 30-second commercial schedule will be augmented by a concurrent schedule of 10-second bonus spots to be provided at no charge to the program by the media subcontractor. Staples Marketing will negotiate a bonus schedule that has the value of approximately 50% of the paid media schedule. The 10-second messages will reinforce the 30-second messages or repeat the call to action.

Staples Marketing places the media schedules on a quarterly basis to allow for as much flexibility as possible.

As noted previously, Staples Marketing is entertaining proposals from other television stations. Should Univision remain the primary media for this program, the commercial schedules will air on the following stations:

- KABE-TV -- Bakersfield
- KOFZ-TV -- Chico/Redding
- KFTV-TV -- Fresno
- KMEX-TV-- Los Angeles
- KVER-TV – Palm Springs
- KUVS-TV -- Sacramento
- KSMS-TV—Salinas/Monterey
- KBNT-TV – San Diego
- KDTV-TV – San Francisco
- KPMR-TV – Santa Barbara
- KVYE-TV – Yuma/El Central

The current plan is to air 5,928 30-second commercials and 2,632 10-second commercials over the 11 stations for an estimated total of 8,560 spots per year. These totals may or may not be changed, should Staples Marketing utilize a television subcontractor other than Univision Television Group.

Earned Media

Staples Marketing will work with producers of local talk shows, public affairs and news programming on the subcontracted television station(s) to arrange interviews of CPUC, IOU and stakeholder spokespersons. These interviews allow for the distribution of more in-depth information regarding energy efficiency programs. These programs also offer the UTEEM effort third-party credibility, since the information is coming from a valued news source. Though the content

of specific interviews are left to the talk show producers and interviewees, Staples Marketing suggests topic ideas and lines of questioning that reinforce and augment and commercial schedule.

Staples Marketing is also working to offer these earned media opportunities to third-party program facilitators, local government partners and other stakeholders. For example, one of the first such talk shows during the 2006-2008 program cycle would feature a representative from the City of San Francisco on KDTV-TV discussing that city's partnerships for energy efficiency.

During the 2006-2008 program cycle, Staples Marketing will coordinate more closely with the public relations staffs of the IOUs to ensure that the news departments of the Univision or other television station subcontractor receives frequent information about energy efficiency programs and opportunities.

Outreach

Since the Univision program began in 2002, Staples Marketing has reached around 800,000 individuals through special events throughout the state. During the 2006-2008 program cycle, Staples Marketing will work with the television subcontractor to develop and facilitate a UTEEM outreach effort at Hispanic cultural events , festivals, fairs and other community events.

Specifically, the UTEEM program takes advantage of subcontractor booths and staffs for community outreach by training staff to incorporate energy efficiency information and materials into their usual activities. This includes a program brochure, relevant IOU materials and handouts imprinted with the contact phone number and web site.

Prior to the start of "festival season," Staples Marketing will orient station staffs to program policies and procedures, use of display, brochure and giveaways, and sources for additional information. Stations will be provided an Orientation Manual to serve as a resource for staff in the booth.

As in past years, Staples Marketing will send a broadcast email to all third-party program implementers, offering them the opportunity to provide outreach materials to the subcontractor television station(s) serving their target markets. We will also contact the muni's and local government partnerships with a similar offer.

Staples Marketing will also provide each of the subcontractor television stations with some type of interactive game that will motivate people who stop at the booth to make sure they obtain information regarding energy efficiency.

Imprinted giveaways provided by Staples Marketing will feature the toll-free phone number and web site to further encourage Hispanic consumers to take action.

Branding

Staples Marketing has never branded its marketing and outreach program to avoid any potential confusion with the IOUs and other statewide marketing and outreach efforts.

Though Staples Marketing has utilized the Flex Your Power brand on all print materials during previous program years, the FYP brand will be applied to all marketing materials, including television commercials, in the 2006-2008 program cycle. This will further coordinate the statewide marketing and outreach programs for a more seamless approach.

Consistent use of the new toll-free phone number and FYP website will enhance the coordination of the programs.

Partnering

Staples Marketing has partnered with California's HUD offices in the past to reach moderate-middle income homebuyers with energy efficiency information. For the 2006-2008 program cycle, Staples Marketing will investigate mutally beneficial outreach opportunities with the HUD regional office in Santa Ana and branches throughout the state. Possibilities may include the inclusion of energy efficiency information in first-time homebuyer classes as well as distribution of energy efficiency materials at HUD sponsored homebuyer fairs and neighborhood events.

Summary

By its very nature marketing is not an end in itself, but a means to an end. The role of UTEEM is to help support and promote the total portfolio by increasing the target market's awareness of and receptivity to the benefits of energy efficiency and providing the target market with easy access to energy efficiency programs.

During the 2006-2008 program cycle, Staples Marketing Communications will build on UTEEM's past successes and enhance its impact through improved coordination with all other statewide marketing and outreach programs.

Specifically, statewide branding and employment of a toll-free phone number will help prevent confusion among the marketing and outreach programs, while allowing for ongoing tracking of public response to our efforts.

Statewide Marketing & Outreach - Univision Television Energy Efficiency Marketing

All UTEEM elements, though coordinated with the other programs, will also address the unique language and cultural characteristics of the Hispanic market to ensure their effectiveness.

	SDGE3013 FYP-Statewide Marketing & Outreach
BUDGET	
Administrative Costs	**$ -**
Overhead and G&A	$ -
Other Administrative Costs	$ -
Marketing/Outreach	**$ 8,383,230**
Direct Implementation	**$ -**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ -
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 8,383,230**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 8,383,230**
PROGRAM IMPACTS	
User Entered kW (kW)	-
Net Jul-Sept Peak (kW)	
Net Dec-Feb Peak (kW)	
Net NCP (kW)	-
Net CEC (kW)	-
Annual Net kWh	-
Lifecycle Net kWh	-
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 8,383,230
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (8,383,230)
BC Ratio	-
PAC	
Costs	$ 8,383,230
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (8,383,230)
BC Ratio	-
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

THIRD PARTY RESOURCE PROGRAMS

2006-2008 Energy Efficiency Programs
Appliance Recycling Program Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ -	$ -	$ -
	Administrative Other	$ 85,741	$ 85,747	$ 85,747
Marketing & Outreach		$ 426,575	$ 426,600	$ 426,600
Direct Implementation				
	Activity	$ -	$ -	$ -
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ -	$ -	$ -
	Procurement	$ 73,200	$ 73,204	$ 73,204
	Incentives	$ 2,101,443	$ 2,101,567	$ 2,101,567
EM&V		$ -	$ -	$ -
Total		*$ 2,686,959*	*$ 2,687,118*	*$ 2,687,118*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
12,207,048	1,915	-	12,207,729	1,915	-	12,207,729	1,915	-

3. Program Cost Effectiveness

Attached

4. Program Descriptors

Market Sectors:	Residential (single and multifamily) and Nonresidential (small commercial)
Program Classification:	Statewide Targeted Resource Program
Program Status:	Modified Existing
Geographic Area Targeted:	SDG&E Service Territory
Percentage of Market:	5% of the targeted older, inefficient residential refrigerators, freezers and room air conditioners as identified in the 2003 RASS for SDG&E's service territory.

5. Program Statement

The Appliance Recycling Program (ARP) provides long-term coincident peak demand reduction and annual electric energy savings in the residential and nonresidential (small commercial) sectors by retiring and permanently removing operating, inefficient refrigerators, freezers and room air conditioners from service in SDG&E's territory.

In the absence of the ARP, two major market barriers inhibit the retirement and proper recycling of older, inefficient appliances in SDG&E's service territory:

1. Consumers lack information from other sources about the energy-efficiency benefits of early retirement for working, inefficient appliances; and

2. Consumers do not have access to services that reliably result in retirement and proper recycling.

Program marketing and advertising materials will inform and educate customers about the energy savings and demand reduction benefits of early replacement and retirement of their older, inefficient appliances. ARCA will work with the implementers of SDG&E's other residential and small commercial energy-efficiency programs if the utility desires, including the LIEE/Limited Income Refrigerator Replacement program, appliance rebate/incentive programs, and non-resource programs to increase awareness of the ARP and its benefits.

The services ARCA offers in this proposal are designed to provide SDG&E's customers with a convenient, attractive and environmentally-sound alternative for managing working, older appliances. Traditional methods of managing replaced working appliances include:

- Keeping and using the appliance as a spare.
- Using a retailer haul-away and resale service.
- Selling or giving the appliance to another electric utility customer (including relatives, neighbors or a charitable organization).
- Leaving the appliance behind when moving.

These methods lead to the continued use of older, inefficient appliances. The ARP addresses this problem by collecting these energy-inefficient appliances, processing them to remove all environmentally harmful substances, and recycling the residual materials in compliance with all federal, state and local laws and regulations, preventing the appliances from returning to use or causing environmental damage through improper disposal.

The ARP financial incentive will encourage customers to participate in the program rather than utilizing one of the traditional methods listed above to manage their old, operating appliance.

6. Program Rationale

The ARP provides customers with a convenient, free service as an alternative to traditional methods of managing replaced working appliances. The program accelerates early retirement of replaced appliances and encourages early replacement of targeted appliance categories by providing financial incentives and coordination with other SDG&E appliance energy-efficiency programs.

The addition of room air conditioners to the ARP in 2006-2008 provides for additional demand reduction and energy saving opportunities in the residential and nonresidential sectors. Broadening customer eligibility to include small commercial customers with inefficient residential refrigerators and freezers also expands the program's impact. Similarly, if desired by SDG&E, coordination with the LIEE/Limited Income Refrigerator Replacement and DAP Programs will enable greater use of customer contacts and information about appliances that qualify for the ARP.

ARCA's proposal for the ARP builds on previous successful program designs by expanding the types of appliances that will be recycled with the inclusion of room air conditioners, increasing the base of eligible customers through the addition of small commercial customers and possibly LIEE/LI Refrigerator Replacement Program participants, and improving customer convenience through the use of appliance drop-off events.

The ARP can be expanded significantly should additional funds become available. ARCA is proposing that SDG&E target 5% of the older, inefficient, working refrigerators, freezers and room air conditioners in use in the service territory, as identified in the 2003 RASS, for retirement and recycling each year. This is a highly cost-effective residential program with a solid track record of success that will deliver the energy savings and demand reduction proposed by ARCA.

7. Program Outcomes

By emphasizing the energy savings associated with early retirement/recycling of old, inefficient refrigerators, freezers and room air conditioners, SDG&E customers will be encouraged to accelerate the replacement of these appliances. The ARP will disseminate information and collaborate with SDG&E's other energy-efficiency programs for residential, small commercial and LIEE/Limited Income and DAP customers at SDG&E's direction.

ARCA proposes the following milestones:

- Educate customers and encourage residential and nonresidential participation in the ARP through marketing activities (described in item 16).
- Provide program enhancements to reduce the rate of customers "dropping out" by disposing of their appliance though alternative means between the time the customer schedules an appointment and the date of collection.
- Provide convenient ongoing in-home collection services to customers calling ARCA's National Customer Service Center (NCSC) or utilizing ARCA's Internet scheduling capabilities.
- Implement pickup and drop-off events for qualifying appliances and customers (including multifamily property owners/managers and appropriate small commercial customers) in collaboration with retail appliance stores, local partnerships, local governments and others.
- Retire and recycle the annual target numbers of refrigerators, freezers and room air conditioners shown in the E3 Calculator.
- Furnish SDG&E with timely and accurate program information, invoices and reports to meet all requirements for energy-efficiency program administrators established by the CPUC.

8. Program Strategy

Residential and Nonresidential Appliance Early Retirement

Residential Targeted Marketing
Nonresidential Targeted Marketing
Residential and Nonresidential Downstream Rebates

8.1.1. Program Strategy Description

Residential and Nonresidential Appliance Early Retirement

- Potential participants are reached through a multi-faceted marketing/advertising program (see below).
- Customers may schedule collection appointments through a program-specific toll-free telephone number or via the Internet. They receive mailed appointment confirmation letters and reminder telephone calls the day before the scheduled pickup.
- Trained, uniformed personnel provide in-home appliance collection and staff air conditioner turn-in events.
- Appliances are transported to ARCA's processing and recycling center, where the appliances and materials are managed in full compliance with all applicable regulations.
- Customers receive incentive checks for qualifying appliances 3-5 weeks after appliance collection (see below).

Residential Targeted Marketing

Design and execution of a marketing/advertising program featuring educational and promotional messages to inform consumers of the energy costs of operating inefficient refrigerators, freezers, and air conditioners; create customer awareness of the program; and generate requests for program services. This is accomplished through:

- Promotional inserts in consumers' monthly electric and cable television bills. These inserts can be targeted, for example, to specific geographic areas where a high percentage of HTR customers reside.
- Cable television targeted to selected metropolitan zones in SDG&E's service territory
- Point-of-sale materials at new-appliance retailers, along with training of sales personnel to stress the requirement that only operating appliances are eligible for turn-in.
- Press releases sent to local media with follow-up calls to answer questions and encourage coverage.
- Cooperative efforts with other SDG&E energy-efficiency programs.

Nonresidential Targeted Marketing

- Written and oral communications with property management companies, new-appliance contract sales representatives, and similar parties involved with multi-unit housing.
- Cooperative efforts with other SDG&E energy-efficiency programs.

Residential and Nonresidential Downstream Rebates

- Financial incentive for qualifying appliances of $35 per refrigerator or freezer, $25 per air conditioner.
- ARCA creates a file of incentive information for each qualifying customer, submits the incentive data for processing and distribution through a third-party fulfillment company, audits the paperwork for accuracy, and prepares related reports for SDG&E.

8.1.2. Program Indicators

The primary goal of the Appliance Recycling Program is to procure energy savings and demand reduction.

9. Program Objectives

In response to Question 66 (Program Outcomes and Program Objectives) in the Stage 2 Q & A document, SDG&E informs bidders "For Resource programs, only provide a response for Program Outcomes. It will be considered and evaluated for responsiveness. Do not provide a response for Resource Programs Program Objectives. No score will be assigned to responses to this question." ARCA's response to Program Outcomes is above in Number 7.

10. Program Implementation

CUSTOMER SERVICE

National Customer Service Center

In 1993, ARCA established the National Customer Service Center (NCSC) at our corporate office in Minneapolis. In order to maintain quality control, ARCA hires, trains and supervises all customer service staff; we do not outsource this work to any other company or location. Our NCSC is equipped with 30 operator workstations and 5 supervisor workstations.

Hours

Our Customer Service Representatives (CSRs) are available from 5 A.M. to 6 P.M. (Pacific) Monday through Friday and 7 A.M. to 3:30 P.M. on Saturday to answer customers' questions, schedule and confirm appliance collection, and instruct customers on preparing for the appointment. Shifts and break times are staggered throughout the day to ensure adequate coverage levels consistent with customer calling patterns. At least one supervisor is on duty at all times.

If a customer calls the program's toll-free number after hours, a recorded message provides the Website address for customers to self-schedule a collection appointment 24 hours a day. A customer can also leave a message that we will respond to during regular business hours. Callers hear a similar message during peak call periods, giving them these options should they choose not to hold to speak to a CSR.

Dedicated, Toll-Free Telephone Number

SDG&E's electric customers contact the NCSC via a toll-free telephone number, 1-800-599-5792, which ARCA established for SDG&E at the onset of the program. The continuity of the

program's toll-free number has eliminated the confusion that can occur when customers refer to outdated, but still in circulation, marketing pieces with old program telephone numbers.

Languages

English- and Spanish-speaking CSRs are on staff and written communications are provided to SDG&E's customers in either language. All CSRs speak English, and currently, 50 percent of the NCSC CSRs and two supervisors speak Spanish. At minimum, one Spanish-speaking CSR is on duty from 8 A.M. to 6 P.M. (Pacific) Monday through Friday and from 7 A.M. to 3:30 P.M. Saturday.

When hiring, we seek CSRs who speak multiple languages. Two CSRs currently on staff are fluent in Russian, and in the past we have had CSRs who spoke Italian, French and Arabic, among other languages.

The NCSC also accommodates more than 150 additional languages through AT&T's Language Line Services, which we use approximately five times a month. Through over-the-phone interpretation, a professional Language Line Services interpreter listens to a caller who is not proficient in any of the languages our CSRs speak, and analyzes the message to accurately convey its original meaning to our CSR. AT&T's Language Line Services interpreters are required to have proficiency in both languages, general knowledge and familiarity with both cultures, the ability to express thoughts clearly and concisely in both languages, and general knowledge of the subject to be interpreted.

Telecommunications Equipment

Current Systems and Equipment
Telecommunications for the Minneapolis and Compton offices are run by the Fujitsu F9600 PBX. The Minneapolis PBX has the capacity for 1,200 lines, receiving 16,800 calls per hour, with key hardware cards redundant in the PBX. ARCA's Compton site has the capacity for 224 lines, receiving 16,800 calls per hour.

Both Minneapolis and Compton have installed the Fujitsu IntelliCenter hardware and software platform to seamlessly integrate with the F9600 PBX for call center management. The IntelliCenter, an Automatic Call Distribution (ACD) management system, provides an extensive range of call handling, supervisor control, agent interaction and call center management reporting. The IntelliCenter provides real-time and historical reporting for past call analysis and current call conditions and allows us to make real-time changes to call routing.

Fourth Quarter 2005 Installation of New Technology
To remain competitive in the industry and sustain our position in providing high quality technology and customer service, we are in the process of replacing the F9600 telephone systems in Minneapolis and Compton with the new Mitel business communications solution. Although the F9600 has served our customers reliably for the past 11 years and is still fully operational, the Mitel system, combined with ARCA's Internet-based environment, will offer more capabilities, increase dependability, and facilitate more thorough backup of data.

Mitel's broad portfolio provides advanced voice, video and data communications platforms, desktop phones and Internet appliances, intuitive applications for customer relationship

management and mobility, messaging and multimedia collaboration. Building on a foundation of success in enterprise communications, Mitel focuses its efforts on Internet Protocol (IP) and the benefits of the convergence of voice, video and data over a single broadband network. These new IP-based communications platforms allow ARCA to seamlessly implement and/or migrate to the Mitel system without sacrificing any of the features or functionality of traditional PBX.

Contact Center
Mitel 6100 Contact Center Solutions combine robust communications platforms, automatic call distribution (ACD), and a modular suite of feature-rich, web-based applications for streamlining contact center management and enabling advanced multimedia customer transactions. Mitel 6100 Contact Center Solutions gives us the flexibility to add and integrate increasingly sophisticated capabilities as program needs change and grow. Web-based and multilingual, these applications support universal access, enabling supervisors to manage, monitor and control contact center operations from any computer.

Integrated Communications Platform
Mitel 3300 Integrated Communications Platform (ICP) provides a highly scalable, feature-rich communications system designed to support businesses from 30-60,000 users. The 3300 ICP provides enterprise IP-PBX capability plus a range of embedded applications including standard unified messaging, auto-attendant, ACD and wireless gateway. Operating across virtually any LAN/WAN infrastructure, the 3300 ICP provides seamless IP networking allowing for full feature transparency within distributed environments by supporting networking standards such as Q.SIG, DPNSS, and MSDN. The 3300 ICP provides ARCA with the opportunity to IP enable the legacy PBX, protecting existing investments while delivering all the advantages of a converged infrastructure. The 3300 ICP supports over 500 telephony features delivered through interfaces such as our Web-based system management.

At the user level, the 3300 ICP supports the industry's largest range of desktop devices including entry-level IP phones, Web-enabled IP devices, wireless handsets (WiFi or IP DECT) and full-duplex IP audio conference units. The 3300 ICP also supports a powerful suite of applications including multimedia collaboration, customer relationship management and unified messaging.

Mitel 5550 IP Console
Mitel 5550 IP Console is an advanced PC-based console and administration application with a highly intuitive Graphical User Interface (GUI) that includes screen-based call status and call handling prompts, real-time Busy Lamp Field (BLF) status, plus telephony keypad and dual handset/headset jacks for fast, efficient attendant call handling on the Mitel 3300 Integrated Communications Platform (ICP). The 5550 IP Console is targeted toward enterprise attendants requiring fast and easy access to call processing functionality.

Mitel 5215 IP Phone
The dual mode Mitel 5215 IP Phone supports both SIP and Mitel IP (MiNET) protocols on a single hardware platform. This dual port, multi-line display IP speakerphone provides user-programmable access to the features and applications enabled by Mitel IP-based Integrated Communications Platforms. The 5215 IP Phone provides intuitive user access to more sophisticated call handling and converged applications supported by the Mitel IP platforms.

Mitel 5220 IP Phone

Designed for the enterprise power-user, the new Mitel 5220 IP Phone (Dual Mode) provides robust features and functionality needed for today's enterprise professional. The 5220 IP Phone is dual port with a multi-line display and provides users fast and easy access to the features and applications enabled by Mitel Integrated Communications Platforms. The 5220 IP Phone is designed for users, ACD agents and supervisors that require an expanded range of programmable features.

Wireless Telephones
The Link Wireless Telephone System is a dedicated voice system, providing the highest level of reliability with minimal administration and maintenance. The Link WTS consists of three components: the master control unit (MCU), base stations and wireless telephone. The MCU is connected to analog or digital station ports on the facility telephone switch. When a call destined for a wireless telephone is received, the MCU sends the incoming call to the wireless telephone through SpectraLink's overlapping network of base stations strategically located throughout the facility. The base station receiving the call provides the wireless radio connection to the appropriate wireless telephone.

Mitel Messaging Server
Mitel Messaging Server platform provides ARCA with enhanced access and control over communications. Through features such as multilingual auto-attendant, voicemail, text-to-speech, fax mail and wireless device support, the Messaging Server Platform offers a myriad of options to retrieve and manage messages. Fully supporting an IP environment, the Messaging Server is designed to interface with a range of voicemail systems using industry standard networking protocols. Mitel Messaging Server supports Microsoft Exchange e-mail systems. Future releases of the Messaging Server Platform will incorporate Mitel speech recognition capabilities.

Telecommunications Disaster Recovery

In the event of a natural disaster or other unforeseen incident, ARCA facilities act as emergency backups for each other. All telephone numbers, including toll-free numbers, can be redirected to any location, including Compton, within minutes, minimizing service interruption while upholding ARCA's professionalism and program customization.

Data Disaster Recovery

Implementation of the Mitel 6100 Contact Center server and Mitel 3300 IP based telephone system will provide an end-to-end converged Local Area Network, enabling ARCA to backup the voice network along with the data network.

Secure online backup of all ARCA data, including daily backup of the Appliance Turn-In Order data management system (ATO system) and Microsoft Exchange, is provided by Data Protection Services, L.L.C. (DPS), a nationally recognized business backup specialist located in Mandeville, Louisiana. Data is available to ARCA for online restoration at any time.

DPS facilities have carrier-class Data Centers with super-fast fiber optic connections from four separate Tier 1 Internet service providers, state-of-the-art fire suppression environmental controls, and multiple power systems. Redundancy and security controls are built into every process.

1. System Access: DPS maintains a computerized data storage center and software to electronically transmit data from supported servers and workstations via the Internet to DPS facilities.
2. Technical Support: DPS provides technical support via phone and e-mail Monday through Friday between the hours of 8:00 A.M. and 5:00 P.M. CST, excluding holidays.
3. Emergency Restoration: Emergency restoration assistance is available 24 hours a day, 7 days a week. Routing calls are taken during regular business hours – 8:00 A.M. to 6:00 P.M. CST. DPS has the ability to export ARCA's data to a CD, DVD, or a portable device.

Data393 Overview

ARCA's MIS team maintains the ATO server, Internet-based architecture, and program code at an off-site server at Data393 in Denver, Colorado, ensuring that the principal components of the ATO system are never compromised. Data393 has an impressive portfolio showcasing a range of services including corporate co-location and hosting solutions synchronized digitally, online, in print, and in person. Their network is monitored 24 hours a day, and uses multiple GigE connections to several tier 1 providers to deliver ARCA's applications and data quickly and accurately. Data393's support program includes guaranteed response times and an online support dashboard staffed 24/365.

The Data393 infrastructure produces increased speed, stability, and security to all applications, equipment, and network devices. While past configurations at the Minneapolis facility supported ARCA and SDG&E with great dependability, ARCA recognizes the importance of utilizing the Internet as a business tool to continuously advance technology and enhance service to our customers.

Customer Service Representatives

Responsibilities
We employ a rigorous hiring and training process for CSRs to ensure that each customer experiences a positive first impression of SDG&E's appliance recycling program. A CSR's responsibility is to provide all callers with accurate program information, properly verify customer and appliance eligibility, schedule collection appointments, complete outbound calls to gather or relay additional information, and perform all duties in a professional, courteous, accurate, and timely manner.

Hiring
To qualify for potential employment, CSRs need experience in customer service, communications, sales, or a closely related field; good working knowledge of telephone etiquette; familiarity with personal computers or CRTs; good typing or data entry skills; and the ability to accept new procedures and changing priorities. CSR candidates undergo a thorough interview process, which includes relating past job experience, providing verifiable references, demonstrating computer literacy, and passing a controlled-substance screening.

Initial Training

New hires are trained on customer service skills, computer usage, departmental procedures, and company polices. The initial training phase consists of an overview of ARCA, company history and past utility-sponsored programs. Current programs, such as the one sponsored by SDG&E, are discussed in great detail.

The training includes classroom instruction of computer screen navigation and telephone hardware and software functionality. Classroom computer training includes simulated customer calls, which reinforces program parameters, procedures for determining customer eligibility, familiarity with database information, and customer and appliance data input. This training is done on a one-to-one basis and is usually completed within two days.

The next step in training for a new CSR is to sit with an experienced CSR, while listening and asking questions. After this, the veteran CSR and trainee work together in a hands-on, team environment approach, creating an opportunity for the new CSR to work with an experienced CSR on a call-by-call basis. CSRs are cross-trained to allow our NCSC to provide efficient service for a variety of appliance recycling programs.

Ongoing Training

Ongoing training helps maximize staff potential and allows for program flexibility. Ongoing training, which includes additional one-on-one training, team training, call monitoring and memos on program changes or updates, ensures that all CSRs and supervisors stay informed and prepared to do their jobs. Through this training, the group can discuss opportunities to create a better experience for the customer and make sure that the message we present is consistent throughout the department.

Computerized Data Lists

ARCA has extensive experience in working with database information provided by electric utility companies to determine customer eligibility for their programs. SDG&E has the option of supplying a database of residential electric customers, providing us with a means of verifying that callers requesting to schedule a collection appointment have an existing service account. This provides a consistency in tracked data, which expedites the process of program evaluation. This database can be updated and transmitted to us via an FTP site that is imported into our Appliance Turn-In Order database management system (ATO System). This database ensures that we have the most current customer information to verify account numbers as orders are placed.

We maintain a strict confidentiality policy regarding the use of these “shadow” lists. We use the database information solely for verifying eligibility and facilitating customer participation in the program and do not release the database or information to any outside party. Only ARCA’s Information Systems employees who have been given computer authorization and an associated password are able to access the database.

The invoices created for qualified units that are picked up do not contain confidential customer information such as account numbers, addresses or phone numbers. The customer name only appears on the invoice for incentives processed. The original ATO is securely stored at our corporate office in Minneapolis and a copy is also securely stored at ARCA California. When we transmit the file with information about each customer who qualifies

for an incentive check to our third-party fulfillment company, we encrypt the file. After the checks are mailed, we receive an encrypted electronic file of the transactions to import into ARCA's ATO order system.

ARCA proposes to extend this customer database capability to SDG&E to assist in customer verification. In the absence of this approach, ARCA will continue to use customer zip codes for determining customer eligibility.

Appointment Scheduling Process by Telephone

ARCA began providing customer service for SDG&E's appliance recycling programs in 2000, and through the years we have enhanced our proprietary ATO software to become a sophisticated scheduling and data management system.

A summary of the telephone scheduling process using a utility database to assist in determining customer eligibility is outlined below. With SDG&E's current program, the only variance in the following process is that we use an SDG&E customer's zip code instead of account number to determine eligibility.

1. A potential program participant calls 1-800-599-5792, the toll-free telephone number we established for SDG&E when the appliance recycling program began. Caller ID on the CSR's phone indicates that the incoming call is through SDG&E's program number. The CSR answers the phone by greeting the caller with the SDG&E-approved opening dialogue, determines the caller's language and requests an interpreter's assistance if necessary.

2. The CSR asks the caller the name of their electric utility company, and if the caller responds with *SDG&E*, the CSR selects that option in the ATO system using their workstation computer.

   Note: At any time during the call, the CSR can move to a Notes screen on their computer that includes additional information about SDG&E's program.

3. The CSR logs whether the call concerns a new order, an existing order, or another type of call.

   Note: Upon the CSR's selecting the screen option that indicates a new order is being placed, the ATO system immediately assigns an order number that tracks every stage of the order from that point forward, culminating in invoicing.

4. Next, the CSR verifies that the appliance is operating and of the appropriate type and size to qualify for SDG&E's program.

5. The CSR then qualifies customer eligibility by asking the caller's zip code, city, street address and customer name for that location.

6. Once the CSR has determined that the appliance and the customer are eligible to participate, the CSR completes the appliance type, age, brand, color, and location fields by asking the following questions and selecting the appropriate drop-down boxes or by using arrow keys to highlight the correct choices. If the caller has an additional qualifying appliance, the CSR repeats this step.

7. The CSR offers the caller the next available collection date, or subsequent dates if needed, from a list displayed on the screen. The CSR tells the customer that someone age 18 or older will need to be present at the time of collection and that the appliance must be left plugged in and running for the 24 hours prior to pickup. If the caller is unable to select a date, the CSR can select the *Schedule Later* checkbox and ARCA's dispatch department will call within two weeks to schedule an appointment.

8. The CSR tells the caller the following: Our dispatch department will call the day before the pickup to give the customer an approximate four-hour window of time. On the day of the pickup, the driver will call the customer when he is at the prior stop, from 10 minutes to an hour ahead of collection. We need to speak with someone before we come out that day or we will reschedule the pickup for another day.

   Note: The Comments field is accessed during every stage of the order to record all additional activity, such as customer inquiries, compliments or complaints; rescheduling information; or changes to the order.

9. The CSR clicks the *Post* button to save the collected data in the ATO system. Posting the order displays the Mailing/Incentives Information window with information the CSR tells the customer about SDG&E's program incentive checks for qualifying units.

10. The CSR requests information that we need to complete the collection process: mailing address verification for the confirmation letter and incentive check; contact name and phone number for pre-collection reminder calls; details to assist our drivers in finding the location, such as nearby cross streets, house color, apartment number or subdivision name.

11. The CSR asks the caller to participate in SDG&E's survey, and if the customer agrees, the CSR records the answers to the survey questions.

    Note: ARCA's software architecture allows for quick, seamless integration of utility customers' preferred survey questions. SDG&E's current survey asks four main questions of each customer and 13 detailed questions of 20% of the customers. The ATO database system automatically determines on which orders the CSRs conduct the full survey. Unless a customer declines to participate, CSRs are required to conduct the survey for each call. Utility program staff members have secure, real-time Web access to customer survey data 24 hours a day and can customize reports from their desktops. ARCA's ATO system data management and reporting capabilities are described on page 34.

12. The CSR ends the call by posting the final order and thanking the customer for participating in SDG&E's Appliance Recycling Program.

    Once an appointment is scheduled, we mail an appointment confirmation letter to the customer along with instructions for preparing the appliance for collection. In the letter, we restate the program requirements that an adult must be present at the time of collection, the appliance must have been plugged in and cooling for the

previous 24 hours, and we must be able to confirm the appointment with the customer before we arrive at the collection location.

Web-Based Order Intake

ARCA was the first appliance recycler to develop the means to offer not only information and registration capabilities to customers via the Internet, but to actually allow customers to select and schedule their appliance collection date online. This Internet Webpage scheduling tool was the first offered by any energy-efficiency program in the U.S. that has the system capabilities and tools to enable customers 24 hours a day to access program information and schedule an appointment for appliance collection.

Currently, Southern California Edison's customers interactively select collection dates and schedule appliance pickup appointments via ARCA's online Internet scheduling system. Unlike Websites that allow a customer only to leave enough information to request a phone call to schedule service, our system of real-time scheduling has resulted in approximately 20% of SCE's customers choosing the Web to complete their entire scheduling process at their convenience.

Our system has already been programmed with information for SDG&E's territory and is available as soon as SDG&E chooses to offer this service to their customers. Information on www.arcaincutility.com is available to SDG&E's customers in both English and Spanish. Internet users are asked to enter their zip code and then select the city in which they live. Customers then see a list of available pickup dates and after selecting one, follow a few steps to verify that they meet the program's qualification requirements.

The secure server permits customers to choose from a range of available dates and select on-line the date they prefer, ending the transaction with a receipt of the ATO order number, the appointment confirmation letter, and instructions for preparing the old appliance for removal. NCSC messaging during business hours and after hours directs customers to this Website so that consumers can choose whether to schedule their own order or wait for an available CSR for assistance.

ARCA encourages SDG&E's proposal review team to experience first-hand ARCA's online scheduling capabilities. By accessing www.arcaincutility.com, each team member may assess the system by scheduling a collection appointment using their own customer data for an address in SDG&E's service territory.

Because this is a live site, we request that the person who schedules the test order:

1. Record the ATO number that the system assigns to the order, which is visible on the scheduling screens and in the on-screen confirmation letter.
2. Call the program's toll-free number, 1-800-599-5792, to tell us that the order was scheduled by an SDG&E employee who was evaluating the system. By providing us with the ATO number, our NCSC can cancel the order before subsequent program scheduling and collection procedures ensue.

Dispatch Services

ARCA's dispatch CSRs, who are based at our Compton facility, perform customer service functions after the order is initially scheduled. The NCSC notifies the dispatch department of

orders with changes, such as cancellations and reschedules or changes to phone numbers. Using the ATO System's *Call Maintenance* menu, the dispatch department has the ability to make changes to an order, which can be retrieved by ATO number, name, address or phone number.

The dispatch CSR brings up a list of orders for viewing and once an order has been selected, existing information fills in and more options become available. In addition to accessing collection routing information, the dispatch CSR can modify, reschedule or cancel the order.

For each order, dispatch CSRs print the ATO form containing all customer and appliance data collected throughout the scheduling process. The driver carries the form on the collection route to acquire the customer's signature to acknowledge service and release ownership of the appliance to ARCA. The ATO becomes the source document for billing once the appliance has been collected and processed and the order has been completed.

Dispatch CSRs also make confirmation phone calls 24 hours before the appointment and handle incoming calls from drivers and scheduled customers to relay information as appropriate. Information in the ATO System is updated during each step of the process.

Customer Complaint and Dispute Resolution

The ATO software also has a self-reporting feature that allows NCSC management and utility program staff to search for ATOs with a customer complaint logged in the *Comments* section. Each step of the complaint resolution process is tracked in the ATO system, allowing managers to monitor the types and levels of complaints and the speed with which they are resolved.

Because each CSR is empowered to resolve customer conflicts rather than pass the complaint to another department, customer dissatisfaction is kept to a minimum. If a CSR is not able to resolve an issue, a senior NCSC manager responds to the customer to resolve the problem. In managing more than forty utility programs since 1989, ARCA has found that when CSRs handle complaints directly, customer problems are resolved efficiently and very few customers call the utility company to register a complaint about the appliance recycling program.

The ATO system's customer comments report, accessible to SDG&E's program staff via the Internet on their desktop computer, shows in real-time any orders in which a customer has called back after placing the initial collection order. This report also shows any complaints, date the comments were recorded, name of the ARCA CSR who handled the call, and actions taken to resolve the complaint. This report lists the ATO number, collection date, date collection was scheduled, phone number, account number, customer's first and last name, and the actual comments recorded for each ATO.

COLLECTION

Transportation Equipment

ARCA California operates a fleet of 19 trucks with heavy-duty hydraulic lift-gates for safe and convenient appliance loading and unloading. Since beginning services for SDG&E in 2000, ARCA has provided enclosed-box vehicles for appliance collection. Enclosed trucks

are far more conducive to utility program operations than trucks with open-style boxes because they eliminate the possibility of any debris or loose materials, such as shelving, bins, toe plates, and other debris, from falling from a truck to create hazardous conditions for other drivers.

Enclosed-box trucks also minimize the chance of fraud. Using an open-box truck increases the possibility of individuals approaching the vehicle and soliciting to purchase appliances that are in view. Enclosed trucks, which can be secured with a lock, also maintain security while our driver is in the customer's home, thereby minimizing the possibility of theft or vandalism of appliances that would be visible on open trucks.

ARCA has a nationwide agreement with Penske Leasing, the nation's largest truck leasing company, which allows for rapid acquisition of additional trucks with identical specifications to expand operational capacity on short notice.

The center's tractor and trailer rigs are also available for collecting larger quantities of appliances from single locations, such as large multifamily housing developments that may participate in SDG&E's program. The center operates its fleet in a safe and professional manner and is the recipient of a California Highway Patrol Certificate of Achievement.

Vehicles in ARCA's fleet include:

Unit #	Year	Make	Size	Unit Capacity
604401	2006	International	26 foot box	26-28
604402	2006	International	26 foot box	26-28
604403	2006	International	26 foot box	26-28
604404	2006	International	26 foot box	26-28
604405	2006	International	26 foot box	26-28
604406	2006	International	26 foot box	26-28
299794	2004	International	26 foot box	26-28
299795	2004	International	26 foot box	26-28
299797	2004	International	26 foot box	26-28
299798	2004	International	26 foot box	26-28
299799	2004	International	26 foot box	26-28
299807	2004	International	26 foot box	26-28
104	1992	International	24 foot box	22-24
136	1992	International	24 foot box	22-24
140	1992	International	24 foot box	22-24
144	1992	International	24 foot box	22-24
153	1993	International	24 foot box	22-24
163	1993	International	24 foot box	22-24
165	1993	International	24 foot box	22-24

Collection Personnel

We employ teams of experienced drivers and helpers who remove refrigerators and freezers from customers' homes, disable the appliances to prevent reuse and transport the

appliances to our processing and recycling center in Compton. As a new service we will provide for SDG&E's 2006-2008 appliance recycling program, our personnel will transport appliances collected through SDG&E's turn-in events.

Responsibilities

The main responsibilities of ARCA's collection personnel include:

1. Exhibiting a professional, courteous demeanor and practicing efficient and safe work habits when collecting appliances on behalf of SDG&E.
2. Adhering to all program procedures for collecting appliances, including verifying operational condition and disabling each appliance as required.
3. Completing ATO forms and other paperwork in an accurate and timely manner.
4. Performing regular vehicle and equipment inspections to monitor operational safety and performance.

Qualifications for Hiring

Driver candidates must meet standards established by the federal government, our insurance carrier and our company to be considered for employment. Straight-truck drivers are required to have a minimum of one year's experience driving a similar vehicle; tractor/trailer drivers must have two years' related experience. Potential employees are road tested as part of our evaluation process.

A condition of hiring for each collection employee includes a controlled substance screening and pre-employment physical. ARCA conducts a criminal background check on employees in customer-sensitive positions and runs an initial MVR (motor vehicle record). Specific traffic violations or combinations thereof automatically result in disqualification for employment as a driver. Any individual with a felony conviction who would enter customers' homes as part of his or her job duties is also disqualified.

Training

Transportation personnel receive on-the-job training, riding with an experienced ARCA driver for a specified period before assuming responsibility for their own vehicle. Drivers also undergo DOT training and annual MVR checks.

Drivers also acknowledge in writing their receipt and understanding of ARCA's Driver Vehicle Accident Policy and Procedure. This document specifies driver responsibilities immediately following any accident in a company-owned vehicle and disciplinary procedures for traffic violations and driver-preventable accidents.

To ensure that employees are kept up to date on changing rules and regulations in their field and to encourage safe work habits, ARCA conducts thorough training of new employees, followed by ongoing and periodic training conducted by center and corporate staff. Additionally, we address through our employee manual areas of business ethics and standards of conduct, including maintaining a harassment-free, drug-free, violence-free workplace.

Collection Process

Upon arrival at the customer's home to collect an appliance for SDG&E's program, our representatives follow this procedure:

1. The driver turns on the vehicle's safety flashers as the truck approaches the site and stops the vehicle next to the curb or on the shoulder of the road with the back of the truck in line with the center of the driveway or sidewalk. The driver turns off the truck, leaving it in gear, and sets the parking brake.
2. Next, the driver rolls up the box door, lowers the lift gate, and places two orange hazard cones behind the truck, one at the left rear corner and the other 12 to 15 feet behind the truck centered in the right (or parking) lane.
3. The driver takes the clipboard with the ATO form from the cab of the truck, unloads the toolbox and appliance handcart from the back, goes to the designated entrance of the home, greets the customer, and identifies affiliation with the program by showing the driver's photo ID badge. (Note: An adult is required to be present for the appointment to proceed.)
4. The driver examines the appliance to verify that it is operational (cooling).
5. If the unit is operational, the driver unplugs the appliance, cuts the power cord, tapes the door shut, or if necessary, removes the door.
6. The driver verifies that the exit and hallways of the site afford ample clearance for appliance removal. The driver removes and replaces facility doors when needed to prevent damage.
7. Before the appliance is removed from the customer's home, the customer and our representative sign and date the ATO form that confirms current appliance ownership, acknowledges service, and transfers appliance ownership to ARCA. The customer keeps a copy of the signed ATO, which states the following:

   Thank you for your participation in the Appliance Recycling Program. Your electric utility company has contracted with ARCA, Inc., an independent contractor, to perform the services offered by the Appliance Recycling Program. Unless there are technical reasons why the service cannot be performed, the contractor's employees will complete the requested service for you.

   In the unlikely event that a problem develops, or if you have any questions, please call the toll-free number 1-800-599-5792. To participate in the Appliance Recycling Program, you must sign the following statement certifying your ownership rights to the appliance(s):

   I certify that I am the owner or the owner's representative of the above appliance(s) and that this ownership is free of liens, security interests, or other encumbrances. I hereby transfer ownership of the above appliance(s), if picked up, to ARCA, Inc. I understand that this appliance must be operating and cooling at the time of collection. I do not intend to replace it in the foreseeable future. I further understand that if my

appliance is not in working condition, I will not be eligible for an incentive.

8. After the appliance is removed from the customer's home, the driver moves the unit to ARCA's truck and disables the appliance. A fluorescent symbol and the ATO number are painted on the appliance to deface the unit, the door seal is removed, mechanical door mechanisms are destroyed, and the temperature control mechanism is broken with a hammer. These measures are undertaken as the first steps in permanently removing the appliance from service.
9. The driver then secures the unit in the truck and returns the toolbox and safety cones to their appropriate place in the truck.
10. The driver calls the contact person for the next appointment to notify the customer that the driver will arrive shortly.

Following the completion of the day's collection route, the driver transports the truckload of appliances to our Compton facility for processing and recycling.

APPLIANCE PROCESSING AND RECYCLING

Facility

ARCA California's main facility is located at: 1920 Acacia Avenue
Compton, CA 90220
Phone: (310) 763-2212
Fax: (310) 763-1722

When we began to provide services for Southern California utilities in 1993, we selected the Compton location to help meet the goals of the Rebuild L.A. program, which aimed to develop areas that had recently experienced civil unrest. We also operate a transfer site in Ontario, California, where refrigerators collected from outlying areas are stored temporarily before being taken to our Compton facility for processing and recycling.

ARCA California consists of a company-owned 2.1-acre tract of land developed with a 45,000-square-foot industrial/office building. The building's office area houses administrative, customer service and transportation personnel. The warehouse portion consists of a component removal area, refrigerant recovery area, compressor oil removal area, CFC-11 recovery room, saw room and six dock doors.

To meet the requirements of an RFP issued by SCE and LADWP, we designed the center in 1993 with a capacity to manage a volume of 100,000 units annually, but have exceeded this quantity in the past due to the implementation of additional utility programs. For example, during a 12-month period in 2000-2001, we added a second shift to manage 171,000 units collected through utility programs, including SCE's ARP and the Summer Initiative and SBX1 5, which served SDG&E's and PG&E's customers. At peak operations, we recycled approximately 1,100 units a day; we currently manage approximately 500 appliances daily.

Appliance Recycling Patent

In December 2004, ARCA filed suit in the U.S. District Court for the Central District of California alleging that JACO Environmental, Inc. (JACO) and a former consultant of ours

fraudulently obtained a patent (U.S. Patent No. 6,732,416) in May 2004. The patent covers appliance recycling methods and systems we originally developed beginning in 1987, have used in serving more than forty electric utility programs, and will continue to use for current and future programs.

On June 24, 2005, the federal court issued an order denying JACO's request to dismiss the case and scheduled a trial date during the fourth quarter of 2006 to proceed on our claims for a patent invalidity declaratory judgment action, and that JACO, in using a fraudulently based patent, has engaged in unfair competition under federal statutes and false and misleading advertising under California laws.

In September 2005, we received a legally binding document in which JACO Environmental, Inc. states it will not sue ARCA or any of ARCA's customers for violating JACO's recycling patent that we allege was fraudulently obtained. We intend to continue seeking a permanent injunction barring JACO from using the patent to market JACO's recycling services, due to our belief that the patent is invalid and unenforceable since it is based on methods and processes ARCA invented.

Appliance Processing and Recycling Overview

Throughout ARCA's history, we have been the leader in the appliance recycling industry in developing equipment, processes and systems to lessen the negative impact on the environment. Our philosophy has always been to maximize recycling and minimize disposal through landfilling or incineration. With our innovative technology and comprehensive network of environmental services contractors, we are able to recycle 90 to 95% of the materials in old refrigerators.

Our employees have been instrumental in keeping ARCA at the forefront of appliance processing technology. In 1988, we invented the 1st CFC recovery equipment capable of evacuating refrigerants from 10 to 20 refrigerators at a time. To enable compressor oil to be recycled instead of disposed of as a hazardous waste, we designed a system to drain compressor oil from three refrigerators at a time by using a table that tips the appliances to a horizontal level. This was accompanied by our development of the 1st equipment that reduces the concentration of CFCs entrained in compressor oil to levels low enough to allow the oil to be recycled.

In 2004, ARCA California recovered and properly managed 217.9 pounds of PCBs; 23,238 pounds of CFC-12 refrigerant; 10,570 pounds of CFC-11; and 7,260 gallons of oil. The following sections contain a description of how we process refrigerators, freezers and room air conditioners to remove hazardous components and substances, and our management methods for recycling or disposing of the residual materials.

Appliance Receiving

Our warehouse personnel unload incoming appliances from our trucks and place them in the receiving/holding area of the facility. Instead of using forklifts or clamp trucks to unload appliances and move them to the center's receiving area, we use two-wheel handcarts to avoid accidents and employee injuries that can occur when machinery is used in tight warehouse spaces. In addition to employee safety factors, using forklifts and clamp

trucks to handle refrigeration appliances presents the potential of damaging or breaking refrigerant lines, resulting in the release of CFCs, HCFCs or HFCs.

Before appliances are moved into the center's processing areas, we complete our receiving records and inspect and categorize each appliance for appropriate materials handling. We remove glass shelves and crisper drawers from refrigerators before placing the refrigerators in an upright position onto approximately 3-foot-square plywood slip-sheets, each about ¾-inch thick. The slip-sheets are then placed onto a roller conveyor system to continue through all phases of processing, which occurs at separate stations where various materials are removed for recycling, disposal or destruction. Freezers and room air conditioners are handled in a similar manner.

The use of conveyors, which are approximately 3½-feet wide, has been our standard practice since 1989 when we opened a facility in Milwaukee to recycle air conditioners for Wisconsin Electric Power Company's energy conservation program. We introduced slip-sheets to the process in 1990 when we began to manage refrigerators for Northeast Utilities' program in Connecticut and found that slip-sheets provided a stable platform for refrigerators on the conveyors as they moved through the processing stations. We subsequently determined that slip-sheets and conveyors not only improve the materials flow through the center, but also reduce the incidence of worker injuries.

Appliance Processing

Hazardous Components

Our processing technicians are trained to identify hazardous components from all makes and models of refrigerators, freezers and room air conditioners. Processing technicians remove all appliance panels in order to perform a thorough inspection to ensure that all harmful components are found and removed. This procedure occurs at the component removal station, a specially constructed area with a barrier that encloses a floor made of leak-proof materials.

Refrigeration appliances manufactured in the United States between 1929 and the early 1980s may have electrical capacitors that contain PCB dielectric fluid. The U.S. EPA banned the use of PCBs in 1977; however, businesses were allowed to continue to use remaining stocks of capacitors. PCBs are suspected as a carcinogen and endocrine disruptor and are known to be resistant to degradation when disposed of in landfills.

Our technicians remove all capacitors and separate them according to whether or not they contain PCBs. Technicians place PCB-containing capacitors into clearly marked, impermeable containers at the component removal station. Throughout the workday, they empty the containers into 55-gallon storage/transport drums approved by the U.S. DOT. The drums are stored in a separate, secure area that is clearly marked and posted for PCBs as required by the EPA and OSHA. The storage area floor is constructed of leak-proof materials and surrounded by a six-inch barrier.

Capacitors that our technicians are unable to verify as non-PCB and capacitors that clearly contain PCBs are destroyed through high-temperature incineration at a licensed and permitted hazardous waste disposal facility.

In order to reduce risks associated with the removal and storage of capacitors, we follow a detailed list of precautionary measures. Special impermeable containers at the component removal station and the 55-gallon storage/transport drums have a layer of absorbent material to contain any oils or fluids that may leak from damaged or ruptured components. If there is a cracked or leaking capacitor, we place it in a self-sealing plastic bag and put it into a DOT-approved drum for shipment to the hazardous waste disposal center.

Some older model freezers contain batteries that power an alarm that is activated when electric power is disrupted. We remove all batteries and have them destroyed through high-temperature incineration.

Old freezers may also have mercury-containing switches in their lids. At high temperatures, mercury vaporizes, forming extremely toxic fumes. Components containing mercury are collected at the component removal gate and stored in drums in a secure area until the quantity is large enough to be transported to a licensed mercury reclamation/recycling facility.

ARCA contracts with licensed and approved hazardous waste transport/disposal companies to ensure the professional transportation, management and processing of all hazardous or otherwise regulated components. Item 14 contains a list of these subcontractors.

Refrigerants

CFCs/HCFCs/HFCs
Refrigerators, freezers and room air conditioners typically contain chlorofluorocarbon (CFC), hydrochlorofluorocarbon (HCFC) or hydrofluorocarbon (HFC) refrigerants in their cooling systems. The EPA mandates proper evacuation and management of each of these refrigerant types. The refrigerants must be kept separate throughout processing in order to ensure the recyclability of the refrigerants. Our processing technicians are trained to identify each type of refrigerant and to separate appliances according to the type of refrigerant used so that we can prevent cross-contamination of the CFCs.

Sulfur Dioxide
A few older model refrigerators still in use contain sulfur dioxide as the refrigerant. Sulfur dioxide is corrosive to skin, eyes and lungs and proper protective gear must be worn and adequate ventilation is necessary when handling this material.

ARCA's technology to remove sulfur dioxide used as a coolant will be to recover it for reuse in wastewater treatment plants. The process extracts the sulfur dioxide and absorbs it into a caustic soda solution, which in turn produces a sodium bisulfite 38 percent solution. The solution is used effectively to neutralize chlorine in wastewater effluent. It is not a hazardous solution and can be easily transported.

ARCA's Equipment and Technology for Managing CFCs
ARCA has developed proprietary equipment and technology to:

- Reduce the potential for direct contact with refrigerants.
- Limit the release of CFCs and other refrigerants into the atmosphere.
- Maximize the capture efficiency of its refrigerant recovery systems.
- Produce high-quality reclaimed refrigerants for reuse.

Refrigerants present health and safety concerns for workers. Personal injury can result from the improper handling of refrigerants, including lung damage from inhaling refrigerant gases and tissue damage from direct contact. At ARCA California, we use fans to provide air movement to disperse pockets of refrigerant gas that may accumulate because of a leak in a sealed refrigeration unit or during the recovery process.

Processing technicians must use all appropriate safety equipment. Temporary storage cylinders and portable refrigerant cylinders are filled to an 80 percent level to eliminate the potential of overfilling and activating the cylinder's pressure relief valve.

Appliances proceed from the refrigerant identification area to the appropriate refrigerant recovery workstation for each type of refrigerant fluid/gas. Our company has been engaged in research and development efforts in the area of CFC recovery since the late 1980s. At that time, we evaluated a number of refrigerant recovery machines available commercially and determined that we needed a system capable of recovering refrigerants from 10 to 20 appliances at one time. The system also needed to be designed to reduce the amount of air, moisture and oils that are mixed with the CFCs.

In 1988, ARCA built its prototype CFC recovery unit. Over the course of several months and after several refinements, our Technical Services Division built a multi-unit CFC recovery system and installed it at one of our appliance recycling facilities in 1989.

ARCA's JS-91 CFC recovery unit and RC-10 manifold work together to create and maintain a 10-inch vacuum during the refrigerant recovery process. Each JS-91 and RC-10 system is capable of recovering refrigerants from 10 to 20 appliances at a time, at a recovery rate that exceeds the EPA standards for recovery equipment.

We temporarily store recovered refrigerants in separate, DOT-approved 1,000-pound reusable steel cylinders. When filled, the cylinders are transported to Coolgas, CFC Refimax, LLC, or another facility for reclamation and reuse of the CFCs.

Refrigerant Management Options

Pursuant to the Clean Air Act of 1990, EPA officials were directed to create policy to reduce chlorofluorocarbon-related refrigerant emissions to the lowest achievable level. In doing so, they took a two-fold approach. First, they emphasized the reuse of captured CFCs, putting an economic value on CFC recovery. Recovered CFCs were needed to service existing appliances as CFC manufacturing was phased out, and an economic incentive was motivation to recover and recycle CFC refrigerants instead of venting them into the atmosphere. Second, the EPA imposed a $25,000 fine per occurrence for anyone found to be venting CFCs.

Advocates who oppose recovery and recycling of CFC-11 and instead assert that incineration is the only viable option for its proper management have not applied the same logic to the refrigerant CFC-12 that is recovered for reuse. Supporters of incineration oppose the reclamation of CFC-11 for use in appliance service and repair because of the eventual release of the gas into the atmosphere, while neglecting to acknowledge that the same is true for reclaimed CFC-12.

Our approach is to offer our customers consistent treatment of recovered CFCs. Should SDG&E choose incineration to manage polyurethane foam insulation and CFC-11 (Options

2 and 3 in the following section on management of polyurethane foam insulation), we would also offer the option of destroying CFC-12 refrigerant through high-temperature incineration at a permitted and licensed facility.

Disassembly Process

Refrigerators and freezers containing polyurethane foam insulation are disassembled by removing evaporators, fan motors and compressors from oversized units. After technicians remove these parts, they set the appliance on its side on the conveyor.

Next, a disassembly technician moves the refrigerator or freezer (hereinafter in this section, *refrigerator* will be used to indicate either *refrigerator* or *freezer*) along the conveyor into an enclosed room where a large band saw cuts the refrigerator into several pieces. One cut is made approximately 18” to 24” from the bottom of the refrigerator, one cut 2” to 3” from the top, and one cut 2” to 3” from the front. The band saw has a specially designed set of pneumatic clamps for holding the refrigerator in place while being cut. The clamping device also tilts the refrigerator to approximately 10 degrees from horizontal to allow the blade to more easily cut the refrigerator into pieces.

Technicians then remove the plastic liner material and metal shell from the under-lying polyurethane foam insulation, leaving a U-shaped piece of foam. On some units, the foam adheres firmly to the metal and needs to be scraped from the shell.

Polyurethane Foam Management

ARCA has managed the recovery and reclamation of CFC-11 (Option 1 discussed below) from polyurethane foam insulation in refrigerators and freezers collected through several utility-sponsored programs in Southern California. In April 2004, ARCA and Southern California Edison Company (SCE) jointly received a Stratospheric Ozone Protection Award from the U.S. Environmental Protection Agency (EPA). ARCA and SCE, which were among 29 recipients worldwide recognized for their efforts in protecting the earth’s climate and ozone layer, were honored for recovering 23 tons of ozone-depleting materials, including CFC-11, through SCE’s residential refrigerator and freezer recycling program.

EPA’s Approach

The EPA estimated that polyurethane foam insulation in appliances contained roughly the equivalent amount of ozone-depleting substances as was likely to be found in the refrigeration system. According to studies conducted by Oak Ridge National Laboratory, shredding the foam, which would take place at the metal processor, would release up to 50 percent of the CFC-11 contained in the polyurethane foam insulation if the CFC-11 was not recaptured. However, citing the existence of significant financial and technical obstacles, the EPA elected to defer the promulgation of regulations regarding the retrieval of foam insulation from appliances.

The EPA has expressed interest in establishing demonstration projects, the goal of which is to investigate the feasibility and effectiveness of foam insulation management techniques. The majority of opportunities for conducting demonstrations as to the relative efficacy of differing approaches to foam processing have arisen in association with electric utility-sponsored appliance turn-in programs. ARCA supported Southern California Edison in petitioning for and conducting one such demonstration project that was funded by a

$100,000 grant from the Department of Energy (DOE) in 1998 (*Southern California Edison's Spare Refrigerator Recycling Program, DOE Grant #DE-FG51-97R02829, Technical Summary and Accomplishments* dated November 1, 1998).

Because of the negative economic impact on recyclers if the recovery of CFC-11 from polyurethane foam insulation would be required, the EPA did not institute regulations to call for CFC-11 recovery and recycling. However, based on the emphasis the EPA placed on economic incentives for recovering and recycling CFC refrigerants instead of venting them, it seems consistent that recycling CFC-11, as opposed to incinerating it, would also be the preferred management method.

ARCA's Technology

ARCA has demonstrated its commitment to helping answer the question of how to manage polyurethane foam insulation by making an investment in CFC-11 recovery equipment imported from Europe, while simultaneously investigating a variety of alternative insulation disposal techniques. As a result of this activity, ARCA offers separate options to manage polyurethane foam insulation recovered from appliances collected through SDG&E's program.

ARCA currently operates the only large-scale facility in the United States and Canada for recovering CFC-11 from polyurethane foam insulation in refrigerators. Before opening the Compton facility in 1993, we investigated a number of polyurethane foam insulation disposal technologies available in Europe and North America. We selected European equipment manufactured by Adelmann and invested more than $1,000,000 in a system, the ARCA A-55, specifically adapted for our use in the U.S. market. Our electric utility customers in Southern California, including SDG&E, have chosen to recover and recycle CFC-11 from polyurethane foam insulation with the ARCA A-55 system.

ARCA's Polyurethane Foam Management Options

We offer three options to manage recovered polyurethane foam:

Option 1 Process polyurethane foam; recycle liquid CFC-11; and recycle, incinerate or landfill residual material (depending on current markets)

Option 2 Process polyurethane foam and incinerate liquid CFC-11 and residual material (patent applied for)

Option 3 Recover polyurethane foam and incinerate intact (patent applied for)

Option 1: Process polyurethane foam; recycle liquid CFC-11; and recycle, incinerate or landfill residual material (depending on current markets)

Under this option, recovered foam is sent to ARCA California's CFC-11 processing room, where the panels are placed in a pneumatically sealed chamber in the ARCA A-55 system. The foam is fed into a chamber where it is shredded under negative pressure by rotary cutters, releasing the CFC-11 from the foam and capturing it in a negative-pressure, multi-stage condensation. The ARCA A-55 uses a high-density press to reduce the volume of polyurethane foam by a 30 to 1 ratio and remove any CFC-11 not freed from the foam in the negative pressure chamber. The recovered CFC-11 is sent to a licensed recycler for reclamation.

The only CFC-11 remaining is an extremely small amount that has migrated into the foam's matrix structure. This CFC-11 can only be released from the matrix structure through a thermal process or decomposition, with an estimated half-life of 100-200 years. Several years ago, representatives of the plastic industry made erroneous assumptions that vastly overestimated the amount of CFC-11 that is entrapped in the matrix structure. They reached these conclusions without testing foam after processing by the ARCA A-55.

To determine the amount of CFC-11 left in the matrix structure of aged foam after processing by the ARCA A-55, in March 2004 we submitted samples of polyurethane foam processed through the ARCA A-55 to West Coast Analytical Service, Inc. (WCAS). Results showed that CFC-11 remaining in the matrix structure after ARCA A-55 processing constituted only 0.0015 by weight of the processed foam. The ARCA A-55 has been certified to recover 99.0 percent of the CFC-11 found in newly manufactured polyurethane foam, and independent lab tests showed that the ARCA A-55 recovers 98.03% of the CFC-11 in aged foam.

With Option 1, we offer several alternatives for final disposition of the residual insulation material. We have recently worked with a vendor to determine if the residual material can be used in producing carpet padding and are investigating other possibilities for the reuse of this byproduct.

We can also incinerate or landfill the residual material. Because the polyurethane foam has been substantially reduced in volume, we can load greater quantities of the residual insulation material onto trucks for transport to an incinerator or landfill, significantly reducing vehicle fuel consumption and the associated air pollution.

Currently we landfill the residual insulation material. The hygroscopic material is highly valued by landfill operators, who use it to cover waste deposited at the facility. The California Integrated Waste Management Board reports that "daily cover prevents the emergence of flies and other insects, and controls odors, blowing litter and the infiltration of rainfall."

Option 2: Process polyurethane foam and incinerate liquid CFC-11 and residual material (Patent Application No. 11/077,263 Filed March 10, 2005)

This option offers the same insulation removal and CFC-11 recovery services as Option 1, including processing by the ARCA A-55 system, but provides for the incineration of the recovered liquid CFC-11 (the same process currently in use in Europe) as well as the residual insulation material following processing.

Under this option, we would transport the liquid CFC-11 and residual material to an approved incinerator in containers that would be burned intact. Due to the reduction in transportation needs because of the condensed material volume, this process diminishes the negative environmental impacts that occur with incinerating the foam without processing as described in Option 3.

However, while Option 2 reduces the negative consequences related to transporting large quantities of unprocessed foam, incineration does result in the production of dioxins and other toxic substances. While these toxins are not necessarily released into the atmosphere through incineration, they are trapped in the scrubber ash, which is then landfilled. Dioxins

are one of the most toxic substances known to mankind and have been found to cause cancer, birth defects and neurological impairment.

Option 3: Recover polyurethane foam and incinerate intact (Patent Application No. 11/077,263 Filed March 10, 2005)

ARCA continues to streamline and improve upon its processes and technology for managing polyurethane foam insulation found in household appliances. One innovation currently in development involves a packaging method that allows for more efficient and economical shipping of intact foam for processing and/or incineration. This new technique alleviates the inefficiency of shipping containers of polyurethane foam in which air is a major component.

Under this option, we would remove polyurethane foam insulation from refrigerators and transport the rigid insulation panels, sealed in plastic to prevent release of CFC-11, to an approved facility for incineration. In the absence of an ARCA A-55 to process polyurethane foam to recover CFC-11, this option is the only alternative for managing the foam except for landfilling the material.

During the process of identifying a licensed and permitted hazardous waste incinerator that could potentially handle the polyurethane insulation that ARCA recovers from refrigerators, ARCA found the Aragonite Incinerator, located in a remote area of Toole County, Utah. Through use of a clam-style crane, Aragonite moves large quantities of mixed hazardous materials from the facility's floor and drops them into an incinerator.

During this process, the large pieces of polyurethane foam are unavoidably broken up due to the handling involved prior to the foam being placed into the incinerator. Although the necessary materials handling by the incinerator prior to burning will result in the release of CFC-11, some of the effect is mitigated because the air in the staging area, which includes the freed CFC-11, is fed into the burn chamber.

Because the foam pieces have not been reduced in size, however, as occurs during the processing described in Option 1, this option results in higher transportation costs and increased energy consumption. Additionally, incineration results in the creation of dioxins, caused only by burning substances such as CFCs that contain chlorine.

Summary of Polyurethane Foam Management Options

The proper disposal of polyurethane foam insulation is an issue that complicates the finalization of energy-efficiency and environmental program design decisions. The federal government deferred rendering a decision on this issue when the original provisions of the Clean Air Act were promulgated in 1990.

Since the early 1990s, ARCA has evaluated and continues to evaluate polyurethane foam insulation disposal options. In 2002, ARCA conducted a site visit to MeWa, a German company engaged in the processing of CFC-11 from polyurethane foam insulation in refrigeration appliances. MeWa's technology employs a high-speed rotary shredder in an enclosed nitrogen chamber to reduce intact refrigerators to golf ball-sized bits of metal, plastic and foam.

Because intense heat is generated during the shredding process, nitrogen is used as a fire retardant. When shredding and heat release CFC-11 from foam insulation, nitrogen also acts as a carrier gas and absorbs CFC-11. The gas mixture is then cooled and the CFC-11 is separated from the nitrogen. Additionally, because heat releases virtually all of the CFC-11 embedded in the foam's matrix structure, the need to degas the residual foam is eliminated. These foam pieces, which have been entrenched with bits of metal during the high-speed shredding process, can be landfilled.

The use of nitrogen in MeWa's CFC-11 batch processing system is also necessitated by changes in the technology of European refrigerator manufacturing. While refrigerators made in Europe until the mid-1990s used CFC-11 or HCFC-141b as the blowing agent in polyurethane foam insulation, newer European models use cyclopentane as the blowing agent. Cyclopentane is a highly flammable substance, making the introduction of nitrogen as a fire retardant essential when these appliances are recycled.

ARCA has also visited new Adelmann installations in Europe and found that while these sites have modified their process to shred entire refrigerators without prior disassembly, the methodology and technology are essentially the same as with the Adelmann A-55 system ARCA acquired in the early 1990s. In this process, a slow-speed shear shreds refrigerators fed into a chamber under negative pressure, where nitrogen is on standby should a fire retardant be needed. However, the same condensation process as is used with the ARCA/Adelmann A-55 occurs. If nitrogen has been released during the process, both the nitrogen and the air are degassed to recover the CFC-11.

Laws throughout Europe dictate that CFC-11 must be extracted from polyurethane foam insulation during disposal of refrigerators that contain CFC-11 as the polyurethane foam blowing agent. With few exceptions, polyurethane foam is not being incinerated in Europe but is managed by processes similar to those used by MeWa or Adelmann. The majority of CFC-11 recovered through these processes is transported to facilities where the CFCs are broken down (cracked) to their original components, mainly Fluoracid and Saltacid. In doing this, the potential for ozone depletion is minimized.

Based on extensive research and current program volumes, ARCA has not found it feasible yet to adopt European technology of shredding entire refrigerators during the recovery of CFC-11. Refrigerator models manufactured in the U.S. (generally 18-22 cubic foot) are much larger than European-made models (10 cubic foot) and are less suited to the current MeWa and Adelmann processes for shredding whole refrigerators.

Refrigerators manufactured in the U.S. do not use a flammable substance such as cyclopentane as a blowing agent in polyurethane foam insulation, negating the necessity to introduce nitrogen into the process at this time. However, some refrigerators now manufactured outside of the United States and imported for sale do use cyclopentane as the blowing agent in the polyurethane foam insulation, which will require changes in future recycling processes.

Most U.S. manufacturers transitioned to HCFC-141b to replace CFC-11 before the 1996 deadline for CFC phase-out. Because HCFC-141b was phased out by 2003, U.S. manufacturers committed to converting to HFC-245fa as the blowing agent in polyurethane foam insulation.

After a thorough evaluation of the current MeWa and Adelmann equipment and processes, ARCA determined that the A-55 is still the most efficient and cost-effective technology available to manage U.S.-manufactured refrigerators typically received through utility programs, as well as being the least damaging to the environment. The only advantage to changing technology from our current system would be the reduction in handling costs required in processing appliances with polyurethane foam.

We could adopt European technology for recovering CFC-11 if their systems were redesigned to handle the larger-sized refrigerators manufactured in the U.S. Both MeWa and Adelmann have offered ARCA proposals on the feasibility of redesigning their systems to manage larger refrigerators. Because this would incur a capital investment of $2-3 million, ARCA's current contracts and volume do not support this investment.

ARCA follows the processes outlined in Option 1 for programs the company manages in Southern California, including San Diego Gas & Electric. Other electric utilities, including Southern California Edison, Los Angeles Department of Water and Power, City of Riverside, City of Pasadena Water and Power, City of Glendale, Imperial Irrigation District, Silicon Valley Power and Santa Clara Municipal, have also incorporated Option 1 into their refrigerator recycling programs.

In ARCA's opinion, Option 1 is the most environmentally responsible solution available. Option 1 causes the least amount of negative impact on the environment and is consistent with the EPA's concept of promoting recovery and recycling. Tests on polyurethane foam processed with ARCA's Adelmann equipment in March 2004 showed that the A-55 recovers 98.03% of the CFC-11 in aged foam. CFC-11 constituted only .0015 by weight of the residual material, an almost negligible amount, proving the effectiveness of the system. ARCA is currently investigating recycling alternatives to landfilling the residual polyurethane foam insulation material (following processing using the Adelmann A-55 technology) that would further increase the environmental benefits of the program.

Compressor Oil Degassing
(Patent Application No. 11/077,263 Filed March 10, 2005)

Refrigerators contain a high-grade mineral oil as a lubricant in the sealed refrigeration system that mixes readily with CFC refrigerant fluids and gases. As we recover CFC refrigerants with our proprietary JS-91 CFC recovery unit and RC-10 manifold, we pass the CFC-oil mixture through a separating unit in which gravity separates oil from CFCs.

Oil is also found in refrigerator compressors and is required to be removed and managed according to California regulations. Our technicians drill a hole in the refrigerator's compressor in order to drain the oil and prepare it for recycling. In 1993, we developed a unique system to drain compressor oil from three refrigerators at one time by use of a pneumatic tilting table that tips the appliances to a horizontal level. The oil in the compressor gravity-drains into a holding tank.

Compressor oil is combined in a water separation drum with oil recovered from CFC refrigerants. The oil in the water separation drum is allowed to settle overnight, during which time the water and oil separate.

The oil from the water separation drum is transferred into a treatment unit, ARCA's oil degasser. This ARCA-designed piece of equipment uses a degassing chamber, high-pressure oil pump, atomizing nozzles and a vacuum pump to reduce the concentration of CFCs to levels low enough to allow the oil to be recycled instead of being treated as a hazardous waste. The recovered CFCs are condensed into liquid form for recycling.

The degassed oil, which meets standards that allow it to be recycled, is transferred to a properly labeled, 240-gallon, above-ground storage tank. When the storage tank is full (about once a month), a permitted and licensed oil reclamation company pumps the oil from our storage tank into their tanker vehicle for delivery to their facility for recycling.

Plastics

We remove drawers, crispers and loose plastic pieces from the refrigerators for recycling. These materials are predominately acrylic, ABS (acrylonitrile-butadiene-styrene) and HIPS (high-impact polystyrene). We run these plastics through our specially designed shredder to prepare them for separation and recycling by companies such as MBA Polymers, Pralumex, Inc. and Weyerhaeuser Inc.

Glass

We send glass shelving to Nu-Way Arrow in Irwindale. Nu-Way Arrow is permitted to landfill inert materials such as glass, concrete and asphalt in a process of reclaiming an abandoned rock quarry for future development. Nu-Way Arrow also encourages the recycling of much of the construction and demolition waste that enters the landfill by combining the materials to produce a high-quality recycled aggregate product that is used as a base material for roadways or as other fill material.

Ferrous and Nonferrous Metals

Following the completion of all processing procedures, we bale (compact) the appliance shells for metal processing facilities, such as Hugo Neu-Proler, to prepare the ferrous and nonferrous metals for reuse. We also recycle compressors, motors and aluminum- and copper-containing components such as shelving and wiring.

Environmental Reporting

In 2004, ARCA California recovered and properly managed 218 pounds of PCBs; 23,238 pounds of CFC-12 refrigerant; 10,570 pounds of CFC-11; and 7,260 gallons of oil.

ARCA follows the requirements set forth in EPA 40CFR 761.180 and has obtained California Environmental Protection Agency CAL EPA Number CAL000111417. We maintain generation, transportation and disposal records and document logs for PCBs as required by law.

EPA Documentation and Reporting

The following procedures apply to capacitors ARCA collects during the refrigerator recycling process. ARCA follows the requirements set forth in EPA 40CFR 761.180, which pertains to PCBs. We have obtained California Environmental Protection Agency CAL EPA Number CAL000111417.

We prepare annual records and document logs, which are maintained at our facility and are available for inspection. ARCA California's annual records include:

1. All signed manifests generated by the facility during the calendar year.
2. All certificates of disposal received by the facility during the calendar year.
3. Records of inspections and cleanups performed in accordance with 40CFR 761.65(c)(5).

We also prepare an annual document log for the facility by July 1 of each year covering the previous calendar year. An annual document log is maintained for at least three years after we stop maintaining PCB items and includes:

1. ARCA's name, address and EPA identification and the calendar year covered by the log.
2. For each manifest generated or received by the facility during the calendar year, the unique manifest number, ARCA's name and address and following information:
    a. The serial number or other means of identifying each PCB item, not in a container or PCB item container, the weight in kilograms of the item, the date it was removed from service for disposal, the date it was received at the facility, the date it was placed in transport for off-site disposal (if applicable), and the date of disposal (if known).
    b. The unique number assigned by the generator identifying each container, a description of the contents of each container, such as liquid, soil, clean up debris, etc., including the total weight of the waste in kilograms in each container, the first date PCB items placed in each container were removed from service for disposal, the date it was received at the facility, the date each container was placed in transport for off-site storage or disposal (as applicable), and the date the container was disposed of (if known).
    c. The confirmed date of disposal.

ARCA submits an annual report, which briefly summarizes the records and annual document, by July 15 of each year. The annual report includes:

1. ARCA's name, address and EPA identification number and the calendar year covered by the annual report.
2. A list of the numbers of all signed manifests of PCB waste we initiated or received during that year.
3. The total weight in kilograms of PCB waste in storage at the facility at the beginning of the calendar year, received or generated at the facility, transferred to another facility, or disposed of at the facility during the calendar year.
4. The number of PCB containers in storage at the beginning of the calendar year, received or generated at the facility, transferred to another facility, or disposed of at the facility during the calendar year.

5. The weight in kilograms of PCB waste, in PCB containers, remaining in storage for disposal at the facility at the end of the calendar year.
6. The total number of PCB containers remaining in storage at the facility at the end of the calendar year.

ARCA's Real-Time Web-Based Reports

ARCA currently provides a comprehensive list of monthly reports for SDG&E via a secure Internet Webpage. These reports offer real-time, customized information, using date ranges and, in many cases, year-to-date and previous year-to-date options.

Two examples of online, real-time, environmental reports that SDG&E program staff now generate via their desktop computers are:

1. *Environmental Benefits Estimate*. This report lists the weight of the following items removed from refrigerators during the recycling process: scrap metal, CFC/HFC refrigerants, compressor oil, and capacitors. This report can also provide monthly and year-to-date data.
2. *Monthly Environmental Savings Summary Report.* This report provides real-time data showing the number of units collected and processed, first-year kWh savings, lifetime kWh savings and megawatt reduction. The following are measured by weight: scrap metal, CFC/HFC refrigerants, compressor oil and capacitors. This report is a date-range report that can be run by the day, week, month or year. The report can also provide monthly and year-to-date data to compare monthly and year-to-date data from the previous year's program.

ARCA's Employees

We provide our employees with a working environment conducive to employee retention. All full-time employees are eligible for:

- Paid vacation time and sick leave
- Flex benefits, including medical spending and childcare accounts
- 401K retirement plan
- Medical and dental insurance
- Life insurance
- Short-term disability insurance
- Group discounts on long-term disability and additional life insurance

As an example of satisfaction with the company and their jobs, five of the drivers we hired in 1994 when we opened ARCA California to serve Southern California utilities are still collecting appliances for us today. Each one of these drivers has collected approximately 50,000 appliances.

Employee Health and Safety

Employee health and safety is our foremost operational concern. We devote significant resources to developing and implementing training plans, procedures and policies to ensure that our employees are aware of any occupational hazards present in their jobs and practices to prevent on-the-job injuries and illnesses.

ARCA California implements federal and state employee right-to-know standards by compiling inventories of all hazardous substances in the facility, keeping up-to-date Material Safety Data Sheets readily available, ensuring that all containers holding hazardous or harmful materials are properly labeled, and providing ongoing training on a wide range of health and safety issues.

We instruct employees to immediately report to their supervisor or other management personnel any unsafe condition or practice, faulty equipment or other potential hazard. We also conduct periodic inspections to assess the site for hazards, followed by any necessary equipment or facility modifications to correct the problem.

To ensure proper personal protection, we provide equipment suited for jobs involving the handling of hazardous materials. Respirators, safety glasses, and chemical protective boots and gloves are regularly used in the course of appliance processing activities. We also reimburse employees for their purchases of steel-toed safety shoes and boots for on-the-job use.

We have an Injury and Illness Protection program in place and our center management and Safety and Risk Manager regularly address safety awareness.

All employees are covered under California's workers' compensation laws and we have a comprehensive system in place to report and investigate work-related accidents and injuries and assist employees throughout the process, should an incident occur.

Employee Training

ARCA's employees are required to be knowledgeable about a wide range of safety and environmental procedures. To ensure that employees are kept up to date on changing rules and regulations in their field and to encourage safe work habits, ARCA conducts thorough training of new employees, followed by ongoing and periodic training conducted by center and corporate staff.

Specific elements of ARCA California's training plan include:

1. Right-to-Know training upon being hired, when new hazardous materials or products are introduced to the facility, and annually.
2. Emergency response procedures for spill, discharge or release of hazardous materials, including mercury, sulfur dioxide, PCBs and ammonia.
3. Processing technicians trained to recover refrigerants are AHAM-NARDA certified and hold Refrigerant Recovery Certificates for EPA compliance.
4. Hazardous waste handling, collection, identification, storage, emergency procedures and personal protective equipment.
5. Universal waste training for fluorescent lamps and bulbs.
6. Hazardous waste management training for documentation, reporting, and manifests.
7. Use, inspection and maintenance of respiratory equipment.
8. Lockout/tagout procedures.
9. Storm water pollution prevention reporting.

10. Safety training by job function and work area.

ARCA California's management maintains attendance logs of training sessions.

Hazard Communication and Emergency Response Plans

ARCA California's Consolidated Contingency Plan (CCP) provides procedures to deal with emergencies at the facility that would be implemented immediately in the event of a fire, explosion or release of hazardous materials that could threaten human health and/or the environment. The CCP has been submitted to the local CUPA to improve the coordination between ARCA California's management personnel and local, state and federal emergency responders during an emergency.

ARCA California's CCP covers contact information for medical facilities and private emergency response; evacuation plans; prevention, mitigation and abatement procedures in the event of release or threatened release of hazardous materials; an inventory list of facility emergency equipment; and site diagrams.

Equipment Inspections and Maintenance Audits

A few of the key audits that we perform regularly include:

1. Center Safety Report – Verifies that we are satisfactorily meeting requirements for displaying warning posters and signs; keeping first aid equipment and emergency contact information easily accessible; providing proper fire protection equipment; using and/or having available required personal protective equipment and clothing; providing a clean, safe work environment; maintaining our equipment and tools in good operating condition; and following proper procedures and safe work habits.
2. Supervisors' Checklists – Completed daily, weekly and/or monthly for the following center areas: warehouse, component removal area, component storage room, refrigerant recovery area, plastics shredding, saw room, oil processing area, and CFC-11 processing room.
3. Equipment Inspections – Performed for all machines and equipment, including forklifts, RC-10 CFC manifold, A-55 CFC-11 recovery unit, JS-91 units, degasser, tip and drain table, plastics chipper, baler, and storage tanks and drums.

ARCA California's Licenses, Permits and Certifications

We maintain all permits, licenses and certifications as required by federal, state and local authorities. In addition, on July 1, 2005, we submitted our application to the California Department of Toxic Substances Control to receive our appliance recycling certification pursuant to Health and Safety Code 25211 (AB 2277). This law requires that appliance recyclers be certified by the state by January 1, 2006.

We have been notified that the local Certified Uniform Program Agency will perform a site inspection once the procedures have been finalized, after which a certificate will be issued. Subsequent to our request on October 19, 2005 for an update on our application status, Sarah P. Scott, Hazardous Substances Scientist in the DTSC Regulatory & Program Development Branch, indicated that the process of reviewing the applications is anticipated to begin the week of November 7 and that certifications would be issued by January 1, 2006.

City of Los Angeles Tax Registration Certificate
Account No. 091894-95 Issued 05/17/03; No expiration

City of Compton Business License Certificate
License Number 5002616 Expiration 02/28/06

Los Angeles County CUPA Consolidated Permit/License to Operate
City of Compton Hazardous Materials Disclosure Program
LA County Fire Department Hazardous Waste Generator Program
LA County Fire Department TIER Program - Permit by Rule (PBR)
LACoCUPA No: AR0037896
Expiration 03/25/06

California Environmental Protection Agency
Authorization to Operate a FTU Pursuant to Permit by Rule
CAL EPA Number CAL000111417 Issued 10/19/93

State Water Resources Control Board Permit
ID #4B19S010721 No expiration

U.S. EPA Refrigerant Recovery or Recycling Device Acquisition Certification Form

South Coast Air Quality Management District Permit to Operate Refrigerant Recycle/Recover Unit,
A-55/Adelmann, Model No. A-55 Permit No. D80670 ID 98610

South Coast Air Quality Management District Permit to Construct/Operate Compressor Oil Degasser
Permit No. D80866 ID 98610

South Coast Air Quality Management District Permit to Construct/Operate
Refined Oil/Water Separator
Permit Nos. D80670 and D80866 Expiration 02/16/06

Federal Department of Transportation #USDOT353559

Listed below are the AHAM-NARDA Refrigerant Recovery Certificates for EPA compliance held by employees and the dates the certificates were received:

1. Michael Gonzales (May 2005)
2. William Inkman (April 2003)
3. Peter J. Mares (June 1996)
4. Alfredo Negrete (October 1996)
5. Aniceto Nevarez (April 2003)
6. Jeremy Southard (May 2005)
7. Terry White (May 2005)

Facility Compliance

Our Compton facility has been inspected by representatives of the California Department of Toxic Substances Control (DTSC) and found to be in full compliance with all applicable regulations in force in the state of California, including those of the Metallic Discard Act section of the California Public Resources Code and the California Health and Safety Code.

ARCA California has not been cited for any infraction of environmental regulations during the past five years and has not received any such citations since the facility opened in 1993.

October 2005 Regulatory Compliance Audit

On October 10, 2005, Emerson Lego, Technical Manager, of Chemical Data Management Systems conducted a Regulatory Compliance Audit on our Compton facility. The audit evaluated the facility's compliance with major hazardous material and safety regulations.

Some specific areas of focus included:

- Hazardous materials management plan
- Training
- Hazardous waste
- Safety plan and walk-through
- Air permits
- Storm water
- Respirator program and use
- Sound monitoring
- Spill prevention control and countermeasures

Under the heading "Summary of Deficiencies," ARCA California received a rating of "None." A copy of the audit is available upon request.

Insurance Coverage

ARCA carries a full complement of insurance policies covering all aspects of the operation, including facility, transportation and employee coverage. In addition, we maintain $10,000,000 in Pollution Legal Liability protection.

The following is a list of our policies and their expiration dates:

General Liability Insurance
Policy #: TBJZ91 426090-025
Wausau Business Company
Policy Expiration Date: 04/01/06

Automobile Liability Insurance
Policy #: ASCZ91 426090-015
Wausau Lines Employers Ins.
Policy Expiration Date: 04/01/06

Worker's Compensation Ins.
Policy #: WCKZ91-426090-075
Wausau Insurance Company
Policy Expiration Date: 04/01/06

Pollution Legal Liability Insurance
Policy #: 37305975
Chubb Custom
Policy Expiration Date: 08/24/08

Difference in Conditions Insurance
Policy #: I20673758001
Westchester Surplus
Policy Expiration Date: 04/01/06

Employment Practices Liability Ins.
Policy #: 4649268
Carolina Casualty Insurance Co.
Policy Expiration Date: 04/01/06

Crime Insurance
Policy #: 81702446
Chubb/Federal Insurance Co.
Policy Expiration Date: 04/01/06

Directors & Officers Liability Ins.
Policy #: 8171931
Chubb/Federal Insurance Co.
Policy Expiration Date: 04/01/06

Excess Liability Insurance
Policy #: BE2685638
National Union Fire
Policy Expiration Date: 04/01/06

Fiduciary Liability Policy
Policy #: 81692557
Chubb/Federal Insurance Co.
Policy Expiration Date: 04/01/06

Incentive Fulfillment Services

Over the past ten years, we have managed more than 750,000 incentives for customers participating in appliance recycling programs, including those sponsored by SDG&E. Through this experience, we have established systems, procedures and subcontractor relationships that make our incentive fulfillment services efficient and economical.

Incentives are a convenient and cost-effective method to increase levels of participation in utility-sponsored programs by rewarding customers for turning in qualifying appliances. They also serve to ensure high rates of customers being at home for scheduled appliance removal appointments. For SDG&E's 2006-2008 program, we propose that customers turning in operating refrigerators and freezers will receive $35 checks and room air conditioners will receive $25 checks.

We currently provide all aspects of incentive fulfillment management and payment for SDG&E through our computerized tracking and reporting system, which has built-in auditing

controls. Customers receive their incentive checks three to five weeks following appliance collection, which we accomplish through the following:

1. During the billing process, we create a file with incentive information for each qualifying customer.
2. We transmit the file electronically to a third-party fulfillment company for check printing and first-class mailing.
3. After the checks are mailed, we receive an electronic file and paper register of the transactions.
4. We compare the incentive fulfillment company's list with our original file to ensure that all checks were mailed as planned.

Because data about each check is captured within ARCA's ATO order system, SDG&E's program manager can access this information via the Internet in real-time format. This data feature, which includes the check number and date the check was mailed to the customer, greatly enhances the ability to answer customer inquiries on check status.

We also have the capability to monitor which checks have not been cashed, enabling us to follow up with the intended recipient to find out why the check remains uncashed and if it needs to be reissued. Information on uncashed or unclaimed checks will be provided to the state of California to comply with escheat laws.

ARCA's customer incentive fulfillment service is transaction oriented, so SDG&E pays only for incentives that fully qualify for the program. Because detailed documentation is kept for every transaction and is easily accessible to SDG&E's program staff in real-time format via a secure Website, SDG&E is always aware of the commitment status for program incentives.

Invoicing

We submit these invoices weekly for units picked up during the previous week to the appropriate contacts at SDG&E for approval for payment. The invoices include the corresponding ATO numbers and details of fees. The original ATO is stored at our corporate office in Minneapolis and a copy is kept at ARCA California.

ARCA invoices SDG&E for completed transactions only. After the unit is picked up, information on the ATO form is completed and verified at ARCA. ATOs then become the source documents for creating SDG&E's invoices for recycling services and customer incentives. Every week, ARCA electronically submits these invoices for appliances collected during the previous week to SDG&E for approval for payment. Customer incentive checks are mailed to customers the week after we send the invoices to SDG&E.

11. Customer Description

Residential (both single and multifamily) and nonresidential (small commercial) SDG&E customers owning working, inefficient household refrigerators, freezers and/or room air conditioners are eligible for the ARP. Customers may operate these appliances as spare units or as primary appliances that are being replaced.

12. Customer Interface

Several key features of ARCA's services that create easy access for customers include:

- Effectively targeted marketing and advertising campaigns to inform customers and motivate participation in the ARP, including cooperative activities with other SDG&E energy-efficiency program vendors, local governments, retailers and community organizations.
- Providing customer service through the program's toll-free number, 1-800-599-5792 from 5 A.M. to 6 P.M. (Pacific) Monday through Friday and 7 A.M. to 3:30 P.M. on Saturday.
- Enabling customers 24/7 to schedule their own collection appointment and complete the order process on ARCA's real-time Website.
- Providing links to other websites promoting SDG&E's energy-efficiency programs.
- In-home collection and pickup and drop-off events to provide options for customers to turn in their operating, inefficient appliances.
- Automatic processing and payment of customer incentives, with no additional forms to complete and mail.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

See SDG&E February 1, 2006 Workbook

13.2. kWh Level Data

See SDG&E February 1, 2006 Workbook

13.3. Non-energy Activities

Not Applicable. No non-energy activities are planned for the ARP.

13.3.1. Activity Description

Not Applicable. No non-energy activities are planned for the ARP.

13.3.2. Quantitative Activity Goals

Not Applicable. No non-energy activities are planned for the ARP.

13.3.3. Assigned attributes of the activity (market sector, end use)

Not Applicable. No non-energy activities are planned for the ARP.

14. Subcontractor Activities

The following subcontractors provide ARCA with services for handling residual appliance materials that are recycled or disposed of:

Vendor: Clean Harbors Environmental Services, Inc.

Service: Hazardous waste transport, storage and disposal for capacitors, mercury and contaminated absorbent materials
Address: 5756 Alba St., Los Angeles, CA 90058

Vendor: Asbury Environmental Services
Service: Collection and recycling of nonhazardous (degassed) compressor oil
Address: 2100 North Alameda St., Compton, CA 90222

Vendor: Nu-Way Arrow
Service: Glass disposal
Address: 1270 Arrow Highway, Irwindale, CA 91706

Vendor: Coolgas, Inc.
Service: Reclaim CFC/HCFC refrigerants to meet EPA standards for reuse
Address: 14025 Interdrive East, Houston, TX 77032

Vendor: CFC Refimax, LLC
Service: Reclaim CFC/HCFC refrigerants to meet EPA standards for reuse
Address: 1935-G Delk Industrial Blvd. SE, Marietta, GA 30067

Vendor: MBA Polymers
Service: ABS and HMS plastics for separation and recycling
Address: 500 West Ohio Ave., Richmond, CA 94804

Vendor: Pralumex, Inc.
Service: ABS and HMS plastics for separation and recycling
Address: 19903 Tennessee Trail, Walnut, CA 91789

Vendor: Weyerhaeuser Inc.
Service: ABS and HMS plastics for separation and recycling
Address: 12851 Alondra Blvd., Norwalk, CA 90650

Vendor: Hugo Neu-Proler
Service: Scrap metal processing for baled appliances and other metals
Address: Port of Long Beach, CA

Vendor: Lighting Resources Inc.
Service: Recycling of fluorescent light bulbs
Address: 805 E. Francis St., Ontario, CA 91761

Vendor: Sunset Ranch, Inc.
Service: Collection and disposal of solid waste (nontoxic trash)
Address: 12625 Rush St., South El Monte, CA 91733

Vendor: Hub City (City of Compton Dept. of Water)
Service: Collection and disposal of solid waste (nontoxic trash)
Address: 201 North Willowbrook Ave., Compton, CA 90220

Companies contracted to manage ARCA's hazardous and recyclable materials are listed above. When awarded a contract, we require our subcontractors to provide verification of applicable licenses, permits and insurance certificates. Once they are established subcontractors, we periodically audit their operations for compliance.

15. Quality Assurance and Evaluation Activities

ARCA proposes to continue the following activities to allow SDG&E to evaluate quality assurance and program compliance:

- Customer Service Representatives (CSRs) are monitored by supervisory staff at a minimum of twice a week while receiving calls and handling customer orders.
- All new customer orders are reviewed daily for accuracy and consistency in data input to ensure that orders are placed correctly.
- ARCA conducts random observed and unobserved audits of our collection teams by periodically stopping trucks for inspections, riding with the driver on a route and following up with phone interviews with customers. Corporate and center managers evaluate driver skills, safety of work methods and adherence to program procedures.
- We regularly perform internal audits to verify compliance with governmental regulations concerning appliance processing and recycling, and for requirements related to employee training, health and safety.
- Outside financial auditors conduct quarterly reviews and an annual audit that includes random checks of invoices we have generated for utility program services.
- Through the current program, ARCA provides SDG&E with unrestricted access to our facility in Compton for environmental audits and to daily routing sheets and schedules of all collection teams for independent quality assurance inspections to verify adherence to program requirements.

ARCA recommends that SDG&E's program manager conducts quarterly site visits and ride-alongs. ARCA will conduct additional inspections and quality assurance.

16. Marketing Activities

ARCA developed a highly successful print and television media campaign that was used to promote three programs offered to SDG&E's customers from 2000 to 2003: the Summer Initiative, SBX1 5 and the statewide residential appliance recycling program. Under these programs, ARCA was responsible for the development and placement of advertising and was assisted by the company's agency, Cactus Advertising. Through carefully targeted marketing, we were able to help SDG&E recruit HTR (Hard To Reach) customers and met all HTR and non-HTR goals.

ARCA will work with Cactus Advertising to pursue a similar approach for SDG&E's 2006-2008 program. The campaign elements feature educational, advertising and promotional messages to inform consumers of the energy costs of operating inefficient refrigerators, freezers, and room air conditioners; create customer awareness of the program; and generate requests for program services and attendance at drop-off events.

Our integrated advertising plan employs a combination of print and television media, along with public relations efforts, which include:

- Bill Inserts – Promotional inserts in consumers' monthly electric and cable television bills have proven to be a very effective form of program advertising because they can

be zoned by zip code. This can increase participation in specific geographic areas, where, for example, a high percentage of HTR customers reside. Bill inserts targeted to specific areas will be used to promote both in-home collection and drop-off events.

- Television – With cable television, we have the flexibility to target advertising to selected metropolitan zones in SDG&E's service territory. Cable systems also offer a greater opportunity to stage ads throughout the broadcast day, which helps create a more level intake of customer orders and increases efficiency in handling incoming calls requesting collection appointments.
- Point-of-Sale Materials – Program literature displayed at new-appliance retailers, along with careful training of sales personnel to stress the requirement that only operating appliances are eligible for turn-in, reaches consumers at time of purchase when the financial incentive becomes an encouragement to step up to a more energy-efficient refrigerator such as an ENERGY STAR® unit.
- Public Relations – Well-timed press releases sent to local media with follow-up calls to answer questions and encourage coverage are also part of the public relations strategy when we are targeting a specific region or community or publicizing a drop-off event.

Although types of media vary, the advertising message remains consistent. Essential elements are:

- Educating consumers on the high cost of operating an energy-inefficient refrigerator, freezer or room air conditioner.
- Promoting the energy and environmental benefits of new, energy-efficient appliances, especially ENERGY STAR® models.
- Highlighting the financial incentive participants will receive.
- Emphasizing the ease of participation, with appointment scheduling through the program Website, by placing a toll-free phone call or by attending a drop-off event.
- Displaying SDG&E's name and logo prominently, with the company's permission. We will also coordinate activities with the national ENERGY STAR® appliance initiative by establishing a link from the program Website to their Website to increase consumer awareness and facilitate access to information on new ENERGY STAR® models.

We own several television spots and have developed a wide range of print materials that can be produced in English and Spanish. SDG&E's project managers will have final approval on all advertising materials.

17. CPUC Objective

As proposed by ARCA, SDG&E's ARP will meet the following CPUC objectives for energy efficiency programs:

- Reduce the environmental impact (including greenhouse gas emissions) associated with the state's energy consumption.

- Protect the public's health and safety.
- Contribute to the pursuit of cost-effective energy efficiency opportunities as identified in SDG&E's annual goals for electricity savings and demand reduction.
- Provide a cost-effective alternative to supply-side resource options.
- Provide opportunities for equitable distribution of energy-efficiency benefits to residential and small commercial customers and, ultimately, benefit all SDG&E customers through the ARP's resource savings.
- Reduce "lost opportunities."
- Encourage the purchase and use of improved energy-efficient appliances.
- Provide highly cost-effective and reliable load impacts (kWh energy savings, kW demand reduction, net-to-gross ratios, incremental measure costs and useful lives) and TRC and PAC results from well established refrigerator and freezer recycling measures that have been successfully implemented over many years in California.
- Utilize a competitive solicitation process to identify new and innovative approaches to improve customer convenience and program performance.
- Deliver real-time, Web-based data-tracking and reporting capabilities to enable SDG&E to provide accurate ongoing and periodic reports on program activities.

	SDGE3028 3P Appliance Recycling
BUDGET	
Administrative Costs	**$ 257,235**
Overhead and G&A	$ 257,235
Other Administrative Costs	$ -
Marketing/Outreach	**$ 1,279,775**
Direct Implementation	**$ 6,524,185**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ 1,788,265
Direct Install Labor	$ 4,516,312
Direct Install Materials	$ -
Activity	$ -
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ 219,608
EM&V Costs	**$ -**
Budget	**$ 8,061,195**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 8,061,195**
PROGRAM IMPACTS	
User Entered kW (kW)	5,744
Net Jul-Sept Peak (kW)	5,056
Net Dec-Feb Peak (kW)	4,944
Net NCP (kW)	4,533
Net CEC (kW)	7,947
Annual Net kWh	36,622,507
Lifecycle Net kWh	366,225,072
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 3,457,273
Electric Benefits	$ 20,597,919
Gas Benefits	$ -
Net Benefits (NPV)	$ 17,140,646
BC Ratio	5.96
PAC	
Costs	$ 7,356,454
Electric Benefits	$ 20,597,919
Gas Benefits	$ -
Net Benefits (NPV)	$ 13,241,466
BC Ratio	2.80
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	240,113,301
Cost	$ 0.0144
Benefits	$ 0.0858
Benefit-Cost	$ 0.0714
Levelized Cost PAC ($/kWh)	
Discounted kWh	240,113,301
Cost	$ 0.0306
Benefits	$ 0.0858
Benefit-Cost	$ 0.0551
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

3P Appliance Recycling

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 2,686,959	$ 2,101,443	$ 585,562	12,207,048	-	1,915
2007	$ 2,687,118	$ 2,101,567	$ 585,528	12,207,729	-	1,915
2008	$ 2,687,118	$ 2,101,567	$ 585,528	12,207,729	-	1,915

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	251001	EE Refrigerator Recycling	1,946	-	0.30	0.35	Refrigerator	10	14,011	$ 123.54	$ 97.75	9,542,892	-	1,471
2006	251002	EE Freezer Recycling	1,662	-	0.26	0.54	Freezer	10	2,938	$ 123.54	$ 97.75	2,636,796	-	406
2006	251003	EE Room Air Conditioner Recycling	300		0.41	0.8	unit	10	114	$ 66.35	$ 41.35	27,360	-	37
2007	251001	EE Refrigerator Recycling	1,946	-	0.30	0.35	Refrigerator	10	14,012	$ 123.54	$ 97.75	9,543,573	-	1,471
2007	251002	EE Freezer Recycling	1,662	-	0.26	0.54	Freezer	10	2,938	$ 123.54	$ 97.75	2,636,796	-	406
2007	251003	EE Room Air Conditioner Recycling	300		0.41	0.8	unit	10	114	$ 66.35	$ 41.35	27,360	-	37
2008	251001	EE Refrigerator Recycling	1,946	-	0.30	0.35	Refrigerator	10	14,012	$ 123.54	$ 97.75	9,543,573	-	1,471
2008	251002	EE Freezer Recycling	1,662	-	0.26	0.54	Freezer	10	2,938	$ 123.54	$ 97.75	2,636,796	-	406
2008	251003	EE Room Air Conditioner Recycling	300		0.41	0.8	unit	10	114	$ 66.35	$ 41.35	27,360	-	37

2006-2008 Energy Efficiency Programs
California Preschool Energy Efficiency Program (CPEEP)
Concept Paper

Program Snapshot	
California Preschool Energy Efficiency Program (CPEEP)	
Market Sectors	• Preschool Centers funded by the California Department of Education • Head Start Centers • Privately-owned Preschool Centers
Program classification	Proposed as a local program. CPEEP could be implemented as a statewide program. CPEEP has been accepted by SCE as one of their 2006-2008 third party energy efficiency programs and has submitted stage 2 proposal to PG&E.
Program status	New segment and new program
Program geography	800 preschool centers in SDG&E service area
Percentage of market	CPEEP expects to retrofit more than 500 centers in SDG&E's service area—between 50-60 percent of the total market
Primary Team Members	Low Income Investment Fund California Head Start Association California Dept of Education, Child Development Division Intergy
Program Description:	• Detailed technical audits, including financial and technical analysis of recommended measures to over 800 preschool centers. • Implementation of recommended comprehensive lighting, HVAC, refrigeration, and other measures. • Training of preschool owners and/or facility managers about demand reduction strategies and sustainability. • Informational component that includes focused outreach targeting children and their parents.

2006-2008 Energy Efficiency Programs
California Preschool Energy Efficiency Program (CPEEP)
Concept Paper

"This is to express the California Department of Education's support of the goals of the proposed California Preschool Energy Efficiency Program, a program designed to assist public and private preschool centers to achieve energy efficiency savings and educate children and families about energy efficiency."

Jack O'Connell, California Superintendent of Public Instruction.

2006-2008 Energy Efficiency Programs
California Preschool Energy Efficiency Program (CPEEP)
Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ -	$ -	$ -
	Administrative Other	$ 63,000	$ 63,000	$ -
Marketing & Outreach		$ 48,550	$ 48,550	$ -
Direct Implementation				
	Activity	$ -	$ -	$ -
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ -	$ -	$ -
	Procurement	$ 89,200	$ 89,200	$ -
	Incentives	$ 410,500	$ 410,500	$ -
EM&V		$ -	$ -	$ -
Total		*$ 611,250*	*$ 611,250*	*$ -*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
572,530	303	-	572,530	303	-	-	-	-

3. Program Cost Effectiveness

Attached

4. Program Descriptors

CPEEP – Program Descriptors	
Market Sectors	• Preschool Centers funded by the California Department of Education • Head Start Centers • Privately-owned Preschool Centers
Program Classification	Proposed as a local program. CPEEP could be implemented as a statewide program. CPEEP has been accepted by SCE as one of their 2006-2008 third party energy efficiency programs and has submitted stage 2 proposal to PG&E.
Program Status	New Program and new segment
Program Geography	800 preschool centers in SDG&E service area

% of Market Penetrations	CPEEP expects to retrofit more than 500 centers in SDG&E's service area—between 50-60 percent of the total market

5. Program Statement

For the most part, the energy efficiency industry has failed to support the state's preschools. Though the IOUs have targeted K-12 and higher education facilities in the past, the preschool segment has not received direct energy efficiency funding. Despite an ageing infrastructure, most facilities have not made energy efficient upgrades. Most preschools have not performed energy efficiency retrofits or developed energy reduction plans for several reasons. Prominent among them are:

- ***High first costs and competing demands for funds***. The preschool segment has historically struggled with lean budgets and thin operating margins. Without adequate incentives, energy efficiency retrofits are often out of the reach of centers' budgets. Decision makers must consider energy-efficiency projects with other uses of funds, including teacher salaries, occupancy costs and other critical needs.

- ***Technology information search costs***. Preschools lack the time and expertise to evaluate efficiency opportunities. With a variety of pressing demands and limited staffing, preschool directors and facility managers are not well informed about energy efficiency.

- ***Performance uncertainties.*** Preschool directors and owners can be unsure about appropriate energy efficiency technologies as well as with the skills, honesty and motives of unfamiliar contractors. With California's continuing budget struggles, centers have very limited time and resources to identify and evaluate energy retrofit project measures, project financing opportunities, and operations best practices.

- ***Lack of viable service providers.*** Preschools lack onsite expert staff to provide installation and O&M services.

- ***Controllability.*** Preschool directors and owners view energy costs as fixed rather than as expenses they can control.

6. Program Rationale

CPEEP offers a variety of innovative concepts that address the various problems and obstacles in this previously unidentified segment, which includes three different groups:

- California Department of Education contracted preschools,
- Federally-funded Head Start Centers,
- Private preschools.

Because CPEEP will bring together California's major child care organizations in one energy efficiency effort, the program will be able to overcome the challenges identified in the program statement. Specifically:

- ***CPEEP will address high first costs and competing requests for funds***. CPEEP will be the first funded program for the preschool centers and will provide energy efficiency analysis and incentives to enable preschool directors to undertake retrofit projects. Also, there is potential funding available at the state level for maintenance that may be able to supplant meager operations budgets.

- ***CPEEP will help reduce technology information search costs***. Since CPEEP links the state's major child care agencies into an energy efficiency project, it will be able to provide information and technical assistance to help preschools personnel understand the advantages of energy efficiency efforts.

- ***CPEEP will help overcome performance uncertainties.*** The program will clearly explain to preschool directors and owners, through a comprehensive audit and technical assistance, the appropriate energy efficiency technologies. The program will carefully select subcontractors or installers based on consumer satisfaction criteria

- ***CPEEP will eliminate the lack of viable service providers.*** The program will provide energy efficiency support and expertise to the preschools for installation and O&M services. Energy efficiency best practices need to be tied into the new preschool centers, as well as those undergoing remodeling and renovating.

- ***CPEEP will address controllability.*** The program will offer training and guidance for preschool directors and owners to help them understand that energy costs can be mitigated through energy efficiency activities.

Not only is the CPEEP's objective to create immediate energy savings, it will also establish a foundation and infrastructure for long-term energy efficiency in this segment. If California develops a "Preschool-for-All" program over the next few years that will require the construction of thousands of new centers, CPEEP will have established an infrastructure for energy efficiency.

The preschool component of the education sector in California includes about 10,000 early care and education center-based programs, with 800 centers in SDG&E's service area. These programs include federally funded Head Start centers, state supported preschools plus related programs, and privately owned centers, serving thousands of children from birth to 5 years in infant/toddler and preschool facilities. Although K-12 and higher education facilities have been targeted and funded for energy efficiency programs in the past, there has been no direct funding for the preschool segment. Many of these preschools are housed in older, energy intensive facilities that have never implemented energy

efficiency retrofits. There is significant identified potential for energy efficiency projects in these early care facilities that have not been addressed because of lack of information and funding.

The Low-Income Investment Fund (LIIF), working with the California Department of Education Child Development Division, the California Head Start Association and Intergy will implement this cost effective and innovative resource and information program that will bring energy efficiency to these preschool centers for the first time. CPEEP constitutes a complete solution by identifying energy and demand reduction opportunities, providing technical assistance to identify and implement projects, completing post installation quality control procedures, and training owners and/or facility planners. CPEEP is a cost effective program that will generate significant energy and demand savings.

CPEEP will generate over 3.25 million kWh energy savings and 629 kW in demand savings. CPEEP is cost effective with a TRC 2.4, which is significantly higher than 1.06, the TRC for the system-wide school segment. CPEEP has received wide support for the various aspects of the program.

"I am writing to convey my support for the California Preschool Energy Efficiency Program, a program designed to assist public and private preschool centers to achieve energy efficiency savings and educate children and families about energy efficiency…Energy efficiency is essential for these centers and the state in general; therefore, I offer my support for the CPEEP program and urge you to give this application due consideration."

George Miller, Member of U.S. Congress

"I wish to express my support of the California Preschool Energy Efficiency Program for the state preschools, Head Start centers, and private preschools. Reductions in these energy costs through improved efficiencies and related means, would make a significant contribution to the centers' ability to serve students, and will contribute to the energy efficiency goals established by the California Public Utility Commission."

Howard "Buck" McKeon, Member of U.S. Congress

"The California Head Start Association's members are excited to participate in this project. Over the past several years, Head Start programs have experienced ever tightening budgets. Funds to acquire more efficient facilities have been greatly restricted. Cost savings from any improved efficiencies would be of great value in this era of limits and increasing program demands."

Edward Condon, Executive Director, California Head Start Association

2006-2008 Energy Efficiency Programs
California Preschool Energy Efficiency Program (CPEEP)
Concept Paper

The 800 preschools in SDG&E's territory have significant potential in energy and demand savings. Funding cutbacks and higher energy costs have resulted in energy efficiency projects not being implemented. These preschools, given that the majority of previous funding and focus has been on K-12 and higher educational facilities, do not have adequate information about the benefits of energy efficiency, and have little practice or experience incorporating efficient technologies in their facilities. CPEEP overcomes these barriers by providing a complete solution – identifying energy and demand reduction opportunities, providing technical assistance to identify and implement projects, completing post installation quality control procedures, and training owners and/or facility planners.

Over the past 20 years, capital funds and technical assistance from the Low Income Investment Fund (LIIF) have helped hundreds of community organizations involved in serving the nation's hardest-to-reach populations. To date, by providing loans, grants and technical assistance, LIIF has supported projects totaling more than $440 million in 35 states. This extensive experience has provided LIIF with significant expertise in facility development from the planning stage to construction, renovations and working with subcontractors for housing, childcare, and education. The California Department of Education (CDE), Child Development Division is responsible for the oversight and distribution of $2.2 billion in funds for child development programs. CDE manages more than 2,000 contracts with 850 public and private agencies, supporting more than 596,000 children. The California Head Start Association is the influential voice of the state's Head Start community. California has 1,906 Head Start centers, with more than 104,000 children enrolled and 19,552 employees. LIIF will work closely with the California Department of Education and the California Head Start Association to ensure a broad level of participation in CPEEP. LIIF will coordinate the implementation of CPEEP by working closely with Intergy Corporation and other local sub-contractors.

A key strength of CPEEP is the establishment of a permanent long-term energy management program that will create an infrastructure for the large-scale expansion of facilities under the state's Preschool-for-All Act that provides voluntary preschool for all four year old children in California. If passed by the voters in June 2006, Preschool-for-All will result in a multi-billion dollar construction cycle to build or expand thousands of centers. This new construction will significantly benefit from CPEEP experiences in preschool energy efficiency.

CPEEP's primary objectives will be to deliver cost-effective energy and demand savings through a coordinated comprehensive strategy that includes:

- Detailed audits that identify and document high priority, cost effective energy efficiency measures tailored to each facility;
- Technical assistance in understanding the recommended technologies and in preparing a financial analysis of the identified projects. One objective will be to move from project identification to installation, including identification and finalization of funding for the projects;
- Complete implementation of the identified technologies;

- Post-installation checks and verifications to ensure that all implementation has been completed as per guidelines;
- Facility staff workshops, coordinated with SDG&E to educate preschool owners and managers on new energy efficiency practices and technologies. In preparation for the possible Preschool-for-All program, these sessions will include information on the likely 2007 cycle of new construction projects;
- Development of age-appropriate materials for the centers to help children and their parents learn about energy efficiency.

Energy efficiency support and retrofits will be available to both publicly or privately operated facilities and will include stand-alone and shared-space facilities that educate and provide care for pre-kindergarten age children. Since an overwhelming number of centers are located in older facilities or portables that have never experienced energy efficiency upgrades, a significant number of lighting retrofits, sensors, and controls can be anticipated. Many older facilities are located in areas that endure hot summer climates; thus major energy savings will be available by retrofitting HVAC systems. LIIF will work with the preschools to identify and finalize supplemental funding opportunities to complete this work—including, but not limited to, program budgets, CEC low interest loans, and state funding.

Key Program Strengths

CPEEP offers an innovative, cost effective approach that will target a previously untapped market. Some of the primary strengths of CPEEP include:

⇒ ***Demand and energy reduction*** – Energy savings will be delivered from the 800 preschools in SDG&E's service area; this market segment has been largely untapped in the past and offers significant identified energy efficiency potential. Energy and demand savings will be delivered using a comprehensive list of new and more established measures, which will provide a high level of reliability to the energy and demand savings.

⇒ ***Cost effectiveness*** –This ratio is significantly higher than any other school program currently offered in California. .

⇒ ***Program implementation and feasibility*** – LIIF has more than 20 years of experience funding projects totaling more than $440 million. In the child care sector, LIIF has unique expertise in the provision of technical assistance on facility development and financing resources. Both other program members, the California Department of Education (CDE), Child Development Division and the California Head Start Association (CHSA), have extensive experience in facility development. Recently, Intergy, the primary subcontractor in this project, successfully implemented the Community College Program throughout Southern California Edison service area. CPEEP implementation will consist of a mix of new measures and measures with documented savings.

⇒ ***Innovative target marketing*** –K-12 and higher educational institutions have been targeted for energy efficiency projects, but preschools have largely been untapped. These preschools are typically in older facilities and present significant opportunity for energy efficiency retrofits.

- ***Extensive support and infrastructure implementation*** -- The program links the state's following three major child care segments into a powerful and effective energy efficiency coalition:
  - -California Department of Education contracted preschools,
  - -Federally funded Head Start Centers,
  - -Private preschools.

7. Program Outcomes

The primary goal of this program is to implement energy efficiency projects in the 800 early care and education centers within SDG&E's service area. To reach the program's goals, projects will be carefully selected on the basis of energy savings potential and cost-effectiveness. The program does not assign any specific co-pay percentage for each project – it will instead treat each project on a case-by-case basis and determine any needed co-pay amounts – while keeping the overall goals in mind. This will ensure that we maximize the effectiveness of the centers' limited budgets.

CPEEP's primary activities are:

Implementation of retrofits:

Energy efficiency support and retrofits will be available to both publicly or privately operated facilities and will include stand-alone and shared-facilities that educate and provide care for pre-kindergarten age children. Since an overwhelming number of centers are located in older facilities or portables that have never experienced energy efficiency upgrades, a significant number of lighting retrofits, sensors, and controls can be anticipated. Many older facilities are located in areas that endure hot summer climates, thus major energy savings will be available in retrofitting HVAC systems. LIIF will work with the preschools to identify and finalize supplemental funding opportunities – including, but not limited to, program budgets, CEC low interest loans, and state funding.

The retrofit portion of the program will include:

- T8 retrofits, LED exit signs, CFLs, HID retrofits,
- Time clocks and lighting controls,
- Programmable thermonstats, HVAC upgrades,
- Food service measures.

It is important to note that the above measures will be identified and implemented as a comprehensive project. Other measures may be added, based on the facility needs or the audit results. For the additional measures, energy and demand saving documentation will be provided to SDG&E.

Given that the majority of previous funding and focus for education-related energy efficiency programs has been on K-12 and higher educational facilities, California preschools, including those in the San Diego region, lack both the information and experience necessary for incorporating efficient technologies in their facilities. CPEEP overcomes these barriers by providing a complete solution including identification, solutions and tracking of energy efficiency measures at each campus.

Marketing the program:
To market the program, CPEEP will use the extensive communication and networking system that exists within the early care and education sector in California. All members of the proposal team—LIIF, the Department of Education, and the California Head Start Association—have well-developed methods of communicating with the centers. Articles about the program will be published in CHSA newsletters, the Department of Education, Child Development Division will send a letter explaining the program to all state-contracted preschools. Brochures about the program will be distributed to the preschools, and presentations will be made at conferences and seminars.

Because child care is so ubiquitous, the centers constitute important informational channels to staff, parents, vendors and related-groups. Taken as a whole, these groups constitute several hundred thousand people within SDG&E's service area. Many in this group are part of the hard-to-reach populations; while, they are not consistently responsive to mass market communication, they are receptive to information from the centers. The information and outreach effort will develop language-appropriate information about energy efficiency to this large and new market segment, including SDG&E rebate and program information.

Information and outreach:
One of the most innovative aspects of CPEEP will be the age-appropriate information and material that will be developed as part of the preschool centers' curriculum. The Department of Education Child Development Division and the California Head Start Association have extensive expertise in developing age-appropriate curriculum and materials. This effort will be the first significant opportunity to bring energy efficiency into the very beginning of the learning experience.

The CPEEP information and outreach effort will coordinate the program and materials for this market segment with SDG&E's schools' program. CPEEP will thus extend the SDG&E's school program concept to encompass pre-kindergarten children and their families.

CPEEP's overall marketing and information plan is:

Materials/actions	#s of units	website	email	direct mail	In person	By phone	Date
Program brochures	1,000	X		X			**3/06**
Program instructions	1,000	**X**	**X**		**X**	**X**	**3/06**
Program enrollment	500	**X**	**X**				**4/06**
Outreach brochures to families/ distributed through preschool centers/English & Spanish	30,000	**X**					**12/06 and 6/07**
Age-appropriate materials for preschools	4,000						**9/07**

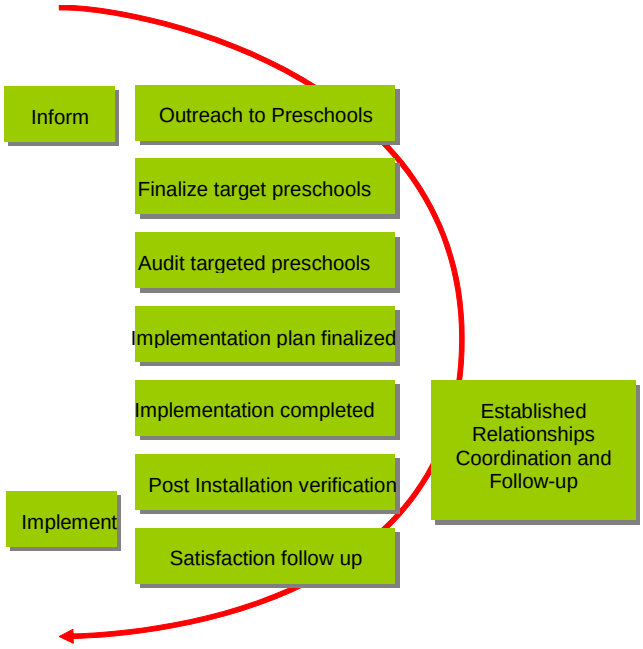
8. Program Strategy

Identify the various strategies that will be used for program success. *See the attached list.*

The primary strategies utilized by CPEEP will include:

- Marketing and Outreach
- Non Residential Audits
- Non Residential Building Calculated Rebates
- Non Residential Quality Installation
- Non Residential Commissioning (limited)
- Non Residential Downstream training (Facility planners)

CPEEP will broadly follow the process outlined below for implementation:



CPEEP's implementation strategy includes:

- Outreach to preschools via established communication channels.
- Detailed audits that identify and document high priority, cost effective energy efficiency measures tailored to each facility;
- Technical assistance in understanding the recommended technologies and in preparing a financial analysis of the identified projects. One objective will be to move from project identification to installation, including identification and finalization of funding for the projects;
- Complete implementation of the identified technologies;

- Post-installation checks and verifications to ensure that all implementation has been completed as per guidelines.
- Customer satisfaction follow-ups will include surveys, and any issues will be corrected.

Installations will be verified and checked to ensure they have been completed as per guidelines. All rebates, installations, and equipment replacements will be carefully tracked and maintained in a database.

- The primary component of the program will be implementation of energy efficiency retrofits.

It is important to note that the above measures will be identified and implemented as a comprehensive project. Other measures may be added, based on the facility needs or the audit results. For the additional measures, energy and demand saving documentation will be provided to SDG&E.

As preschool centers enroll, audits and implementation will be scheduled in consultation with center directors or other representatives. The primary objective is to implement energy efficiency retrofits and projects will be carefully selected on the basis of energy savings potential and cost-effectiveness. The program does not assign any specific co-pay percentage– it will instead treat each project on a case-by-case basis and determine co-pay amounts. Projects will be based on energy demand and savings, and preschool centers budget conditions. This will ensure that we maximize the effectiveness of the centers' limited budgets.

Subcontractors working in the preschool centers will complete the required verification and licensing procedures. Coordination will take place with center directors to minimize disruptions to operations. With oversight by Intergy, subcontractors will be responsible for purchasing and installing all required materials, ensuring that all products meet the program requirements. Customer satisfaction will be emphasized and failure to meet these standards will result in removal of the subcontractor from the program. To ensure that proper lighting levels are maintained for customers, lighting subcontractors will receive a guideline on de-lamping and required light levels for various types of tasks and retrofits.

After installation, subcontractors will document the actual measures installed. While at the customer site, contractors will be instructed to identify and document any additional quantities or measures, with the goal of installing as comprehensive a retrofit as possible for each project. Subcontractors will inform the customer before installation of any additional measures. The project completion form will indicate the actual products installed and will note any differences from the original work order. All additional work required, but not provided (repair to electrical wiring, replacement of damaged lenses, etc) will be noted on the installation report, and all data from the report will be inputted

into the program-tracking database; this database will be available to the centers as well as SDG&E.

8.1.1. Program Strategy Description

Marketing and Outreach

To market the program, CPEEP will use the extensive communication and networking system that exists within the early care and education sector in California. All members of the proposal team—LIIF, the Department of Education, and the California Head Start Association have well-developed methods of communicating with the centers. Articles about the program will be published in CHSA newsletters, the Department of Education; Child Development Division will send a letter explaining the program to all state-contracted preschools. Brochures about the program will be distributed to the preschools, and presentations will be made at conferences and seminars.

Because child care is so ubiquitous, the centers constitute important informational channels to staff, parents, vendors and related-groups. Taken as a whole, these groups constitute several hundred thousand people within SDG&E's service area. Many in this group are part of the hard-to-reach populations; while, they are not consistently responsive to mass market communication, they are receptive to information from the centers. The information and outreach effort will develop language-appropriate information about energy efficiency to this large and new market segment, including SDG&E rebate and program information.

One of the most innovative aspects of CPEEP will be the age-appropriate information and material that will be developed as part of the preschool centers' curriculum. The Department of Education Child Development Division and the California Head Start Association have extensive expertise in developing age-appropriate curriculum and materials. This effort will be the first significant opportunity to bring energy efficiency into the very beginning of the learning experience.

Non Residential Audits

An initial list of targeted facilities will be finalized in consultation with the State Department of Education and Head Start. Detailed audits will be conducted to identify and document high priority, cost effective energy efficiency measures tailored to these facilities. The Program will provide technical assistance in understanding the recommended technologies and in preparing a financial analysis of the identified projects. The primary objective of these audits will be to not only identify and provide a technical/financial analysis of the measures, but to also provide detailed specifications on completion of project. Complete specifications for the recommended measures will be provided to ensure that the project can move to the implementation phase.

Non Residential Building Calculated Rebates

As preschool centers enroll, audits and implementation will be scheduled in consultation with center directors or other representatives. The primary objective is to implement energy efficiency retrofits and projects will be carefully selected on the basis of energy

savings potential and cost-effectiveness. The program does not assign any specific co-pay percentage– it will instead treat each project on a case-by-case basis and determine co-pay amounts. Projects will be based on energy demand and savings, and preschool centers budget conditions. This will ensure that we maximize the effectiveness of the centers' limited budgets. All rebates will primarily be based on the annual energy savings from the project. The final rebate levels may be changed somewhat based on the peak kW savings, type of measures being installed, and the specific situation for each preschool. The final rebate levels will be consistent with the overall budget and energy/demand savings for the program.

Non Residential Quality Installation

A program representative will visit each completed installation site, with the visit expected to be within 15-30 days of the installation completion. The representative will have a list of the actual measures installed and will complete a verification report checklist. The representative also will confirm the type and approximate quantity of qualified energy efficient measures installed and will confirm that they are operational. In addition, the representative will visually check for problems such as missing light covers, exposed wiring, hazardous conditions, etc. For programmable thermostats, the representative will ensure that the time clock and programmable settings have been properly adjusted. The verification checklist will be completed and discrepancies will be noted. All discrepancies will be entered into the program-tracking database, and a corrective action work order will be issued to the subcontractor.

Any installation issues that arise from the inspection will be noted; corrective action will be taken within ten working days. Issues and corrective action will be noted in the program's database and reports.

Non Residential Commissioning (limited)

Commissioning will be offered as an option for preschools with facilities over 3000 square feet. The benefits of commissioning will be discussed with the preschool facility planner and detailed technical and financial analysis offered. Incentives for any commissioning activities will be based on annual energy and peak demand savings. Due to the relatively smaller size of preschool facilities, we do not anticipate a high level of commissioning activities to be completed in this segment.

Non Residential Downstream Training

Training will be offered to facility planners and owners of preschool facilities. Training will be coordinated with SDG&E to ensure that all resources are being leveraged. Training will also be coordinated with the Building Operator Certification (BOC) program. Information about various SDG&E programs will be distributed in these trainings. Assistance with any specific projects will be offered. Training will also include information about SDG&E demand response and self generation programs.

8.1.2. Program Indicators

The marketing and outreach goals of CPEEP include:

Materials/actions	**#s of units**	**website**	**email**	**direct mail**	**In person**	**By phone**	**Date**
Program brochures	1,000	X		X			**3/06**
Program instructions	1,000	**X**	**X**		**X**	**X**	**3/06**
Program enrollment	500	**X**	**X**				**4/06**
Outreach brochures to families/ distributed through preschool centers/English & Spanish	30,000	**X**					**12/06 and 6/07**
Age-appropriate materials for preschools	4,000						**9/07**

9. Program Objectives

The primary goal of this program is to implement energy efficiency projects in the 800 early care and education centers within SDG&E's service area. To reach its goal, projects will be carefully selected on the basis of energy savings potential and cost-effectiveness. The program does not assign any specific co-pay percentage for each project – it will instead treat each project on a case-by-case basis and determine any needed co-pay amounts – while keeping the overall goals in mind. This will ensure that we maximize the effectiveness of the centers' limited budgets. The following chart describes the program's timeline and energy/budget distribution.

TOPIC	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07
Development of Program												
Resource Preparation/ Tooling												
Program Ramp Up												
Program Implemen -tation												
Program Ramp Down												
Program Shut Down												

TOPIC	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07
Program Wrap Up												

TOPIC	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23
	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
Development of Program											
Resource Preparation/ Tooling											
Program Ramp Up											
Program Implemen-tation											
Program Ramp Down											
Program Shut Down											
Program Wrap Up											

Some specific CPEEP milestones include:

Development

- Building a sophisticated database tracking system to track the data element requirements for each preschool.
- Communications to preschools about the program
- Marketing plan and materials will be developed and enrollments in program will begin.

Resource preparation

- Enrollment,
- Project analysis and selection,
- Audits
- Budget analysis.

Ramp Up

- Audits,
- Budgeting,
- Scheduling,
- Contractor and equipment requirements.

Implementation

- Installation of hardware,

- Issuance of rebates,
- Performance of retrofit work,
- Inspection and verification.

Ramp Down

- Finish inspections,
- Remedy any installation issues,
- Perform customer surveys.

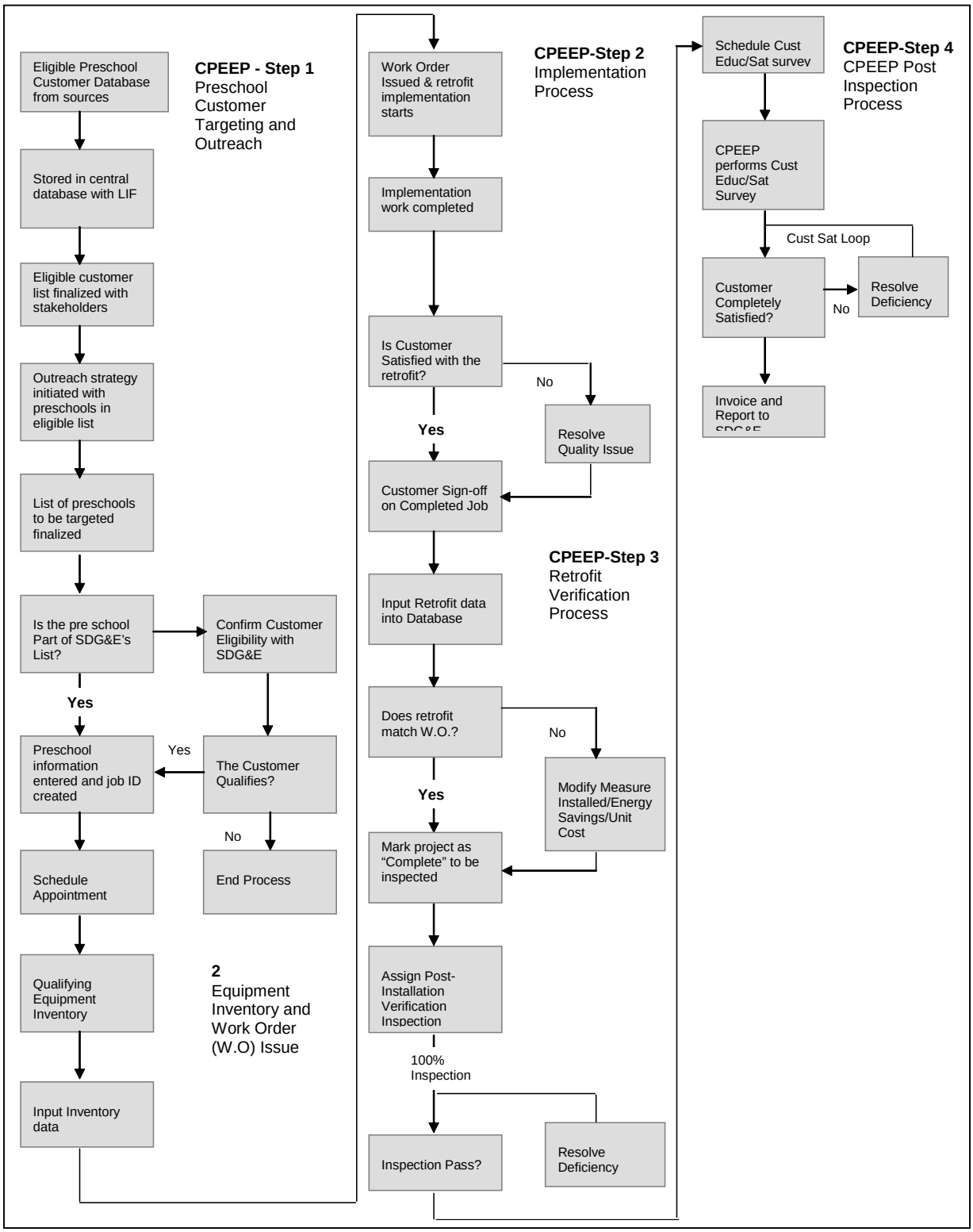
Wrap Up

- Address any customer satisfaction issues,
- Complete invoicing,
- Program reporting.

10. Program Implementation

Energy efficiency support and retrofits will be available to both publicly or privately owned facilities and preschool contractors, and will include stand-alone and shared-facility space that educate and provide care for pre-kindergarten age children. Since the most centers are located in older facilities or portables that have never experienced energy efficiency upgrades, a significant number of lighting retrofits, sensors, and controls can be anticipated. LIIF will work with the preschools to identify and finalize funding opportunities – including, but not limited to, program budgets, CEC low interest loans, and state funding. Many facilities are located in areas that endure hot summer climates, thus major energy savings will be available in retrofitting HVAC systems

The following represents a list of tasks envisioned in the implementation and facilitation of the CPEEP program.


Eligible Preschool Customer Database from sources
CPEEP - Step 1
Preschool Customer Targeting and Outreach
Stored in central database with LIF
Eligible customer list finalized with stakeholders
Outreach strategy initiated with preschools in eligible list
List of preschools to be targeted finalized
Is the pre school Part of SDG&E's List?
Confirm Customer Eligibility with SDG&E
Yes
Preschool information entered and job ID created
Yes
The Customer Qualifies?
No
End Process
Schedule Appointment
Qualifying Equipment Inventory
2
Equipment Inventory and Work Order (W.O) Issue
Input Inventory data
Work Order Issued & retrofit implementation starts
CPEEP-Step 2
Implementation Process
Implementation work completed
Is Customer Satisfied with the retrofit?
No
Resolve Quality Issue
Yes
Customer Sign-off on Completed Job
CPEEP-Step 3
Retrofit Verification Process
Input Retrofit data into Database
Does retrofit match W.O.?
No
Modify Measure Installed/Energy Savings/Unit Cost
Yes
Mark project as "Complete" to be inspected
Assign Post-Installation Verification Inspection
100% Inspection
Inspection Pass?
Resolve Deficiency
Schedule Cust Educ/Sat survey
CPEEP-Step 4
CPEEP Post Inspection Process
CPEEP performs Cust Educ/Sat Survey
Cust Sat Loop
Customer Completely Satisfied?
No
Resolve Deficiency
Invoice and Report to

***Task 1*. Build Tracking System.**

The CPEEP team will develop a sophisticated database to track the data element requirements for each preschool the program. These include:

- The date of the field audit
- Measures recommended to the customer based on the audit
- Date of contract signing by the customer and the measures agreed to
- Date of completion of installation of the measures
- Measures installed at the preschool
- Estimated and achieved kWh and kW savings saved
- Rebate provided to preschool for corresponding kWh and kW savings
- Verification/approval of installation by SDG&E
- Date of verification

The database will have the capability to generate a comma separated variable (CSV) file of the same format as that being currently utilized by SDG&E. This data will be made available to the SDG&E IDEEA program management staff in this CSV format through SDG&E's Project Reporting Application (PRA) currently being used for online submission of reports by the 2004-05 IDEEA program. After an authorized user (for example, a contractor) logs in, they can upload the required Program Summary Reports and CSV flat files through the website using a standardized Excel file. SDG&E and other authorized users will be able to view or download the CSV Flat File through the online application, as well as to the Measure Cost Detail report. This tracking system is currently available and active. SDG&E can then use the CSV file to load information to its internal database system.

Security: The program will follow all procedures required by SDG&E to adhere to SDG&E's specific security guidelines, for example, encryption of files, download of files by SDG&E utilizing an encryption key, and other similar requirements. We understand the data and IT security issues for an organization like SDG&E, and will follow the processes outlined to maintain complete security for the application at all times. These procedures may be adapted to adhere to any of SDG&E's specific guidelines.

Key elements securing access to the system include:

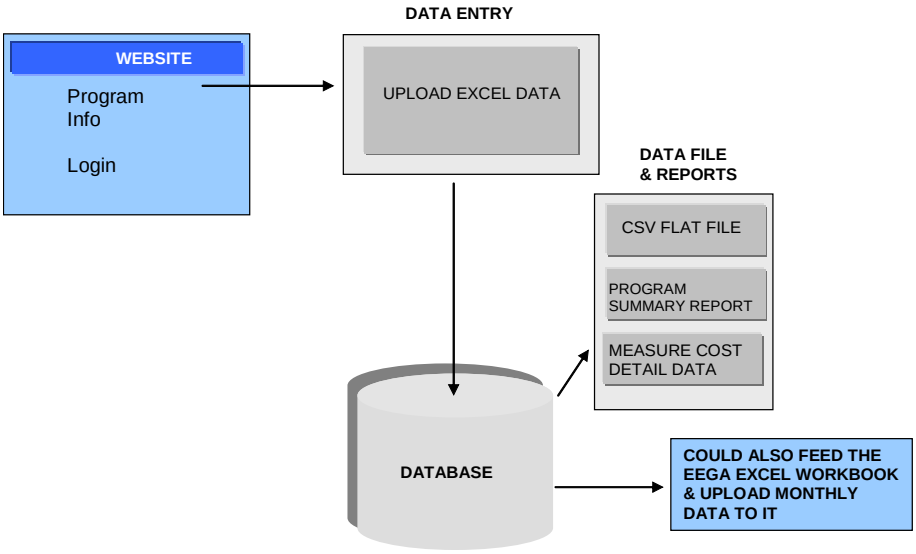
- System access will be through secured login.
- Password will be encrypted and stored.
- All the activities will be logged in the Audit Log table.
- Secure Network Data Exchange via SSL encryption.

The server will be configured to allow only HTTP/port 80, HTTPS/port 443 (and similar) access, and encrypted send-only SENDMAIL access. All other network access will be closed.

Data stored on the server will only be accessible in a non-web accessible file space and only accessible via a secure authenticated SSH connection by authorized system administrators.

Data accessible in the web application will only be provided after the designated users are authenticated with a username and password via a secure HTTPS encrypted connection.

Standard enterprise security measures will be applied to the maintenance, use, and administration of the web server, database server, and scripting solutions. Access to each element of the total solution will be strictly controlled according to a need-based system.



Tracking system - CPEEP

Deliverables:
CPEEP will develop a database tracking system that will meet all program and SDG&E requirements, and provide online data.

***Task 2*. Develop Marketing Materials and Obtain Approval from SDG&E**.

To market the program, CPEEP will use the extensive communication and networking system that exists within the early care and education sector in California. All members of the proposal team—LIIF, the Department of Education, and the California Head Start Association have well-developed methods of communicating with the centers. Articles about the program will be published in CHSA newsletters, the Department of Education; Child Development Division will send a letter explaining the program to all state-

contracted preschools. Brochures about the program will be distributed to the preschools, and presentations will be made at conferences and seminars.

Because child care is so ubiquitous, the centers constitute important informational channels to staff, parents, vendors and related-groups. Taken as a whole, these groups constitute several hundred thousand people within SDG&E's service area. Many in this group are part of the hard-to-reach populations; while, they are not consistently responsive to mass market communication, they are receptive to information from the centers. The information and outreach effort will develop language-appropriate information about energy efficiency to this large and new market segment, including SDG&E rebate and program information.

One of the most innovative aspects of CPEEP will be the age-appropriate information and material that will be developed as part of the preschool centers' curriculum. The Department of Education Child Development Division and the California Head Start Association have extensive expertise in developing age-appropriate curriculum and materials. This effort will be the first significant opportunity to bring energy efficiency into the very beginning of the learning experience.

CPEEP's implementation strategy includes:

- Detailed audits that identify and document high priority, cost effective energy efficiency measures tailored to each facility;
- Technical assistance in understanding the recommended technologies and in preparing a financial analysis of the identified projects. One objective will be to move from project identification to installation, including identification and finalization of funding for the projects;
- Complete implementation of the identified technologies;
- Post-installation checks and verifications to ensure that all implementation has been completed as per guidelines.
- Customer satisfaction follow ups will include surveys, and any issues will be corrected.

Deliverables:
Projects will be carefully selected based on energy savings potential and cost-effectiveness. Preschool directors will be consulted as audits and retrofit installations are scheduled and performed. Installations will be verified and checked to ensure they have been completed as per guidelines. All rebates, installations, and equipment replacements will be carefully tracked and maintained in a database. Age and language appropriate materials about energy efficiency will be developed.

Task 3. **Inspect Installed Jobs**

A program representative will visit each completed installation site, with the visit expected to be within 15-30 days of the installation completion. The representative will have a list of the actual measures installed and will complete a verification report

checklist. The representative also will confirm the type and approximate quantity of qualified energy efficient measures installed and will confirm that they are operational. In addition, the representative will visually check for problems such as missing light covers, exposed wiring, hazardous conditions, etc. For programmable thermostats, the representative will ensure that the time clock and programmable settings have been properly adjusted. The verification checklist will be completed and discrepancies will be noted. All discrepancies will be entered into the program-tracking database, and a corrective action work order will be issued to the subcontractor.

Deliverables:
Each completed installation site will be visited and equipment retrofits and installations will be verified. The verification checklist will be completed and discrepancies noted. All verifications and related information will be carefully tracked and maintained in a database.

Task 4. **Remedy Installation Issues**

Any installation issues that arise from the inspection will be noted; corrective action will be taken within ten working days. Issues and corrective action will be noted in the program's database and reports.

a) Re-inspect Corrected Jobs
Intergy will re-inspect corrected jobs and will complete a verification form.

11. Customer Description
Describe the customer targeted by the program.

The preschool centers are a new segment for energy efficiency efforts. The customers served will be the estimated 800 early care and education programs and related families and staff in SDG&E's service area. This segment includes three different groups:

- California Department of Education contracted preschools,
- Head Start Centers
- Private preschools.

Childcare is essential to the state's economy, and critically necessary for working parents. As such, preschool centers are important informational channels to staff, parents, vendors and related-groups, who are involved with preschool centers in SDG&E's service area. The outreach effort would develop and distribute age and language-appropriate information about energy efficiency to this large, vital, and new market segment.

The program will be extended to include the expected growth in the number of preschool facilities if the "Preschool for All" Act is adopted by the state in 2006.

12. Customer Interface

In the past, preschool centers have not received direct energy efficiency funding form the IOUs. As detailed in the program statement, preschool centers have been hesitant about energy efficiency projects, because of:

- High first costs,
- Technology information search costs,
- Performance uncertainties
- Lack of viable service providers
- Controllability.

To facilitate customer interface, CPEEP will use the extensive communication and networking system that exists within the early care and education sector in California. All members of the proposal team—LIIF, the Department of Education, and the California Head Start Association—have well-developed methods of communicating with the centers. Articles about the program will be published in CHSA newsletters, the Department of Education, Child Development Division will send a letter explaining the program to all state-contracted preschools. Brochures about the program will be distributed to the preschools, and presentations will be made at conferences and seminars.

The centers constitute important informational channels to staff, parents, vendors and related-groups. Taken as a whole, these groups constitute several hundred thousand people within SDG&E's service area. Many in this group are part of the hard-to-reach populations; while, they are not consistently responsive to mass market communication, they are receptive to information from the centers. The information and outreach effort will develop language-appropriate information about energy efficiency to this large and new market segment.

One of the most innovative aspects of CPEEP will be the age-appropriate information and material that will be developed as part of the preschool centers' curriculum. The Department of Education Child Development Division and the California Head Start Association have extensive expertise in developing age-appropriate curriculum and materials. This effort will be the first significant opportunity to bring energy efficiency into the very beginning of the learning experience.

CPEEP will coordinate with other SDG&E school program, and help promote related incentive and rebate programs.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

See SDG&E February 1, 2006 Workbook

13.2. kWh Level Data

See SDG&E February 1, 2006 Workbook

13.3. Non-energy Activities

The program's non-energy activities include marketing materials—brochures, website, communications links, and training seminars that will be offered to preschool directors and facility managers about energy efficiency.

i. ***End Use Load (if applicable)—***
N/A

ii. ***Targeted sector—***
The target sector is the 800 preschool centers in SDG&E's service area.

iii. ***Activity description—***The non-energy activity will include developing various marketing brochures and communication information about the program. The program will also reach out to preschool families with brochures and information about energy efficiency. Participating centers will distribute the materials to the families.

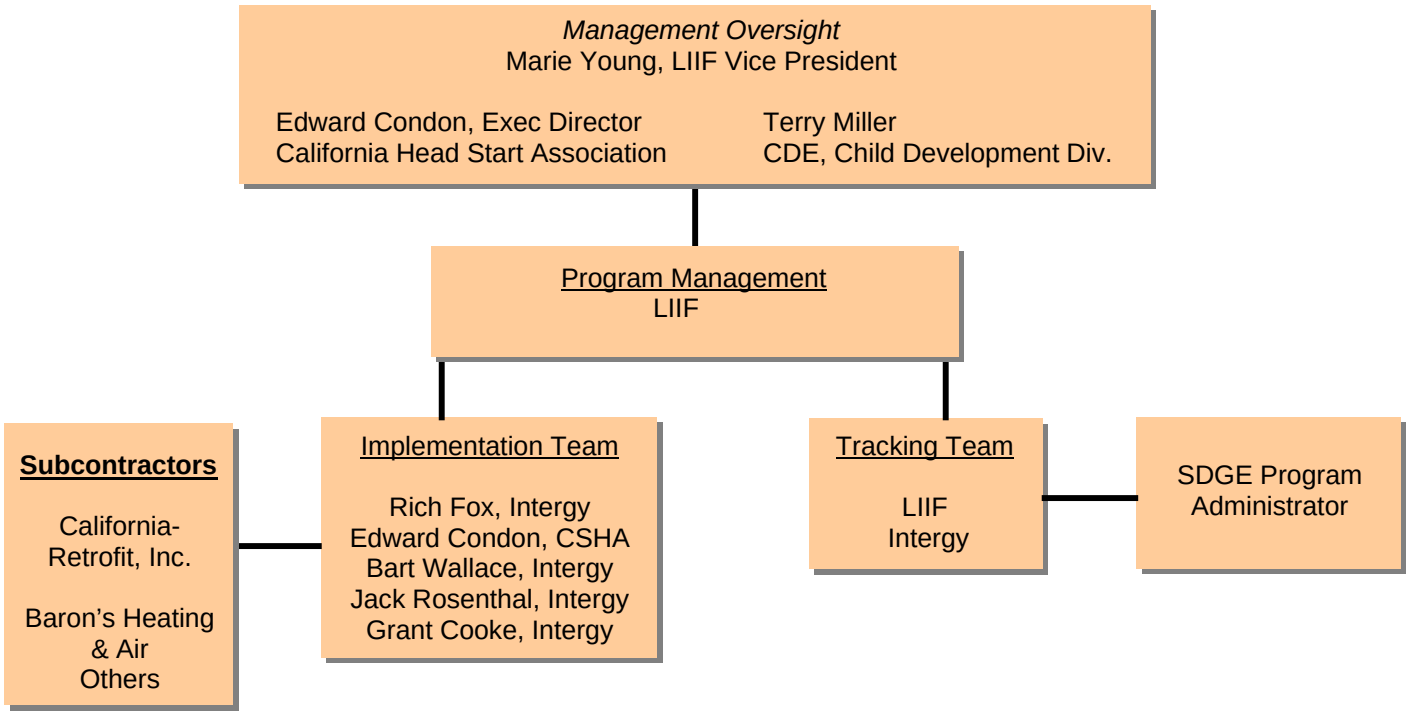
iv. ***Quantitative Activity Goals—*** The program intends to develop 1,000 program brochures, 1,000 program instructions, 500 program enrollment instructions (most enrollment will be online), 30,000 outreach brochures to families and 10,000 age-appropriate materials for preschools.

Materials/actions	**#s of units**	**website**	**email**	**direct mail**	**In person**	**By phone**	**Date**
Program brochures	1,000	X		X			**3/06**
Program instructions	1,000	**X**	**X**		**X**	**X**	**3/06**
Program enrollment	500	**X**	**X**				**4/06**
Outreach brochures to families/ distributed through preschool centers/English & Spanish	30,000	**X**					**12/06 and 6/07**
Age-appropriate materials for preschools	4,000						**9/07**

14. Subcontractor Activities

The program brings together all three groups of the state's preschool segment to participate in a major energy efficiency effort that will generate significant energy savings and cost reductions. Not only will the program address the segment's immediate energy efficiency concerns, but it will develop an infrastructure for energy efficiency efforts as thousands of preschools are built in response to the Preschool for All Act in 2006. CPEEP's staffing plan is diagrammed below. Marie Young, LIIF vice president, will serve as overall program manager. Edward Condon of the California Head Start Association (CHSA) will provide

support for communicating and sign-ups of the preschools being targeted. A description of the roles follows.



Summary of all Team Members

The CPEEP members and their roles are included next.

Low Income Investment Fund (LIIF)
In its 20-year history, the Low Income Investment Fund (LIIF), a national community development financial institution, has provided $440 million in capital (loans and grants) and technical assistance to help hundreds of community organizations serving the nation's hardest-to-reach populations in 35 states. LIIF's assistance, in turn, has leveraged investments in poor communities of more than $3.4 billion for housing, child care and education facilities. Through a family of funds - the Affordable Buildings for Children's Development (ABCD) Fund, the Child Care Facilities Fund (CCFF), and Making Space for Children, the New York Child Care Seed Fund and the Revolving Loan Fund (RLF) - LIIF encourages a comprehensive approach to the challenges that face low income communities. LIIF helps child care owners and managers construct, upgrade, and

renovate buildings by providing technical assistance and support on facility development and by providing financing packaging services.

LIIF is the prime contractor for CPEEP, and will handle program administration, communications and marketing, technical assistance, project selection, and scheduling.

California State Department of Education, Child Development Division

The Child Development Division (CDD) is one of 19 divisions in the California Department of Education (CDE). The CDD is responsible for the oversight and distribution of funds authorized in the Budget Act of 2005 totaling approximately $2.2 billion for the CDE's child development programs. More than 2,000 contracts are dispersed through approximately 850 public and private agencies statewide to support and provide services to more than 596,000 children in a range of alternative payment and center-based programs, including General Child Care, State Preschool, Migrant Child Care, Migrant Education Even Start, Latchkey, Campus, Handicapped, American Indian Early Childhood Education, and William F. Goodling Even Start Family Literacy programs.

The Child Development Division will support the application, and provide communications and program validation to state-licensed preschools.

California Head Start Association

The California Head Start Association (CHSA) is the influential voice providing leadership and advocacy for California's Head Start community. CHSA advocates for the interest of Head Start, providing an array of service to the membership. Head Start and Early Head Start are federally funded comprehensive child development programs that serve children from birth to age 5, pregnant women, and their families. They also provide professional development and teacher training for the Head Start program. They are child-focused programs and have the overall goal of increasing the school readiness of young children in low-income families. California has 1,906 Head Start/Early Head Start (EHS) Centers housing 4,845 classes, along with 1,512 family child care homes that serve Head Start/Early Head Start and employs 19,552 persons. More than 104,000 children are enrolled in Head Start/Early Head Start program.

The California Head Start Association will provide application support, and communications and program validation to the Head Start Centers. In addition, they will

facilitate energy efficiency project selection.

Intergy Corporation

Intergy is a Northern California-based, minority-owned energy service management and information technology firm. Among Intergy's clients are the California Public Utility Commission, Southern California Edison, San Diego Gas and Electric, the San Bernardino and Los Angeles community college districts, Sweetwater Unified, Stockton County and the cities of Pomona, Tracy, and Manteca. Intergy has extensive experience with implementing energy efficiency projects, including retrofit projects with the Sweetwater School District, and one that includes San Bernardino and Los Angeles community college districts. Intergy is the program's primary subcontractor and will implement the energy efficiency retrofit component, including auditing, project identification, equipment installation and verification. Intergy will hire other local subcontractors including but not limited to A Bright Idea, California Retrofit Inc. (CRI), and CRS Speakman – these subcontractors will be hired for implementing specific projects, as needed.

This table describes the various CPEEP members's roles.

	Description of Role/Entity	LIIF	CDE	CHSA	Intergy	SDG&E
A	**Administrative Activities**					
A-1	Completion of CPUC filing documents				Lead	Support
A-2	Sending reporting document	Lead			Support	
A-3	Communication about program to centers	Lead	Support	Support	Support	
A-4	Sharing progress of project	Lead		Support	Support	
A-5	Overall tracking of project and expenses	Lead			Support	
A-6	Development of online application for tracking	Support		Support	Lead	
A-7	Payments to Intergy and subs, as needed	Lead				
A-8	Information dissemination to centers	Lead	Support	Support	Support	
A-9	Tracking of project	Lead			Support	Support
A-10	Development of program marketing materials	Lead	Support	Support	Support	Support
B	**Energy Efficiency Retrofits and Commissioning**					
B-1	Development of criteria for project selection	Lead	Support	Support	Support	
B-2	Initial identification of projects	Lead	Support	Support	Support	
B-3	Technical assistance to centers	Lead			Support	
B-4	Development of final project proposal	Lead			Support	
B-5	Contracts with subcontractors, as needed	Support			Lead	
B-6	Quality control of equipment	Support			Lead	
B-7	Coordination of overall implementation	Support		Support	Lead	
B-8	Post implementation checks				Lead	
B-9	Reporting of project details to utilities	Support			Lead	Support

Broadly, included below are the primary responsibilities for each team member:

- The ***Low Income Investment Fund*** (LIIF) assists community organizations in serving the hardest-to-reach populations by providing capital and technical assistance. LIIF will provide overall coordination of project planning and implementation, and oversight of subcontractors.
- The ***California Department of Education, Child Development Division*** is responsible for the oversight and distribution of $2.2 billion in funds for child development programs. They have over 2,000 contracts with 850 public and private agencies, supporting more than 596,000 children.
- The ***California Head Start Association*** (CHSA) is the influential voice of the state's Head Start community. Coordinating closely with LIIF and its subcontractors, CHSA will help introduce CPEEP to Head Start centers served by SDG&E.
- ***Intergy Corporation*** and other local sub-contractors, working closely with LIIF, will help implement and facilitate the engineering, evaluation and administration of CPEEP. Intergy has an extensive background in California energy efficiency programs.

15. Quality Assurance and Evaluation Activities

A program representative will visit each completed installation site, with the visit expected to be within 15-30 days of the installation completion. The representative will have a list of the actual measures installed and will complete a verification report checklist. The representative also will confirm the type and approximate quantity of qualified energy efficient measures installed and will confirm that they are operational.

In addition, the representative will visually check for problems such as missing light covers, exposed wiring, hazardous conditions, etc. For programmable thermostats, the representative will ensure that the time clock and programmable settings have been properly adjusted. The verification checklist will be completed and discrepancies will be noted. All discrepancies will be entered into the program-tracking database, and a corrective action work order will be issued to the subcontractor.

Customer satisfaction surveys will be conducted so that participants may comment on the program and the contractor. Because of the large number of sites, surveys will be conducted either by mail or by telephone. The results of the survey will be entered into the database management tool. Any unsatisfactory issues from the survey will be corrected within ten working days and a follow-up customer satisfaction survey conducted. The results of any revisits will be entered into the database management tool. Customer satisfaction is extremely important to this program, and every effort will be made to ensure that all work will be done in a professional and courteous manner.

i. Expected number/percent of inspections (planned percent of projects)

The program intends to inspect and verify each implementation installation. Any installation issues that arise from the inspection will be noted in the program's database and reports. Subcontractors will take corrective action at any site that has installation issues, the will be re-inspected. Verifications and related information will be carefully tracked and maintained in the database.

16. Marketing Activities

Implementation of the marketing campaign will be through the preschool centers' networks and communications channels. There are well-established information channels from LIIF, the Department of Education, and CSHA to the centers; including newsletters, professional development conferences and direct mail. Program information will be easily distributed to the centers through these communication links. Centers will be able to enroll online, and projects will be chosen and schedule based on criteria that maximize energy savings and utility cost reductions. Further, the centers offer a unique opportunity to connect with families of preschoolers, which is often the best way to connect with what can be hard-to-reach populations. We will work with SDG&E, Head Start, and the CDE on design and content and develop language-appropriate information about energy efficiency for this large, vital, and new market segment. Materials will then be distributed through the preschools to families. Age-appropriate materials will be developed for use in the centers to help children understand energy efficiency. Outreach will be coordinated with the SDG&E's school based Program. CPEEP will extend the SDG&E's program to pre-kindergarten children and their families.

Materials/actions	**#s of units**	**website**	**email**	**direct mail**	**In person**	**By phone**	**Date**
Program brochures	1,000	X		X			**3/06**
Program instructions	1,000	**X**	**X**		**X**	**X**	**3/06**
Program enrollment	500	**X**	**X**				**4/06**
Outreach brochures to families/ distributed through preschool centers/English & Spanish	30,000	**X**					**12/06 and 6/07**
Age-appropriate materials for preschools	4,000						**9/07**

17. CPUC Objective

CPEEP meets several of the CPUC objectives as stated in "CPUC Objectives". Specifically, the CPUC objectives met are: numbers 3, 4 and 5. With a TRC of over 2, CPEEP is an innovative, cost-effective energy efficiency program that will generate significant energy and peak demand savings, as well as establishing a foundation and infrastructure for long-

term energy efficiency in this segment. The program also corresponds to the Governor's and the state's policies to reduce the environmental impact associated with the state's energy consumption. The program is designed to pursue energy efficiency opportunities both short and long-term, and to serve as an alternative to more costly supply-side resource options. CPEEP will deploy a variety of methods to obtain program outcomes and avoid lost opportunities and will help SDG&E meet or exceed its savings goal. The program will also reach across various sectors; and the service will be provided in the area in which the PGC funds are derived.

	SDGE3030 3P California Preschool EE Program
BUDGET	
Administrative Costs	**$ 126,000**
Overhead and G&A	$ -
Other Administrative Costs	$ 126,000
Marketing/Outreach	**$ 97,100**
Direct Implementation	**$ 999,400**
Total Incentives and Rebates	
User Input Incentive	$ 154,934
Direct Install Rebate	$ 666,066
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ -
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ 178,400
EM&V Costs	**$ -**
Budget	**$ 1,222,500**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 1,222,500**
PROGRAM IMPACTS	
User Entered kW (kW)	606
Net Jul-Sept Peak (kW)	264
Net Dec-Feb Peak (kW)	287
Net NCP (kW)	292
Net CEC (kW)	248
Annual Net kWh	1,145,061
Lifecycle Net kWh	10,198,588
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 898,703
Electric Benefits	$ 746,956
Gas Benefits	$ -
Net Benefits (NPV)	$ (151,747)
BC Ratio	0.83
PAC	
Costs	$ 1,169,706
Electric Benefits	$ 746,956
Gas Benefits	$ -
Net Benefits (NPV)	$ (422,750)
BC Ratio	0.64
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	6,954,476
Cost	$ 0.1292
Benefits	$ 0.1074
Benefit-Cost	$ (0.0218)
Levelized Cost PAC ($/kWh)	
Discounted kWh	6,954,476
Cost	$ 0.1682
Benefits	$ 0.1074
Benefit-Cost	$ (0.0608)
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

3P California Preschool EE Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 611,250	$ 410,500	$ 200,750	572,530	-	303
2007	$ 611,250	$ 410,500	$ 200,750	572,530	-	303
2008	$ -	$ -	$ -	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	254001	Lighting-T12 to T8 retrofits (20 2-lamp)	331		0.10	0.96	School	11	214	$ 726.00	$ 83.88	68,042	-	21
2006	254002	Lighting-Dimmable T8/T5 (20 2-lamp)	848		0.26	0.96	School	11	38	$ 914.40	$ 1,466.08	30,931	-	10
2006	254003	Lighting-CFL retrofits (10)	811		0.25	0.96	School	5.6	252	$ 112.00	$ 123.72	196,304	-	61
2006	254004	Lighting-LED exit signs (1)	350		0.04	0.96	School	16	51	$ 56.05	$ 55.00	17,136	-	2
2006	254005	Lighting-occupancy sensors-wall (2)	428		0.35	0.96	School	8	176	$ 87.95	$ 154.57	72,315	-	60
2006	254006	Lighting-occupancy sensors-ceiling (3)	641		0.53	0.96	School	8	176	$ 360.00	$ 231.85	108,350	-	89
2006	254007	HVAC-evaporative cooling systems (1)	2,508		1.90	0.96	School	15	33	$ 1,000.00	$ 3,200.00	79,453	-	60
2006	254008	User Input Incentive	-	-	-	0.8		0	1	$ 77,467.00	$ -	-	-	-
2007	254001	Lighting-T12 to T8 retrofits (20 2-lamp)	331		0.10	0.96	School	11	214	$ 726.00	$ 83.88	68,042	-	21
2007	254002	Lighting-Dimmable T8/T5 (20 2-lamp)	848		0.26	0.96	School	11	38	$ 914.40	$ 1,466.08	30,931	-	10
2007	254003	Lighting-CFL retrofits (10)	811		0.25	0.96	School	5.6	252	$ 112.00	$ 123.72	196,304	-	61
2007	254004	Lighting-LED exit signs (1)	350		0.04	0.96	School	16	51	$ 56.05	$ 55.00	17,136	-	2
2007	254005	Lighting-occupancy sensors-wall (2)	428		0.35	0.96	School	8	176	$ 87.95	$ 154.57	72,315	-	60
2007	254006	Lighting-occupancy sensors-ceiling (3)	641.277		0.528525	0.96	School	8	176	$ 360.00	$ 231.85	108,350	-	89
2007	254007	HVAC-evaporative cooling systems (1)	2508		1.9	0.96	School	15	33	$ 1,000.00	$ 3,200.00	79,453	-	60
2007	254008	User Input Incentive	0	0	0	0.8		0	1	$ 77,467.00	$ -	-	-	-

2006-2008 Energy Efficiency Programs
Energy Savings Performance "ESP" Savings Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ 21,367	$ 21,367	$ 21,367
	Administrative Other	$ 8,000	$ 8,000	$ 8,000
Marketing & Outreach		$ 7,367	$ 7,367	$ 7,367
Direct Implementation				
	Activity	$ 14,400	$ 14,400	$ 14,400
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ 122,100	$ 122,100	$ 122,100
	Procurement	$ 4,800	$ 4,800	$ 4,800
	Incentives	$ -	$ -	$ -
EM&V		$ -	$ -	$ -
Total		*$ 178,034*	*$ 178,034*	*$ 178,034*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
-	-	99,000	-	-	99,000	-	-	99,000

3. Program Cost Effectiveness

Attached

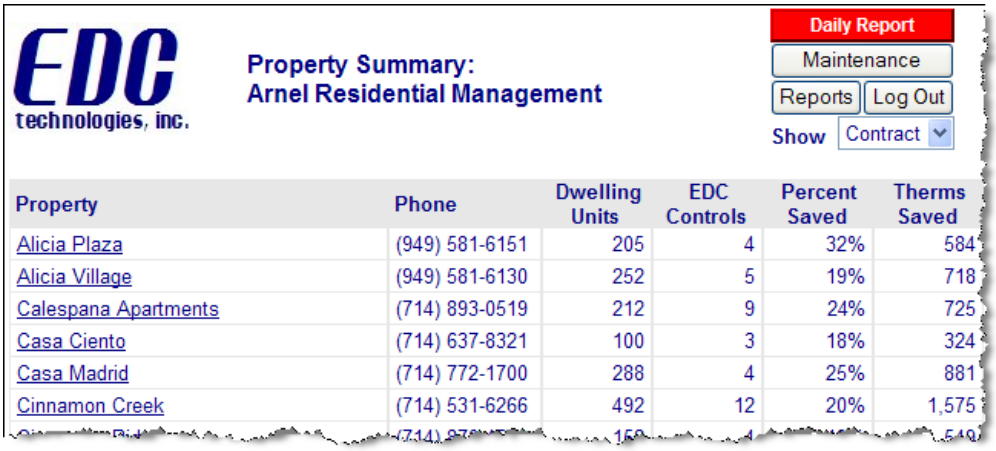
4. Program Descriptors

EDC Technologies, Inc. will install our "Monitored" Domestic Hot Water Controls on Hotel/Motel's providing the following monthly therm savings:

Per Hotel/Motel/Dorm dwelling unit: (2.08) therms savings, per mth (25/Yr)

In addition to providing monthly savings, EDC Technologies will monitor the end users boiler environment on a daily or hourly basis to assure that the initial savings we achieve are sustained and optimized. In addition our servers review the end users environment to assure that the hot water system(s) are not malfunctioning.

Online savings data & review:



Property	Phone	Dwelling Units	EDC Controls	Percent Saved	Therms Saved
Alicia Plaza	(949) 581-6151	205	4	32%	584
Alicia Village	(949) 581-6130	252	5	19%	718
Calespana Apartments	(714) 893-0519	212	9	24%	725
Casa Ciento	(714) 637-8321	100	3	18%	324
Casa Madrid	(714) 772-1700	288	4	25%	881
Cinnamon Creek	(714) 531-6266	492	12	20%	1,575

Should a hot water system malfunction be detected, our servers will identify the issue, graph the specific deviation and send out an e-mail notification identifying the issue on our website for review. If the issue is not remedied within 3 days, a reminder notice is e-mailed out.

Secure user access:

With proper credentials, a client, contractor or utility representative can access our website and generate a report identifying the specific savings that is being achieved per boiler, community or group of communities. With a "one button" click they can also get a picture of all potential issues within a specific portfolio. Further, there is an ongoing history of information specific to the individual location, including what work our technicians have performed while at the site, a log of all the email notifications that had been sent out and other administration information.

From a targeted geographic perspective, EDC Technologies will target qualified facilities in SDG&E's service territory. With regard to a percentage of the market we intend to impact; there are currently over 25,000 Hotel Rooms in San Diego County. As a very conservative estimate we intend on positively impacting 37% of the Hotels in the San Diego Region.

Program status is a modified program. EDC Technologies, Inc. will be modifying our current implementation in such a way that the host utility, SDG&E, will have secure access to the past and present performance we are achieving under the program. The access will allow SDG&E to verify that the measures installed are operational and providing the return that the CPUC and Client expect. A variety of reports are available in PDF format that depict program status and results.

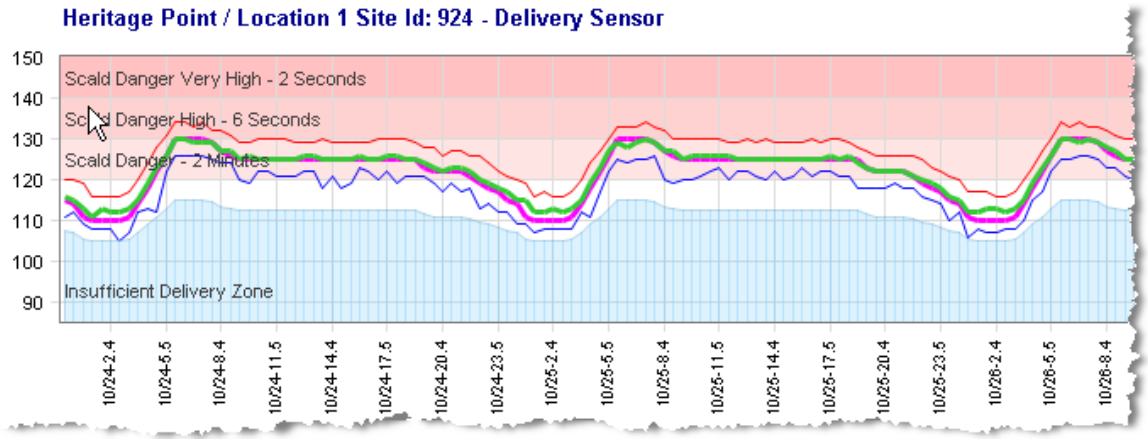
5. Program Statement

Energy Conservation from Domestic Hot Water Controllers is neither new nor unique; these devices have been around for several years. Domestic hot water controllers save between 15 and 40%, depending on the end users environment. However with <u>any</u> Energy efficiency measure, the challenge is always "to make sure that the conservation measure is in place and functional". More specifically, in the case of domestic hot water controllers, the issue has been that maintenance personnel consistently blame the controller for issues that occur, when in fact the issues are usually plumbing related, not related to the controller. As a result, what happens is that the controller that has been installed to save energy gets turned off or unplugged and the boiler's aquastat gets "turned up" in order to appease the tenant's complaint. In realty, what's happening is that the conservation measure is being eliminated and the "real" problem is being masked with higher temperatures and wasted energy. Our approach converts a passive energy saving technology into an interactive tool that can and is used by maintenance management and facility owners.

6. Program Rationale

EDC Technologies addresses the issue of providing sustained energy conservation by monitoring the environments in which we are installed on a daily/hourly basis. As a result our controls not only provide energy savings but they also become a tool which allow facility personnel the ability to proactively monitor their environment; checking for failing or failed components, unsafe boiler operations as well as other potential hot water system issues.

Daily monitoring available on www.savegas.com:



Should one of the components within the EDC Technologies system fail, we are notified electronically and a service technician is automatically scheduled for a service call to fix the issue, at no expense to the end client.

If a boiler/water heater component or environment begins to act out of the norm, our systems identify the time and date of the issue(s), and provide an explanation of what the problem is, what's causing it and what is recommended to resolve the issue. By tracking

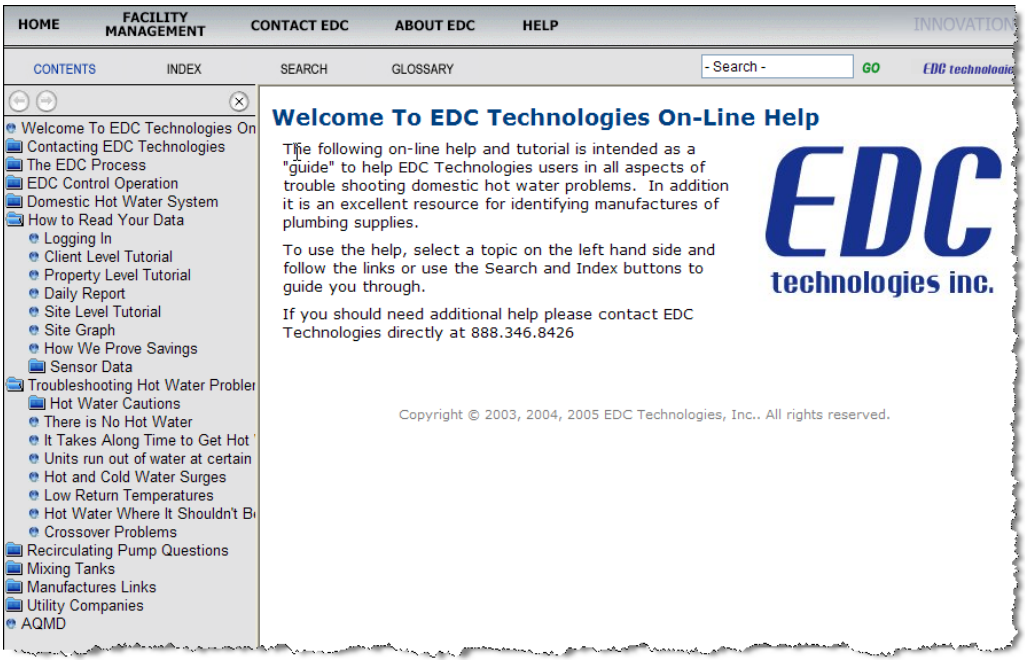
the systems operation, we can provide property owners with ongoing, and assured savings, as well as a maintenance and operation log.

This program is being advanced/proposed instead of other approaches because it provides a "complete" solution to all who are involved with the initiative.

The End Use Client is assured that they have a measure in place that is providing sustained savings.

The Maintenance Personnel at the End Use client are provided with a tool that assists them in their day to day job.

On-Line Help & Tutorial:



The Utility Company (SDG&E) can go online anytime and "view" the controls that were installed under the program to assure that they are still installed, operational and providing that value they committed to.

The Plumbing Contractor can improve the level of support they provide the end use community.

The potential of this program is significant for two reasons; first it revolutionizes the domestic hot water control industry by providing ongoing information in addition to energy savings and secondarily because this program treats each facility where our technology is installed as an asset that is optimized, complete with ongoing training, education and help at no additional cost.

We implemented a similar program, "Power Saving Partners" in 1995, in PG&E's Service Territory, that concluded in 2003. In that program EDC Technologies was a subcontractor to Citizens Conservation Services, who was the prime contractor. All of the controls that were installed under this program remain operational. Further all of these controls have been upgraded with our latest technology (at no expense to the end client), with ongoing monitoring and verification via www.savegas.com.

7. Program Outcomes

EDC Technologies will provide sustained therm savings of:

66,924 cumulative therms in year 1
257,400 cumulative therms in year 2
571,428 cumulative therms in year 3

8. Program Strategy

Per your attached document, the following strategy categories would/could be implemented: (Note; because the various "strategies identified" on the list do not have descriptions associated with them, we have used a "best guess approach")

Nonresidential Energy Management Services

Nonresidential Downstream Deemed Rebates

Nonresidential Downstream Training

8.1.1. Program Strategy Description

The proven program strategy we will deploy will be to contact (market to) facility owners at several levels. Ownership will be contacted regarding the savings we will provide their facilities. Operations management will be contacted regarding the visibility and improved capabilities we will bring to the operations staff. Direct Property management will be contacted regarding the monitoring and problem resolution capabilities we provide to the local property management.

In addition we provide on-going training to all of levels of property management as well as corporate management. Because there is excessive personnel turnover in lodging industry, we offer and provide our training as often as necessary to keep all personnel involved. Further, we provide on-line tutorials that are available to all our clients at any time.

8.1.2. Program Indicators

Program indicators would be number of controls installed and operational. Each Control provides demand reduction

9. Program Objectives

EDC Technologies will base the program on number of dwelling units that we are controlling. As an example, a Hotel with 100 rooms would be equivalent to 100 dwelling units.

We will install our technology on lodging facilities to cover 14,856 dwelling units over the three year program life.

Theses installations will be: 4,950 dwelling units in year 1, *(4,950 Hotels/Lodging)*
4,950 dwelling units in year 2, *(4,950 Hotels/Lodging)*
4,950 dwelling units in year 3, *(4,950 Hotels/Lodging)*

Based on proven savings we will be achieving:

2.08 therms saved per Hotel/Motel/Dorm dwelling unit/per mth (25/Yr)

We will track and report to SDG&E each facility that we are installed upon, as well as the installation details; type of facility, number of dwelling units etc. SDG&E can review our activity, ytd, as well as ongoing, by going online at www.savegas.com. In addition, EDC technologies will provide quarterly reports to SDG&E identifying marketing activities, successes, installation schedules etc.

10. Program Implementation

The program implementation will be as follows:

Marketing:

1. EDC Technologies will market to all of our existing clients and solicit those that have facilities in the SDG&E service territory to ascertain if they want to expand our services to the facilities in the SDG&E service territory
2. EDC Technologies will market to the Lodging service trades in the SDG&E service territory

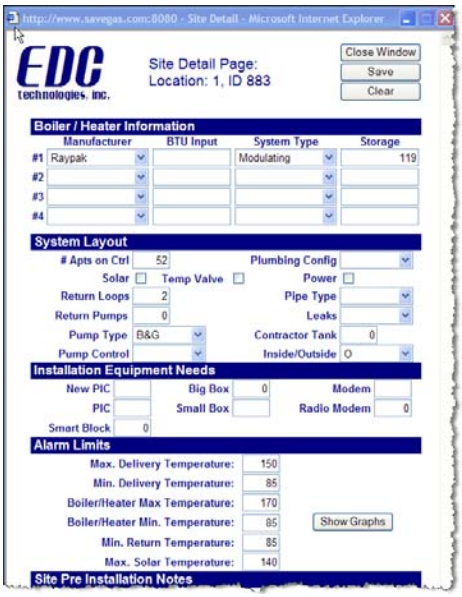
Presentation(s):

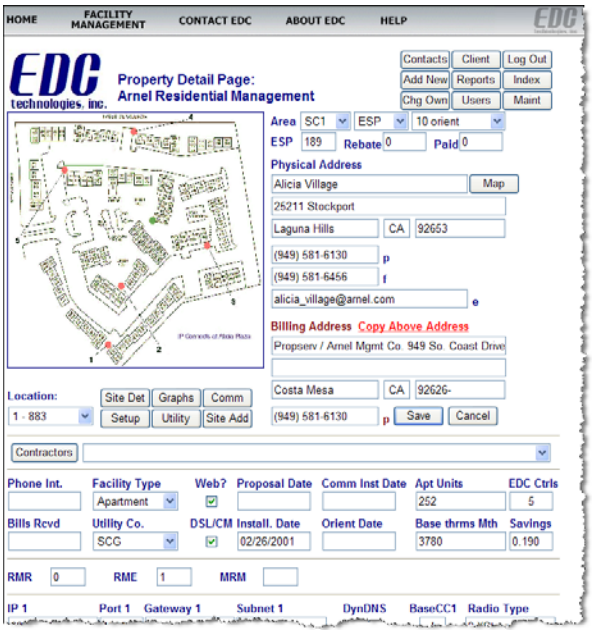
1. Once a client is interested, a customized presentation is created and presented to the client's management.
2. Once given permission to go forward, we deploy a service technician to survey the facility to make sure the environment is applicable.

Survey the Facility:

i. A technician documents facility information for the number of dwelling units, communications environment, and plumbing configuration
ii. Components within the plumbing system
iii. Condition of the plumbing environment, i.e. leaks, faulty pumps etc.

Facility Survey information
Is captured and logged:





A Proposal is Created:

1. A proposal is created identifying the savings EDC Technologies will achieve once installed on their facility
2. Customer obligations are also identified, client will provide a communications line, access to the equipment etc.

Once the proposal is executed, and installation is scheduled

Installation of the Control:

1. An EDC representative installs the equipment on the client's facility
2. The control records the current operational data of the facility for a 2-3 week period
3. Training is provided to the onsite maintenance personnel.
4. More in-depth training is scheduled for property management.

Installation of the Communications Equipment:

1. Two to three weeks after the control is installed another EDC technology representative installs our proprietary communications equipment for monitoring.
2. The control(s) are switched from record mode to savings mode and savings begin
3. Training is refreshed and clients are taught how to go online to view their domestic hot water information.

Reporting

Clients receive various reports automatically on a monthly basis, including Savings achieved during the past month, Identification of potential plumbing issues, Current Natural Gas rates to name a few.

Sample of the Client on-line reporting menu, note, there are similar reporting menus filtered by property, utility, contractor region etc:

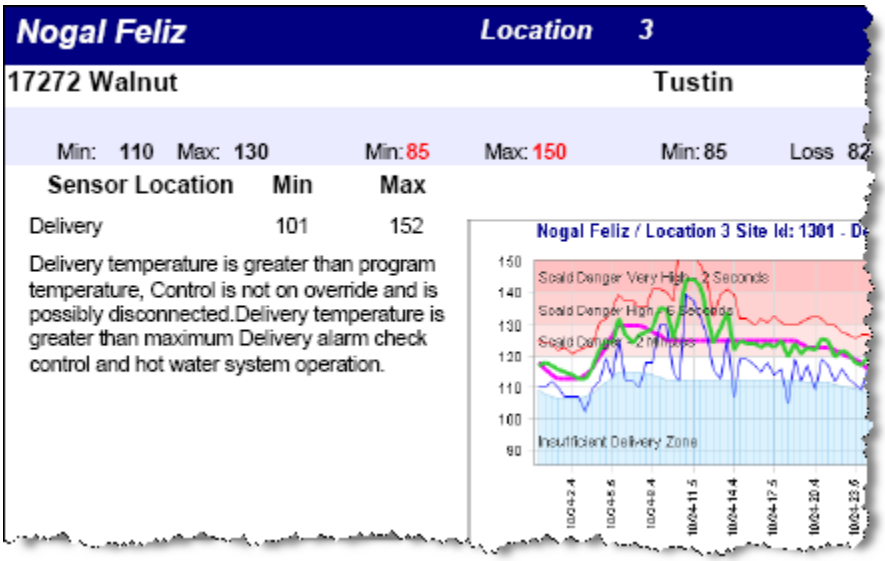
11. Customer Description

Targeted customers within our program include Hotels/Motels-type facilities.

12. Customer Interface

EDC Technologies provides several methods for clients to interact, including local sales representation, toll free telephone support, internet presence, and online trouble shooting, as well as ongoing training. Once the controls are installed, our relationship begins. Clients have secure access to our website where they can review their environment from a portfolio level or a property level. They can add users including contractors. In addition End Users can run several customized reports identifying performance, history and savings data.

Example of identifying a Hot Water Anomaly:



13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

See SDG&E February 1 Filing Workbook

13.2. kWh Level Data

See SDG&E February 1 Filing Workbook

13.3. Non-energy Activities

13.3.1. Activity Description

- A site survey is conducted before we install our controls, checking for leaks and other problems
- Post installation training is conducted with the onsite personnel
- About a month later we have a trainer contact the facility to provide additional training
- We provide the client training any time it is requested at no cost to the client
- We provide on-line based tutorials and helpdesk trouble shooting for hot water systems problems that can affect tenant comfort and energy waste.
- Free product upgrade service. As we improve our technology we not only deploy our latest technology to our new clients, but all existing clients receive free upgrades.

13.3.2. Quantitative Activity Goals

- 100% of our activities are to ensure that our controls remain installed and operational

13.3.3. Assigned attributes of the activity (market sector, end use)

14. Subcontractor Activities

No subcontractors will be involved

15. Quality Assurance and Evaluation Activities

All sites are monitored by EDC Servers. All data is posted to our website for client review. If there is an issue, an e-mail is dispatched to the client. If the issue is not resolved in a specified period, a second e-mail is dispatched and a report is generated for an EDC support personnel to follow up with the facility. 100% of our Q.A. activities are focused on maintaining energy savings by keeping the control online and operational while at the same time keeping the client satisfied.

i. Expected number/percent of inspections (planned percent of projects)

100%

16. Marketing Activities

EDC Technologies Inc. markets our technology as a "tool" that provides clients with the ability to "manage" their hot water environment(s), through accurate demand related temperature control and system diagnostic capabilities. Our tool provides clients with the bi-product of significant, ongoing, energy savings. In addition our technology allows clients the ability to go online to see "If its working?", and "How much am I saving?"

17. CPUC Objective

Yes. Our program meets several the CPUC objectives. Specific examples of meeting CPUC guidelines are as follows: (D.) 04-09-060, Our measure exceeds the TRC and PAC tests

Our technology provides immediate cost effectiveness to the end user from the time it is installed

Once our technology is installed, we provide sustained savings, and in most instances the client expands the technology to other assets which they own or manage

Our technology reduces hot water performance uncertainties in a clients environment

Our technology brings energy conservation to the forefront of the facilities operation. Clients receive frequent performance reports outlining the savings they achieve and if our technology becomes deactivated for some reason, the end user receives a report notifying them that they are wasting energy, and the cost associated with the waste.

In addition, our technology has a dramatic effect on the reduction of greenhouse gasses, by reducing the hours of operation by the percent saved.

EDC Technologies specializes in markets that are often too small or too hard to work with. In addition we do one thing and we do it exceptionally well. The combination of both of these factors directly address's the commissions discussion of "Lost Opportunities".

In the past the only alternative to provide hot water savings was a solar based system. While solar can provide significant savings there are some limitations in that the savings are not consistent, i.e. impacted by weather, AND the cost of entry is steep. By contrast, our technology provides stable energy savings, unaffected by weather, with nominal cost. As a result the payback is immediate and sustained.

	SDGE3034 3P EDC Domestic Hot Water Control Program	
BUDGET		
Administrative Costs	**$**	**88,100**
Overhead and G&A	$	64,100
Other Administrative Costs	$	24,000
Marketing/Outreach	**$**	**22,100**
Direct Implementation	**$**	**423,900**
Total Incentives and Rebates		
User Input Incentive	$	-
Direct Install Rebate	$	-
Direct Install Labor	$	-
Direct Install Materials	$	-
Activity	$	7,200
Installation	$	36,000
Hardware & Materials	$	366,300
Rebate Processing & Inspection	$	14,400
EM&V Costs	**$**	**-**
Budget	**$**	**534,100**
Costs recovered from other sources	**$**	**-**
Budget (plus other costs)	**$**	**534,100**
PROGRAM IMPACTS		
User Entered kW (kW)		-
Net Jul-Sept Peak (kW)		-
Net Dec-Feb Peak (kW)		-
Net NCP (kW)		-
Net CEC (kW)		-
Annual Net kWh		-
Lifecycle Net kWh		-
Annual Net Therms		297,000
Lifecycle Net Therms		4,455,000
Cost Effectiveness		
TRC		
Costs	$	534,100
Electric Benefits	$	-
Gas Benefits	$	2,043,818
Net Benefits (NPV)	$	1,509,718
BC Ratio		3.83
PAC		
Costs	$	534,100
Electric Benefits	$	-
Gas Benefits	$	2,043,818
Net Benefits (NPV)	$	1,509,718
BC Ratio		3.83
Levelized Cost		
Levelized Cost TRC ($/kWh)		
Discounted kWh		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-
Levelized Cost PAC ($/kWh)		
Discounted kWh		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-
Levelized Cost TRC ($/therm)		
Discounted Therms		2,504,570
Cost	$	0.2133
Benefits	$	0.8160
Benefit-Cost	$	0.6028
Levelized Cost PAC ($/therm)		
Discounted Therms		2,504,570
Cost	$	0.2133
Benefits	$	0.8160
Benefit-Cost	$	0.6028

3P EDC Domestic Hot Water Control Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 178,034	$ -	$ 178,034	-	99,000	-
2007	$ 178,034	$ -	$ 178,034	-	99,000	-
2008	$ 178,034	$ -	$ 178,034	-	99,000	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	256001	EDC Domestic Hot Water Control Program		25		0.8	Hotel Room	15	4,950	$ -		-	99,000	-
2007	256001	EDC Domestic Hot Water Control Program		25		0.8	Hotel Room	15	4,950	$ -		-	99,000	-
2008	256001	EDC Domestic Hot Water Control Program		25		0.8	Hotel Room	15	4,950	$ -		-	99,000	-

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ 212,495	$ 212,495	$ 182,139
	Administrative Other	$ 15,958	$ 15,958	$ 13,678
Marketing & Outreach		$ 144,976	$ 144,976	$ 124,265
Direct Implementation				
	Activity	$ 258,400	$ 258,400	$ 221,486
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ 85,521	$ 85,521	$ 73,303
	Procurement	$ 93,203	$ 108,737	$ 108,737
	Incentives	$ 1,380,410	$ 2,523,889	$ 4,484,700
EM&V		$ -	$ -	$ -
Total		*$ 2,190,963*	*$ 3,349,976*	*$ 5,208,308*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
9,115,517	5,482	4,931	15,565,406	10,484	20,711	25,368,241	19,503	48,779

3. Program Cost Effectiveness

Attached

4. Program Descriptors

<u>Commercial Sector</u>

Program Classification: Local

Geographic area targeted: All Climate Zones

Subsegments targeted: KEMA proposes to target the following types of facilities through outreach and marketing activities:'

- Grocery stores;
- Restaurants (fast food and sit-down);
- Large single story retail (big box chains);
- Small retail.

These facility types share the following characteristics that make them attractive as a target market.

- ***Relatively high cooling end-use intensities.*** Compared to many other commercial building segments, these five have high end-use cooling

intensities and installed capacity (tons per square foot of space). Thus, these customers have the potential to realize relatively greater energy savings and financial returns than other kinds of commercial facility owners.

- ***Facility-based businesses.*** All of these businesses are facility-based, and customer comfort is an important competitive feature.
- ***Facility management resources and capabilities.*** Many of these customer facilities are owned or franchised by national or regional retail chains. These businesses typically have a facilities management department that has both the responsibility and the authority to contract for the kinds of efficiency services to be offered by this program. Many of these organizations already participate heavily in other elements of utility energy efficiency programs.
- ***Multiple facilities with one decision maker.*** For many chain locations, a single individual or group has responsibility for decisions involving multiple facilities.

Because the measures supported by this program are relatively new to the market, their current incremental costs are high relative to their savings they provide. Thus, the cost effectiveness of this program will depend to a large extent on its ability to hit the volume targets discussed below. Only in this way will program administrative costs be covered by savings. Thus it is important to focus program marketing on those customer segments that have been most interested in HVAC maintenance programs in other jurisdictions.

Market size and percent of market reached: Table 1 shows the distribution of business establishments in San Diego, Riverside, and Imperial counties, which provides a first approximation to the target market. We developed these population figures from the iMarket database of Dun & Bradstreet records. We also include in the table the number of establishments in the targeted segments to be served over the first three years of the program. Our participation targets are 9 percent of total establishments in the targeted categories; 19 percent of those establishments with 5 or more employees.

Table 1
Number of Establishments in Target Segments, by Number of Employees

Establishment	Number of Employees				Total	Estab. in	% of Total	% of Estab
Type	2-4	5-9	10-49	50+	Estab	Program	Estab.	w/ 5+ Emp
Grocery	1,912	529	428	278	3,147	180	6%	15%
Restaurants	1,200	1,041	2,327	416	4,984	900	18%	24%
Other Retail	11,232	3,415	2,763	535	17,945	1,170	7%	17%
Total	14,344	4,985	5,518	1,229	26,076	2,250	9%	19%

Residential Sector

Program Classification: Local

Geographic area targeted: Climate Zones 10, 14, and 15

Subsegments targeted: KEMA proposes to target single-family and mobile homes built prior to 2000. These homes offer higher potential savings than units in multifamily buildings, as well as considerably fewer marketing and sales hurdles.

Market size and percent of market reached. According to the 2003 *American Housing Survey*, there are roughly 550,000 owner-occupied single-family and mobile homes in the San Diego metropolitan area. Over the three years of the program, we plan to serve roughly 25,000 homes, or 5 percent of the market.

5. Program Statement

The opportunities for achieving energy and peak demand savings through improved maintenance, installation, and commissioning of packaged unitary HVAC systems in the commercial retail marketplace are well documented. However, contractors have been slow to promote energy efficiency measures or to make investments in staff capacity needed to deliver these measures effectively. Most contractors do not perceive a strong business case for the investments required to deliver efficiency-related products and services. This situation is compounded by a lack of knowledge and interest in this suite of measures on the part of customers, who remain largely unaware of the short and long-term economic benefits associated with investment in routine HVAC maintenance and commissioning.

Our experience, and the documented experience of programs conducted by other organizations, suggests that the following are the major market barriers to more widespread customer acceptance and contractor promotion of HVAC efficiency services.

Pricing and competitive pressures. In surveys of HVAC contractors about what their customers value most highly, contractors report that quality/reliability issues (58%) and price (54%) are the most important factors. In contrast, energy efficiency is mentioned by customers as important only 25% of the time. While most contractors report that promoting high-efficiency equipment is important to their competitive position, most also say that it is “somewhat” or “very” difficult to sell high-efficiency units (XENERGY, 1999a). Other studies have found that many contractors seldom bid or even mention high efficiency equipment in sales situations (XENERGY, 1999; Robertson et al. 1996).

Such practices are indicative of a number of barriers in the HVAC contracting market, principally stiff price competition in the construction industry and limited facility owner understanding of or interest in HVAC energy efficiency. Those contractors who have been successful in selling high efficiency equipment have

generally taken a design-build approach. However, even many design-build contractors are uninterested in specifying high efficiency equipment.

Cost constraints on maintenance services. HVAC service companies routinely perform only non-invasive preventive maintenance on rooftop units, such as changing and cleaning filters, performing routine checks on system operation, and occasionally assessing level of refrigerant charge. Typically, minimal work is done to assure proper airflow or proper economizer operation. (Breuker, Rossi, and Braun, 2000) provide several reasons for the inefficient maintenance of HVAC systems across the industry. The cost of more extensive work using manual testing procedures is prohibitively high.

Sales challenges: end-user apathy and high cost of sales. From the perspective of the end-user, rooftop units are often "out-of-sight, out-of-mind", and therefore completely ignored until performance has degraded to a point where the unit no longer performs adequately. This approach results in unnecessarily high operating costs and early equipment failure. Most contractors do not know how to effectively make this pitch to the end-user. Nor do they perceive the benefits of using energy efficiency as a means to differentiate themselves from their competition. Finally, the cost of developing proposals for maintenance and control-oriented projects is relatively high compared to revenues generated from incremental sales of those items.

Technician turnover. Turnover among HVAC technicians is very high. A typical contractor may lose as much as one quarter to one third of his technician staff in the course of a year. All HVAC maintenance strategies rely upon the technician at least to identify savings opportunities. In this program model, the technician must also learn how to use technical tools to qualify those opportunities, execute repairs, and coordinate with his company's sales staff to develop proposals for larger projects. Ultimately technicians need to be paid more in order to retain good ones. This, in turn, requires that contractors develop a greater range of value-added services.

Our program strategy is founded upon KEMA's observations of the following market dynamics, described from the perspective of the end-user and HVAC service provider:

- **End Users:** 1) Need to perceive and give credence to the value provided by the service, including energy and non-energy benefits; 2) Must believe that the benefits of the measure outweigh the costs of adoption. These include not only the cost of the product or service itself, but the search, staff training, information system, risks, and other management costs involved in purchasing and using the measures effectively as well; and 3) Must be willing to purchase the new service in sufficient numbers in order for vendors to invest in the skills, tools, and systems required to deliver those services profitably.

- **HVAC Service Providers:** 1) May be motivated to invest in delivering new energy efficiency services as a means to defend or gain market share in the

short term; 2) Need to determine that they can deliver the energy efficiency services profitably in the long term and successfully in light of constraints posed by a very tight labor market; and 3) Must be convinced that a sufficient number of customers are willing to buy the service to amortize investment in increased sales and delivery capacity.

We have designed our program to move end-users and vendors to invest in energy efficiency measures in light of the decision-making and behavioral tendencies described above.

6. Program Rationale

The proposed program is designed to overcome the barriers to the broader promotion and acceptance of packaged HVAC efficiency measures in the commercial market. It builds upon KEMA's current work with HVAC contractors to support the use of advanced diagnostic methods in system maintenance in multiple regions of the country, including California. The proposed program targets the commercial unitary HVAC market in the SDGE service territory, focusing first on big box retailers and owner/occupants of multi-site facilities. These initial targets have been selected based on their high total cooling load, visibility, economies of scale, and potential for replicability. The program targets both the organizational decision-makers at these facilities and the contractors who serve them. Once the program is established and participating contractors become convinced of its value, we will expand the marketing focus to mass market commercial and residential customers.

7. Program Outcomes

Figure 2 displays specific actions and milestones to be accomplished by category, along with potential indicators of milestone achievement.

Figure 1
Anticipated Program Outcomes by Program Year and Category

Category/Outcomes or Indicators
Contractor adoption of energy-efficient installation practices Number of contractors participating in training v. goal. Number of contractors purchasing Manual J software. Number of contractors purchasing Duct Blasters or other test equipment. Number of contractors receiving training in duct sealing. Number of contractors applying for Quality Installation measure incentive. Number of systems receiving Quality Installation measure incentives. Number of contractors adopting Quality Installation procedures outside program or without incentives (spillover).
Contractor adoption of energy-efficient maintenance practices Number of contractors participating in training v. goal. Purchasing Service Assistants™ or similar tools and systems. Number of technicians and sales persons trained on systems. Number of contractors applying for refrigerant charge and retrofit duct sealing measure incentives. Number of inspections uploaded, with and without incentives. Number of contractors using diagnostic systems without incentives.
Contractor promotion of en-efficient installation and maintenance practices Number of contractors who offer diagnostic services and or Quality Installation on all or most of their projects. Number of contractors who emphasize energy efficiency in their marketing materials and web sites. Number of contractors who report the energy efficiency is an important competitive advantage for them.
Increase customer demand for energy-efficient installation and maintenance services Contractor reports of customer interest in energy efficiency. Appearance of Quality Installation and diagnostic-driven maintenance requirements in customer bid documents or specifications. Number of applications for installation and maintenance measures in program v. goal.

8. Program Strategy

The key program strategies include the following.

- Financial incentives to contractors for adopting diagnostic-driven maintenance and installation practices.
- Financial incentives to customers for maintenance, installation, and control measures supported by the program.
- Contractor technical and sales training to enable delivery of the program measures.

- Assistance to contractors in organizing the sales function for new services to be offered by the program.
- Lead generation via direct mail and phone marketing to be carried out by KEMA on behalf of participating contractors.
- Additional marketing support to connect participating contractors to complementary efforts, including the upstream program and other statewide efforts.

8.1.1. Program Strategy Description

The program will achieve energy efficiency savings through a variety of interdependent measures targeting both HVAC service providers and end-users in the commercial marketplace. Key program elements and the rationale associated with each are highlighted below:

- **Incentives**. The program will administer incentives to contractors and/or end users for the implementation of qualifying HVAC energy efficiency measures (e.g., diagnostic tune-ups, duct sealing, and economizer restoration). Qualifying program measures have been selected for their proven ability to provide cost-effective energy and peak demand savings. Incentives are provided to improve the real and perceived economics of measure implementation from the perspective of end user decision-makers and HVAC service providers.
- **Automated diagnostic and sales tools.** KEMA and its project partners have developed an IT system that generates a systems assessment based on diagnostic readings for the HVAC units on a facility. The system uploads data collected by a technician and processes it into a sales report with pricing, incentive levels, and financial analysis for the full range of repair or replacement measures. This system has demonstrated its ability to reduce the time, cost, and technician training required to deliver energy efficiency services. It further provides customers with the information and third-party assurances they require to implement efficiency measures.
- **Program workshops**. Program workshops will be a key initial outreach strategy for the program, and will collectively target end users and HVAC service providers. In addition to serving as an initial source of information about program participation and offerings, program workshops that include potential end user clients among their attendees make a compelling case for contractors considering the adoption and delivery of energy efficiency as a business strategy. Likewise, facility managers that might otherwise be hesitant to adopt energy saving measures because of concerns about the ability of vendors to sufficiently provide such services, may be persuaded otherwise in this setting.
- **Comprehensive contractor training and sales support.** KEMA will provide classroom and individual field training for program contractors on program measures and the use of program tools. As a requirement for

program participation, training sessions will be attended by HVAC management staff, sales personnel, and the technicians who will be performing the prescribed measures in the field. The intent of training is to persuade actors across all levels of an organization, from decision-makers to field implementation staff, of the efficacy of energy efficiency measures from both an operations and revenue generating perspective.

- **Organization of the sales function.** In addition to technical training, KEMA will work with contractors to focus on their individual needs throughout the sales cycle. In our prior programs, we have frequently encountered a disconnect at the organizational level between the technicians who collect field data on HVAC efficiency opportunities and the sales staff who transform these opportunities into energy efficiency sales. KEMA will therefore provide sales training for contractors, and will be available to assist contractors on an individual basis, for instance by fine-tuning their customer proposals or accompanying them on customer sales calls focused on delivery of energy efficiency measures.
- **Lead generation.** Even mid-sized mechanical contractors seldom have the marketing and sales resources required to develop leads for new kinds of services. KEMA will develop leads through marketing efforts in both the residential and commercial sectors. In the residential sector, we will use billing data to identify customers who use abnormally high levels of energy for cooling. KEMA already has the billing data handling and analysis systems in place as part of its RECAP audit program. This analysis will yield a targeted customer list for direct mail and follow-up telemarketing. Customers who are interested in receiving services will be directed to a list of participating contractors. Alternatively, leads can be sent directly to contractors closest to the customer. On the commercial side, KEMA will work directly contractors to approach their national account customers. KEMA will independently market the program to those accounts as well. Finally, KEMA will use its call center capabilities to market the program directly to commercial customers.
- **Marketing support.** KEMA will work cooperatively the contractor for the Upstream Incentive program, SDGE, industry associations, and statewide programs such as Flex Your Power to raise customer awareness of the energy and non-energy benefits associated with the HVAC maintenance and installation measures supported by this program.

KEMA's proposed approach incorporates and reflects the insights that KEMA and its expert partners have gained over 10 years of working to promote more systematic and energy-efficient approaches to HVAC system management. Our program design leverages this experience across a market sector with significant and widely untapped potential for energy and peak demand savings.

8.1.2. Program Indicators

The principal indicators of program success will be estimates of energy savings generated in the program delivery process and summarized in Section 1 above. See Section 9 for other quantitative milestones by which program progress will be tracked.

9. Program Objectives

The table below displays proposed quantitative indicators of program progress.

	Year		
Category/Outcomes or Indicators	**2006**	**2007**	**2008**
Contractor adoption of energy-efficient installation practices			
Number of contractors participating in training v. goal.	20	30	40
Number of contractors purchasing Manual J software.	20	26	36
Number of contractors purchasing Duct Blasters or other test equipment.	7	10	15
Number of contractors receiving training in duct sealing.	20	30	40
Number of contractors applying for Quality Installation measure incentive.	20	30	40
Number of residential systems receiving Quality Installation measure incentives.	1,000	3,000	8,000
Number of contractors adopting Quality Installation procedures outside program or without incentives (spillover).	5	12	18
Contractor adoption of energy-efficient maintenance practices			
Number of contractors participating in training v. goal.	20	30	40
Number of contractors purchasing Service Assistants™ or similar tools and systems; applying for refrigerant charge and airflow adjustment incentives	20	30	40
Number of technicians and sales persons trained on systems.	60	80	110
Number of inspections uploaded with repairs	1,300	4,650	12,000
Number of contractors using diagnostic systems without incentives.	10	20	30
Contractor promotion of energy-efficient installation and maintenance practices			
Number of contractors who offer diagnostic services and or Quality Installation on all or most of their projects.	8	12	15
Number of contractors who emphasize energy efficiency in their marketing materials and web sites.	15	22	30
Number of contractors who report the energy efficiency is an important competitive advantage for them.	12	20	25
Increase customer demand for energy-efficient installation and maintenance services			
Contractor reports of increased customer interest in energy efficiency (from survey sample including nonparticipants).	60%	70%	75%
Number of commercial customers participating in the program.	500	750	1,000
Number of residential customers participating in the program.	2,750	7,500	18,200

10. Program Implementation

Our response to this item furnishes an overview of activities in the program start-up phase as well as of ongoing operations. We provide a brief description of contractor training, quality insurance, inspection, targeted customer segments, and customer marketing activities. We discuss each of those topics in more detail under the items below that pertain directly to them.

Start-up Phase Activities

Conduct program planning in coordination with SDGE, vendors managing the upstream program and other programs affecting targeted customers, contractor trade associations, and industry associations of key customer segments.

Develop detailed program procedures, forms, and data systems. KEMA will develop or revise for local use the following key program procedures, forms, and supporting data communication, storage, and analysis systems.

- ***Packaged HVAC Inspection System and Sales Report Generator.*** As part of KEMA's work for NSTAR and NYSERDA, we have developed an integrated unit inspection and measure sales report generator system based on the Service Assistant™ platform. The Service Assistant™ is a well-established HVAC maintenance tool that automatically records refrigerant line temperature measurements into a PDA carried by the technician. Programs in the PDA interpret the data based on an expert system and provide the technician with recommendations regarding repairs, focusing primarily on adjustments to refrigerant charge and airflow. The data transmission capabilities of the PDA can then be used to load the inspection data into a web-based system for storage and further processing.

  Working with Field Diagnostics, the inventor and manufacturer of the Service Assistant™, KEMA has significantly expanded the range and functionality of the platform. First, we have programmed inspections and expanded the range of measure savings analysis to encompass the full range of HVAC measures. These include Quality Installations, as defined in the Work Papers accompanying this proposal, economizer restoration, and duct repair. The KEMA platform also supports calculation of costs and benefits for measures covered in the upstream programs, including unit replacement with high efficiency equipment.

  In addition to the expanded range of measures covered by the inspection and savings calculation protocols, the KEMA platform includes an automated sales report generator that resides on Field Diagnostics' web server. When the contractor uploads inspection data, the report generator processes that data into energy savings estimates for selected measures. The report generator also estimates project costs (based on contractor estimates of unit costs provided as part of the training process – see below) and the applicable incentives. The report generator then delivers a fully-formatted investment analysis to the contractor that can be given to the customer as a sales proposal.

KEMA and Field Diagnostics have used this system for a full year in the NSTAR program and have made many improvements to ensure reliable field operation and marketing effectiveness. However, the system will need some small revisions to account for local climate, measure definitions, and incentive structure. The system provides the further advantage of creating a database of all system inspections completed and measurements taken. This database can be used as a sample for inspections, to track the progress of individual contractors, and to generate verified energy savings estimates in at any point

- ***Standards for other inspection systems.*** KEMA is aware that there are other automated or assisted HVAC unit inspection systems in the market, and that some contractors who may wish to participate in the program may already have invested time and money in adopting those systems. KEMA will accept incentive applications for repairs indicated and verified using those systems, including Quality Installations. However, to ensure consistency, we will develop a set of technical criteria that approaches other than Service Assistant™-based systems must meet. We will publish these criteria and distribute them to contractors as part of the contractor recruitment process.

- ***Establish measure definitions and incentive schedule.*** We have included extensive discussion of measure definitions (for those not covered by DEER) in the Work Papers. ***Develop incentive processing/work management system.*** KEMA will adapt the on-line project management system it has deployed for the San Diego B.E.S.T. program for use in this program. That will allow contractors and to submit incentive applications on-line and will greatly facilitate program management.

- ***Develop marketing plans and materials.*** Working closely with our subcontractors Geltz Communications and Better Buildings, Inc., KEMA will develop detailed marketing plans and associated materials. It will be important for materials to be completed and marketing underway as we recruit contractors into the program. Key marketing initiatives will include:

  - A direct mail/call center operation directed primarily at residential and small business customers with large cooling loads identifiable through billing analysis.
  - Call center operation to support participating contractors.
  - Personal representation to national accounts and other customers with large fleets of packaged units.
  - Coordinated cross marketing with other programs.
  - Development of a program website.
  - Coordination, to the extent possible, with SDGE's corporate branding activities.

  See the response to Question 14 for more detail on our proposed marketing concepts and activities.

On-Going Program Operations

- ***Contractor Recruitment.*** KEMA will concentrate contractor recruitment efforts in the period from October through February when maintenance operations generally run at a slower pace than during the summer. In the first year we will be getting a late start on the upcoming cooling season and will extend recruitment efforts into the cooling season. The objective is to assemble a cohort of 20 – 25 contractors whom we will train prior to or early in the cooling season, and then work with that group intensively through the cooling season to ensure that they actively market and deploy program products and services. Based on previous experience, we expect some attrition from this group during and after the cooling season. Our goal is to have 40 active contractors in the program by the 2008 cooling season.

  In our current programs, we have been successful in recruiting contractors through the following mechanisms.

  - *Personal program representation.* KEMA has many contacts with contractor trade and HVAC industry organizations that we can use to generate qualified lists of contractors. The SDGE territory is sufficiently compact to allow for economical personal representation to larger contractors. Our program manager will oversee and take part in this operation, which is crucial to program success.
  - *Exhibits and presentations at trade shows and industry exhibitions*.
  - *Program launch events.* Mid-way through the recruitment period we have staged launch events in the form of workshops open to interested contractors. The workshops prominently feature talks by contractors who have used advanced diagnostic techniques to increase the profitability of their maintenance operations through enhanced revenues, better customer retention, and reduced costs. We find this to be the best motivator for enrollment. Of course, the launch events cover program objectives, operations, and incentives.

  Once a contractor agrees to participate in the program, KEMA will obtain a signed Memorandum of Understanding from the contractor that obliges the company to make staff available for training, to purchase required equipment, and to make best efforts to market program services to customers.

- ***Contractor Training.*** KEMA will provide a two-day on-site training sequence to each contractor that enrolls in the program. We have found this to be the most economical and effective approach for a number of reasons. First, multiple technicians in a given firm must be trained in order to generate the volume of inspections, repairs, and quality installations required for program cost effectiveness. Second, effective sales of efficiency-oriented services requires cooperation from sales and business management staff as well. For example, it will be someone other than the technician who downloads the sales reports and

sells repairs and upgrades to the customer. Items covered in the initial training include:

- *Principles and application of diagnostic-driven repairs.* KEMA trains technicians to use the Service Assistant™ and related software systems through a combination of classroom instruction and hands-on application at a 'live' site.
- *Maintenance service sales.* KEMA staff will train contractors' sales staff and management on general principles of selling maintenance services, up-selling efficient equipment, and use of the "back end" of the report generator system.
- *Software installation and troubleshooting.* KEMA staff will install the Service Assistant™ and report generator software on the contractors' PDAs and computers and perform tests to ensure that they function properly to produce reports from field data. They will also load contractor costing information into the report generator based on the results of an interview with the business manager. This is a key element in reducing the costs and learning curve for use of diagnostic systems.

See our response to Question 10 for more on the content of the training sessions.

- ***Ongoing Contractor Support.*** KEMA program staff will provide phone support to contractors who require assistance with any aspect of the program, the inspection protocol, or the report generator. We will also provide one additional day of on-site support per cooling season to train additional technicians and ensure that the inspection system and report generator are working properly.
- ***Program Web Site.*** KEMA will develop and maintain a program web site that will perform the following key functions.
  - *Contractor resources.* In an area accessible only to participating customers, KEMA will programs and documents that will be useful in selling and delivering program services. These include sales tip sheets, case studies, brochures, savings calculators, Manual J instructions, and so forth.
  - *Customer marketing.* The main part of the web site will provide information to customers on the benefits of program measures as well as contact information for participating contractors.
- ***Incentive Processing.*** For most measures, contractors will need to submit a records for pre- and post-installation or repair inspections. The use of the Service Assistant™ and its web-based data compilation and management capabilities greatly facilitates this process. There will be some exceptions to this practice. Documentation for Quality Installation measures will consist of a completed inspection checklist along with the "test in" results for refrigerant charge and airflow. Similarly, incentive payments for the Night Ventilation measure will be paid upon delivery of invoices for materials and installation labor. Given the newness of the measure, we will likely require a post-installation inspection prior to authorizing incentive payments.

KEMA engineering staff familiar with HVAC technology will review all incentive applications to ensure that they comply with program rules, meet eligibility criteria in regard to customers and technology, include all necessary information, and provide plausible savings estimates. The program will be structured so that incentives can be disbursed to either the customer or the contractor.

All information from the incentive application, along with relevant records from the inspection and report generator system will be stored in a single database to support program management and evaluation.

- ***Quality Assurance and Inspections.*** KEMA program staff will conduct onsite inspections of at least five projects completed by each participating contractor. We will concentrate our efforts early in the contractor's participation in order to identify and correct any problems technicians may be having. Also, we will focus primarily on Quality Installations and economizer restorations because post-installation measurements will provide less information on the quality of these kinds of measures versus charge adjustments and duct sealing.

11. Customer Description

See our response to Question 4, which contains an extensive description of the proposed markets for this program.

12. Customer Interface

The program will be presented to commercial customers through the following channels.

- ***Contractor Sales.*** We anticipate that contractors will be the primary channel for acquainting customers with the program. KEMA will take the following steps to ensure that contractors communicate the benefits and relevant operations of the program in a way that is easy for customers to understand and use.
  - *Program brochures and fact sheets.* KEMA will prepare program brochures and fact sheets that clearly communicate the nature of program services, the benefits customers will obtain through those services, and the mechanics of program participation. Based on our experience, we are confident this information can be conveyed in very short formats, such as a 3-fold mailer, with plenty of graphics and white space. KEMA will provide copies of these fact sheets to contractors, as well as electronic templates to which contractor logos can be added.
  - *Training.* The initial contractor trainings will cover appropriate characterization and representation of the program to customers.
- ***Direct Marketing.*** KEMA staff will carry out direct marketing under close supervision by our Call Center manager. The program manager will be responsible for scripting all direct mail and phone protocols to ensure that program incentives, customer benefits, and means for contacting participating contractors are accurate.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures

See SDG&E February 1, 2006 Workbook

13.2. kWh Level Data

See SDG&E February 1, 2006 Workbook

13.3. Non-energy Activities

13.3.1. Activity Description

Technical Training

Technical training will cover the following topics.

- ***Basic operations of the refrigeration cycle.*** A short refresher to set the stage for the discussion of diagnostic techniques.
- ***Theory and application of HVAC diagnostics.*** Relationships between operating parameters such as line temperatures, line pressures, air flow, and amperage to common installation and operational problems.
- ***Use of diagnostic tools.*** Instruction on the use of the Service Assistant™ and accompanying data communications and analysis software.
- ***Guidelines for quality installations.*** We will use guidelines developed by the Consortium for Energy Efficiency, ACCA, and the Energy Star program as sources for a streamlined introduction to this topic.
- ***Hands-on application of diagnostic tools.*** All trainings will include use of the Service Assistant™ on a 'live' customer site, uploading and analysis of site inspection data, and production of a sales proposal using the report generator.

KEMA expects to work with other utilities and market participants in California to ensure that program technical training integrates with the rapidly developing NATE/ACCA training and certification program and with training to support recent building changes.

Sales Training

Sales training will be oriented to proprietors and sales managers, and will cover the following topics.

- ***The business case for selling and delivering energy efficiency***. It is our experience that contractors will not accept a one-size-fits-all statement of the business case for energy efficiency. Rather, we have found it

most useful to explore the relevance of various potential benefits in a open discussion with participants from specific firms, then focus on how those firms can achieve their goals through promotion and delivery of efficiency-oriented services. The potential elements of the business case include: reduction in costs of delivery for contract maintenance service; expansion of scope and revenues from contract maintenance services; differentiation and positioning vis-à-vis competitors; increased revenue and margins from efficient equipment sales (up selling); customer retention. KEMA will develop a number of concrete strategies that participating contractors can pursue for achieving each of these objectives.

- ***Organization of the sales function***. As mentioned above, technicians are called upon to identify opportunities for up selling, quality installations, and diagnostic-driven repair. However, their jobs are not structured so as to handle the selling and delivery process end-to-end. This portion of the sales training will develop a map of sales functions to individuals in the participating firm. As part of the feedback from the training process, KEMA will deliver to the main contact for each participating contractor a nicely formatted version of this map, as well as a step-by-step flow chart for delivering proposals, services, and rebate applications.

- ***Value propositions***. The value propositions to the customer for efficient equipment, quality installation, and diagnostic-driven repair are fairly well understood. They include reduced operating costs, reduced emergency down time, longer equipment life, greater occupant comfort and productivity, and reduced emergency repair expenses. KEMA will provide participating contractors with concrete examples of these customer benefits (based on actual experience in California and elsewhere) that can be used as part of the sales presentation. We assume for the purposes of this proposal that all midstream service providers have already developed site assessment tools and calculators for identifying potential efficiency measures and for quantifying potential energy and demand reductions.

- ***Effective proposals***. KEMA will prepare a number of templates of effective proposals that participating contractors can use to present opportunities to customers. These templates will be designed to integrate the results of the various diagnostic tools and programs that participating contractors use. We will also provide more general guidelines for development of effective proposals that participating contractors can use to customize the proposal templates or to develop their own sales documents.

- ***Objections, effective responses, typical closes***. KEMA will provide a brief "traditional" sales training package to participating contractors that applies well-known sales principles to the products and services promoted by the program. This component of the package will not be

designed as an exhaustive, professional-level course. Rather, it will introduce the non-sales personnel in the delivery chain to the requirements of effective selling (one of which is timely development of proposals). It can also serve as a quick reference to issues in selling efficiency services for more experienced sales personnel.

13.3.2. Quantitative Activity Goals

The table below displays quantitative goals for the training activity.

Quantitative Goals for Training Activities

	Year		
Category/Outcomes or Indicators	**2006**	**2007**	**2008**
Number of contractors participating in training v. goal.	20	30	40
Number of technicians and sales persons trained on systems.	60	80	110

13.3.3. Assigned attributes of the activity (market sector, end use)

KEMA will offer the training exclusively to participating HVAC contractors in the SDGE service territory.

14. Subcontractor Activities

The following paragraphs summarize the activities of subcontractors that will be working with KEMA on this program, as well as their qualifications to carry out those activities.

- **Geltz Communications.** Geltz Communications will take primary responsibility for the development of customer marketing strategies, materials, and activities. Geltz Communications is a full-service marketing firm that specializes in promotion and sales for energy efficiency programs. The company is currently engaged in marketing energy efficiency programs for the following California utilities: Pacific Gas & Electric, Southern California Edison, San Diego Gas & Electric, SoCal Gas, Los Angeles Department of Water and Power, the Pasadena Department of Water and Power, and the Southern California Public Power Authority. Geltz Communications won the National ENERGY STAR for Small Business Award in 2003 for its work in support of the Small Business Energy Alliance Program in California. The company has won ten other industry awards for its work in support of various other energy efficiency programs. Geltz Communications is a Certifed Woman-Owned Business Enterprise by the California Public Utilities Commission.

Christine Geltz, the founder and CEO of Geltz Communications will lead the company's work on this program. Ms. Geltz has 23 years of experience in marketing communications management. She has developed a wide range of communication strategies and tools for Pacific Gas and Electric, Southern California Gas Company, and San Diego Gas and Electric. She has also worked with the municipal utilities of Los Angeles, Pasadena, Glendale, and Riverside, as well as the Southern California Public Power Authority and other public and private energy and water-related companies. In addition, Ms. Geltz is currently providing communications expertise for series of demand response and dynamic pricing pilot programs throughout the state.

- **Dale Gustavson, Principal, Better Buildings, Inc**.: Mr. Gustavson will participate in developing marketing strategies and materials for the program. A former vice president of a design/build electrical contracting company, Dale provides consulting and training to contractors, engineers, consultants, manufacturers, utilities and agencies throughout the U.S. He helps these stakeholder groups more effectively design, market, sell, apply, and support energy management projects. Director Emeritus of the California State Chapter of the Air Conditioning Contractors of America, (CAL-ACCA), long time editorial advisor *to Contracting Business* magazine, and Program Advisory Committee to the PIER "Energy Efficient & Affordable Small Commercial & Residential Buildings Program," Dale authored and helped implement the nation's first advanced diagnostic program for light commercial HVAC, "HVAC PACT."
- **Field Diagnostic Services, Inc., Todd Rossi, President**: Field Diagnostics will undertake the modification and management of the web-based field data collection and proposal generator software and associated data storage, analysis, and communication systems. Field Diagnostics develops and manufactures the HVAC Service Assistant, a device that automates collection of operating parameters for rooftop units *in situ* and provides prescriptions for maintenance, repair, or replacement. Dr. Rossi oversees all aspects of Field Diagnostics operations, including development of technology, software, and solutions for the HVAC industry. Dr. Rossi received his Ph.D. in Mechanical Engineering from Purdue University, where he pioneered techniques for automated fault detection and diagnostics of heating, ventilating, and air conditioning equipment. Among his current projects, Dr. Rossi is performing work for the CEC an automated monitoring and fault detection system that is embedded in rooftop packaged air conditioners that will report out alarms and operating data.
- **Dale Rossi, Senior Consultant, Better Buildings, Inc.**: Dale Rossi will serve as a senior trainer for the program. Proprietor of a large HVAC service firm in suburban Philadelphia and the most experienced professional nationwide in the technical and commercial applications of the Service Assistant. He has personally trained more than three hundred HVAC technicians in the use of this tool and dozens of managers in the use of ServiceAssistantOnline. Mr. Rossi has developed effective "I'm a tech, just

like you" classroom and field training curriculum for the Service Assistant, support manuals for managers and their technicians, CD-ROM-based training in Advanced Refrigeration Diagnostics built around, not only his field experience, but on having collected, analyzed and sorted thousands of diagnostics records for the purpose of identifying the best targets for energy efficiency. Dale is the most compelling voice for the use of advanced portable diagnostics in the HVAC contracting industry today.

- **Marshall "Buck" Taylor, Principal, Roltay, Inc**: Mr. Taylor will serve as a senior trainer for the program. A current and former manager of several HVAC energy efficiency market transformation programs in the Northeast U.S., Mr. Taylor is highly experienced in contractor training in the technical and commercial applications of the service assistant, and is currently the technical lead in the U. S. Environmental Protection Agency's ENERGY STAR Commercial HVAC Program. Mr. Taylor has led developed and implemented field training curricula for contractors on advanced diagnostics for energy efficiency programs in Connecticut, Massachusetts, and New York State.
- **Glenn Friedman, P.E.** Mr. Friedman will assist in developing guidelines and requirements for diagnostic systems and technical methods to be used in the program. Mr. Friedman is currently a principal at Taylor Engineering, a large California mechanical engineering that serves the commercial sector. He is a former national president and technical director of the Air Conditioning Contractors of America (ACCA). He has also been deeply involved in the development of the HVAC provisions of Title 24. His design/build projects include hospitals, chemical refineries, manufacturing, schools, casinos, municipalities, offices, malls, restaurants, hotels, retail and high-end custom residences throughout the California. Mr. Friedman is an experienced air and water balance professional, NEBB certified as an Air and Water Balancing Supervisor and a LEED™ Accredited Professional.

15. Quality Assurance and Evaluation Activities

KEMA expects to carry out the following quality assurance activities.

- **Review of inspection records:** Participating contractors who use the Service Assistant™ system will automatically upload all inspection results and records to Field Diagnostics web servers. KEMA staff will have full access to those records. As in our other programs, we regularly review and analyze those records to ensure that the inspections were carried out correctly under appropriate ambient conditions and that all required data were entered. If we note patterns of problems from specific contractors or technicians, we contact those individuals directly to review correct operation of the equipment and performance of tests and inspections.

- **Review of incentive applications.** As discussed above, all incentive applications will be reviewed for completeness and technical quality by KEMA staff familiar with HVAC technology.
- **Inspections.** KEMA engineering staff familiar with HVAC technology will carry out inspections of completed repair and quality installation projects. Essentially, we will use the inspection protocols associated with the individual measures as well as the completed inspection forms to guide the quality assurance inspections. Any discrepancies between the recorded details of the projects, as well as any problems with installation or current operation will be noted and brought to the attention of the appropriate contractor and/or technician.

16. Marketing Activities

All marketing efforts for this program will generate customer demand or 'pull' for the services offered by participating contractors, using the most direct means available. We proceed from the following observation gained through managing similar programs. Most contractors, even large ones, do not have the marketing and sales resources required to generate significant volume for what constitutes an essentially new service. Their sales resources are focused primarily (and appropriately) on traditional equipment and contract maintenance lines. In order to realize the significant energy savings potential offered by this market and set of measures, the program will need to communicate directly with customers, educate them to the value of the new services, and direct them to participating contractors. KEMA proposes to undertake the following marketing activities to accomplish these objectives.

- **Independent lead development: residential and small business customers.** KEMA will organize and operate a direct marketing campaign designed to yield qualified leads for participating contractors. The campaign will consist of the following elements.
  - *Data mining to identify prospects.* KEMA will analyze residential and small business (<10 kW) customer billing records to identify those with abnormally high air conditioning consumption. KEMA has already developed the billing data handling programs and analysis techniques through its work on SDGE's mail-in audit program and through similar programs for small businesses in other jurisdictions. The analysis will yield a list of customers who could most benefit from HVAC system repair or replacement.
  - *Direct mail outreach.* KEMA and its marketing subcontractors will develop and send direct mail pieces to residential and small business customers of record who show high levels of air conditioning use. The piece will inform the customer that they are paying very high amounts for air conditioning, inform them of the services and benefits of the program, and provide an 800 number for further information. Customers

will also be given a web site address where they can directly request program services.

- *Phone follow-up.* KEMA call center staff will call customers who do not contact the 800 number of web site. The call will gather information about the age and size of the air conditioning unit and whether maintenance contracts are already in place. Once this information is gathered, the call center staff will follow the appropriate script to inform the customer about available program services (including equipment upgrades via the Upstream Program). If the customer is interested and so authorizes, the call center staff will assign the customer to a participating contractor to schedule an inspection or sales call for new equipment.

- **Direct marketing support to participating contractors.** With the permission and support of participating contractors, the KEMA call center staff will conduct a similar direct marketing campaign to up to 20 commercial customers identified by each participating contractors. Any leads or interest developed through these calls will be forwarded to the sales manager or proprietor of the company that provides the customer contact.

- **Personal representation to national accounts.** Retail and restaurant chains, mall management companies, and supermarket chains represent the most important commercial markets for this program, based on their high intensity of cooling end use and multiple facilities. KEMA has found that the most effective way to approach these companies is through their corporate facilities departments. These managers work within a financial framework that supports the investment and fleet management models that lie at the heart of our program concept. They also have access to multiple facilities and direct knowledge of upcoming budgeted construction projects that the program could affect. Through our work in other jurisdictions, KEMA has already established connections to corporate energy managers in a number of the retail chains represented in the SDGE market. These include PetCo, Home Depot, Papa Gino's, Walgreen's, Target, Costco, and Marshall's (TJX companies). The KEMA program manager will approach these and similar customers individually and attempt to recruit them, along with their current contractors into the program.

  Based on our experience with similar programs, we believe that these direct marketing activities will not only be most effective in generating timely customer interest, but will also provide clear, concrete value to participating contractors. This, in turn, will help solidify contractor allegiance to the program and, we believe, encourage them to invest their own resources in training and supporting technicians and sales staff who deal directly with customers.

- **Marketing support.** As discussed above, we will undertake a number of activities to support the direct marketing efforts described in the previous three bullets. These include.

- Coordinated cross marketing with other programs.
- Development of a program website that allows customers to enroll directly for program services.

17. CPUC Objectives

The HVAC Training Installation and Maintenance Incentive Program that KEMA proposes to implement squarely addresses the major policy objectives that the California Public Utilities Commission lays out in Attachment 3 of its Energy Efficiency Policy Manual, v. 3, Part II.

High level of program savings. Given what we believe to be very reasonable assumptions concerning the level of contractor and customer participation, the cost-effectiveness calculator yields very high levels of energy savings. Specifically , the program will yield average annual electricity savings of 50 million kWh and lifetime savings of 245 million kWh. Projected CEC demand reduction totals 10.8 MW, with estimated annual gas savings of 93,000 therms.

High cost effectiveness. Projections using the cost-effectiveness calculator show very high net benefits for the program. The estimated program's TRC is 2.65, with $28.3 million in lifetime net benefits. The estimated PAC is 3.62 with $32.8 million in lifetime net benefits.

Capturing Lost Opportunities. Most of the projected savings for this program derive from capturing lost opportunities. This is clearly the case for the Quality Installation measures. The mechanics of HVAC system installation are such that problems leading to inefficient operation are likely to go undetected for several years, when they may (or may not) lead to comfort problems. It is relatively easy and inexpensive to prevent these problems during installation. Similarly, the entire HVAC contract maintenance business can be viewed as one very large lost opportunity. Each year, purportedly qualified technicians service thousands of residential and packaged commercial air conditioners in the SDGE service territory, at a societal cost of millions dollars. This enterprise could yield enormous energy savings, but it yields hardly any due to lack of commercial motivation, training, and appropriate tools. This program has the clear potential to change that situation.

Avoidance of cream skimming. This program neatly avoids cream skimming by promoting practices that, at present, have very little presence in the market.

Improvement of capacity utilization and lowering of peak loads. Given that the air conditioning end-use is highly concentrated in peak periods, the proposed program scores high in this regard. This is apparent from the results of the cost-effectiveness model, which yield high CEC peak reductions relative to annual energy savings.

Balance of portfolio funding across market sectors. The program provides services to both the commercial and residential sectors, working through one contractor base as the primary delivery channel. The program also makes use of one technical platform to serve these diverse customers. Finally, we have made

provision, through the direct marketing campaigns and coordination with other program vendors, to provide services to hard-to-reach small businesses. KEMA's call center has Spanish, Korean, and Vietnamese language capability.

	SDGE3043 3P KEMA HVAC Training, Installation and Maint.	
BUDGET		
Administrative Costs	**$**	**652,724**
Overhead and G&A	$	607,130
Other Administrative Costs	$	45,594
Marketing/Outreach	**$**	**414,218**
Direct Implementation	**$**	**9,682,307**
Total Incentives and Rebates		
User Input Incentive	$	-
Direct Install Rebate	$	8,388,998
Direct Install Labor	$	-
Direct Install Materials	$	-
Activity	$	738,287
Installation	$	-
Hardware & Materials	$	244,345
Rebate Processing & Inspection	$	310,677
EM&V Costs	**$**	**-**
Budget	**$**	**10,749,248**
Costs recovered from other sources	**$**	**-**
Budget (plus other costs)	**$**	**10,749,248**
PROGRAM IMPACTS		
User Entered kW (kW)		35,469
Net Jul-Sept Peak (kW)		34,552
Net Dec-Feb Peak (kW)		5,361
Net NCP (kW)		40,821
Net CEC (kW)		10,861
Annual Net kWh		50,049,164
Lifecycle Net kWh		475,269,056
Annual Net Therms		74,421
Lifecycle Net Therms		1,121,822
Cost Effectiveness		
TRC		
Costs	$	16,746,716
Electric Benefits	$	44,689,149
Gas Benefits	$	555,514
Net Benefits (NPV)	$	28,497,947
BC Ratio		2.70
PAC		
Costs	$	9,607,758
Electric Benefits	$	44,689,149
Gas Benefits	$	555,514
Net Benefits (NPV)	$	35,636,905
BC Ratio		4.71
Levelized Cost		
Levelized Cost TRC ($/kWh)		
Discounted kWh		291,959,879
Cost	$	0.0570
Benefits	$	0.1531
Benefit-Cost	$	0.0961
Levelized Cost PAC ($/kWh)		
Discounted kWh		291,959,879
Cost	$	0.0326
Benefits	$	0.1531
Benefit-Cost	$	0.1205
Levelized Cost TRC ($/therm)		
Discounted Therms		602,256
Cost	$	0.1930
Benefits	$	0.9224
Benefit-Cost	$	0.7294
Levelized Cost PAC ($/therm)		
Discounted Therms		602,256
Cost	$	0.1602
Benefits	$	0.9224
Benefit-Cost	$	0.7622

3P KEMA HVAC Training, Installation and Maint.

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 2,190,963	$ 1,380,410	$ 810,553	9,115,517	4,931	5,482
2007	$ 3,349,976	$ 2,523,889	$ 826,087	15,565,406	20,711	10,484
2008	$ 5,208,308	$ 4,484,700	$ 723,608	25,368,241	48,779	19,503

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	267001	Commercial HVAC Diagnostic/Tune-up	396		0.15	1	ton	5	964	$ 30.00	$ 34.00	382,168	-	145
2006	267002	Commercial HVAC Diagnostic/Tune-up	405		0.15	1	ton	5	864	$ 30.00	$ 34.00	349,738	-	130
2006	267003	Commercial HVAC Diagnostic/Tune-up	378		0.15	1	ton	5	610	$ 30.00	$ 34.00	230,473	-	91
2006	267004	Commercial HVAC Diagnostic/Tune-up	427		0.15	1	ton	5	338	$ 30.00	$ 34.00	144,269	-	51
2006	267005	Commercial HVAC Diagnostic/Tune-up	119		0.15	1	ton	5	383	$ 30.00	$ 34.00	45,598	-	57
2006	267006	Commercial HVAC Diagnostic/Tune-up	148		0.15	1	ton	5	354	$ 30.00	$ 34.00	52,358	-	53
2006	267007	Commercial HVAC Diagnostic/Tune-up	124		0.15	1	ton	5	262	$ 30.00	$ 34.00	32,604	-	39
2006	267008	Commercial HVAC Diagnostic/Tune-up	222		0.15	1	ton	5	145	$ 30.00	$ 34.00	32,189	-	22
2006	267009	Commercial HVAC Diagnostic/Tune-up	112		0.15	1	ton	5	488	$ 30.00	$ 34.00	54,914	-	73
2006	267010	Commercial HVAC Diagnostic/Tune-up	146		0.15	1	ton	5	455	$ 30.00	$ 34.00	66,497	-	68
2006	267011	Commercial HVAC Diagnostic/Tune-up	125		0.15	1	ton	5	331	$ 30.00	$ 34.00	41,270	-	50
2006	267012	Commercial HVAC Diagnostic/Tune-up	227		0.15	1	ton	5	185	$ 30.00	$ 34.00	41,898	-	28
2006	267013	Commercial HVAC Diagnostic/Tune-up	191		0.15	1	ton	5	5,247	$ 30.00	$ 34.00	1,004,775	-	787
2006	267014	Commercial HVAC Diagnostic/Tune-up	200.946		0.15	1	ton	5	4612.7214	$ 30.00	$ 34.00	926,908	-	692
2006	267015	Commercial HVAC Diagnostic/Tune-up	165.093		0.15	1	ton	5	3347.1648	$ 30.00	$ 34.00	552,593	-	502
2006	267016	Commercial HVAC Diagnostic/Tune-up	264.158		0.15	1	ton	5	1854.1698	$ 30.00	$ 34.00	489,794	-	278
2006	267017	Commercial HVAC Diagnostic/Tune-up	162.868		0.15	1	ton	5	1393.5656	$ 30.00	$ 34.00	226,967	-	209
2006	267018	Commercial HVAC Diagnostic/Tune-up	172.379		0.15	1	ton	5	1296.8676	$ 30.00	$ 34.00	223,553	-	195
2006	267019	Commercial HVAC Diagnostic/Tune-up	144.331		0.15	1	ton	5	949.858	$ 30.00	$ 34.00	137,094	-	142
2006	267020	Commercial HVAC Diagnostic/Tune-up	235.505		0.15	1	ton	5	520.5172	$ 30.00	$ 34.00	122,584	-	78

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	267021	Packaged system Economizer retrofit	257.738	-0.171767		1	ton	15	109.5232	$ 41.66	$ 100.00	28,228	(19)	-
2006	267022	Packaged system Economizer retrofit	126.79	-0.252785		1	ton	15	101.247	$ 41.66	$ 100.00	12,837	(26)	-
2006	267023	Packaged system Economizer retrofit	68.2828	-0.0783878		1	ton	15	74.948	$ 41.66	$ 100.00	5,118	(6)	-
2006	267024	Packaged system Economizer retrofit	65.3913	0.456371		1	ton	15	41.3932	$ 41.66	$ 100.00	2,707	19	-
2006	267025	Packaged system Economizer Repair	685.007	-1.16238		1	ton	15	1499.2464	$ 41.66	$ 100.00	1,026,994	(1,743)	-
2006	267026	Packaged system Economizer Repair	366.065	-0.6018		1	ton	15	1317.9204	$ 41.66	$ 100.00	482,445	(793)	-
2006	267027	Packaged system Economizer Repair	215.577	-0.718683		1	ton	15	956.3328	$ 41.66	$ 100.00	206,163	(687)	-
2006	267028	Packaged system Economizer Repair	178.558	-0.385963		1	ton	15	529.7628	$ 41.66	$ 100.00	94,593	(204)	-
2006	267029	Packaged system Economizer Repair	535.152	-1.16434		1	ton	15	398.1616	$ 41.66	$ 100.00	213,077	(464)	-
2006	267030	Packaged system Economizer Repair	275.534	-0.096651		1	ton	15	370.5336	$ 41.66	$ 100.00	102,095	(36)	-
2006	267031	Packaged system Economizer Repair	167	$ (0.49)		1	ton	15	271.388	$ 41.66	$ 100.00	45,389	(133)	-
2006	267032	Packaged system Economizer Repair	133	$ (0.31)		1	ton	15	148.7192	$ 41.66	$ 100.00	19,735	(47)	-
2006	267033	Packaged system Economizer Repair	81	$ 0.48		1	ton	15	275.49504	$ 41.66	$ 100.00	22,181	132	-
2006	267034	Packaged system Economizer Repair	39	$ (0.00)		1	ton	15	246.7656	$ 41.66	$ 100.00	9,563	(0)	-
2006	267035	Packaged system Economizer Repair	21	$ (0.06)		1	ton	15	174.168	$ 41.66	$ 100.00	3,736	(11)	-
2006	267036	Packaged system Economizer Repair	16	$ 0.01		1	ton	15	96.5968	$ 41.66	$ 100.00	1,572	1	-
2006	267037	Packaged system Economizer Repair	206	$ (0.47)		1	ton	15	139.5296	$ 41.66	$ 100.00	28,722	(66)	-
2006	267038	Packaged system Economizer Repair	98	$ 0.23		1	ton	15	130.0314	$ 41.66	$ 100.00	12,795	30	-
2006	267039	Packaged system Economizer Repair	55	$ (0.38)		1	ton	15	94.6776	$ 41.66	$ 100.00	5,211	(36)	-
2006	267040	Packaged system Economizer Repair	49	$ (0.59)		1	ton	15	52.814	$ 41.66	$ 100.00	2,600	(31)	-
2006	267041	Quality Installation - Single Family	252		$ 0.61	1	House	15	400	$ 120.00	$ 503.45	100,938	-	243
2006	267042	Quality Installation - Single Family	293		$ 0.67	1	House	15	400	$ 120.00	$ 503.45	117,005	-	266
2006	267043	Quality Installation - Single Family	633		$ 0.63	1	House	15	200	$ 120.00	$ 503.45	126,586	-	126
2006	267044	Quality Installation - Mobile Home	205		$ 0.36	1	House	15	80	$ 120.00	$ 377.64	16,362	-	29
2006	267045	Quality Installation - Mobile Home	264		$ 0.53	1	House	15	80	$ 120.00	$ 460.08	21,091	-	43

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	267046	Quality Installation - Mobile Home	482		$ 0.39	1	House	15	40	$ 120.00	$ 490.38	19,290	-	16
2006	267047	High Refrigerant Charge Adjustment (>= ±20% rated charge)	248	$ (0.07)	$ 0.18	1	ton	10	570.3728	$ 35.00	$ 46.33	141,709	(38)	104
2006	267048	High Refrigerant Charge Adjustment (>= ±20% rated charge)	263	$ (0.02)	$ 0.27	1	ton	10	638.36	$ 35.00	$ 46.33	167,910	(10)	173
2006	267049	High Refrigerant Charge Adjustment (>= ±20% rated charge)	458	$ (0.02)	$ 0.21	1	ton	10	351.5642	$ 35.00	$ 46.33	161,170	(7)	72
2006	267050	High Refrigerant Charge Adjustment (>= ±20% rated charge)	206	$ (0.08)	$ 0.23	1	ton	10	399.26096	$ 35.00	$ 46.33	82,156	(31)	91
2006	267051	High Refrigerant Charge Adjustment (>= ±20% rated charge)	219	$ (0.02)	$ 0.23	1	ton	10	446.852	$ 35.00	$ 46.33	98,017	(7)	101
2006	267052	High Refrigerant Charge Adjustment (>= ±20% rated charge)	441	$ (0.03)	$ 0.12	1	ton	10	246.09494	$ 35.00	$ 46.33	108,409	(8)	29
2006	267053	High Refrigerant Charge Adjustment (>= ±20% rated charge)	162	$ (0.07)	$ 0.24	1	ton	10	114.07456	$ 35.00	$ 46.33	18,534	(8)	27
2006	267054	High Refrigerant Charge Adjustment (>= ±20% rated charge)	164	$ (0.01)	$ 0.26	1	ton	10	127.672	$ 35.00	$ 46.33	20,884	(1)	33
2006	267055	High Refrigerant Charge Adjustment (>= ±20% rated charge)	386	$ (0.02)	$ 0.16	1	ton	10	70.31284	$ 35.00	$ 46.33	27,121	(1)	11
2006	267056	High Refrigerant Charge Adjustment (>= ±20% rated charge)	110	$ (0.02)	$ 0.16	1	ton	10	57.03728	$ 35.00	$ 46.33	6,299	(1)	9
2006	267057	High Refrigerant Charge Adjustment (>= ±20% rated charge)	153	$ (0.00)	$ 0.26	1	ton	10	63.836	$ 35.00	$ 46.33	9,783	(0)	17
2006	267058	High Refrigerant Charge Adjustment (>= ±20% rated charge)	373	$ (0.01)	$ 0.16	1	ton	10	35.15642	$ 35.00	$ 46.33	13,098	(0)	6
2006	267059	High Refrigerant Charge Adjustment (>= ±20% rated charge)	235	$ (0.04)	$ 0.38	1	ton	10	60.2	$ 35.00	$ 46.33	14,164	(3)	23
2006	267060	High Refrigerant Charge Adjustment (>= ±20% rated charge)	305	$ (0.02)	$ 0.36	1	ton	10	60.2	$ 35.00	$ 46.33	18,340	(1)	22
2006	267061	High Refrigerant Charge Adjustment (>= ±20% rated charge)	557	$ (0.03)	$ 0.16	1	ton	10	30.1	$ 35.00	$ 46.33	16,754	(1)	5
2006	267062	High Refrigerant Charge Adjustment (>= ±20% rated charge)	232	$ (0.05)	$ 0.38	1	ton	10	42.14	$ 35.00	$ 46.33	9,772	(2)	16

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	267063	High Refrigerant Charge Adjustment (>= ±20% rated charge)	304	$ (0.02)	$ 0.35	1	ton	10	42.14	$ 35.00	$ 46.33	12,795	(1)	15
2006	267064	High Refrigerant Charge Adjustment (>= ±20% rated charge)	558	$ (0.04)	$ 0.15	1	ton	10	21.07	$ 35.00	$ 46.33	11,752	(1)	3
2006	267065	High Refrigerant Charge Adjustment (>= ±20% rated charge)	131	$ (0.04)	$ 0.26	1	ton	10	18.06	$ 35.00	$ 46.33	2,369	(1)	5
2006	267066	High Refrigerant Charge Adjustment (>= ±20% rated charge)	179	$ (0.02)	$ 0.27	1	ton	10	18.06	$ 35.00	$ 46.33	3,237	(0)	5
2006	267067	High Refrigerant Charge Adjustment (>= ±20% rated charge)	344	$ (0.03)	$ 0.15	1	ton	10	9.03	$ 35.00	$ 46.33	3,102	(0)	1
2006	267068	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	292	$ 4.41	$ 0.24	1	ton	15	91.259648	$ 100.00	$ 154.24	26,643	402	22
2006	267069	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	297	$ 5.29	$ 0.39	1	ton	15	102.1376	$ 100.00	$ 154.24	30,327	540	40
2006	267070	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	525	$ 1.68	$ 0.39	1	ton	15	56.250272	$ 100.00	$ 154.24	29,554	94	22
2006	267071	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	245	$ 2.43	$ 0.30	1	ton	15	63.8817536	$ 100.00	$ 154.24	15,673	155	19
2006	267072	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	261	$ 4.40	$ 0.32	1	ton	15	71.49632	$ 100.00	$ 154.24	18,681	314	23
2006	267073	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	530	$ 0.77	$ 0.20	1	ton	15	39.3751904	$ 100.00	$ 154.24	20,870	30	8
2006	267074	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	201	$ 2.37	$ 0.29	1	ton	15	18.2519296	$ 100.00	$ 154.24	3,663	43	5
2006	267075	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	207	$ 4.83	$ 0.33	1	ton	15	20.42752	$ 100.00	$ 154.24	4,223	99	7
2006	267076	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	482	$ 0.60	$ 0.21	1	ton	15	11.2500544	$ 100.00	$ 154.24	5,418	7	2
2006	267077	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	139	$ 2.98	$ 0.31	1	ton	15	9.1259648	$ 100.00	$ 154.24	1,271	27	3
2006	267078	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	194	$ 5.43	$ 0.33	1	ton	15	10.21376	$ 100.00	$ 154.24	1,981	55	3
2006	267079	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	465	$ 0.76	$ 0.21	1	ton	15	5.6250272	$ 100.00	$ 154.24	2,616	4	1

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	267080	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	235	$ 21.42	$ 0.18	1	1000 sqft House	15	76.248	$ 75.00	$ 107.91	17,900	1,633	14
2006	267081	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	376	$ 38.79	$ 0.63	1	1000 sqft House	15	75.008	$ 75.00	$ 107.91	28,188	2,910	47
2006	267082	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	736	$ 14.26	$ 0.72	1	1000 sqft House	15	37.504	$ 75.00	$ 107.91	27,610	535	27
2006	267083	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	181	$ 10.73	$ 0.24	1	1000 sqft House	15	53.3736	$ 75.00	$ 107.91	9,678	573	13
2006	267084	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	215	$ 20.28	$ 0.33	1	1000 sqft House	15	52.5056	$ 75.00	$ 107.91	11,280	1,065	17
2006	267085	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	461	$ 4.01	$ 0.20	1	1000 sqft House	15	26.2528	$ 75.00	$ 107.91	12,104	105	5
2006	267086	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	121	$ 8.82	$ 0.20	1	1000 sqft House	15	15.2496	$ 75.00	$ 107.91	1,841	134	3
2006	267087	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	126	$ 15.82	$ 0.25	1	1000 sqft House	15	15.0016	$ 75.00	$ 107.91	1,886	237	4
2006	267088	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	302	$ 2.17	$ 0.16	1	1000 sqft House	15	7.5008	$ 75.00	$ 107.91	2,267	16	1
2006	267089	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	69	$ 8.01	$ 0.17	1	1000 sqft House	15	7.6248	$ 75.00	$ 107.91	528	61	1
2006	267090	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	109	$ 16.40	$ 0.23	1	1000 sqft House	15	7.5008	$ 75.00	$ 107.91	815	123	2
2006	267091	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	271	$ 2.49	$ 0.15	1	1000 sqft House	15	3.7504	$ 75.00	$ 107.91	1,017	9	1
2006	267092	Night Ventilation	774		$ 1.67	1	home	15	4	$ 750.00	$ 1,500.00	3,096	-	7
2006	267093	Night Ventilation	720		$ 0.79	1	home	15	4	$ 750.00	$ 1,500.00	2,880	-	3
2006	267094	Night Ventilation	426		$ 0.43	1	home	15	2	$ 750.00	$ 1,500.00	852	-	1
2007	267001	Commercial HVAC Diagnostic/Tune-up	396		$ 0.15	1	ton	5	1446.34896	$ 30.00	$ 34.00	573,252	-	217
2007	267002	Commercial HVAC Diagnostic/Tune-up	405		$ 0.15	1	ton	5	1295.5194	$ 30.00	$ 34.00	524,608	-	194
2007	267003	Commercial HVAC Diagnostic/Tune-up	378		$ 0.15	1	ton	5	914.382	$ 30.00	$ 34.00	345,710	-	137
2007	267004	Commercial HVAC Diagnostic/Tune-up	427		$ 0.15	1	ton	5	507.1332	$ 30.00	$ 34.00	216,403	-	76
2007	267005	Commercial HVAC Diagnostic/Tune-up	119		$ 0.15	1	ton	5	574.9968	$ 30.00	$ 34.00	68,398	-	86
2007	267006	Commercial HVAC Diagnostic/Tune-up	148		$ 0.15	1	ton	5	531.54675	$ 30.00	$ 34.00	78,537	-	80

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	267007	Commercial HVAC Diagnostic/Tune-up	124		$ 0.15	1	ton	5	393.477	$ 30.00	$ 34.00	48,906	-	59
2007	267008	Commercial HVAC Diagnostic/Tune-up	222		$ 0.15	1	ton	5	217.3143	$ 30.00	$ 34.00	48,283	-	33
2007	267009	Commercial HVAC Diagnostic/Tune-up	112		$ 0.15	1	ton	5	732.5304	$ 30.00	$ 34.00	82,371	-	110
2007	267010	Commercial HVAC Diagnostic/Tune-up	146		$ 0.15	1	ton	5	682.66485	$ 30.00	$ 34.00	99,746	-	102
2007	267011	Commercial HVAC Diagnostic/Tune-up	125		$ 0.15	1	ton	5	497.0574	$ 30.00	$ 34.00	61,905	-	75
2007	267012	Commercial HVAC Diagnostic/Tune-up	227		$ 0.15	1	ton	5	277.2735	$ 30.00	$ 34.00	62,847	-	42
2007	267013	Commercial HVAC Diagnostic/Tune-up	191		$ 0.15	1	ton	5	7871.0436	$ 30.00	$ 34.00	1,507,163	-	1,181
2007	267014	Commercial HVAC Diagnostic/Tune-up	201		$ 0.15	1	ton	5	6919.0821	$ 30.00	$ 34.00	1,390,362	-	1,038
2007	267015	Commercial HVAC Diagnostic/Tune-up	165		$ 0.15	1	ton	5	5020.7472	$ 30.00	$ 34.00	828,890	-	753
2007	267016	Commercial HVAC Diagnostic/Tune-up	264		$ 0.15	1	ton	5	2781.2547	$ 30.00	$ 34.00	734,691	-	417
2007	267017	Commercial HVAC Diagnostic/Tune-up	163		$ 0.15	1	ton	5	2090.3484	$ 30.00	$ 34.00	340,451	-	314
2007	267018	Commercial HVAC Diagnostic/Tune-up	172		$ 0.15	1	ton	5	1945.3014	$ 30.00	$ 34.00	335,329	-	292
2007	267019	Commercial HVAC Diagnostic/Tune-up	144		$ 0.15	1	ton	5	1424.787	$ 30.00	$ 34.00	205,641	-	214
2007	267020	Commercial HVAC Diagnostic/Tune-up	236		$ 0.15	1	ton	5	780.7758	$ 30.00	$ 34.00	183,877	-	117
2007	267021	Packaged system Economizer retrofit	258	$ (0.17)		1	ton	15	164.2848	$ 41.66	$ 100.00	42,342	(28)	-
2007	267022	Packaged system Economizer retrofit	127	$ (0.25)		1	ton	15	151.8705	$ 41.66	$ 100.00	19,256	(38)	-
2007	267023	Packaged system Economizer retrofit	68	$ (0.08)		1	ton	15	112.422	$ 41.66	$ 100.00	7,676	(9)	-
2007	267024	Packaged system Economizer retrofit	65	$ 0.46		1	ton	15	62.0898	$ 41.66	$ 100.00	4,060	28	-
2007	267025	Packaged system Economizer Repair	685	$ (1.16)		1	ton	15	2248.8696	$ 41.66	$ 100.00	1,540,491	(2,614)	-
2007	267026	Packaged system Economizer Repair	366	$ (0.60)		1	ton	15	1976.8806	$ 41.66	$ 100.00	723,667	(1,190)	-
2007	267027	Packaged system Economizer Repair	216	$ (0.72)		1	ton	15	1434.4992	$ 41.66	$ 100.00	309,245	(1,031)	-
2007	267028	Packaged system Economizer Repair	179	$ (0.39)		1	ton	15	794.6442	$ 41.66	$ 100.00	141,890	(307)	-
2007	267029	Packaged system Economizer Repair	535	$ (1.16)		1	ton	15	597.2424	$ 41.66	$ 100.00	319,615	(695)	-
2007	267030	Packaged system Economizer Repair	276	$ (0.10)		1	ton	15	555.8004	$ 41.66	$ 100.00	153,142	(54)	-
2007	267031	Packaged system Economizer Repair	167	$ (0.49)		1	ton	15	407.082	$ 41.66	$ 100.00	68,084	(200)	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	267032	Packaged system Economizer Repair	133	$ (0.31)		1	ton	15	223.0788	$ 41.66	$ 100.00	29,602	(70)	-
2007	267033	Packaged system Economizer Repair	81	$ 0.48		1	ton	15	413.24256	$ 41.66	$ 100.00	33,271	198	-
2007	267034	Packaged system Economizer Repair	39	$ (0.00)		1	ton	15	370.1484	$ 41.66	$ 100.00	14,344	(0)	-
2007	267035	Packaged system Economizer Repair	21	$ (0.06)		1	ton	15	261.252	$ 41.66	$ 100.00	5,604	(17)	-
2007	267036	Packaged system Economizer Repair	16	$ 0.01		1	ton	15	144.8952	$ 41.66	$ 100.00	2,359	1	-
2007	267037	Packaged system Economizer Repair	206	$ (0.47)		1	ton	15	209.2944	$ 41.66	$ 100.00	43,083	(99)	-
2007	267038	Packaged system Economizer Repair	98	$ 0.23		1	ton	15	195.0471	$ 41.66	$ 100.00	19,193	45	-
2007	267039	Packaged system Economizer Repair	55	$ (0.38)		1	ton	15	142.0164	$ 41.66	$ 100.00	7,817	(55)	-
2007	267040	Packaged system Economizer Repair	49	$ (0.59)		1	ton	15	79.221	$ 41.66	$ 100.00	3,900	(47)	-
2007	267041	Quality Installation - Single Family	252		$ 0.61	1	House	15	1200	$ 120.00	$ 503.45	302,814	-	729
2007	267042	Quality Installation - Single Family	293		$ 0.67	1	House	15	1200	$ 120.00	$ 503.45	351,015	-	798
2007	267043	Quality Installation - Single Family	633		$ 0.63	1	House	15	600	$ 120.00	$ 503.45	379,759	-	378
2007	267044	Quality Installation - Mobile Home	205		$ 0.36	1	House	15	180	$ 120.00	$ 377.64	36,815	-	65
2007	267045	Quality Installation - Mobile Home	264		$ 0.53	1	House	15	180	$ 120.00	$ 460.08	47,455	-	96
2007	267046	Quality Installation - Mobile Home	482		$ 0.39	1	House	15	90	$ 120.00	$ 490.38	43,402	-	35
2007	267047	High Refrigerant Charge Adjustment (>= ±20% rated charge)	248	$ (0.07)	$ 0.18	1	ton	10	1283.3388	$ 35.00	$ 46.33	318,844	(86)	235
2007	267048	High Refrigerant Charge Adjustment (>= ±20% rated charge)	263	$ (0.02)	$ 0.27	1	ton	10	1436.31	$ 35.00	$ 46.33	377,797	(22)	388
2007	267049	High Refrigerant Charge Adjustment (>= ±20% rated charge)	458	$ (0.02)	$ 0.21	1	ton	10	791.01945	$ 35.00	$ 46.33	362,633	(15)	163
2007	267050	High Refrigerant Charge Adjustment (>= ±20% rated charge)	206	$ (0.08)	$ 0.23	1	ton	10	898.33716	$ 35.00	$ 46.33	184,852	(70)	205
2007	267051	High Refrigerant Charge Adjustment (>= ±20% rated charge)	219	$ (0.02)	$ 0.23	1	ton	10	1005.417	$ 35.00	$ 46.33	220,538	(16)	227
2007	267052	High Refrigerant Charge Adjustment (>= ±20% rated charge)	441	$ (0.03)	$ 0.12	1	ton	10	553.713615	$ 35.00	$ 46.33	243,919	(18)	66
2007	267053	High Refrigerant Charge Adjustment (>= ±20% rated charge)	162	$ (0.07)	$ 0.24	1	ton	10	256.66776	$ 35.00	$ 46.33	41,701	(18)	61

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	267054	High Refrigerant Charge Adjustment (>= ±20% rated charge)	164	$ (0.01)	$ 0.26	1	ton	10	287.262	$ 35.00	$ 46.33	46,990	(1)	75
2007	267055	High Refrigerant Charge Adjustment (>= ±20% rated charge)	386	$ (0.02)	$ 0.16	1	ton	10	158.20389	$ 35.00	$ 46.33	61,023	(3)	26
2007	267056	High Refrigerant Charge Adjustment (>= ±20% rated charge)	110	$ (0.02)	$ 0.16	1	ton	10	128.33388	$ 35.00	$ 46.33	14,173	(2)	21
2007	267057	High Refrigerant Charge Adjustment (>= ±20% rated charge)	153	$ (0.00)	$ 0.26	1	ton	10	143.631	$ 35.00	$ 46.33	22,011	(1)	38
2007	267058	High Refrigerant Charge Adjustment (>= ±20% rated charge)	373	$ (0.01)	$ 0.16	1	ton	10	79.101945	$ 35.00	$ 46.33	29,470	(1)	13
2007	267059	High Refrigerant Charge Adjustment (>= ±20% rated charge)	235	$ (0.04)	$ 0.38	1	ton	10	270.9	$ 35.00	$ 46.33	63,738	(12)	104
2007	267060	High Refrigerant Charge Adjustment (>= ±20% rated charge)	305	$ (0.02)	$ 0.36	1	ton	10	270.9	$ 35.00	$ 46.33	82,528	(5)	97
2007	267061	High Refrigerant Charge Adjustment (>= ±20% rated charge)	557	$ (0.03)	$ 0.16	1	ton	10	135.45	$ 35.00	$ 46.33	75,394	(5)	22
2007	267062	High Refrigerant Charge Adjustment (>= ±20% rated charge)	232	$ (0.05)	$ 0.38	1	ton	10	189.63	$ 35.00	$ 46.33	43,973	(10)	72
2007	267063	High Refrigerant Charge Adjustment (>= ±20% rated charge)	304	$ (0.02)	$ 0.35	1	ton	10	189.63	$ 35.00	$ 46.33	57,578	(4)	66
2007	267064	High Refrigerant Charge Adjustment (>= ±20% rated charge)	558	$ (0.04)	$ 0.15	1	ton	10	94.815	$ 35.00	$ 46.33	52,886	(3)	14
2007	267065	High Refrigerant Charge Adjustment (>= ±20% rated charge)	131	$ (0.04)	$ 0.26	1	ton	10	81.27	$ 35.00	$ 46.33	10,660	(4)	21
2007	267066	High Refrigerant Charge Adjustment (>= ±20% rated charge)	179	$ (0.02)	$ 0.27	1	ton	10	81.27	$ 35.00	$ 46.33	14,566	(2)	22
2007	267067	High Refrigerant Charge Adjustment (>= ±20% rated charge)	344	$ (0.03)	$ 0.15	1	ton	10	40.635	$ 35.00	$ 46.33	13,958	(1)	6
2007	267068	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	292	$ 4.41	$ 0.24	1	ton	15	256.66776	$ 100.00	$ 154.24	74,935	1,131	63
2007	267069	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	297	$ 5.29	$ 0.39	1	ton	15	287.262	$ 100.00	$ 154.24	85,296	1,519	112
2007	267070	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	525	$ 1.68	$ 0.39	1	ton	15	158.20389	$ 100.00	$ 154.24	83,122	265	61

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	267071	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	245	$ 2.43	$ 0.30	1	ton	15	179.667432	$ 100.00	$ 154.24	44,079	436	54
2007	267072	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	261	$ 4.40	$ 0.32	1	ton	15	201.0834	$ 100.00	$ 154.24	52,541	884	64
2007	267073	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	530	$ 0.77	$ 0.20	1	ton	15	110.742723	$ 100.00	$ 154.24	58,697	85	23
2007	267074	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	201	$ 2.37	$ 0.29	1	ton	15	51.333552	$ 100.00	$ 154.24	10,302	121	15
2007	267075	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	207	$ 4.83	$ 0.33	1	ton	15	57.4524	$ 100.00	$ 154.24	11,878	278	19
2007	267076	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	482	$ 0.60	$ 0.21	1	ton	15	31.640778	$ 100.00	$ 154.24	15,237	19	7
2007	267077	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	139	$ 2.98	$ 0.31	1	ton	15	25.666776	$ 100.00	$ 154.24	3,574	77	8
2007	267078	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	194	$ 5.43	$ 0.33	1	ton	15	28.7262	$ 100.00	$ 154.24	5,571	156	10
2007	267079	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	465	$ 0.76	$ 0.21	1	ton	15	15.820389	$ 100.00	$ 154.24	7,357	12	3
2007	267080	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	235	$ 21.42	$ 0.18	1	1000 sqft House	15	228.744	$ 75.00	$ 107.91	53,701	4,900	41
2007	267081	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	376	$ 38.79	$ 0.63	1	1000 sqft House	15	225.024	$ 75.00	$ 107.91	84,565	8,729	142
2007	267082	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	736	$ 14.26	$ 0.72	1	1000 sqft House	15	112.512	$ 75.00	$ 107.91	82,830	1,604	81
2007	267083	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	181	$ 10.73	$ 0.24	1	1000 sqft House	15	160.1208	$ 75.00	$ 107.91	29,035	1,719	39
2007	267084	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	215	$ 20.28	$ 0.33	1	1000 sqft House	15	157.5168	$ 75.00	$ 107.91	33,839	3,195	52
2007	267085	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	461	$ 4.01	$ 0.20	1	1000 sqft House	15	78.7584	$ 75.00	$ 107.91	36,313	316	16
2007	267086	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	121	$ 8.82	$ 0.20	1	1000 sqft House	15	45.7488	$ 75.00	$ 107.91	5,524	403	9
2007	267087	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	126	$ 15.82	$ 0.25	1	1000 sqft House	15	45.0048	$ 75.00	$ 107.91	5,658	712	11

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	267088	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	302	$ 2.17	$ 0.16	1	1000 sqft House	15	22.5024	$ 75.00	$ 107.91	6,802	49	4
2007	267089	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	69	$ 8.01	$ 0.17	1	1000 sqft House	15	22.8744	$ 75.00	$ 107.91	1,583	183	4
2007	267090	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	109	$ 16.40	$ 0.23	1	1000 sqft House	15	22.5024	$ 75.00	$ 107.91	2,445	369	5
2007	267091	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	271	$ 2.49	$ 0.15	1	1000 sqft House	15	11.2512	$ 75.00	$ 107.91	3,052	28	2
2007	267092	Night Ventilation	774		$ 1.67	1	home	15	24	$ 750.00	$ 1,500.00	18,576	-	40
2007	267093	Night Ventilation	720		$ 0.79	1	home	15	24	$ 750.00	$ 1,500.00	17,280	-	19
2007	267094	Night Ventilation	426		$ 0.43	1	home	15	12	$ 750.00	$ 1,500.00	5,112	-	5
2008	267001	Commercial HVAC Diagnostic/Tune-up	396		$ 0.15	1	ton	5	1928.46528	$ 30.00	$ 34.00	764,336	-	289
2008	267002	Commercial HVAC Diagnostic/Tune-up	405		$ 0.15	1	ton	5	1727.3592	$ 30.00	$ 34.00	699,477	-	259
2008	267003	Commercial HVAC Diagnostic/Tune-up	378		$ 0.15	1	ton	5	1219.176	$ 30.00	$ 34.00	460,946	-	183
2008	267004	Commercial HVAC Diagnostic/Tune-up	427		$ 0.15	1	ton	5	676.1776	$ 30.00	$ 34.00	288,537	-	101
2008	267005	Commercial HVAC Diagnostic/Tune-up	119		$ 0.15	1	ton	5	766.6624	$ 30.00	$ 34.00	91,197	-	115
2008	267006	Commercial HVAC Diagnostic/Tune-up	148		$ 0.15	1	ton	5	708.729	$ 30.00	$ 34.00	104,715	-	106
2008	267007	Commercial HVAC Diagnostic/Tune-up	124		$ 0.15	1	ton	5	524.636	$ 30.00	$ 34.00	65,209	-	79
2008	267008	Commercial HVAC Diagnostic/Tune-up	222		$ 0.15	1	ton	5	289.7524	$ 30.00	$ 34.00	64,377	-	43
2008	267009	Commercial HVAC Diagnostic/Tune-up	112		$ 0.15	1	ton	5	976.7072	$ 30.00	$ 34.00	109,828	-	147
2008	267010	Commercial HVAC Diagnostic/Tune-up	146		$ 0.15	1	ton	5	910.2198	$ 30.00	$ 34.00	132,995	-	137
2008	267011	Commercial HVAC Diagnostic/Tune-up	125		$ 0.15	1	ton	5	662.7432	$ 30.00	$ 34.00	82,539	-	99
2008	267012	Commercial HVAC Diagnostic/Tune-up	227		$ 0.15	1	ton	5	369.698	$ 30.00	$ 34.00	83,796	-	55
2008	267013	Commercial HVAC Diagnostic/Tune-up	191		$ 0.15	1	ton	5	10494.7248	$ 30.00	$ 34.00	2,009,551	-	1,574
2008	267014	Commercial HVAC Diagnostic/Tune-up	201		$ 0.15	1	ton	5	9225.4428	$ 30.00	$ 34.00	1,853,816	-	1,384
2008	267015	Commercial HVAC Diagnostic/Tune-up	165		$ 0.15	1	ton	5	6694.3296	$ 30.00	$ 34.00	1,105,187	-	1,004
2008	267016	Commercial HVAC Diagnostic/Tune-up	264		$ 0.15	1	ton	5	3708.3396	$ 30.00	$ 34.00	979,588	-	556
2008	267017	Commercial HVAC Diagnostic/Tune-up	163		$ 0.15	1	ton	5	2787.1312	$ 30.00	$ 34.00	453,934	-	418
2008	267018	Commercial HVAC Diagnostic/Tune-up	172		$ 0.15	1	ton	5	2593.7352	$ 30.00	$ 34.00	447,105	-	389

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	267019	Commercial HVAC Diagnostic/Tune-up	144		$ 0.15	1	ton	5	1899.716	$ 30.00	$ 34.00	274,188	-	285
2008	267020	Commercial HVAC Diagnostic/Tune-up	236		$ 0.15	1	ton	5	1041.0344	$ 30.00	$ 34.00	245,169	-	156
2008	267021	Packaged system Economizer retrofit	258	$ (0.17)		1	ton	15	219.0464	$ 41.66	$ 100.00	56,457	(38)	-
2008	267022	Packaged system Economizer retrofit	127	$ (0.25)		1	ton	15	202.494	$ 41.66	$ 100.00	25,674	(51)	-
2008	267023	Packaged system Economizer retrofit	68	$ (0.08)		1	ton	15	149.896	$ 41.66	$ 100.00	10,235	(12)	-
2008	267024	Packaged system Economizer retrofit	65	$ 0.46		1	ton	15	82.7864	$ 41.66	$ 100.00	5,414	38	-
2008	267025	Packaged system Economizer Repair	685	$ (1.16)		1	ton	15	2998.4928	$ 41.66	$ 100.00	2,053,989	(3,485)	-
2008	267026	Packaged system Economizer Repair	366	$ (0.60)		1	ton	15	2635.8408	$ 41.66	$ 100.00	964,889	(1,586)	-
2008	267027	Packaged system Economizer Repair	216	$ (0.72)		1	ton	15	1912.6656	$ 41.66	$ 100.00	412,327	(1,375)	-
2008	267028	Packaged system Economizer Repair	179	$ (0.39)		1	ton	15	1059.5256	$ 41.66	$ 100.00	189,187	(409)	-
2008	267029	Packaged system Economizer Repair	535	$ (1.16)		1	ton	15	796.3232	$ 41.66	$ 100.00	426,154	(927)	-
2008	267030	Packaged system Economizer Repair	276	$ (0.10)		1	ton	15	741.0672	$ 41.66	$ 100.00	204,189	(72)	-
2008	267031	Packaged system Economizer Repair	167	$ (0.49)		1	ton	15	542.776	$ 41.66	$ 100.00	90,779	(267)	-
2008	267032	Packaged system Economizer Repair	133	$ (0.31)		1	ton	15	297.4384	$ 41.66	$ 100.00	39,469	(93)	-
2008	267033	Packaged system Economizer Repair	81	$ 0.48		1	ton	15	550.99008	$ 41.66	$ 100.00	44,362	264	-
2008	267034	Packaged system Economizer Repair	39	$ (0.00)		1	ton	15	493.5312	$ 41.66	$ 100.00	19,126	(1)	-
2008	267035	Packaged system Economizer Repair	21	$ (0.06)		1	ton	15	348.336	$ 41.66	$ 100.00	7,472	(22)	-
2008	267036	Packaged system Economizer Repair	16	$ 0.01		1	ton	15	193.1936	$ 41.66	$ 100.00	3,145	2	-
2008	267037	Packaged system Economizer Repair	206	$ (0.47)		1	ton	15	279.0592	$ 41.66	$ 100.00	57,444	(131)	-
2008	267038	Packaged system Economizer Repair	98	$ 0.23		1	ton	15	260.0628	$ 41.66	$ 100.00	25,591	59	-
2008	267039	Packaged system Economizer Repair	55	$ (0.38)		1	ton	15	189.3552	$ 41.66	$ 100.00	10,422	(73)	-
2008	267040	Packaged system Economizer Repair	49	$ (0.59)		1	ton	15	105.628	$ 41.66	$ 100.00	5,200	(62)	-
2008	267041	Quality Installation - Single Family	252		$ 0.61	1	House	15	3200	$ 120.00	$ 503.45	807,503	-	1,944
2008	267042	Quality Installation - Single Family	293		$ 0.67	1	House	15	3200	$ 120.00	$ 503.45	936,039	-	2,128
2008	267043	Quality Installation - Single Family	633		$ 0.63	1	House	15	1600	$ 120.00	$ 503.45	1,012,691	-	1,009

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	267044	Quality Installation - Mobile Home	205		$ 0.36	1	House	15	320	$ 120.00	$ 377.64	65,449	-	115
2008	267045	Quality Installation - Mobile Home	264		$ 0.53	1	House	15	320	$ 120.00	$ 460.08	84,365	-	171
2008	267046	Quality Installation - Mobile Home	482		$ 0.39	1	House	15	160	$ 120.00	$ 490.38	77,159	-	62
2008	267047	High Refrigerant Charge Adjustment (>= ±20% rated charge)	248	$ (0.07)	$ 0.18	1	ton	10	2851.864	$ 35.00	$ 46.33	708,543	(190)	522
2008	267048	High Refrigerant Charge Adjustment (>= ±20% rated charge)	263	$ (0.02)	$ 0.27	1	ton	10	3191.8	$ 35.00	$ 46.33	839,549	(49)	863
2008	267049	High Refrigerant Charge Adjustment (>= ±20% rated charge)	458	$ (0.02)	$ 0.21	1	ton	10	1757.821	$ 35.00	$ 46.33	805,852	(33)	362
2008	267050	High Refrigerant Charge Adjustment (>= ±20% rated charge)	206	$ (0.08)	$ 0.23	1	ton	10	1996.3048	$ 35.00	$ 46.33	410,782	(156)	455
2008	267051	High Refrigerant Charge Adjustment (>= ±20% rated charge)	219	$ (0.02)	$ 0.23	1	ton	10	2234.26	$ 35.00	$ 46.33	490,085	(36)	504
2008	267052	High Refrigerant Charge Adjustment (>= ±20% rated charge)	441	$ (0.03)	$ 0.12	1	ton	10	1230.4747	$ 35.00	$ 46.33	542,043	(39)	147
2008	267053	High Refrigerant Charge Adjustment (>= ±20% rated charge)	162	$ (0.07)	$ 0.24	1	ton	10	570.3728	$ 35.00	$ 46.33	92,669	(41)	136
2008	267054	High Refrigerant Charge Adjustment (>= ±20% rated charge)	164	$ (0.01)	$ 0.26	1	ton	10	638.36	$ 35.00	$ 46.33	104,422	(3)	166
2008	267055	High Refrigerant Charge Adjustment (>= ±20% rated charge)	386	$ (0.02)	$ 0.16	1	ton	10	351.5642	$ 35.00	$ 46.33	135,606	(6)	57
2008	267056	High Refrigerant Charge Adjustment (>= ±20% rated charge)	110	$ (0.02)	$ 0.16	1	ton	10	285.1864	$ 35.00	$ 46.33	31,495	(5)	46
2008	267057	High Refrigerant Charge Adjustment (>= ±20% rated charge)	153	$ (0.00)	$ 0.26	1	ton	10	319.18	$ 35.00	$ 46.33	48,913	(1)	84
2008	267058	High Refrigerant Charge Adjustment (>= ±20% rated charge)	373	$ (0.01)	$ 0.16	1	ton	10	175.7821	$ 35.00	$ 46.33	65,490	(2)	28
2008	267059	High Refrigerant Charge Adjustment (>= ±20% rated charge)	235	$ (0.04)	$ 0.38	1	ton	10	722.4	$ 35.00	$ 46.33	169,967	(31)	276
2008	267060	High Refrigerant Charge Adjustment (>= ±20% rated charge)	305	$ (0.02)	$ 0.36	1	ton	10	722.4	$ 35.00	$ 46.33	220,075	(13)	260
2008	267061	High Refrigerant Charge Adjustment (>= ±20% rated charge)	557	$ (0.03)	$ 0.16	1	ton	10	361.2	$ 35.00	$ 46.33	201,052	(12)	59

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	267062	High Refrigerant Charge Adjustment (>= ±20% rated charge)	232	$ (0.05)	$ 0.38	1	ton	10	505.68	$ 35.00	$ 46.33	117,262	(26)	193
2008	267063	High Refrigerant Charge Adjustment (>= ±20% rated charge)	304	$ (0.02)	$ 0.35	1	ton	10	505.68	$ 35.00	$ 46.33	153,542	(10)	175
2008	267064	High Refrigerant Charge Adjustment (>= ±20% rated charge)	558	$ (0.04)	$ 0.15	1	ton	10	252.84	$ 35.00	$ 46.33	141,030	(9)	38
2008	267065	High Refrigerant Charge Adjustment (>= ±20% rated charge)	131	$ (0.04)	$ 0.26	1	ton	10	216.72	$ 35.00	$ 46.33	28,428	(10)	56
2008	267066	High Refrigerant Charge Adjustment (>= ±20% rated charge)	179	$ (0.02)	$ 0.27	1	ton	10	216.72	$ 35.00	$ 46.33	38,843	(4)	58
2008	267067	High Refrigerant Charge Adjustment (>= ±20% rated charge)	344	$ (0.03)	$ 0.15	1	ton	10	108.36	$ 35.00	$ 46.33	37,222	(4)	17
2008	267068	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	292	$ 4.41	$ 0.24	1	ton	15	684.44736	$ 100.00	$ 154.24	199,826	3,017	168
2008	267069	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	297	$ 5.29	$ 0.39	1	ton	15	766.032	$ 100.00	$ 154.24	227,456	4,051	300
2008	267070	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	525	$ 1.68	$ 0.39	1	ton	15	421.87704	$ 100.00	$ 154.24	221,658	707	163
2008	267071	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	245	$ 2.43	$ 0.30	1	ton	15	479.113152	$ 100.00	$ 154.24	117,544	1,163	144
2008	267072	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	261	$ 4.40	$ 0.32	1	ton	15	536.2224	$ 100.00	$ 154.24	140,110	2,357	170
2008	267073	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	530	$ 0.77	$ 0.20	1	ton	15	295.313928	$ 100.00	$ 154.24	156,525	226	60
2008	267074	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	201	$ 2.37	$ 0.29	1	ton	15	136.889472	$ 100.00	$ 154.24	27,471	324	40
2008	267075	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	207	$ 4.83	$ 0.33	1	ton	15	153.2064	$ 100.00	$ 154.24	31,674	741	51
2008	267076	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	482	$ 0.60	$ 0.21	1	ton	15	84.375408	$ 100.00	$ 154.24	40,633	51	18
2008	267077	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	139	$ 2.98	$ 0.31	1	ton	15	68.444736	$ 100.00	$ 154.24	9,532	204	21
2008	267078	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	194	$ 5.43	$ 0.33	1	ton	15	76.6032	$ 100.00	$ 154.24	14,856	416	26

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	267079	High Refrigerant Charge Adjustment (>= ±20% rated charge) + Duct Sealing	465	$ 0.76	$ 0.21	1	ton	15	42.187704	$ 100.00	$ 154.24	19,618	32	9
2008	267080	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	235	$ 21.42	$ 0.18	1	1000 sqft House	15	457.488	$ 75.00	$ 107.91	107,402	9,799	81
2008	267081	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	376	$ 38.79	$ 0.63	1	1000 sqft House	15	450.048	$ 75.00	$ 107.91	169,130	17,459	283
2008	267082	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	736	$ 14.26	$ 0.72	1	1000 sqft House	15	225.024	$ 75.00	$ 107.91	165,660	3,208	163
2008	267083	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	181	$ 10.73	$ 0.24	1	1000 sqft House	15	320.2416	$ 75.00	$ 107.91	58,070	3,438	77
2008	267084	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	215	$ 20.28	$ 0.33	1	1000 sqft House	15	315.0336	$ 75.00	$ 107.91	67,677	6,390	103
2008	267085	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	461	$ 4.01	$ 0.20	1	1000 sqft House	15	157.5168	$ 75.00	$ 107.91	72,626	631	31
2008	267086	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	121	$ 8.82	$ 0.20	1	1000 sqft House	15	91.4976	$ 75.00	$ 107.91	11,049	807	18
2008	267087	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	126	$ 15.82	$ 0.25	1	1000 sqft House	15	90.0096	$ 75.00	$ 107.91	11,316	1,424	22
2008	267088	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	302	$ 2.17	$ 0.16	1	1000 sqft House	15	45.0048	$ 75.00	$ 107.91	13,604	98	7
2008	267089	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	69	$ 8.01	$ 0.17	1	1000 sqft House	15	45.7488	$ 75.00	$ 107.91	3,166	366	8
2008	267090	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	109	$ 16.40	$ 0.23	1	1000 sqft House	15	45.0048	$ 75.00	$ 107.91	4,889	738	10
2008	267091	Duct Sealing (Total Leakage Reduced from 40% of AHU flow to 12%)	271	$ 2.49	$ 0.15	1	1000 sqft House	15	22.5024	$ 75.00	$ 107.91	6,105	56	3
2008	267092	Night Ventilation	774		$ 1.67	1	home	15	80	$ 750.00	$ 1,500.00	61,920	-	134
2008	267093	Night Ventilation	720		$ 0.79	1	home	15	80	$ 750.00	$ 1,500.00	57,600	-	63
2008	267094	Night Ventilation	426		$ 0.43	1	home	15	40	$ 750.00	$ 1,500.00	17,040	-	17

2006-2008 Energy Efficiency Programs
Coin Op Laundry Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ 20,000	$ 20,000	$ -
	Administrative Other	$ 170,513	$ 170,513	$ -
Marketing & Outreach		$ 122,500	$ 122,500	$ -
Direct Implementation				
	Activity	$ -	$ -	$ -
	Installation	$ 27,500	$ 27,500	$ -
	Hardware & Materials	$ -	$ -	$ -
	Procurement	$ -	$ -	$ -
	Incentives	$ 480,062	$ 480,062	$ -
EM&V		$ -	$ -	$ -
Total		*$ 820,575*	*$ 820,575*	*$ -*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
833,293	-	310,243	833,293	-	310,243	-	-	-

3. Program Cost Effectiveness

Attached

4. Program Descriptors

The Coin-Operated Laundry Program is not submitted as a statewide program. The program is most cost effective when operated so that both gas and electric savings can be achieved concurrently. That is the manner in which this program was approved in April 2005 by the PAG. The TRC and program description are for a combined gas and electric washer replacement for SDGE, with over 90% of washers utilizing gas water heating.

This is a modified program based upon a similar program successfully delivered in Oregon in 2001 by Laundry Team members UCONS and RMC. The program has been developed in conjunction with SoCal Gas and The Metropolitan Water District in early 2005, and submitted to the Southern California PAG in April 2005, at which time the program was approved.

5. Program Statement

The market potential is 15,000 commercial washers in SDGE service area which use gas heated hot water and an additional 1300 washers which use electrically heated hot water. The market failures include:

- Current low level of rebates

- Washers are not replaced at end of lease with Energy Star washers

- No call to action and no current means to encourage parties to renegotiate lease terms

- Lack of education on how both leasing companies and property managers can benefit from an early replacement of washers.

The 3 principle market barriers which have caused this market to not have been substantially impacted in recent years (even when rebates were at much higher than 2005 levels):

- Current rebate levels are too low to cause any party to throw out a current lease agreement (between equipment leasing companies and property managers who utilize coin op equipment
- One size program does not work for most transactions. There are many forms of equipment leases. A marketing and educational process involving both decision makers is required to help each party achieve a "win" from the issue of new leases with new equipment.
- A utility Team approach (involving both gas and water utilities) plus a comprehensive efficiency package (delivered by The Laundry Team) adds to the overall program value to decision makers.

6. Program Rationale

This is a proven gas, electric and water/sewer conservation program in which Team members: UCONS, ASC, Intergy, RMC, and Battelle (PNL) have collaborated with local water districts and associations. The depth and experience of The Laundry Team to collaborate with: equipment leasing companies; property mangers; plus energy and water utilities and agencies is the key to removing current market barriers to early replacement of inefficient coin operated laundry machines in high-usage Laundromats and multi family common areas. The energy savings have been independently verified by Team member Battelle NW for SCE. The DEER database program manager has instructed how to adjust current database for frequency Laundromats usage is higher than current DEER. This program utilizes holistic innovative resource and informational strategies to achieve the desired objectives.

In April, the program was developed in coordination with input from SoCal Gas, SCE and Metropolitan Water District before being submitted to the Southern California PAG in April 2005, at which time the Template was approved. This program has been designed to address market barriers which have acted to delay replacement of high usage (coin operated laundry machines). Current rebate levels have not substantially impacted lessee/lessor contract arrangements.

This program addresses the separate needs of each decision maker (equipment leasing; property managers; bill payers) through education; development of new lease terms; monitoring of utility bill savings for each party...so as to greatly expand the reduction in change out of inefficient coin operated machines.

7. Program Outcomes

This program will deliver energy savings through the following measures:

- 3900 coin op inefficient washers (utilizing gas for water heating) changed-out to efficient washers by end of program in December 2007
- 400 coin op inefficient washers (utilizing electricity for water heating) changed-out to efficient washers by end of program in December 2007
- Comprehensive additional measures in an estimated 800 commercial Laundromats and multi family laundry rooms (including hot and cold water pipe wrap; lighting measures; hot water temperature setback to 30 deg. F).

8. Program Strategy

- non residential direct install
- non residential targeted marketing
- non residential rebates
- residential direct install
- residential targeted marketing
- residential mid stream rebates

8.1.1. Program Strategy Description

The Coin-op program is directed at both commercial sector (hi use) Laundromats and high use multi family (apartment) common area laundry rooms. The methods to address current market barriers associated with each of these non -Res and Res strategies are as follows:

- The Coin Operated Laundry Program will work with local water agencies to identify qualifying businesses that have the willingness and ability to become customers of the program.
- Coin operated washer leasing companies will be notified of the program and meetings between leasing companies and property managers will be arranged to discuss new program options and to educate the parties on the benefits of program participation.
- The program will provide an array of cost effective supplemental measures (other than washers) through our direct install Team so as to minimize any lost opportunities.
- The Coin Operated Laundry Program will develop outreach and marketing materials in cooperation with local water agencies.
- Upon agreement from the customer, the installations are scheduled and the measures installed.
- Post-installation education of the customer (and maintenance contractors as appropriate) will be conducted to ensure optimal operation of the installed measures, including appropriate periodic preventative maintenance of the equipment. This program component

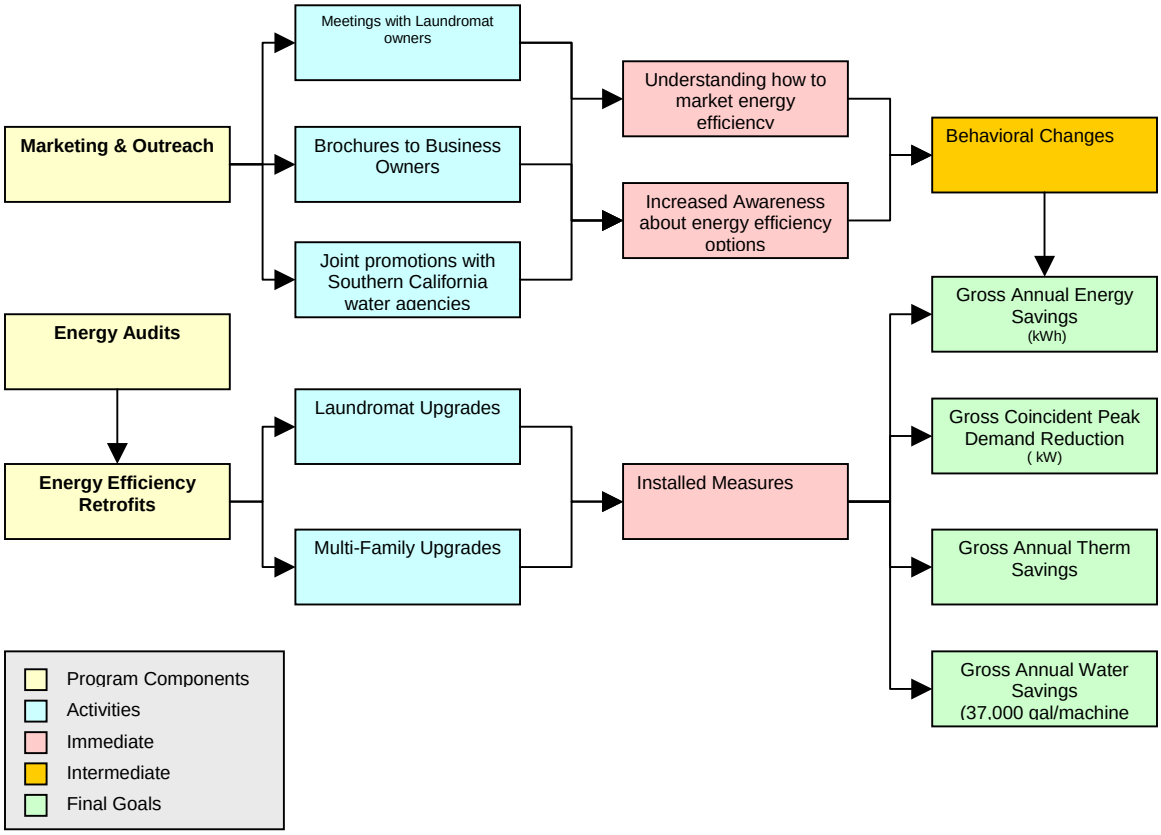
will improve persistence of energy savings while helping reduce customer O&M costs.

Program Assumptions

- Laundromat and Multi-Family owner/operators are typically unaware of the magnitude of potential energy savings that can be gained; it is often assumed that these savings may be at the expense of the customers' comfort and satisfaction.
- Collaboration between program Team members and local water agencies will ensure the identification and enrollment of a sufficient number of customers to meet the savings goals of the program.
- Jointly developed marketing materials will help increase the awareness of facility owner/operators. These materials will be used in structured meetings with equipment leasing companies and property managers to educate on the financial and operational benefits for an early change-out of washers.

The goal of this program as defined by the program is to reduce the energy and water consumption of an estimated 800 Laundromats and multi-family units, in replacing 4300 inefficient coin operated laundry washers by December 2007.

Coin Operated Laundry Program Logic Model



8.1.2. Program Indicators

Describe the units or other indicators used to internally track the achievements for each program strategy. If the primary goal of the program strategy is to procure energy savings and demand reduction, then that is all that needs to be stated. (Examples: Number of students reporting to be successfully implementing energy efficiency practices in their businesses, number of classes held, number of TV ads placed, number of customer contacts made)

The primary goal of the program strategy is to procure therm and kWh savings plus water and sewer savings. Secondary goals will be to have the water companies and agencies increase their rebate contributions in 2007.

9. Program Objectives

Specific milestones (preferably measurable but not necessarily quantitative) that are expected to be accomplished by implementing the program strategies.

Principal program milestones for achieving these goals are:

- Complete statement of work and program budget 30 days following notice to proceed
- Complete the remaining 10% of program development activities within 30 days notice to proceed. This includes meetings with the Metropolitan Water District to engage their assistance in promoting benefits to program participants and to initiate a rebate increase for 2007 and 2008.
- Begin program marketing and sit down meetings with coin op washer leasing agents and property managers within 60 days notice to proceed
- Establish a schedule for beginning direct installation activities within 60 days notice to proceed
- First replacement of 100 commercial coin op washers and direct installation measures within 90 days of notice to proceed.
- Normal monthly operations of 200 commercial coin op washers changed-out monthly (and direct installation of other cost effective measures in the Laundromats and multi family common area laundry rooms) 120 days after notice to proceed until program conclusion in 2008.
- Program ramp-down and preparation for program shut down 120 days prior to program conclusion in December 2007.

10. Program Implementation

Program Workflow:

The Coin Operated Laundry Program will work with local water agencies to identify qualifying businesses that have the willingness and ability to become customers of the program.

Coin operated washer leasing companies will be notified of the program and meetings between leasing companies and property managers will be arranged to discuss new program options and to educate the parties on the benefits of program participation.

The program will provide an array of cost effective supplemental measures (other than washers) through our direct install Team so as to minimize any lost opportunities.

The Coin Operated Laundry Program will develop outreach and marketing materials in cooperation with local water agencies.

Upon agreement from the customer, the installations are scheduled and the measures installed.

Post-installation education of the customer (and maintenance contractors as appropriate) will be conducted to ensure optimal operation of the installed measures, including appropriate periodic preventative maintenance of the equipment. This program component will improve persistence of energy savings while helping reduce customer O&M costs.

11. Customer Description

There are 3 categories of customers:

- utilities (SDGE and water agencies)
- property managers and owners (Laundromats and multi family properties)
- equipment leasing companies (of coin operated washers)

12. Customer Interface

In summary, educational and marketing materials will be presented in face-to-face meetings between the 2 principal customer groups to address current market barriers to early retirement of current equipment lease agreements of coin op washers.

The program breaks down current market barriers by providing information and training materials directly to each of the separate decision makers (local water districts, equipment leasing companies and property managers). The depth and

experience of The Laundry Team to collaborate with: equipment leasing companies; property mangers; plus energy and water utilities and agencies is the key to removing current market barriers to early replacement of inefficient coin operated laundry machines in high-usage Laundromats and multi family common areas. This program utilizes holistic innovative resource and informational strategies to achieve the desired objectives.

This program addresses the separate needs of each decision maker (equipment leasing; property managers; bill payers) through education; development of new lease terms; monitoring of utility bill savings for each party...so as to greatly expand the reduction in change out of inefficient coin operated machines.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

See SDG&E February 1, 2006 Workbook

13.2. Therm and kWh Level Data

See SDG&E February 1, 2006 Workbook

13.3. Non-energy Activities

This program has significant non-energy impact in the very large reduction of water and sewer utilities achieved with the replacement of each inefficient commercial clothes washer.

13.3.1. Activity Description

UCONS and Battelle have provided the PAG and SoCal Gas documentation on the measured level (gallons) of water saved with the replacement of each hi-use commercial washer. This program contains a separate budget line item for reviewing this level of savings for San Diego Gas & Electric.

13.3.2. Quantitative Activity Goals

The previous DEER and Battelle PNL studies approved by the PAG demonstrate that each replaced washer will reduce water consumption by 25,000 to 37,500 gallons annually (depending on specific machine replacements and on annual usage factors).

13.3.3. Assigned attributes of the activity (market sector, end use)

The market sectors realizing the water savings will be the commercial Laundromats and the common area (laundry rooms) of multi family properties within SoCal Gas service area.

14. Subcontractor Activities

UCONS is the developer and overall program manager for the California coin-operated program as proposed herein. After successfully developing and

implementing this program in Oregon in 2000 and 2001, UCONS began developing this program with California utilities, municipalities plus experienced California Team members the past two years. UCONS has overseen this program through the development phase to its current status. This a program ready to implement by the 4 principal sub contractors. The largest single budget item is for increasing rebates for coin operated laundry machines. Most of the remaining budget cost items are to support the specific sub contractor activities by team members discussed below.

American Synergy: (direct install team leader)

American Synergy Corp (Synergy Companies) will coordinate all direct install activities and property manager customer interface for the laundry program. In addition, they will assist with program tracking and benchmark tracking. Synergy was established in 1982 and has worked extensively with the IOU's and CPUC in energy efficiency throughout the State of California. Their headquarters is in Hayward, CA with offices in Moreno Valley, Temecula and the Fresno Area. Energy conservation and efficiency is a core part of Synergy's business strategy in the past, currently and we are committed to the Energy Services Industry for the long-term future. Synergy has completed tens of thousands of units throughout the State of California over the last 23 years.

Synergy Companies is an energy service company and an active member of the National Association of Energy Service Companies (NAESCO), the leading industry association advocating energy efficiency.

Battelle Memorial (Pacific Northwest Labs) PNL: (Design & Performance team leader)

This program has a budget element to ensure program objectives will be met be providing a "pre M&V" component (independent of the comprehensive CPUC requirements for EM&V, and under the supervision of SDGE). The Team has found that early-feedback can help better focus the program delivery and provide assurance to the utility, PAG, PRG and regulatory agencies that problem areas are addressed early on. This "early feedback" service will be done in coordination with SDGE requirements and feedback so as to not conflict or burden the independent EM&V process.

Field Performance Monitoring Protocol

To conduct a small-sample-size metering study to determine the water and energy use of conventional and high-performance commercial coin-op clothes washers. The specific project objectives are listed below:

- Evaluate water and energy use of conventional and high-performance commercial clothes washers.
- Evaluate water and energy saving associated with high-performance commercial clothes washers.
- Evaluate clothes washer utilization (average cycles per period).
- Present the water and energy consumption data, and economic findings.

Intergy Corporation: (Water agency interface team leader)
Intergy will provide coordinated communications and interface with local water agencies to promote implementation of program objectives. The Metropolitan Water District is currently involved with both UCONS and with Intergy on this project. Metropolitan and other water agencies have provided a substantially higher rebate level in prior years and have expressed an interest to returning to these higher rebate levels on a partnered program which can address the market barriers of prior rebate efforts. Intergy will also ensure that equipment requirements of the program match those of the local water agencies. Intergy offers a range of energy efficiency services and IT services to the energy industry. Their analytical and practical expertise and experience enable them to offer unique, creative, and cost-effective solutions to our clients.

Resource Management Corporation (RMC): will provide the major interface for the program with commercial laundry equipment leasing companies. In accomplishing this, RMC will provide the outreach to multi-family property owners and managers for program participation. Key to this will be the facilitation of financial terms that make the equipment replacement option compelling. This will entail working closely with the business financial community as well.

15. Quality Assurance and Evaluation Activities

Each Laundry Team member has delivered programs in California to utilities and has an established QC/QA support staff and operational program. The primary measure to be delivered under the Coin Op Laundry program will be installed, maintained and serviced by the primary equipment leasing companies in Southern California. The washers will be covered under manufacturer's warranties for the duration of the lease period, and serviced by the equipment leasing companies under the same form of lease arrangement as are currently provided in San Diego area Laundromats and apartment laundry rooms.

For the direct install components of ancillary measures (pipe wrap, temperature setback and common area lighting) for the Coin Op Laundry program, the primary direct install Team Leader will be American Synergy Corporation. The same quality assurance and QC programs employed on California mobile home and multi family programs by ASC will be employed on this program.

ASC expects to conduct 10 to 20 percent random inspections of their completed projects. Battelle will be doing a separate evaluation to establish program savings.

16. Marketing Activities

Much of the marketing activities have been completed the past year during the program development phase prior to presenting this program to the PAG in April 2005. This effort required:

- meeting with all primary electric and gas utilities (to understand the CPUC program goals and program targets)
- Meeting with Metropolitan Water District and other water agencies (to understand their decisions for reducing rebates levels in recent years and their level of program support).
- Reviewing current lease terms for commercial coin-op washers between leasing companies and property managers.

The remaining marketing activities to be implemented following a notice to proceed will be develop the different financial incentives (plus marketing and educational materials) to facilitate one-on-one meetings between property managers of apartments and property managers of Laundromats.

17. CPUC Objective

The Coin Op Laundry program meets the following CPUC objectives and PAG:

- To "pursue all cost-effective energy efficiency opportunities over both the short and long-term. The TRC for this program is greater than 3 and the PAC is greater than 2.
- Partnership arrangements between utilities and local governments. This program has been developed as a combined gas and electric program for SDGE. In addition, the program targets all Southern California water agencies and water districts.
- Substantial reductions in use of water and sewer requirements
- Comprehensiveness and avoiding Lost Opportunities (This program has added supplemental direct install measures to address utility recommendations prior to submittal to the PAG) The utilities have challenged UCONS and the Laundry Team to minimize lost opportunities by providing additional cost effective measures concurrently with the change-out of new washers. This program is based on providing the following cost effective measures (in addition to the Energy Star washers):

  - Hot and cold water pipe wrap
  - Hot water temperature setback to 130 degrees F.
  - Lighting in common areas of commercial Laundromats and multi family laundry rooms
  - Providing information to property managers on water heating upgrades

	SDGE3042 3P Laundry Coin-Op Program
BUDGET	
Administrative Costs	**$ 381,026**
Overhead and G&A	$ 341,026
Other Administrative Costs	$ 40,000
Marketing/Outreach	**$ 245,000**
Direct Implementation	**$ 1,015,124**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ 586,950
Direct Install Labor	$ 236,704
Direct Install Materials	$ 136,471
Activity	$ -
Installation	$ 55,000
Hardware & Materials	$ -
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 1,641,150**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 1,641,150**
PROGRAM IMPACTS	
User Entered kW (kW)	-
Net Jul-Sept Peak (kW)	36
Net Dec-Feb Peak (kW)	31
Net NCP (kW)	64
Net CEC (kW)	362
Annual Net kWh	1,666,586
Lifecycle Net kWh	23,256,070
Annual Net Therms	620,486
Lifecycle Net Therms	9,307,296
Cost Effectiveness	
TRC	
Costs	$ 1,120,864
Electric Benefits	$ 188,180
Gas Benefits	$ 4,389,779
Net Benefits (NPV)	$ 3,457,094
BC Ratio	4.08
PAC	
Costs	$ 1,565,049
Electric Benefits	$ 188,180
Gas Benefits	$ 4,389,779
Net Benefits (NPV)	$ 3,012,910
BC Ratio	2.93
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	13,652,699
Cost	$ 0.0055
Benefits	$ 0.0138
Benefit-Cost	$ 0.0082
Levelized Cost PAC ($/kWh)	
Discounted kWh	13,652,699
Cost	$ 0.0114
Benefits	$ 0.0138
Benefit-Cost	$ 0.0024
Levelized Cost TRC ($/therm)	
Discounted Therms	5,424,067
Cost	$ 0.1927
Benefits	$ 0.8093
Benefit-Cost	$ 0.6166
Levelized Cost PAC ($/therm)	
Discounted Therms	5,424,067
Cost	$ 0.2598
Benefits	$ 0.8093
Benefit-Cost	$ 0.5495

3P Laundry Coin-Op Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 820,575	$ 480,062	$ 340,513	833,293	310,243	-
2007	$ 820,575	$ 480,062	$ 340,513	833,293	310,243	-
2008	$ -	$ -	$ -	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	266001	GAS Appliance-Washing Machine Replacement	422	22		0.8	Per Unit	15	1,950	$ 182.85	$ 136.50	658,320	34,320	-
2006	266002	GAS Non RES Pipe Wrap	-	7		0.8	Per Unit	15	1,200	$ 5.00		-	7,123	-
2006	266003	Energy Star Common Interior CFL's	209			0.8	Per Unit	2.1	200	$ 10.86	$ 6.47	33,466	-	-
2006	266004	Energy Star Common Exterior CFL's	209			0.8	Per Unit	2.1	165	$ 10.86	$ 6.47	27,609	-	-
2006	266005	T8 El Ballast change out	44			0.8	Per Unit	11	650	$ 42.65	$ 4.19	23,109	-	-
2006	266006	GAS Non RES Water Heater Setback to 130 degrees from 139 degrees	-	280		0.8	Per Unit	15	1,200	$ 40.00	$ -	-	268,800	-
2006	266007	Electric Applicance-Washing Machine Replacement	440	-		0.8	Per Unit	15	200	$ 182.85	$ 136.50	70,400	-	-
2006	266008	Electric Non RES Pipe Wrap	111	-		0.8	Per Unit	15	125	$ 5.00		11,089	-	-
2006	266009	Electric Non RES Water Heater Setback to 130 degrees from 139 degrees	93	-		0.8	Per Unit	15	125	$ 5.00	$ -	9,300	-	-
2007	266001	GAS Appliance-Washing Machine Replacement	422	22		0.8	Per Unit	15	1,950	$ 182.85	$ 136.50	658,320	34,320	-
2007	266002	GAS Non RES Pipe Wrap	-	7		0.8	Per Unit	15	1,200	$ 5.00		-	7,123	-
2007	266003	Energy Star Common Interior CFL's	209			0.8	Per Unit	2.1	200	$ 10.86	$ 6.47	33,466	-	-
2007	266004	Energy Star Common Exterior CFL's	209			0.8	Per Unit	2	165	$ 10.86	$ 6.47	27,609	-	-
2007	266005	T8 El Ballast change out	44.44			0.8	Per Unit	11	650	$ 42.65	$ 4.19	23,109	-	-
2007	266006	GAS Non RES Water Heater Setback to 130 degrees from 139 degrees	0	280		0.8	Per Unit	15	1200	$ 40.00	$ -	-	268,800	-
2007	266007	Electric Applicance-Washing Machine Replacement	440	0		0.8	Per Unit	15	200	$ 182.85	$ 136.50	70,400	-	-
2007	266008	Electric Non RES Pipe Wrap	110.89	0		0.8	Per Unit	15	125	$ 5.00		11,089	-	-
2007	266009	Electric Non RES Water Heater Setback to 130 degrees from 139 degrees	93	0		0.8	Per Unit	15	125	$ 5.00	$ -	9,300	-	-

2006-2008 Energy Efficiency Programs
San Diego Gas and Electric Co. Mobile Energy Clinic Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ 54,377	$ 71,097	$ -
	Administrative Other	$ 21,853	$ 28,096	$ -
Marketing & Outreach		$ -	$ -	$ -
Direct Implementation				
	Activity	$ -	$ -	$ -
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ -	$ -	$ -
	Procurement	$ 13,244	$ 17,028	$ -
	Incentives	$ 192,094	$ 245,796	$ -
EM&V		$ -	$ -	$ -
Total		*$ 281,568*	*$ 362,017*	*$ -*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
574,306	17	15,123	734,113	21	19,180	-	-	-

3. Program Cost Effectiveness

Attached

4. Program Descriptors

ADM Associates, Inc. (ADM) proposes to implement a Mobile Energy Clinic Program (as an Innovative Program) that is focused on improving energy efficiency for small nonresidential businesses in the service territory of San Diego Gas and Electric (SDG&E) (1) by providing diagnostics and maintenance of HVAC equipment to correct air flow and refrigerant charge, and by providing small boiler tube cleaning; (2) by implementing no-cost/low-cost measures to improve energy efficiency; and (3) by providing recommendations through an energy audit and following up closely on implementation of recommendations. The Mobile Energy Clinic we are proposing is a modified version of an ongoing program that we have been implementing in SoCalGas's service territory since 2001.

We are targeting the Mobile Energy Clinic to areas within SDG&E's service territory that have high concentrations of small businesses. We particularly target areas within SDG&E's service territory where heating and cooling requirements are high.

5. Program Statement

The Mobile Energy Clinic Program is designed to serve small businesses, a market segment that has long been considered to be hard-to-reach and underserved. The approach that we are proposing allows us to offer energy efficiency services through direct on-site visits, going door-to-door at locations with high density of small

commercial establishments. The thrust of our marketing plan is to contact small businesses directly to provide them with energy improvement services as well as recommend energy efficiency measures for future implementation.

Market research has shown that owners/operators of such small businesses are a "hard-to-reach" market for energy efficiency services and products for several reasons.

> Until recently the costs of energy have not been large enough to be noticed by small business owners.
>
> Many small business owners are not aware of what changes can be made to improve energy efficiency for their businesses and what these improvements can do for them.
>
> The primary interest and concentration of small business owners is on maintaining a profitable operation. With their primary focus on running their business, these owners generally do not have the time available to attend seminars or to read and digest materials mailed to them. Nevertheless, most owners/operators of small businesses are business-savvy and responsive to ways to reduce their costs or improve the quality of service they offer their customers.

Our experience with our previous implementations of the Mobile Energy Clinic Program also provides evidence that small businesses have not implemented energy efficiency measures to any great extent and that there still is a need to work with them to improve energy efficiency. For examples:

> About 85% of small boilers used in small businesses have never received boiler tube cleaning. For sites with small gas boilers, maintenance of boilers (in particular cleaning of the boiler tubes to remove scaling) has been consistently overlooked. Large commercial or industrial facilities with good size boilers usually have a performance service contract that addresses boiler maintenance, including tube cleaning, but for small commercial customers, inadequate attention has been paid to boilers due to the limited time available to address "non-business" maters or the lack of willingness to spend the money to get it done.
>
> About 96% of the facilities we have visited did not have T-8 lamps with electronic ballasts for their lighting.
>
> Fewer than 5% of contacted small businesses had compact fluorescent lights.
>
> More than 60% were in need of programmable thermostats.
>
> About 93% of existing air conditioners had an SEER of 10 or less.
>
> We have consistently found that the maintenance of HVAC systems at these facilities (including filters, airflow, and under-charge or over-charge of refrigerant) has been very poor. Very few of the systems inspected had clean condenser or evaporator coils.

6. Program Rationale

Our proposed Mobile Energy Clinic Program provides benefits in several ways.

Our mobile energy clinic teams improve energy efficiency immediately by implementing no-cost/low-cost measures and providing diagnostics of energy-using equipment.

It has strong equity considerations in that it is targeted toward a segment of the market that has traditionally been hard to reach with other programs.

This program also fosters more future energy savings by recommending measures that are tailored to each of the facilities visited.

It is an innovative program, using a one-to-one marketing approach to bring information about energy efficiency to the owners/operators of small businesses.

It has synergies with other programs run by SDG&E and other entities in that it provides a vehicle for directing owners/operators of small businesses to programs that can provide them further assistance or financial incentives. For example, the Mobile Energy Clinic personnel could help distribute rebate application materials offered by SDG&E, and inform the business owners of what incentives are currently available.

Our experience since 2001 indicates that there is a strong demand from the small businesses as the Mobile Energy Clinic services are provided free of charge. The benefits from generating high participation rate are not only immediate in the form of energy savings, but they also come from future implementation of other energy efficiency measures that the small businesses would not have considered without participating in this program.

The educational benefit is another major strength of this program. Small businesses are often understaffed and do not have resources to obtain proper education on how energy efficiency can benefit their business. By taking the concept of energy efficiency to the doors of these small businesses, we introduce the facility owners/operators to the options and choices that they can make to improve energy efficiency and reduce costs sooner rather than later. Through the implementation of low cost/no cost measures, they can see immediate impact on their equipment performance and/or energy bills, and as a result, they are usually more open to other measures recommended in the audit report while the benefits they just experienced are still fresh in their mind. This clearly improves the chances of measures being implemented when compared to the traditional method of energy auditing, whereby a team of engineers make recommendations without performing tangible actions that save energy immediately.

7. Program Outcomes

The following milestones are projected for this program:

350 sites served and 15 boiler tube cleanings for the program's first year (2006)

450 sites served and 19 boiler tube cleanings for the program's second year (2007)

In addition to the energy savings that we plan to achieve through direct delivery of services, some saving will also be realized from the recommendations that we make to the business owners/operators after the walkthrough of facility.

8. Program Strategy

Nonresidential Targeted Marketing

Nonresidential Direct Install

Nonresidential Audits

8.1.1. Program Strategy Description

We define the target population for the Mobile Energy Clinic Program to include individually-owned small commercial businesses occupying less than 5,000 square feet of floor space. The major portion of such businesses use less than 20 kW of electricity or less than 10,000 therms of natural gas.

The typical market sectors served by this program include: office, retail, grocery and restaurants.

A door-to-door approach is used to market the program.

HVAC diagnostic services, including evaporative and condensing coil cleaning and refrigerant charging, are provided.

Several low-cost / no-cost measures, including refrigerant line insulation and CFLs are installed.

Small boilers (under 15HP) are serviced, to clean the boiler tubes.

Each business owner/manager is provided with a checklist of other energy efficiency actions that they can take to minimize lost opportunities

8.1.2. Program Indicators

Table 1 shows the number of small businesses that we plan to serve in each program implementation year.

Table 1. Number of Facilities Served

Year	***Number of Facilities Served***
2006	350
2007	450

9. Program Objectives

Deliver stated energy savings.

10. Program Implementation

With the Mobile Energy Clinic, we navigate through many marketing hurdles by placing a great emphasis on direct, face-to-face marketing of energy services to small business operators. Market research has shown that the most effective way of delivering energy efficiency to owners/operators of small businesses is through face-to-face interactions at individual facilities. The face-to-face interaction allows the owner/operator of a facility to watch and see what is being done to improve energy efficiency. Small firms can be sold on energy efficiency if they are shown how improving their energy use contributes to improving other facets of their business, such as the comfort of their customers and the performance and productivity of their employees. For example, in retail stores, proper lighting and space conditioning can actually keep shoppers in the store longer, thereby increasing sales. Similarly, a restaurant can be shown that energy efficient window measures can allow customers to sit next to windows during the middle of summer or the middle of winter without complaints arising about being “too hot” or “too cold”.

With the Mobile Energy Clinic Program, three-person implementation teams will provide no-cost/low cost energy improvement services to small businesses in SDG&E’ service territory. We are targeting the Mobile Energy Clinic Program at owners/operators of small commercial businesses occupying buildings with less than 5,000 square feet of floor area, particularly businesses in strip malls, small convenience stores, laundromats, and non-chain restaurants. Each team operates out of a mobile van (See Figure 1) equipped with all of the tools needed (e.g., ladders, programmable thermostats, air filters, coil cleaning equipment, refrigerant charging equipment, compact fluorescent lamps, laptop computers and printer, etc.) to perform low cost/no cost improvement items that can be done on-site at the time of our visit (adding or removing refrigerant charge, checking and correcting air flow, cleaning condenser coils, , changing filters, and installing a programmable thermostat, replacing incandescent lamps etc.) as well as to provide the audit services. Immediately after the equipment diagnosis and audit, the team is ready to prepare and present an audit report while on-site. Recommendations for energy efficiency improvements are made immediately to a business owner/operator. A written report presented and discussed with the business owner/operator while their interest is high.

Figure 1. ADM Mobile Energy Clinic Van

At each business we visit, our field staff perform various no-cost/low-cost energy efficiency improvements as appropriate. Although getting the free services is often attractive enough as incentive, having an expert assessing the energy health of their existing equipment can also be used as an effective selling tool to attract business owners to participate. We also make a walk-through evaluation to provide the owner/operator with other opportunities for saving energy at their facility or store. However, before providing any services to a customer, the customer will be asked if he/she has received similar services from other programs, including utility programs and other third-party programs. This will prevent any duplication of services from other programs. Business owners/operators are also given a disclosure statement that indicates that we will not sell any services or products, besides those provided free of charge.

We plan to achieve the projected energy savings through direct improvements to the existing equipment belonging to the facilities served. These services include:

We check the refrigerant charge on the HVAC unit. Additional refrigerant will be added or removed to ensure that the HVAC unit is operating with the optimum amount of refrigerant charge.

We inspect the ducts and check for any obstructions to the airflow. We will correct any deficiency found that would affect the flow of conditioned air.

We check the return air filter and replace any dirty filters. The increased air flow due to clean filters will improve gas furnace and A/C unit efficiency.

Small businesses normally do not clean condenser coils as a matter of course. However, a dirty condenser coil results in a lower heat transfer and therefore a lower efficiency. We use a commercially available HVAC coil cleaner to effectively clean the condenser coils.

Similarly, evaporator coils on HVAC units are seldom cleaned. We clean these coils through a two-step process that involves first using a vacuum pump and then applying an alkaline foam cleaner.

We perform diagnostics on the airflow and refrigerant charging for the HVAC unit. If the unit is undercharged, we will add refrigerant to the proper level. If the unit is overcharged we will remove some of the refrigerant and dispose of it according to regulations.

At sites that do not have them, we will install programmable thermostats and program them. We program the thermostats to match a business's operating schedule.

We inspect refrigerant lines for proper insulation. If the insulation is damaged or has been removed, we replace it with new insulation.

We adjust outside air dampers, if such adjustment is needed. Proper adjustment of outside air dampers can reduce both gas and electricity use.

If an economizer is present, we check to see that it is operating properly.

We replace all incandescent lamps with compact fluorescent lamps. We match the lighting level with the CFLs to that with the incandescent lamps.

For facilities with small gas boilers (for instance, laundromats), we also propose boiler cleaning services to remove scaling from the boiler tubes. This service can improve the efficiency of the boiler by as much as 15-20%. Since gas consumption makes up a large portion of the energy costs for this type of facility, this service can make an immediate impact for the facility. This service has been provided for laundromats in Southern California in the past year, and judging from the number of requests that we have received for this service, it is very popular with business owners. Since this service is unique and requires specialized tools to perform, we may schedule another time for our technician to go back to the facility and perform boiler cleaning. To supplement our door-to-door marketing, we may use the assistance of trade organizations to identify and approach facilities that have a small boiler. For example, we have been working with the Korean Laundry Owners Association to market the program to laundromats belonging to Korean Americans in Southern California. We have found this collaboration to be very effective, and trade organizations are usually very happy to help because of the free services that we provide to their members.

We also expect that some visits will be made to types of businesses that have particular types of energy-using equipment. No-cost/low-cost improvements are made at these businesses that are specific to the type of end-use.

For water heaters we reset the temperature to the lowest setting required for the business' specific needs.

For stand-alone refrigerator or freezer cases in small convenience stores, we make several checks to determine what no-cost/low-cost improvements can and should be made.

- Insulation often becomes ripped and/or torn on the liquid and suction refrigerant lines. Accordingly, we visually check the lines and repair or re-insulate the lines as needed to restore efficiency and save on the kW used by the facility.
- We check the condenser coils on refrigeration condensing units. If these coils are dirty, we clean them.
- We check the operation of the condenser fan for current draw and against the nameplate data. It is also checked for truing by observation.
- We check door gaskets by observation and make recommendations for any changes or repairs.

In the case of non-chain restaurants, we insulate all non-insulated (or poorly-insulated) hot water pipes. We also provide the owner advice and information on high-efficiency gas cooking equipment, high-efficiency dishwashing equipment, and high efficiency water heaters.
In laundromats/dry cleaners, we insulate all non-insulated (or poorly-insulated) steam pipes. We also provide information on high-efficiency steam boilers. For coin-operated laundry facilities where attendants are present, we insulate all reachable hot water pipes and implement other no-cost energy strategies (e.g., as identified under the existing SDG&E coin-operated laundry program).

Pictures of our Mobile Energy Clinic staff performing some of the services above are shown in Figures 2 through 7.

Figure 2. A/C Unit Condenser Coil Being Sprayed Before Cleaning

Figure 3. Small Refrigeration System Condenser Coil being cleaned.(This coil has not been cleaned since installation)

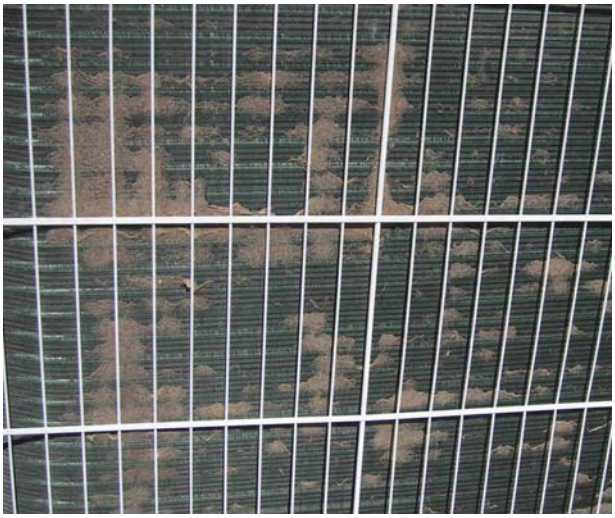


Figure 4. Condenser CoilBefore Cleaning

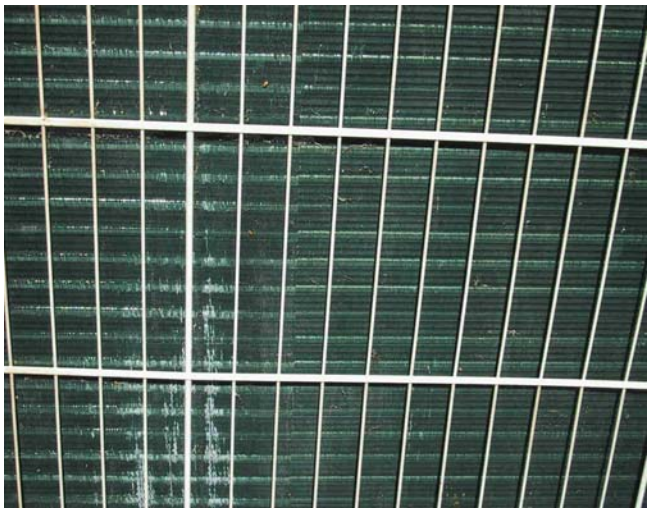


Figure 5. Condenser After Cleaning (The Unit's C.O.P. Increases by about 6% to 8%)

Figure 6. Inspection Before Start of Boiler Tube Cleaning

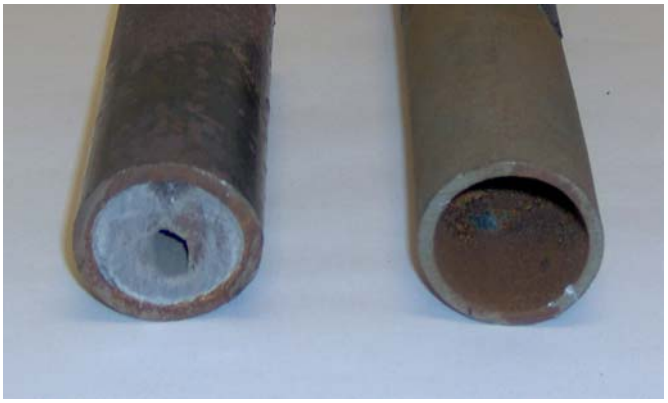


Figure 7. Comparison of a Cleaned Boiler Tube vs. Tube Which Has Not Been Cleaned For a Long Time

While delivering the direct energy efficiency services above, we also give each business owner/manager a checklist of other energy efficiency actions that they can take. The face-to-face interaction from visiting individual businesses allows us to educate the owners/operators and make them aware of the importance of energy efficiency by providing them information about lighting, HVAC, and refrigeration measures that is customized to each particular facility or store. This customized approach increases the probability that the owner/operator will have the information and motivation necessary to follow up and to participate in other programs.

The information given to a business regarding potential energy efficiency improvements is specific to that facility. We equip each of our field teams with a laptop computer that is used to analyze the economics of energy efficiency for the different end uses that are specific to the particular facility and to demonstrate to the owners/operators what the savings for their facility would be. Our recommendations regarding energy efficiency improvements are based on the existing equipment observed, and worksheets are completed for the recommended improvements, estimating the potential energy savings and payback periods. Available financial assistance programs are discussed and rebate forms reviewed, showing the decision-maker payment options. A report will be presented onsite so that these recommendations could be discussed with the business owner/operator right away, when these issues are still fresh in their mind.

We coordinate our work with that of SDG&E to disseminate information about other programs directed towards small business firms. For example, we use the presentation and explanation of the worksheets as the opportunity to introduce each business owner/manager to other energy efficiency products, rebates and services that are being offering through SDG&E.

For all businesses with HVAC units, we provide lists of energy efficiency HVAC equipment changes for which rebates may be available through other programs. These measures will include the following:

- Package terminal air conditioners
- Time clocks

- Reflective window film

For all businesses, we provide lists of the lighting energy efficiency improvements for which rebates may be available through other programs. These measures include the following:

- Screw-in compact fluorescent lamps
- Hard-wired fluorescent fixtures
- High efficiency LED exit signs
- Induction lamps and fixtures
- Electronic ballasts
- T-5 or T-8 lamps and electronic ballasts
- Interior high-intensity discharge fixtures
- Exterior high-intensity discharge fixtures
- Occupancy sensors
- Photocells
- Time clocks

Owners of small convenience stores with refrigeration cases are given a list of measures that improve the energy efficiency of refrigeration and that are covered in the Express Efficiency Program. The measures most likely to be applicable for "mom and pop" convenience stores include the following:

- Night covers for display cases
- Insulation for bare suction lines
- Door gaskets for coolers or freezers
- Auto-closers for coolers or freezers
- Evaporator fan controllers
- Strip curtains for walk-in boxes
- Glass or acrylic doors
- New refrigeration display cases with doors
- Insulation for bare suction lines
- Efficient lighting for display cases

We make a follow-up telephone call to an owner/operator four (4) weeks after the site visit. Through these calls, we determine whether a business has proceeded to implement any of the recommended energy efficiency improvements. We also ask if we can provide any assistance in their selecting a vendor to perform the improvements or any additional information they might need to proceed with the implementation.

We carefully document all the services provided, energy saved, recommendations made and implemented in a tracking database that will be the basis for our reporting to SDG&E. This tracking database will be in full compliance with CPUC reporting requirements. A draft copy of the database will be forwarded to SDG&E Project Manager for approval before it is used in this program. From our previous experience performing these services, we already have a working database that can be customized for this project.

ADM personnel responsible for implementation of the program will include the following:

Taghi Alereza, D.Sc., P.E., who is President of ADM, will be the Principal-in-Charge of the work. Mr. Alereza is a nationally recognized expert in building energy simulation and modeling. He has pioneered the development of several state-of-the-art simulation procedures and models. Mr. Alereza has led ADM's effort to develop and implement two statewide residential programs during the 1998 program year. He conceived and developed the "Residential Duct Efficiency Program," which was implemented in the service territories of Pacific Gas and Electric, Southern California Edison, Southern California Gas and San Diego Gas and Electric. Mr. Alereza also conceived the Local Energy Assistance Program (LEAP), which was implemented in the PG&E, SCE and SCG service areas. This program provided extensive training to developer/builders, local government staff and elected officials. He has directed program design and implementation including:

"Upstream High Efficiency Residential Water Heater Program" - implemented for Southern California Gas Co.
"Refrigerated Vending Machine Cycling Program" - designed and implemented for Southern California Edison Co.
"Mobile Energy Clinic" – designed and implemented for Southern California Gas Co., Southern California Edison, and San Diego Gas and Electric Co.
"Lodging Industry Education And Audit Program" – designed and implemented for Southern California Gas Co.
"Performance Assurance Project" - designed and implemented simplified building commissioning project for Southern California Edison Co. and San Diego Gas and Electric Co.

Mr. Alereza holds a Bachelor of Mechanical Engineering degree from Auburn University and has completed an MS and D.Sc. in mechanical engineering from the George Washington University. He is a member and past chairman of ASHRAE Technical Committee 9.6 (Energy Utilization), which is responsible for developing and applying protocols for assessing energy use in buildings, and the cognizant TC for the ASHRAE Standard 90.2. He is a registered professional engineer in California.

Dr. Safdar Chaudhry is a Senior Engineer at ADM Associates, Inc. Dr. Chaudhry has been directing, and performing day-to-day management, of the Mobile Energy Clinic program being implemented in the SCE and SCG service areas. While at ADM, Dr. Chaudhry has performed engineering analysis and evaluations for several residential, commercial and industrial facilities conducted for several utilities including PGE, SMUD, SCE and B.C. Hydro. He conducted on-site inspections, analysis, energy conservation recommendations and report preparation in most of these projects, and has been responsible for organizing and managing several other energy efficiency improvement projects. He developed energy

conservation evaluation procedures, monitored field staff, and reviewed recommended energy measures for the Mobile Energy Clinic program conducted for Southern California Gas Company. He also developed energy auditing and measure evaluation procedures conducted for the Lodging Industry Education Program conducted for SCG. Dr. Chaudhry has been responsible for hundreds of building energy simulations using DOE-2, CALRES and other computer simulation programs. Dr. Chaudhry has a Ph.D. in Mechanical Engineering from the University of Birmingham, a M.S. in Mechanical Engineering from George Washington University and a B.S. in Mechanical Engineering from the University of Engineering and Technology in Pakistan.

Lon Smith is a Senior Associate at ADM Associates, Inc., responsible for development and conducting training in the areas of HVAC systems. He has extensive experience in refrigeration, transport and control systems in residential, commercial and industrial buildings. During his previous employment of 20 years with United Refrigeration Inc., Honeywell Inc., and New England Sheet Metal Works, Inc., he has developed an exceptional understanding of not only the theoretical aspects of HVAC and refrigeration systems, but also he has mastered the practical side of these systems as well. In the past, he has provided consultation to HVAC designers, and has conducted training in refrigeration and control systems. Mr. Smith was an instructor at the State Center College District. He taught classes in pneumatic, electrical and electronic controls for commercial, residential and industrial mechanical systems. He has also taught classes on refrigerant types and their application, refrigerant recovery and power distribution systems, and their application to power line carrier transmissions. Some of the projects that Mr. Smith has been responsible for include:

> For the Mobile Energy Clinic Program that ADM performed for Southern California Gas Company, he prepared field procedures and trained field staff. For the Upstream High Efficiency Water Heater Program that ADM performed for Southern California Gas Company, he was responsible for coordination of wholesalers, verification and payment.

Mr. Smith is a licensed Energy Auditor for the Environmental Protection Agency and the California Energy Commission. He earned his Bachelor of Arts in Communications from California State University Fresno.

Mahmoud Fouladi, a Mechanical Engineer at ADM, has considerable experience in performing energy audits and building energy analysis, recommending energy efficiency measures and providing strategies for control systems for various commercial and industrial projects. He has been conducting quality control for the Mobile Energy Clinic that ADM has been conducting in the SCE and SCG service areas for the past two years. During the past seven years he has participated in more than ten major commercial & industrial data collection projects conducted by ADM. He has been conducting on-site data collection on commercial and industrial facilities as a member of the field staff for the Non-Residential Measure Retention

Study that ADM has been performing for Southern California Edison for the past five years. Other projects that Mr. Fouladi has participated in include:

- Performed on-site data collection and monitoring of lighting and HVAC motors for three projects conducted for Central Power and Light Co. in Texas.
- Performed on-site data collection for the evaluation of the New Commercial Construction Program conducted for Portland General Electric Co. The on-site data were used to develop DOE-2 simulations.
- Performed on-site data collection of commercial buildings for the Saturation Study conducted for Southern California Edison Co.

Mr. Fouladi earned his M.S. degree in Mechanical Engineering from George Washington University and his B.S. in Mechanical Engineering from Howard University.

Holly Farah is a research architect with ADM Associates, Inc. She is presently involved in a research project that ADM is conducting for the California Energy Commission in the area of energy efficiency in low-income and manufactured housing. She is involved in the development of practical methods for implementation of ducts in conditioned space, in order to minimize duct losses. She has been involved in quality control and rebate processing for the High Efficiency Gas Water Heater program that ADM is conducting in the PG&E service territory, and the Mobile Energy Clinic program that ADM is implementing in Southern California. In previous projects, she has used DOE-2 to simulate energy use in residential buildings, and has assisted in green community development. Ms. Farah holds a master's degree in architecture from Azad University in Tehran.

11. Customer Description

We define the target population for the Mobile Energy Clinic Program to include individually-owned small commercial businesses occupying less than 5,000 square feet of floor space. The major portion of such businesses use less than 20 kW of electricity or less than 10,000 therms of natural gas. The typical market sectors served by this program include: office, retail, grocery and restaurants. However, there are some small businesses that will qualify because they have equipment that causes their energy use to exceed 20 kW (e.g., refrigeration in small "mom and pop" grocery stores). Table 3 shows the number of small businesses that we plan to serve in each program implementation year.

Table 3. Number of Facilities Served

Year	***Number of Facilities Served***
2006	350
2007	450

Among these business types we target primarily retail stores, restaurants, convenience stores, and other types of business service establishments. The target areas within SDG&E's service territory where we will provide service include areas where heating and cooling requirements are high. Within these areas, we identify and target areas with high concentrations of small businesses.

12. Customer Interface

We use a door-to-door approach in our marketing of the program. We have found that this approach has been very effective in getting the attention of business owners/operators, and in getting them to participate. Services will be delivered immediately after the business owner/operator agrees to participate. This lack of delay in delivery of services has often been cited as one of the reasons Mobile Energy Clinic Program has been very well received.

For sites with small gas boilers, we may need to schedule another time to go back to the site to perform the boiler cleaning service. This is because the tube cleaning process requires tools and chemicals that need specialized vehicle to transport. Some of the facilities that have a small boiler will be recruited with an approach other than door-to-door. For example, we have been working with the Korean Laundromat Owners Association in Southern California to recruit small Laundromats owned by Korean Americans. This arrangement has been particularly successful, and we are planning to use a similar arrangement with other trade organizations to deliver this unique service.

At the time of service delivery, we also give each business owner/manager a checklist of other energy efficiency actions that they can take to minimize lost opportunities. The face-to-face interaction from visiting individual businesses allows us to educate the owners/operators and make them aware of the importance of energy efficiency by providing them information about lighting, HVAC, and refrigeration measures that is customized to each particular facility or store. This customized approach increases the probability that the owner/operator will have the information and motivation necessary to follow up and to participate in other programs.

Furthermore, we also leave brochures, flyers and other hand-outs that would assist the business owner in making the decision to consider energy efficiency when it comes time to replace the existing equipment. When our field personnel finds a major piece of equipment that needs replacement, we would inform the business owner/manager of this fact and go through the options that he/she has to install a high efficiency piece equipment in lieu of one with standard efficiency.

We make a follow-up telephone call to an owner/operator at four (4) weeks after the site visit. Through these calls, we determine whether a business has proceeded to implement any recommended energy efficiency improvements. We also ask if we can provide any assistance in their selecting a vendor to perform the improvements or any additional information they might need to proceed with the implementation.

Whenever possible, our staff will give encouragement to the customers to proceed with their energy efficiency projects and offer information about other SDG&E programs that may be helpful to get them started.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

See SDG&E February 1 Filing Workbook

13.2. kWh Level Data

See SDG&E February 1 Filing Workbook

13.3. Non-energy Activities

No non-energy related activities will be provided.

13.3.1. Activity Description

N/A

13.3.2. Quantitative Activity Goals

N/A

13.3.3. Assigned attributes of the activity (market sector, end use)

N/A

14. Subcontractor Activities

ADM does not intend to use the services of a subcontractor for the performance of this contract.

15. Quality Assurance and Evaluation Activities

We provide the businesses we visit a toll-free telephone number where they can call in for any complaints or comments about the services they received. All complaints will be followed up in 24 hours, and resolved as soon as possible. Each information or complaint call is documented on a computerized form. This form provides for the recording of caller profile information, date and time of the call, nature of the call, resolution of the call, and any other relevant information. All complaint forms are maintained in a computerized database that will be accessible by SDG&E and CPUC personnel for verification and auditing purposes.

Our staff members will return to the facility to correct the reported problem(s) if it is determined that the problem is a direct result of our services. If the problem is found to be of a source other than our services, we will provide alternative solutions to the problem, such as referring the business owner to the appropriate contractors or parts required to correct the problem. Corrective actions for complaint calls are taken as appropriate and documented on the form. Cases where actions or verification visits are pending are kept in an active status file. Closed cases where problems have been resolved are retained to ensure documentation of problems and their solutions. Our record of following up with problems for the past several years has been excellent.

Periodic reports that summarize the number of information/complaint calls, the complaint backlog, and the time required for resolving complaints are prepared and included in the quarterly reports to SDG&E.

To assist us in documenting the services we deliver, we take photographs of the equipment we service before and after the services are delivered. We will also select a number of sites where an inspection will be performed, to ensure that the services have been delivered properly and the quality of workmanship meets our high standards. These inspections represent 5 percent of all small businesses we will provide services to.

Our track record in quality assurance and complaint resolution for the past several years has been excellent. We have consistently followed up with any complaints within the same business day that the problems are reported. We always strive to provide our services at the highest level of quality and customer satisfaction, and all of our employees are fully trained in dealing with customers courteously and professionally.

16. Marketing Activities

We are targeting the Mobile Energy Clinic within SDG&E's service territory to areas with high concentrations of small businesses. We market the Mobile Energy Clinic Program in the targeted areas through a direct sales strategy. We market the program door-to-door to small businesses occupying facilities with less than 5,000 square feet of floor area because most of these businesses meet the small business criteria of 20kW or less. However, there could be some who could exceed the 20kW limit. For example, in a strip mall setting some businesses with usage slightly larger than 20kW may request the service. No business will be served whose usage is 50kW or greater. If the CPUC feels that the program should only serve businesses with 20kW usage or less, we will screen businesses by checking their utility bills as a means of qualification.

We use multilingual (e.g., Spanish, Chinese, Vietnamese, Farsi, Arabic) engineers working in three-person teams to do the marketing as well as to perform the energy efficiency work.

The face-to-face interactions at individual facilities allow the owners/operators to watch and see what is being done to improve energy efficiency.

Follow-up telephone calls are made to the business owners/operators at 4 weeks after the site visit. These calls are used to determine whether the businesses have proceeded to implement any of the recommendations for energy efficiency improvements. They are also used to determine whether the owners/operators require assistance in their selecting of a vendor to perform the improvements or any additional information they might need to proceed with the implementation.

As appropriate, information from the marketing effort is passed to trade allies to equip them to "close the deal" on selling energy efficient equipment to an interested small business.

Marketing materials will include a disclosure statement (in English and in Spanish) that participants are not required to purchase any full fee service or any other services or products in addition to those the CPUC has funded to receive the benefits of the Mobile Energy Clinic Program.

Because of the relatively large numbers of small businesses in the targeted areas, our proposed Mobile Energy Clinic Program will complement, not compete, with programs that utilities and other third party implementers may offer for small businesses. We will coordinate the Mobile Energy Clinic Program with any other service programs offered by utilities or third parties to make sure that we do not overlap or compete to provide services to the same businesses.

17. CPUC Objective

The Mobile Energy Clinic Program meets the following CPUC objectives:

It delivers cost-effective energy efficiency measures over both the short- and long- term through direct implementation of services and recommendation of additional steps that a small business can take to improve energy efficiency.
It minimizes lost opportunities by providing the customers with a free checklist based on the actual conditions of their existing equipment.
It lowers peak loads by improving efficiency of AC units that play a large part in contributing to the peak loads.

It reaches a very hard-to-reach segment of the market (small commercial) using an innovative mobile team approach that goes door-to-door to deliver services.

	SDGE3039 3P Mobile Energy Clinic
BUDGET	
Administrative Costs	**$ 175,423**
Overhead and G&A	$ 125,474
Other Administrative Costs	$ 49,949
Marketing/Outreach	**$ -**
Direct Implementation	**$ 468,162**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ 312,313
Direct Install Materials	$ 125,577
Activity	$ 30,272
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 643,585**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 643,585**
PROGRAM IMPACTS	
User Entered kW (kW)	38
Net Jul-Sept Peak (kW)	484
Net Dec-Feb Peak (kW)	212
Net NCP (kW)	429
Net CEC (kW)	284
Annual Net kWh	1,308,419
Lifecycle Net kWh	3,438,063
Annual Net Therms	34,303
Lifecycle Net Therms	102,908
Cost Effectiveness	
TRC	
Costs	$ 526,773
Electric Benefits	$ 332,589
Gas Benefits	$ 68,255
Net Benefits (NPV)	$ (125,930)
BC Ratio	0.76
PAC	
Costs	$ 607,043
Electric Benefits	$ 332,589
Gas Benefits	$ 68,255
Net Benefits (NPV)	$ (206,199)
BC Ratio	0.66
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	2,951,958
Cost	$ 0.1199
Benefits	$ 0.1127
Benefit-Cost	$ (0.0072)
Levelized Cost PAC ($/kWh)	
Discounted kWh	2,951,958
Cost	$ 0.1354
Benefits	$ 0.1127
Benefit-Cost	$ (0.0227)
Levelized Cost TRC ($/therm)	
Discounted Therms	87,915
Cost	$ 0.7351
Benefits	$ 0.7764
Benefit-Cost	$ 0.0413
Levelized Cost PAC ($/therm)	
Discounted Therms	87,915
Cost	$ 0.8192
Benefits	$ 0.7764
Benefit-Cost	$ (0.0429)

3P Mobile Energy Clinic

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 281,568	$ 192,094	$ 89,474	574,306	15,123	17
2007	$ 362,017	$ 245,796	$ 116,221	734,113	19,180	21
2008	$ -	$ -	$ -	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	263001	Replaced air filter	424			0.8	site	1	315	$ 31.00	$ 31.00	106,722	-	-
2006	263002	Refrigerant Charge in Air Conditioner	400			0.8	site	3	88	$ 140.00	$ 140.00	28,160	-	-
2006	263003	Replaced refrig. line insulation (A/C)	450			0.8	site	3	35	$ 58.00	$ 58.00	12,597	-	-
2006	263004	Replaced hot water line insulation (electric)	189			0.8	site	3	28	$ 58.00	$ 58.00	4,238	-	-
2006	263005	Cleaned Condenser Coil	456			0.8	site	3	347	$ 107.00	$ 107.00	126,697	-	-
2006	263006	Cleaned Evap. Coil	687			0.8	site	3	322	$ 97.00	$ 97.00	176,945	-	-
2006	263007	Reprogrammed Thermostat (A/C)	-			0.8	site	3	60	$ 15.00	$ 15.00	-	-	-
2006	263008	Reprogrammed Thermostat (Heat Pump)	-			0.8	site	3	38	$ 15.00	$ 15.00	-	-	-
2006	263009	Installed Programmable Thermostat (A/C)	-			0.8	site	11	273	$ 148.00	$ 148.00	-	-	-
2006	263010	Installed Programmable Thermostat (Heat Pump)	-			0.8	site	11	154	$ 148.00	$ 148.00	-	-	-
2006	263011	Checked and re-positioned outside air dampers	334			0.8	site	3	242	$ 22.00	$ 22.00	64,585	-	-
2006	263012	Checked and adjusted economizer	478			0.8	site	3	11	$ 22.00	$ 22.00	4,205	-	-
2006	263013	Combed the condenser fan coil	105			0.8	site	3	14	$ 26.00	$ 26.00	1,176	-	-
2006	263014	Replaced Inc. Bulb with 15 W CFL (2.3 per site)	171.13		0.0997142	0.8	site	2.1	161	$ 40.00	$ 40.00	22,042	-	13
2006	263015	Replaced Inc. Bulb with 20 W CFL (0.6 per site)	209.16		0.0317928	0.8	site	2.1	161	$ 20.00	$ 20.00	26,940	-	4
2006	263016	Replaced hot water line insulation (gas)		10.8		0.8	site	3	42	$ 58.00	$ 58.00	-	363	-
2006	263017	Reprogrammed Thermostat (Gas Heat)		0		0.8	site	3	24	$ -	$ -	-	-	-
2006	263018	Installed Programmable Thermostat (Gas Heat)		0		0.8	site	11	116	$ -	$ -	-	-	-
2006	263019	Boiler Cleaning - Laundry Dry Cleaners (Gas)		1230		0.8	boiler	3	15	$ 1,020.00	$ 1,020.00	-	14,760	-
2007	263001	Replaced air filter	423.5			0.8	site	1	404	$ 31.00	$ 31.00	136,875	-	-
2007	263002	Refrigerant Charge in Air Conditioner	400			0.8	site	3	112	$ 140.00	$ 140.00	35,840	-	-

2006-2008 Energy Efficiency Programs
Innovative Comprehensive Manufactured-Mobile Home Concept Paper

1. Projected Program Budget

	2006	2007	2008
Administration			
Administrative Overheads	$ -	$ -	$ -
Administrative Other	$ 276,513	$ 230,386	$ -
Marketing & Outreach	$ 150,400	$ 150,400	$ -
Direct Implementation			
Activity	$ -	$ -	$ -
Installation	$ -	$ -	$ -
Hardware & Materials	$ -	$ -	$ -
Procurement	$ -	$ -	$ -
Incentives	$ 1,017,143	$ 1,084,485	$ -
EM&V	$ -	$ -	$ -
Total	*$ 1,444,056*	*$ 1,465,271*	*$ -*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
1,731,593	935	83,989	1,804,360	1,015	90,753	-	-	-

3. Program Cost Effectiveness

Attached

4. Program Descriptors

The targeted market that this program is designed to cover is the manufactured and mobile home market. The innovative and comprehensive manufactured and mobile home program is currently being operated in the SCE/SCG territory and elements of this program have previously been delivered to PG&E as a local program. This is a modified program based on incorporating some new and innovative features currently provided in the SCE program and based upon well-established implemented programs over the past 5 years in Southern California. The geographical areas to be covered by this program will be in the San Diego service territory with an emphasis
on the hotter climate zones.

There are estimated 40,000-manufactured/mobile homes in the San Diego service territory. According to market research there have been about 7,500 of those homes treated on a comprehensive basis or a saturation of approximately 18.8%. This program has been designed to treat approximately 4,500 customers in the SDG&E service territory in the next two years, while reducing load in hotter climate zones. This will result in an increased market saturation of 11%. There is a large untapped potential in this market.

5. Program Statement

There are market failures and barriers to address the mobile home market related to cost effectiveness; split incentives; park management directives; income and language. The basis for this SDG&E comprehensive Manufactured/Mobile Home proposal is to reach, among others, the moderate and fixed-income customers of SDG&E in a cost effective and comprehensive manner.

In recent years, we have found few contractors serving this market segment. We also learned that this market segment was not likely to take advantage of programs because of language, economic, or educational barriers. Synergy associates also found that many of the tenants being served are senior citizens, on a fixed income and many times not physically able to install these measures themselves. Our firm observed these issues to be significant barriers to using EE funding and programs.

6. Program Rationale

Synergy and its sub contractor UCONS have successfully addressed each of the following hurdles in the mobile home arena the past seven years.

A. Hurdle #1: Clearly identifying target sites for program education and introduction.

Our full-time marketing department identifies customers, which is lead by Julie Richardson. Ms. Richardson has been with Synergy for 20 years. She possesses a great deal of history and experience in knowing which areas are most responsive and the appropriate techniques to identify qualified parks for this program.

B. Hurdle #2: How to break down park manager barriers to allowing personal contacts with park residences.

The tactic to address this hurdle is to recognize the separate decision makers in mobile home parks and to establish credibility with park managers (in addition to mobile home owners) through repeated meetings and participation in their scheduled park association meetings. This is a real hurdle as park owners and managers are protective and suspicious of anyone that wishes to “market or contact” their tenants and residents. Synergy’s long-term reputation of serving hundreds of parks and owners is a significant asset. Our high satisfaction rating with other park managers can be readily verified. This enables Synergy to build “trust” with many park
managers.

C. Hurdle #3: How to address the suspicion and reluctance of senior citizens to permit individuals in their homes.

The tactic to address this hurdle is to gain the support of the park management, and to clearly establish this is a SoCalGas program. The reputation of the IOU and Synergy’s reputation are important assets to address this hurdle.

D. Hurdle #4: Recognizing and addressing language, economic and age barriers.

The tactics to address this hurdle have been addressed above. In addition, many of Synergy's associates are bi-lingual. Our long-standing reputation in this arena is also helpful.

If selected for 2006-2008, SDG&E (and the Manufactured/Mobile Home customers we have identified in our bid) are assured that the program will be delivered promptly and that long term and cost effective savings will be delivered. Synergy has consistently demonstrated we will dependably deliver the proposed savings either on schedule or ahead of time.

Bidder has the capability to ramp-up or reduce the size of this program budget should
SDG&E wish to use flexibility to optimize savings and use of the budgets.

7. Program Outcomes

Description of Outcome	Program Goal
1. To target customers in the manufactured and mobile home customers and to provide them a comprehensive set of Energy Efficiency measures. (Duct Test & Seal, AC Diagnostic, Aerators, Low Flow Showerheads, and CFL's)	1. To serve and educate about 4,500 customers in this market segment.
2. To deliver cost effective energy savings	2. See stated energy savings goals.
3. To reduce emissions of CO2, NOX, and PM-10	3. To reduce emissions by: A. CO2 emissions reduction-2,082 tons B. NOX- 548 lbs. C. PM-10- 269 lbs.
4. To have a have quality and satisfaction rating	4. To have 100% quality installations of Duct Seal and AC Diagnostic work, with follow-up surveys and random sample inspections for other items. To have 97% customer satisfaction .

8. Program Strategy

(See A.2 and A.3, above). This program will deploy a creative marketing program to teach energy efficiency in Mobile parks and neighborhood gatherings. These meetings not only introduce the customers to the measures that will be utilized in their home, but helps them be comfortable with the technicians that will do the work. Each customer is provided with an energy efficiency tips brochure that also teaches about other energy efficiency programs, providing phone numbers and contact information for those that may be able to take advantage of them. The features mentioned allow us to optimize energy savings opportunities and to avoid lost opportunities. Our technicians also contact all neighbors when the actual work is being completed to further educate to the program availability.

This Manufacturer- Mobile Home Program will employ the following strategies:

- Residential Comprehensive Retrofit
- Residential Education
- Residential Quality Installation
- Residential Direct Install
- Residential Downstream Training
- Residential Targeted Marketing

8.1.1. Program Strategy Description

- the strategies encompassing: Residential Education; Comprehensive Retrofit; Direct Install and Targeted Marketing will be performed concurrently and employing the following strategies:

  Initial program launch will have Synergy initiating marketing in those geographic sectors, which SDGE indicates of highest priority. Synergy has developed marketing and program descriptors for this program and will review with SDGE prior to providing to the mobile home park managers and to their homeowners. While Synergy and UCONS have successfully delivered many prior mobile home programs in California, the SDGE program has two innovative features (higher customer participation and innovative measures to reduce both kWh and peak kW in each mobile home treated).

  Targeted marketing will be on the mobile home sectors, which SDGE indicates of highest priority. Prior to initiating the education and direct install component, both the prescriptive and innovative measures will be described to each mobile home park manager over the course of the first 45 days. It is their support and cooperation, which is key prior to marketing the program to the individual park homeowners. In many instances, the park manager will have Synergy attend or host a park or neighborhood association meeting to explain program benefits to each mobile home owner. Upon notification of customer interest, Synergy will

do a walk-through with each customer and install measures, which are found to be needed in each home.

- The Synergy strategy for ensuring Quality Installation has been provided both stage I and stage II submittals. This portion of the program will be implemented to ensure that: all customer needs are met and customer satisfaction levels exceed 95% (which they have in each of our prior California direct install programs); that long-term persistence of savings is achieved in order to meet or exceed E-3 calculator levels of savings; and finally, a separate early-M&V program will be implemented by sub contractors UCONS and Stellar to maximize therm, kWh and peak kW savings from each of the innovative measures.

  The early-M&V component will utilize the same in-field testing and evaluation features which have been utilized by UCONS in their current SCE evaporative cooler mobile home program. This feature enabled SCE and UCONS to feedback data from early program studies on those program elements showing greatest savings potential (and de-emphasizing areas where measured savings were not meeting program objectives). Fan depowering was shown to be a solid component for peak demand and energy savings (where evaporative cooling was employed).

- The strategy for achieving Downstream Training will employ Synergies' long-standing policy of providing long-term: educational materials; response to customer inquiries; and providing long-term service and repairs long-after contract deadlines. This policy maintains customer awareness of the potential for energy savings, which is a key problem with many mobile home residential ratepayers (who have typically some of the highest energy bills in the residential sector).

8.1.2. Program Indicators

The primary goal of the program strategy is to procure energy savings and demand reduction.

9. Program Objectives

ACTIVITY DESCRIPTION	Targeted
Finalize Operations Plan	1/15/06
Completion and approval of Marketing Piece	1/20/06
Add Laptops for technicians	2/1/06
Begin Roll-out of Marketing Campaign	2/05/06
Modification of Web Page to Reflect this Program	2/15/06
Complete Energy Savings Materials for Customers	2/15/2006

2006-2008 Energy Efficiency Programs
Innovative Comprehensive Manufactured-Mobile Home Concept Paper

ACTIVITY DESCRIPTION	Targeted
Evaluate Response Rates to Marketing	3/05/06
Synergy Stakeholders Training Session	01/11/06
Monthly Report (Every month by the 21st)	3/21/06
Quarterly Evaluation and Training Meetings	4/14/06
Complete Implementation Plan	12/31/07

Production Benchmarks

Date	Projected Units Complete	Progress Measurement
1st Qtr 2006	552	Monthly Report (On the 21st of each Month) and Invoice
2nd Qtr	552	Monthly Report (On the 21st of each Month) and Invoice
3rd Qtr	552	Monthly Report (On the 21st of each Month) and Invoice
4th Qtr	552	Monthly Report (On the 21st of each Month) and Invoice
1st Qtr 2007	552	Monthly Report (On the 21st of each Month) and Invoice
2nd Qtr	552	Monthly Report (On the 21st of each Month) and Invoice
3rd Qtr	552	Monthly Report (On the 21st of each Month) and Invoice
4th Qtr	552	Monthly Report (On the 21st of each Month) and Invoice
1st Qtr 2007		Program Evaluation and Final Report
Total	4,000-5,000	

	Contacts/Meetings with Managers/Owners	Attendees at Neighborhood Meetings	Direct Mail/Canvass Notifications
1st Qtr 2006	10	300	1,000
2nd Qtr	10	300	2,000
3rd Qtr	10	300	3,000
4th Qtr	10	300	3,000
1st Qtr 2007	10	300	2,000
2nd Qtr	10	300	2,000
3rd Qtr	10	300	2,000
4th Qtr	0	300	0
1st Qtr 2007	0	0	0
Total	**70**	**2,400**	**15,000**

10. Program Implementation

The program design has been completed in preparation for a timely launch of this program. An overview of the Program is as follows:

Marketing Method	▪ Direct mail and canvass notification ▪ Meetings with Park Managers and Owners ▪ Telemarketing
Delivery Approach	▪ On-site survey ▪ Direct installation of products and services
Customer and Market Segments	* Focus first on the Manufactured/Mobile Home Customers in warmer and dryer climates
Contract Length	24 months of field operations Marketing and field activities begin January 2006 **Customer installations targeted for completion by November 30, 2007** Final Invoice and Report by March 30, 2008

While the elements of our program design are highlighted above, it is also important to understand the sequence of customer interactions and overall program below.

Depicted below is the Process Flow Diagram and Process Flow Narrative of the Innovative and Comprehensive Manufactured/Mobile Home Program:

Customer Enrollment
Once customer requests participation, the Customer Service Rep will verify eligibility including: ▪ Location ▪ Customer classification (Manufactured/Mobile Home Resident with AC or Evaporative Coolers) ▪ Measures have not previously been installed or are in need of service ⬇
CSR will set convenient time for the installer and technician to visit customer site ⬇
Delivery of On-site Services
The installer and technician arrive on-site, explain the survey and installation process, and obtain customer agreement to program rules

Installer and technician conduct the site walk-through to determine eligible measures and provide customer with Energy Tips Brochure

The installer and technician perform the immediate installation of equipment and measures as needed:

- Duct Test and Seal, AC Diagnostic and Tune-up OR check for fan de-powerment applications. Technicians will use the Enalasys Systems to VERIFY 100% of the Duct Seal and AC Diagnostic work completed
- Compact Fluorescent Lamps
- Aerators and Low-Flow Showerheads
- CFL Hardwire Fixture
- Common Area Lighting

Program team will ensure site is left clean with all trash and discarded materials removed from site

Program team will then notify customer when all work is completed and request customer signature of acceptance

Data Entry, Reporting and Invoicing

Each night the work completed will be electronically uploaded from the computer or handheld to the platform. Information is loaded into the computer or handheld through sensors and cannot be manipulated by the technician.

Paperwork is returned to Program office

Paperwork is reviewed for completeness and accuracy

After review, data is entered in Program tracking system, compared to the platform and available for reporting and invoicing

SDG&E will have access to customer and Program data on virtual time basis this includes: production, energy savings estimates and site specific customer records ⬇
Invoices will be generated and delivered to SDG&E with the monthly report on the 21st of each month

11. Customer Description

The customers targeted for this program are the owners and renters of manufactured and mobile homes in mobile home parks with an emphasis in the hotter, dryer climate zones of SDG&E service area. This market is typically more costly to serve and difficult to reach by virtue of multiple decision makers; the high expense to locate these individuals; the typically inefficient building shells; and because of the financial constraints of moderate-income level (income levels less than 400% of federal poverty guidelines). Frequently these individuals are retired and on fixed or moderate incomes. These customers are also some of the highest residential energy users in the utility service area.

12. Customer Interface

The customers will likely be introduced to the program through a live neighborhood meeting, where the program and associated measures are presented and demonstrated. Those desiring to take advantage of the program may sign-up for a schedule date at the neighborhood meeting.

In addition, flyers will be sent to each potential customer, inviting him/her to call the toll-free number for an appointment if they are interested in the program.

At the time of installation, the technician does a walk through and explains to the customer what service will be provided at their home. At the conclusion of the installations, the technician provides the customer with a follow-up of what was installed and is provided the energy efficiency tips brochure.

A high level of customer satisfaction has been running at about 97%, according to the independent EM&V report.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

See SDG&E February 1 Filing Workbook

13.2. kWh Level Data

See SDG&E February 1 Filing Workbook

13.3. Non-energy Activities

Not applicable in this program

13.3.1. Activity Description

13.3.2. Quantitative Activity Goals

13.3.3. Assigned attributes of the activity (market sector, end use)

14. Subcontractor Activities

Synergy Companies will work in conjunction with CAL-UCONS, a design, marketing, and EM&V consulting firm with an outstanding reputation in the Energy Efficiency Industry.

CAL-UCONS will focus on program design (including innovative features of fan depowerment for evaporative cooling) plus EM&V support to assure delivery of energy savings. Synergy Companies will provide the marketing, customer support and overall program management and implementation for the program.

15. Quality Assurance and Evaluation Activities

Synergy Companies, in conjunction with Enalasys Corp, will use an electronic sensor program to VERIFY 100% of the Duct Seal and AC Diagnostic jobs. The state-of-the-art Enalasys technology will measure both pre and post work equipment efficiency readings. These reading are electronically read and not manually Input by a technician. This provides for 100% verification of quality Installations. General input information i.e. Name, Address, equipment serial number, etc, are entered manually or are push down to the laptop. The diagnostic data measured from sensors and testing equipment i.e. duct blaster, ChargeRite are RF transmitted to the laptop where they are either recorded or used in algorithms for calculating performance criteria as well as calculated and deemed energy savings. All of this data is then uploaded to a central secured database that can be accessed and downloaded in various formats by the sponsoring entity and program partners.

In addition, Synergy has an office that is dedicated to quality control and customer satisfaction. This office calls 20% of customers after the work is complete to determine customer satisfaction and to gain other important information about the work completed.

Synergy also has an in-house inspector that physically and randomly inspects 5% of all jobs complete. These measures support a high level and commitment to quality installations at each home.

16. Marketing Activities

Synergy's marketing program to this targeted sector is in itself a marketing innovation that has resulted in a high level of service and saturation within each mobile home park.

Synergy begins its efforts in its marketing department by doing research for all Manufactured/Mobile home parks and residences available, by target market. In the SDG&E service territory Synergy has located about 40,000 homes for marketing.

Next, one of the most talented outreach individuals in this entire industry, Kent Walker, who has been working with Manufactured/Mobile Park Managers and Owners for five years personally contacts each manager or owner and presents the program opportunity. Much of Synergy's success can be attributed to the trust established between Mr. Walker and the park management. From this experience, a neighborhood meeting is set up to explain the program. Attending the meeting are Kent Walker, Maureen McCarty and an experienced technician. During the neighborhood meeting activities would include setting up a table with energy conservation savings packets and programs. During the meeting, a demonstration would be held with the types of measures that can provide energy savings, such as duct test and seals, AC Diagnostic, Evaporative Cooler Diagnostic, CFL's, aerators, and Lo flow Showerheads. A question and answer session would also be held.

Synergy and UCONS have established a well-developed and respected position with many property owners, managers and park managers.

The Synergy marketing teams have bilingual capability staffed with individuals who speak English, Spanish, and Navajo.

The program is then explained and many customers will schedule service right at the meeting.

Other marketing activities include:

1) Working directly with local Community Organizations: Senior Citizen Centers, Mobile Home Associations, Association of Retired People, Chambers of Commerce, and local libraries of community information.
2) Flyers.
3) Word-of-mouth.

Marketing and outreach plans have been carefully developed by the program implementer to address the primary market barriers. Prior marketing efforts in these targeted sectors demonstrate that it is not practical to acquire customer contributions form the typical mobile home owner. There can be exceptions to this rule, but we have found that it often costs more from a marketing and long-term customer care perspective to collect a contribution …than the amount of the contribution itself. For this targeted market sector, our experience is that the most cost effective use of Public Goods funds is to provide a direct install program (which is also cost effective on its own merits) without a customer contribution.

Synergy will strive to install the full array of measures outlined in our project in each mobile home. It could be more or it could be slightly less. We will install measures until our budget or allocated amount of items is fulfilled. This would be a first come first serve program.

17. CPUC Objective

The Innovative and Comprehensive Manufactured/Mobile Home meets the following CPUC objectives:

- To "pursue all cost-effective energy efficiency opportunities over both the short- and long-term." The TRC and the PAC measure the cost-effectiveness of a program. The TRC for this program is greater than 3.7 and the PAC is greater than 1.4, both meeting the requirement for a strong cost-effective program.
- Partnership arrangements between utilities and local government. Synergy has worked with a number of community organizations and associations, including mayors and city councils in combining efforts to promote energy efficiency within numerous communities.
- Collaborative and Innovative Solutions to current market barriers. Synergy has worked with a number of players from different segments of the energy efficiency industry to explore the most advance technologies, measures, products, and processes that can overcome market barriers and optimize energy efficiency at each customer's home. This has been manifest in its marketing approach, quality processes with VERIFED work on Duct Systems and AC Diagnostics, and avoiding lost opportunities by seeking to service all potential energy consumption while visiting the customer's home.
- Comprehensiveness and avoiding Lost Opportunities. This program meets this CPUC requirement because of the comprehensive nature of the program. In addition to the comprehensive service provided, SDG&E is taking advantage of this contact to educate the customer to the other EE programs that might be available to this customer.
- Consistent with PAG objectives.
- Reduction of greenhouse gas emissions. Because this program produces a reduction of CO2, NOX, and PM-10 emissions it also meets the important CPCU objective.
- The deployment of new and improved EE products and applications can help sustain or increase current savings yields. This objective is met in this program through the use of the VERIFED duct seal and AC Diagnostic. In the past, this was left to human calculations and the adjustments could have been off or a technician could have even "fudged" the numbers. With this independent on-site electronically sensored approach, the technician responds to efficiency changes in the system as recommended by the computer prompted calculations. This tamper-proof system is a significant improvement in processes for achieving quality installations at each home.

Output

Program Summary

Proposer Name	Synergy Companies	
Program Name	SDG&E E3 Innovative Mobile Home Program	
Total Program Budget ($)	$ 2,909,327	
Incentives and Rebates ($)	$ 2,122,810	$ 1,950,478
Net Incremental Measure Cost ($)	$ 255,747	

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Program Impacts

	Annual Net kWh	Lifecycle Net kWh	Annual Net Therms	Lifecycle Net Therms	Net Jul-Sept Pk (kW)	Net Dec-Feb Pk (kW)	Net CEC (kW)	User Entered kW
2006-2008	3,757,921	35,315,070	205,103	3,247,005	1,374	303	815	1,746
2009-2012	-	-	-	-	-	-	-	-

Cost Effectiveness (Lifecycle Present Value Dollars)

		Benefits			Benefit - Cost		
	Cost	Electric	Gas	Incentives	NPV	B/C Ratio	Notes
Program TRC ($)	$ 1,042,264	$2,541,142	$1,403,455	NA	$2,902,333	3.78	*1
Program PAC ($)	$ 2,736,995	$2,541,142	$1,403,455	NA	$1,207,602	1.44	*1,2
Program RIM ($)	$ 5,297,678	$2,541,142	$1,403,455	NA	($1,353,081)	0.74	*1

*1 B/C Ratio is an approximation because any supply cost increases are treated as negative benefits rather than as a cost as in the Standard Practice Manual
*2 PAC benefits include environmental costs. This is to be consistent with the TRC benefits, but is not strictly consistent with the Standard Practice Manual.

Levelized Cost and Benefit (All Measures Installed through 2012)

	Discounted Savings				Benefit - Cost
	kWh	Therms	Cost	Benefits	NPV
TRC ($/kWh)	22,183,228		$ 0.0300	$ 0.1146	$ 0.0845
PAC ($/kWh)	22,183,228		$ 0.0740	$ 0.1146	$ 0.0406
RIM ($/kWh)	22,183,228		$ 0.1538	$ 0.1146	$ (0.0393)
TRC ($/therm)		1,808,800	$ 0.21	$ 0.78	$ 0.5679
PAC ($/therm)		1,808,800	$ 0.61	$ 0.78	$ 0.1701
RIM ($/therm)		1,808,800	$ 1.04	$ 0.78	$ (0.2662)

Emissions Reductions

	Electric Reductions			Gas Reductions	
Annual Reductions	CO2 (tons)	NOX (lbs)	PM-10 (lbs)	CO2 (tons)	NOX (lbs)
2006	968	255	125	#N/A	#N/A
2007	1,113	293	144	#N/A	#N/A
2008	-	-	-	#N/A	#N/A
2009	-	-	-	#N/A	#N/A
2010	-	-	-	#N/A	#N/A
2011	-	-	-	#N/A	#N/A
2012	-	-	-	#N/A	#N/A
Total Annual	2,082	548	269	#N/A	#N/A

* annual reductions are the units implemented in the year, times the annual emission reduction for the measure.

SDG&E Tool 2c Innovative Mobile Home Program Revised FINAL 5 JAN 06Page 1 of 1

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PROGRAM NAME		SDG&E E3 Innovative Mobile Home Progra
BUDGET		
Administrative Costs		
Overhead and G&A	$	485,717
Other Administrative Costs	$	-
Marketing/Outreach	$	**300,800**
Direct Implementation		
Incentives and Rebates		
User Input Incentive	$	-
Direct Install Rebate	$	-
Direct Install Labor	$	1,292,808
Direct Install Materials	$	830,001
Activity	$	-
Installation	$	-
Hardware & Materials	$	-
Rebate Processing & Inspection	$	-
EM&V Costs	$	-
Budget	$	**2,909,327**
Costs recovered from other sources	$	-
Budget (plus other costs)	$	**2,909,327**
PROGRAM IMPACTS		
Program Reductions for Measures installed through 2008		
User Entered kW (kW)		1,746
Net Jul-Sept Peak (kW)		1,374
Net Dec-Feb Peak (kW)		303
Net NCP (kW)		2,676
Net CEC (kW)		815
Annual Net kWh		3,757,921
Lifecycle Net kWh		35,315,070
Annual Net Therms		205,103
Lifecycle Net Therms		3,247,005
Cost Effectiveness for all measures installed through 2012		
TRC		
Costs	$	1,042,264
Electric Benefits	$	2,541,142
Gas Benefits	$	1,403,455
Net Benefits (NPV)	$	2,902,333
BC Ratio		3.78
PAC		
Costs	$	2,736,995
Electric Benefits	$	2,541,142
Gas Benefits	$	1,403,455
Net Benefits (NPV)	$	1,207,602
BC Ratio		1.44
Levelized Cost		
Levelized Cost TRC ($/kWh)		
Discounted kWh		22,183,228
Cost	$	0.03
Benefits	$	0.11
Benefit-Cost	$	0.08
Levelized Cost PAC ($/kWh)		
Discounted kWh		22,183,228
Cost	$	0.07
Benefits	$	0.11
Benefit-Cost	$	0.04
Levelized Cost TRC ($/therm)		
Discounted Therms		1,808,800
Cost	$	0.21
Benefits	$	0.78
Benefit-Cost	$	0.57
Levelized Cost PAC ($/therm)		
Discounted Therms		1,808,800
Cost	$	0.61
Benefits	$	0.78
Benefit-Cost	$	0.17

	SDGE3035 3P Mobile Home Program
BUDGET	
Administrative Costs	**$ 506,900**
Overhead and G&A	$ 506,900
Other Administrative Costs	$ -
Marketing/Outreach	**$ 300,800**
Direct Implementation	**$ 2,101,627**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ 1,306,182
Direct Install Materials	$ 795,445
Activity	$ -
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 2,909,327**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 2,909,327**
PROGRAM IMPACTS	
User Entered kW (kW)	1,950
Net Jul-Sept Peak (kW)	1,791
Net Dec-Feb Peak (kW)	230
Net NCP (kW)	3,534
Net CEC (kW)	703
Annual Net kWh	3,239,875
Lifecycle Net kWh	32,660,833
Annual Net Therms	174,743
Lifecycle Net Therms	2,755,743
Cost Effectiveness	
TRC	
Costs	$ 1,536,589
Electric Benefits	$ 2,575,400
Gas Benefits	$ 1,192,571
Net Benefits (NPV)	$ 2,231,383
BC Ratio	2.45
PAC	
Costs	$ 2,740,448
Electric Benefits	$ 2,575,400
Gas Benefits	$ 1,192,571
Net Benefits (NPV)	$ 1,027,523
BC Ratio	1.37
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	20,487,058
Cost	$ 0.0500
Benefits	$ 0.1257
Benefit-Cost	$ 0.0757
Levelized Cost PAC ($/kWh)	
Discounted kWh	20,487,058
Cost	$ 0.0845
Benefits	$ 0.1257
Benefit-Cost	$ 0.0412
Levelized Cost TRC ($/therm)	
Discounted Therms	1,537,650
Cost	$ 0.3335
Benefits	$ 0.7756
Benefit-Cost	$ 0.4421
Levelized Cost PAC ($/therm)	
Discounted Therms	1,537,650
Cost	$ 0.6564
Benefits	$ 0.7756
Benefit-Cost	$ 0.1192

3P Mobile Home Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 1,444,056	$ 1,017,143	$ 426,913	1,731,593	83,989	935
2007	$ 1,465,270	$ 1,084,485	$ 380,785	1,804,360	90,753	1,015
2008	$ -	$ -	$ -	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	255001	Duct Test and Seal	219	38	0.21	0.89	Per Unit	18	1,800	$ 249.00	$ 45.00	350,838	60,876	336
2006	255002	AC Diagnostic, Repair and Tune-up	244		0.31	0.89	Per Unit	11	1,800	$ 113.00	$ 25.00	390,888	-	497
2006	255003	Faucet Aerator	83	6	0.02	0.89	Household	9	2,000	$ 12.70	$ 12.69	148,039	9,906	33
2006	255004	Low Flow Showerheads	-	7	-	0.89	Showerhead	10	2,000	$ 37.95	$ 37.95	-	13,208	-
2006	255005	Interior Energy Star CFL	42	-	0.00	0.89	Lamp	9.4	750	$ 10.85	$ 10.25	28,221	-	3
2006	255006	Exterior Energy Star CFL	47	-	-	0.89	Lamp	7.1	7,500	$ 9.02	$ 8.41	312,684	-	-
2006	255007	Interior Energy Star Hardwire Fixture	69	-	0.01	0.89	Lamp	16	555	$ 53.41	$ 53.41	34,172	-	3
2006	255008	Exterior Energy Star Hardwire Fixture	35	-	0.00	0.89	Lamp	16	1,500	$ 45.52	$ 45.52	47,205	-	4
2006	255009	Interior Energy Star CFL Common	209		0.05	0.89	Per Unit	2.1	500	$ 10.85	$ 10.25	93,058	-	24
2006	255010	Exterior Energy Star CFL Common	209		0.05	0.89	Per Unit	2.1	750	$ 10.85	$ 10.25	139,588	-	35
2006	255011	Evaporative Cooler diagnostic, repair, tune-up	600			0.89	Per Unit	5	350	$ 220.00	$ 85.00	186,900	-	-
2007	255001	Duct Test and Seal	219	38	0.21	0.89	Per Unit	18	2,000	$ 249.00	$ 45.00	389,820	67,640	374
2007	255002	AC Diagnostic, Repair and Tune-up	244		0.31	0.89	Per Unit	11	1,955	$ 113.00	$ 25.00	424,548	-	539
2007	255003	Faucet Aerator	83	6	0.02	0.89	Household	9	2000	$ 12.70	$ 12.69	148,039	9,906	33
2007	255004	Low Flow Showerheads	0	7	0.00	0.89	Showerhead	10	2000	$ 37.95	$ 37.95	-	13,208	-
2007	255005	Interior Energy Star CFL	42	0	0.00	0.89	Lamp	9.4	750	$ 10.85	$ 10.25	28,221	-	3
2007	255006	Exterior Energy Star CFL	47	0	0.00	0.89	Lamp	7.1	7503	$ 9.02	$ 8.41	312,809	-	-
2007	255007	Interior Energy Star Hardwire Fixture	69	0	0.01	0.89	Lamp	16	555	$ 53.41	$ 53.41	34,172	-	3
2007	255008	Exterior Energy Star Hardwire Fixture	35	0	0.00	0.89	Lamp	16	1500	$ 45.52	$ 45.52	47,205	-	4
2007	255009	Interior Energy Star CFL Common	209		0.05	0.89	Per Unit	2.1	500	$ 10.85	$ 10.25	93,058	-	24
2007	255010	Exterior Energy Star CFL Common	209		0.05	0.89	Per Unit	2.1	750	$ 10.85	$ 10.25	139,588	-	35
2007	255011	Evaporative Cooler diagnostic, repair, tune-up	600			0.89	Per Unit	5	350	$ 220.00	$ 85.00	186,900	-	-

2006-2008 Energy Efficiency Programs
Building Commission/Retro-Commissioning (BCRC) Program
Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ 3,333	$ 3,333	$ 3,333
	Administrative Other	$ 93,600	$ 93,600	$ 97,920
Marketing & Outreach		$ 87,467	$ 87,467	$ 92,267
Direct Implementation				
	Activity	$ 184,792	$ 190,042	$ 203,910
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ -	$ -	$ -
	Procurement	$ -	$ -	$ -
	Incentives	$ 400,000	$ 700,000	$ 900,000
EM&V		$ -	$ -	$ -
Total		*$ 769,192*	*$ 1,074,442*	*$ 1,297,430*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
2,438,208	499	36,634	4,266,864	874	64,109	5,485,968	1,123	82,426

3. Program Cost Effectiveness

Attached

4. Program Descriptors

Market Sector

Commercial/Industrial (non-residential)

Program Classification

Local

Program Status

Modified Existing program

Market Penetration

We plan to retrocommissioning 10 million square feet of floor space over the three years of the program. The *California Energy Demand 2006-2016 Staff Energy Demand Forecast* (CEC-400-2005-034-SF-ED2, September 2005) indicates that there will be about 540 million square feet of commercial floor space in SDG&E territory. Therefore, we would be retrocommissioning 1.9% of the total commercial floor space. Assuming that the proportion of floor space in the various commercial sectors is the same as for the state as a whole, there will be 147 million square feet

in the targeted sectors of large office, hospitals, and hotels.[1] Ten million square feet represents 6.8% of floor space in these sectors.

5. Program Statement

Retrocommissioning Existing Buildings

PECI and AEC have participated in developing, implementing, and providing commissioning services in the early versions of nearly all of the current and past utility retrocommissioning programs piloted around the country, including: Building Tune-Up Program, San Diego Retrocommissioning Program, CSU/UC/IOU Monitoring-Based Commissioning Initiative (MBCx), SMUD Retrocommissioning Demonstration Program, California Building Efficiency Initiative (SCE territory), Centerpoint Energy Retrocommissioning Program, Utah Power Retrocommissioning Program, Energy Trust of Oregon Building Tune-up and Operations Program, NW Energy Efficiency Alliance's Building Performance Services, Xcel Energy Recommissioning Program, Connecticut Retrocommissioning Pilot Program, and NYSERDA Retrocommissioning Program. All of these programs have had mixed results to-date and, based on our combined experience in these programs, we have identified the most common barriers that must be overcome to successfully implement a program that meets the scale that SDG&E has requested.

Major implementation barriers include:

- The reluctance of owners to begin projects that are unfamiliar with undefined outcomes
- Difficulty getting owners who begin projects to quickly follow through to completion
- Difficulty recruiting well-qualified service providers
- Difficulty getting consistent results from a variety of retrocommissioning providers
- A lack of attention or safeguards to ensure measure persistence once projects are complete

All of these problems reduce both energy and demand savings and increase costs.

Commissioning New Buildings

Though this proposal is for retrocommissioning and ongoing commissioning activities only, commissioning new construction presents several unique barriers for a utility energy efficiency program:

[1] The draft report, *Options for Energy Efficiency in Existing Buildings*, CEC-400-2005-039-CTD, October 2005, Table 3-3 Percent of Nonresidential Floor Stock Area indicates that 27.2% of CA commercial floor space is in these sectors.

- Typical new-construction commissioning involves many more steps over a much longer time period, including extensive involvement in the construction process.
- There are no well-developed program models for an effective new-construction commissioning program.
- It is difficult to create a baseline for "uncommissioned" buildings and to attribute savings to specific commissioning activities.

These barriers notwithstanding, the savings potential in commissioning new buildings is significant, so we offer, with SDG&E approval, the pilot new-construction commissioning program described in the next section.

6. Program Rationale

Retrocommissioning Existing Buildings

In this proposal, PECI and AEC emphasize some key program implementation issues based on our extensive experience with previous retrocommissioning programs and offer our solutions to those problems. We believe that the program we propose includes several next-generation ideas that will make the SDG&E BCRC Program the most innovative, successful retrocommissioning program in the industry.

PECI and AEC approach the program management challenge with two objectives:

- Use a pragmatic approach to achieve results.
- Continuously listen to the intelligence and lessons from the field to quickly adapt and improve program performance.

Our pragmatic management approach has been developed through experience. We constantly take on challenges in the field, such as developing new approaches to problems or working in target markets that are not accustomed to dealing with energy efficiency as a business practice, and find solutions. Our successful education, research, and efficiency programs in California and elsewhere are evidence that we are good at it.

To overcome the barriers listed under question B.2 above and to meet the ambitious goals that SDG&E has set for the BCRC Program, the program team will implement three key program strategies:

1 Effectively recruit and manage owners of large buildings to enter the program and follow through with the implementation of retrocommissioning and demand-response measures

2 Maximize the capacity of the commissioning providers to properly scope, accurately diagnose, and expeditiously implement measures in buildings

3 Ensure that the program's energy savings persist through tracking and ongoing commissioning

These strategies will increase the magnitude and persistence of the program's energy savings.

The proposed program includes several innovative features that create a comprehensive approach to overcoming the barriers we find in the field. These features address each target area in a way that brings synergistic value to the solutions for the other areas. Key program features include:

- A multi-channel marketing process that emphasizes existing relationships to market retrocommissioning to owners will quickly fill the program pipeline with projects
- Commissioning Market Specialists will provide extensive project-management assistance to owners, working with providers to keep the projects moving to completion
- A streamlined process for providers that allows them to focus on energy savings and spend additional effort helping owners implement measures
- Persistence strategies and ongoing commissioning capability for the owner to ensure the measures are long-lasting and enable the program to easily reap additional savings from existing projects
- The program provides a platform to leverage existing SDG&E efforts to integrate demand-response capability into the commercial sector and to coordinate with retrofit opportunities.

Commissioning New Buildings

Based on our ongoing experiences with new construction projects, we have been looking at various ways to streamline the commissioning process during the construction of new buildings. One solution we are experimenting with involves replacing many construction observation and functional testing steps with a careful design review that includes an explicit testing and monitoring plan to occur at the end of construction. The idea is to call out the areas of probable concern given the specific building design, ensure that specifications for contractor testing and performance assurance are included in the bidding process, and to give notice to contractors of what equipment and systems will be tested and monitored to identify deficiencies when the building begins operation. Identified deficiencies will need to remedied by the responsible contractors.

We believe this streamlined process is especially adaptable to utility energy-efficiency programs. Specific performance parameters for the building's energy-using systems can be set during the design-review and specification processes, and monitoring and testing can identify functional failures and the savings potential of proper operation. Ideally, the program would recruit buildings that have received design assistance from other SDG&E new-construction programs, and would add commissioning design review to that process. This energy-focused design review would produce construction specifications for the building's energy systems and a post-construction investigation plan. These steps would require new structured

protocols for the design-review process similar to those we have previously developed for the retrocommissioning program. The investigation plan would mirror the investigation plan required for retrocommissioning projects.

The remaining program elements for executing the investigation could then be managed in the same way as existing building projects in the retrocommissioning program. Deficiencies would be corrected by the responsible contractors, largely without utility incentives. Owners who do not require contractor corrections would be obligated to repay the design-review and investigation costs. This approach allows the utility program to focus on critical trigger points in the new-construction process that can generate the most valuable information on the operating effectiveness of energy-efficiency systems, and avoid program involvement in extensive construction monitoring, testing, and in-the-field project management.

We think this approach warrants a pilot effort to prove the concept and refine its application. If SDG&E is interested, we could incorporate a trial with a limited number of buildings that could operate under the retrocommissioning program management structure. (The budget for this proposal does *not* include this new-construction pilot program.)

7. Program Outcomes

In addition to the quantifiable energy savings results, we also expect the program to:

- Enhance the relationship between SDG&E and their commercial/industrial customers by creating a positive program experience
- Train and educate building owners, their staff and contractors on the retrocommissioning process, practices and benefits
- Expand the infrastructure for delivering retrocommissioning services in the SDG&E territory
- Significantly transform the marketplace for commissioning services in the SDG&E territory

8. Program Strategy

Nonresidential Building Commissioning

Engage commercial building owners through cutting-edge marketing efforts and leverage the provider-customer interface. The program will recruit owners from multiple channels using familiar relationships to introduce the retrocommissioning opportunity. Retrocommissioning opportunities are often lost due to a lack of follow through by the customer or a lack of understanding of the customer's decision making process by the Commissioning Provider. The Commissioning Market Specialist's role is to close this gap. Commissioning Market Specialists will meet with owners and facility managers to present more specific information, answer objections, screen buildings and gain an understanding of the decision making process and budget cycles for each building in their

portfolio. These same staff will track the project's progress, teaming with the commissioning provider to keep the project moving and ensure progress to a timely completion.

Employ an energy-focused approach with commissioning providers, produce consistent high-quality deliverables, and generate reliable energy and demand savings. Providers must focus on the energy goals of the program. Streamlined and standardized protocols will simplify meeting program requirements, ensure project quality, and allow efficient tracking of project progress. The program will employ extensive quality-control monitoring, to ensure these results. Providers who perform well and quickly will be rewarded with greater opportunity for program participation and incentives.

Ensure the persistence of savings through carefully targeted requirements for building documentation, training, and energy tracking. Verifying persistence of savings is a key goal of this Program. The program protocols provide consistent methods for documenting all retrocommissioning measures and forms the basis of the training that providers will give to building staff. The training itself will be formatted in a way that can be easily reviewed by subsequent operating staff. Monitoring systems will be used to track the performance of measures, ensure their ongoing performance, and avoid lost opportunities.

Ensure owners follow through by structuring incentives in a way that encourages implementation and obligates the owner to carry out their end of the agreement. Building owners that participate in the program will be eligible for an in-depth investigation of their building's operations, financial assistance to implement improvements, and follow-up services that verify measures were implemented correctly and provide documentation and training for building operators. Incentives are calculated on a per project basis and will depend on building size, system complexity and measures selected for implementation.

A follow-up incentive is paid directly to the commissioning provider for overseeing implementation and verifying measures. This creates a team that includes the Commissioning Market Specialist, the commissioning provider and the owner to facilitate implementation and fulfill the program's data and reporting requirement. A final element to protect the SDG&E investment in the project will be to assign a sunset clause for the implementation timeline and incentive, and if the owner does not proceed with implementation as agreed upon, the funds will expire and the owner will be required to reimburse the program for the investigation cost.

Use market relationships and program protocols to avoid lost opportunities. Our program is planned to maximize the value delivered to customers as it integrates retrocommissioning with demand response and capital-intensive retrofits. Our multi-channel marketing strategy leverages the involvement of key players in the marketplace to maximize the likelihood that building owners who are considering HVAC improvements of any kind will be made aware of the program and invited to participate. Also, the investigation protocols that we design for commissioning providers will include guidelines for identifying demand-response

and retrofit opportunities that are not part of a major operational improvement, but can be addressed by other SDG&E programs and services.

8.1.1. Program Strategy Description

Nonresidential Building Commissioning

Aligning with the three key program strategies (introduced under question B.3 – Program Rationale), we will use the following methods to obtain the program outcomes:

- **Recruitment and Management of Owners and Projects:** Effectively recruit and manage owners of large buildings to enter the program and follow through with the implementation of retrocommissioning and demand-response measures
  - Leverage existing business relationships
  - Assign a Commissioning Market Specialist to see each project through
  - Allow for multiple phases of implementation
- **Capacity of Retrocommissioning Providers:** Maximize the capacity of the commissioning providers to properly scope, accurately diagnose, and expeditiously implement measures in buildings
  - Focus on energy efficiency and program protocols
  - Match commissioning provider skills to project needs
  - Retain the commissioning provider to project end
- **Persistence of Savings:** Ensure that the program's energy savings persist through tracking and ongoing commissioning

We will also provide financial **incentives** to various participants at specific project milestones upon receipt and approval of specific project deliverables.

The following sections describe these methods in detail.

Recruitment and Management of Owners and Projects

The proposed BCRC Program will expand and deepen the relationship between SDG&E and important commercial customers. This process begins by introducing the retrocommissioning opportunity to customers through existing business relationships. Our program will recruit a large number of building owners in order to meet the program goals. The key requirement for recruiting on this scale will be leverage. The program will provide extensive project-management assistance to owners, utilizing

Commissioning Market Specialists (CxMSs) in the field and working with providers to keep the projects moving to completion.

Leverage Existing Business Relationships

The program must recruit a large number of building owners in order to meet the program goals. The key requirement for recruiting on this scale is leveraging existing relationships. The program will use multiple channels to contact and recruit owners, including:

- Firms with existing real-estate, energy-efficiency, and financial relationships with owners (such as RealWinWin and Consumer Powerline)
- Full-service HVAC companies that want to bring expanded services to their existing clients
- Past participants in SDG&E rebate programs customers selected by SDG&E's account representatives
- Buildings staffed by participants and graduates of the Building Operator Certification Program
- Marketing the program opportunity to various building-management trade organizations such as BOMA, APPA and IFMA to find owner-occupied or single tenant candidate buildings

Recruiting from these sources owners that will successfully complete projects will be the first step in a process that includes:

- An introduction to the retrocommissioning opportunity
- Education on the requirements of the process
- Integration with demand-response and retrofit potential
- Identification of an internal champion
- Close cooperation with building-operation staff
- Implementation assistance and project follow-up

Throughout this process the program will carefully screen owners to eliminate those who will not successfully implement the retrocommissioning measures.

Assign a Commissioning Market Specialist to See Each Project Through

Undertaking a retrocommissioning project can be a complex decision for a building owner. In addition to deciding whether to invest capital, the owner must also dedicate staff resources and implement several other

changes in order to maximize and ensure energy savings. Understanding the greater burden that these decisions place on the owner and making sure the program provides assistance and solutions to overcome owners' concerns is critical to program success.

Our approach to cultivating a business relationship with the owner models the remarkably effective "Inform to Invest" process developed in our Energy Smart Grocer programs. This approach includes: an initial visit which provides useful unbiased information to the owner, fix-as-you-go measures in the investigation process so the owner experiences immediate benefits, and an extensive findings list which builds trust, highlights building specific opportunities, and allows initial projects to lead to longer projects in a phased approach. At the onset of this process the Commissioning Market Specialists will also screen owners to eliminate those who are unlikely to successfully implement the retrocommissioning measures, minimizing dry hole costs for the program.

Managing the inform-to-invest process is the major assignment of the program's on-the-ground Commissioning Market Specialists. The program marketing materials will provide the resources for a series of communications with the owner to build recognition and familiarity with the program and educate them on the retrocommissioning opportunity. The Commissioning Market Specialists will meet with owners and facility managers to present more specific information, answer objections and screen buildings. These same staff will track the project's progress and team with the retrocommissioning provider to keep the project moving.

This ongoing owner-coordination function is key to program success. We cannot underestimate the barriers that the owner's team will face keeping up the momentum on projects that require their recurring attention and time in the face of their existing full-time jobs. The program team must identify a champion for retrocommissioning within the owner's organization, but must fill that role themselves in the short term with coordination services at the project.

Allow for Multiple Phases of Implementation

Maximum savings will be achieved at each site by linking ongoing commissioning services with second and third rounds of additional measure implementation with little additional administrative cost. This is another productive long-term feature of our program. The retrocommissioning process requires a significant investment in investigating and diagnosing building problems. The investigation will invariably reveal more potential measures than the owner can undertake at

one time. Leveraging this resource investment through successive returns to the owner at that project will yield more and more savings without incurring the costs of a new study. The process becomes easier and faster as the owner gains familiarity with the process and sees the results of the initial round. Success will increase the willingness of the owner to take on more ambitious projects and investments.

Capacity of Retrocommissioning Providers

The number of skilled retrocommissioning service providers available to execute the number of projects targeted by this program is small, especially when you consider the concurrent competing needs of the retrocommissioning programs of other utilities. Most skilled commissioning providers have a unique combination of education and experience that gives them an understanding of both building design and hands-on building operation issues. This combination is tough to find, and unfortunately cannot not be taught quickly.

The cadre of skilled commissioning providers will not expand very quickly within the timeframe of this program. Many firms are trying to double in size but are struggling to find new capable individuals. Commissioning firms that *are* expanding are hiring from other firms. While this is good for certain firms and individuals, it does not expand the available expertise to undertake and deliver projects in the marketplace. Obviously, the program will have to use existing commissioning service providers efficiently. Our program includes several strategies to achieve this.

Focus on Energy Efficiency and Program Protocols

We have observed that a key attribute of the highest performing providers in efficiency-related retrocommissioning programs is a strong interest and particular experience in energy efficiency as opposed to broader new-construction-related issues. While current commissioning providers generally share some combination of building-design and building-operation expertise, their work is far from uniform and does not routinely produce comparable results in similar projects. Different providers, sometimes even in the same firm, often take different approaches that reflect their personal strengths and knowledge.

The goal of the SDG&E program is to employ a consistent energy-focused approach, produce comparable high-quality deliverables, and generate reliable energy and demand savings. This requires that the providers focus on these goals. Streamlined and standardized protocols for the program and individual projects will simplify meeting program requirements,

ensure project quality, and allow efficient tracking of project progress. Some providers will need assistance working with the program protocols to consistently deliver energy-focused results. The program will employ extensive quality-control monitoring and feedback, including field assistance to ensure these results. Providers who perform well and quickly will be rewarded with greater opportunity for program participation and incentives.

Match Commissioning Provider Skills to Project Needs

An additional technique for using service providers efficiently is to screen simple systems and smaller jobs and assign them to less-experienced providers including junior engineers in commissioning firms, engineers whose primary experience is with retrofit analyses, and senior technicians working with some HVAC-service companies. Standardized assessment and implementation protocols for a set of the most common and easily implemented operation practices will allow more providers to play a role in completing certain jobs and contributing to energy-efficiency goals. These projects will also receive extensive quality-control oversight.

Large complex projects will require more experienced providers. Program protocols for these projects define the requirements of the deliverables, but leave more of the approach and execution of the investigation to the seasoned judgment of the provider. This is the area where the successful providers will narrow their focus to the investigation of high-yield energy-efficiency opportunities.

Retain the Commissioning Provider to Project End

The SDG&E BCRC Program and the commissioning service providers will effectively be partners in providing services to owners. The program, with its marketing partners, will lead in introducing the retrocommissioning opportunity to building owners and managers. As the commissioning providers are brought into the relationship with the owner, the Commissioning Market Specialists will monitor the progress of projects, working with providers to manage rapid, consistent completion of the first selected measures, and ensure the quality of the results through ongoing commissioning. Program staff and providers will coordinate to move the owner through subsequent additional commissioning improvements.

Persistence of Savings

The retrocommissioning process requires that building managers and operators adjust current O&M procedures and practices. Projects that end at measure installation will not produce persistent savings. Because of the

higher level of commitment needed to engage and complete retrocommissioning projects, the program will pay particular attention to ensure that savings of implemented retrocommissioning measures persist and address this need in several ways.

Owners will have recurring involvement in the progress of the project, beginning with the initial commitment to start the process, involve staff in the investigation, and implement identified measures. The program protocols provide consistent methods for documenting all retrocommissioning measures. Providers will be trained in the requirements and use of the protocols. This documentation will form the basis of the training that providers will give to building staff. The training itself will be formatted in a way that can be easily reviewed by subsequent operating staff. Monitoring systems or recommissioning tasks will be used to track the performance of measures and ensure their ongoing performance. The monitoring information will be available to both the program and the building operators. Experience shows that properly trained operators who are aware of and understand ongoing system performance will maintain and even improve that performance.

Incentives

Building owners that participate in the program will be eligible for:

- An in-depth investigation of their building's operations,
- Financial assistance to implement improvements, and

Follow-up services that:

- Verify measures were implemented correctly and
- Provide documentation and training for building operators.

Retrocommissioning providers also receive financial incentives for investigating the savings potential of a project and assisting with implementation.

Incentives are calculated per project and will depend on building size, system complexity, and measures selected for implementation.

Because the success of the program is wholly dependent on owners following through to implementation, it is imperative that incentives are structured in a way that encourages implementation and obligates the owner to carry out their end of the agreement. One mechanism in this program is the follow-up incentive that is paid directly to the commissioning provider for overseeing implementation and verifying measures. This creates a team that includes the Commissioning Market

Specialist, the commissioning provider and the owner to facilitate implementation and fulfill the program's data and reporting requirement.

A final element to protect the SDG&E investment in the project will be to assign a sunset clause for the implementation timeline and incentive, and if the owner does not proceed with implementation as agreed upon, the funds will expire and the owner will be required to reimburse the program for the investigation cost. The program will also check each incentive to guard against double-dipping.

8.1.2. Program Indicators

Retrocommissioning (RCx) is a systematic process for improving an existing building's performance by identifying and implementing relatively low-cost operational and maintenance improvements. It has been found to reduce a commercial building's total electric energy use by 5–15%.[2]

Several market characterization studies and program evaluation reports identify barriers to retrocommissioning.[3] In general, there are two types. *Adoption* barriers relate to the willingness of decision-makers to implement a retrocommissioning process. *Infrastructure* barriers relate to the ability of the market to provide retrocommissioning services.

The most significant *adoption* barriers are 1) reluctance of owners to begin retrocommissioning projects that are unfamiliar whose benefits they cannot see first-hand, 2) difficulties the owner's team faces completing projects that require their recurring attention and time in the face of their existing full-time jobs, and 3) lack of attention or safeguards to ensure measure persistence once projects are done.

The most significant *infrastructure* barriers are 1) the limited number of service providers in California with an awareness of both retrocommissioning "best practices" and energy analysis skills, and 2) the lack of standardized process protocols, tools and documentation templates resulting in nonstandard practices and inconsistent outcomes.

PECI's Program activities directly address both *adoption* and *infrastructure* barriers.

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[2] Evan Mills. "The Cost-Effectiveness of Commercial-Buildings Commissioning" Lawrence Berkeley National Laboratory, December 2004, p. 31.

[3] RLW Analytics. "Support for Utility Retrocommissioning Programs" California Commissioning Collaborative, May, 2005.

Table 1: Activities to Overcome *Adoption* Barriers and Their Effects

Activities to Overcome Adoption Barriers		Effects
Introducing the RCx opportunity through marketing partners who have extensive existing relationships with building decision-makers	→	Interested owners who can provide the Program with a quick launch and demonstrable results
Employing Commissioning Market Specialists (CxMS) to present specific RCx information, answer objections and screen buildings	→	Decision-makers receive building-specific information and are able to make decisions, buildings are rapidly screening for RCx potential
CxMS provides one point-of-contact and ongoing education and support	→	Builds a trusting relationship between decision-makers and the Program, keeps owner involved and keeps the project moving through the process
Develop extensive energy related findings list	→	Provides flexibility choosing measures that meet owners goals, provides inventory of measures for subsequent implementation rounds
Implementing persistence strategies, including enhanced documentation, training and tracking	→	Increases likelihood that energy benefits from RCx will persist, increasing benefits to both utility and decision-maker
CxMS utilizes findings list to select additional measures, recruits owner for second round of implementation	→	Allows Program to yield increasing savings over time without incurring additional start-up costs

Table 2: Activities to Overcome *Infrastructure* Barriers and Their Effects

Activities to Overcome Infrastructure Barriers		Effects
Identifying and evaluating the largest possible number of providers by drawing on the BCA and CCC member lists, PECI's extensive industry contacts, and word-of-mouth recommendations	→	A pool of pre-qualified providers that includes both established industry players and firms newer to the industry, helping to grow the service provider market
Building on existing protocols, tools, and templates to develop the Program's process and training materials	→	A standardized, market-leading process that will improve the consistency of RCx services and the predictability of outcomes
Assigning project work based on two methods:		
Carefully matching provider skill sets to project needs	→	Grows the market capacity for retrocommissioning services by creating opportunities for less experienced providers to undertake project work and increase their skills
Rewarding providers who learn, follow and successfully implement the Program process with additional project work	→	Incentivizes quality work and speeds projects through the pipeline to completion

The Program theory employs several key hypotheses and assumptions, listed in Table 3 with suggested data or metrics by which their success can be measured.

Table 3: Hypotheses and Assumptions and Corresponding Data and Metrics

Hypotheses/Assumptions	Data/Metrics
The Program will be able to leverage existing relationships to enroll owners for a quick launch	High number of referrals, warm leads and buildings screened

Hypotheses/Assumptions	Data/Metrics
The Commissioning Market Specialist (CxMS) will overcome objections and recruit participants	# of projects with signed MOUs within first year
The CxMS will form a trusting relationship with decision-makers and keep projects moving from investigation to implementation	# of projects implementing measures
Owners will engage additional rounds of implementation	% of owners who complete additional implementation
New providers who currently don't participate in utility programs can be recruited	# of new providers qualified and trained
The Program can develop protocols, tools and templates that will standardize the RCx process	Owner/managers comment on consistency across multiple projects; consistency of Program data/outcomes across multiple projects
The Program can successfully match provider skill levels to project needs – making room for less experienced providers and new providers	# of less experienced and new providers who undertake work for the Program
Providers will perform efficiently and excel with the protocols	Key providers turn jobs quickly while producing high quality results
The persistence strategies will result in increased energy savings over the length of the program	Difference between energy use at end of Program, compared to immediately post-implementation

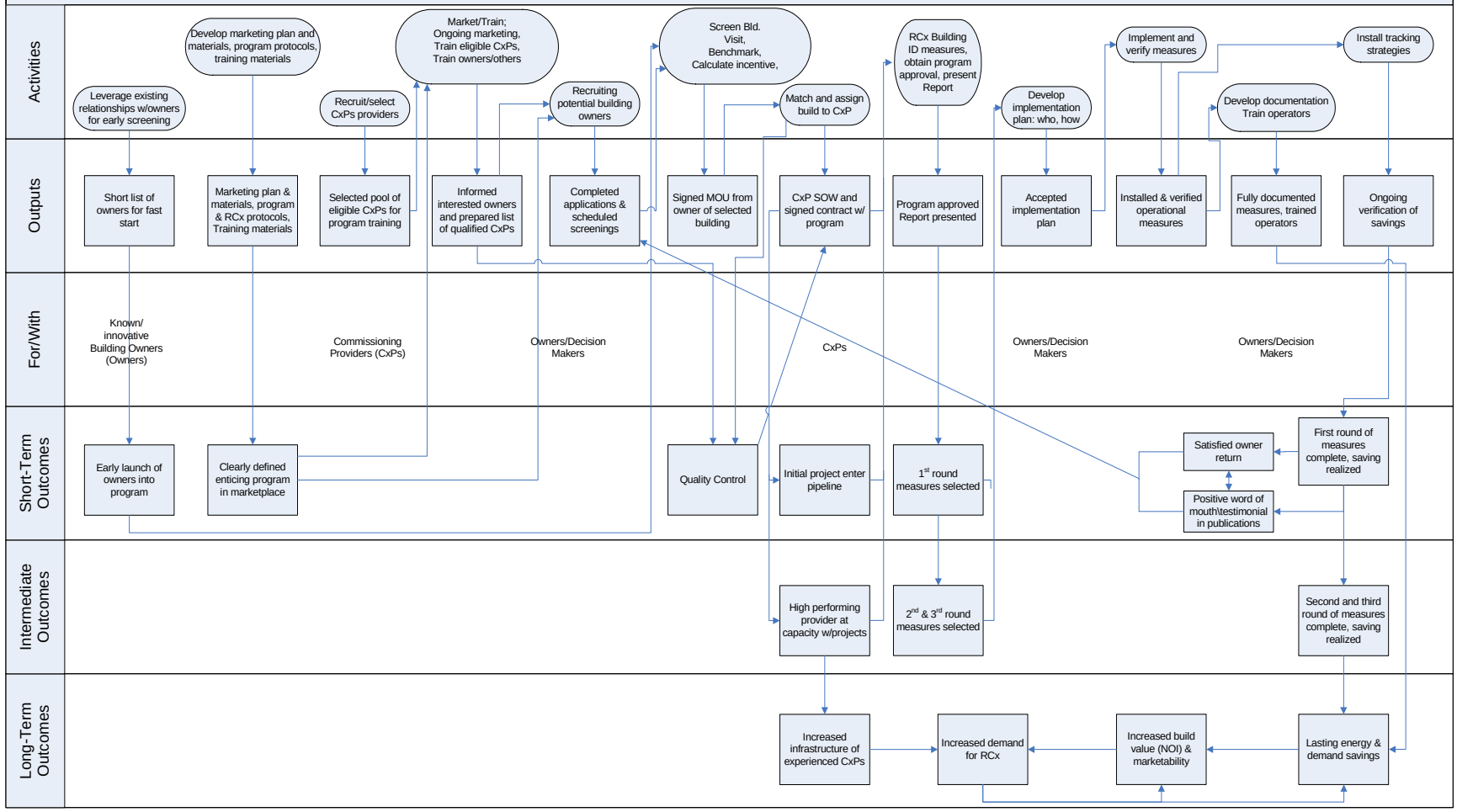
Please refer to the Program Logic Diagram below.

2006-2008 Energy Efficiency Programs
Building Commission/Retro-Commissioning (BCRC) Program Concept Paper

Inputs: Funding
Program Administration
Staffing:Commissioning Market Specialists (CxMs)

External Influences:
- Economy
- Energy prices
- Change of ownership
- Natural disaster
- Policies
- Interest in sustainable image

Logic Model for Retrocommissioning Program



9. Program Objectives

This proposal is for a Resource Program. In accordance with the published Stage 2 RFP Q&A document (question 66, therein), please refer to *7. Program Outcomes*.

10. Program Implementation

Program Implementation activities fall into three general categories:

- Managing Commissioning Providers
  - Recruiting Providers
  - Qualifying Providers
  - Training Providers
- Overseeing Retrocommissioning Projects
  - Candidate Screening
  - Scope of Work
  - Investigation
  - Implementation
  - Following Through
  - Tracking / Measurement and Verification
- Calculating and Processing Incentives
  - Calculating the Investigation Incentive
  - Calculating the Implementation Incentive
  - Calculating the Follow-up Incentive
  - Payment Process

The following sections describe these activities in detail.

Managing Commissioning Providers

Recruiting Providers

A recent market research study conducted by the California Commissioning Collaborative reports that some survey respondents believe there may not be enough retrocommissioning service providers in the California market to support large utility programs. In order to better understand the market capacity, PECI conducted additional market research. Our findings significantly enhance our understanding of the market capacity to provide retrocommissioning services in California, and led to important insights that influenced our program design.

PECI's study identified 101 firms that have not participated in the current California retrocommissioning programs. Of the 101 firms, PECI contacted 49%

and completed interviews with 24%. Only 29% of these have offices in California (the rest are located in the Northwest or Colorado).

We found that 63% of respondents are not only aware of retrocommissioning, but are currently or have recently provided retrocommissioning services, and would be interested in providing retrocommissioning services to utility-funded programs in California. These firms reported that they employ a cumulative 58 engineers at the Senior Project Manager level who are capable of leading a retrocommissioning project, and that they intend to increase this number by almost 50% over the next three years.

These findings lead to important conclusions about how to design a successful retrocommissioning program for the California market.

In order to meet square footage goals ***and*** *grow the industry infrastructure, a successful retrocommissioning program must engage all retrocommissioning providers, not only the "big" players.* Most of the capacity for retrocommissioning services in the California market comes from firms that are participating in the industry but are not politically engaged in utility policy and program development. For example, most of the firms we interviewed are members of the BCA or have attended the NCBC, but are not active in the CCC or even on its mailing list.

Retrocommissioning providers have a wide range of experience levels. A successful program must match their skills with the project's needs. Retrocommissioning providers are not all the same, especially when it comes to smaller firms with only one or two engineers. These firms may have less experience with retrocommissioning, even though they have many years of experience working with complex HVAC, controls and other building systems.

In order to increase standardization in retrocommissioning practices and outcomes, it will be important for programs and outside organizations to offer training in best practices as well as program procedures. Forty percent of the firms we spoke with are planning to add senior engineering staff in the next three years. With a few limited exceptions, these firms report they will hire experienced people from other industries (HVAC, Coast Guard, TAB, and controls). Although most provide in-house training, they expressed an interest in sending staff to classes offered by other organizations.

Our approach to recruiting providers is designed to ensure the resources are available to achieve SDG&E energy savings goals, and help build the retrocommissioning infrastructure in a way that broadens the reach of the program. We will encourage a variety of firms to participate in the provision of services, growing the infrastructure for future efforts to be more successful at lower cost. The most effective long-term program for the utility will be one which encourages and leverages the forces in the market to reach a broad cross-section of customers and to create a healthy pool of competitive, high-performing commissioning firms.

Based on our research, we believe that the demand for services from a variety of retrocommissioning programs in California will tax the capacity of current

providers. We are already seeing experienced people moving from firm to firm and cases where firms are overcommitted. The program must encourage new entrants to the utility program provider pool and be able to manage the performance of participating providers. Program features that keep program participation competitive and reward high performance during the program will result in better projects, happier SDG&E customers, and maximum program effectiveness.

Thus, in our proposal we have not placed a premium on committing current providers exclusively to our team. All of the current high-quality providers will do well under any program manager that SDG&E selects, so we believe it is more important to position the program to effectively manage the commissioning provider pool. During the course of planning this proposal we have contacted a number of retrocommissioning providers who are working with us in San Diego or who are working on the current retrocommissioning program in SDG&E territory. They have all assured us that they would be quite happy and willing to participate in a retrocommissioning program managed by PECI.

Qualifying Providers

Leveraging the Request for Qualifications (RFQ) process executed for the current San Diego Retrocommissioning Program, the program team will publish eligibility criteria for commissioning providers and will evaluate provider qualifications for eligibility. Eligibility criteria will include demonstrated experience in HVAC systems, control systems, diagnostics, monitoring, functional testing and energy savings calculations. As discussed previously (refer to question A.8), qualified providers will also be required to participate in a Program Orientation.

Training Providers

As discussed in the marketing section, a longer one-day process and technical workshop will also be available for less-experienced providers and owners' staffs. To build the infrastructure for quality retrocommissioning process, a one-day retrocommissioning training course will be made available to commissioning providers who are new to the energy focused protocols and processes of the program. Participants will work with an experienced commissioning provider stepping through the program's framework for providing retrocommissioning services. Training topics include:

1. The system approach
2. Efficient methods for uncovering problems
3. Working with the building staff
4. Calculating the savings
5. Implementing the findings
6. Providing targeted documentation and training
7. Marketing retrocommissioning services

Participants will leave the training with an understanding of the program's retrocommissioning process and how to apply that process in a real building.

Overseeing Retrocommissioning Projects

The project management plan includes all the elements to ensure that individual retrocommissioning projects are executed properly and stay on track. There are a myriad of issues that arise throughout a typical retrocommissioning project. These include accurately identifying projects with good potential, balancing owner incentives with owner commitment, managing the investigation process to avoid distraction with design and maintenance problems that are too expensive to resolve in the program, dealing with the owner's budgets and timing, working with the competing objectives of owners, building management staff and operators, ensuring provider and contractor service, and getting consistent results in terms of level of effort and analyses.

Our program design has a high capacity to deal with these issues in the field due to our extensive project protocols and templates, and our allocation of staff to track projects in the field and resolve problems to keep projects moving. The Commissioning Market Specialists will make the partnership between the retrocommissioning providers and the program useful to providers and effective for the customers.

The program team will finalize development of several protocols for delivering retrocommissioning services, leveraging the program toolkit developed for the San Diego Retrocommissioning Program. These protocols include guidelines, templates and tools that are designed to carefully select and implement the best opportunities for long-term savings and promote uniform data collection, calculation and reporting methods.

Participating commissioning providers will use the protocols to comply with program requirements and receive incentive payments. While leaving flexibility for individual commissioning provider styles, the protocols comprise a framework that will provide the requirements for the program, ensuring the process is streamlined for providers, owners know what to expect, and energy savings from implemented measures can be verified and evaluated with confidence.

Commissioning providers that qualify will complete a thorough retrocommissioning process using the protocol elements listed below and shown in Figure 1:

1 Candidate Screening

2 Scope of work

3 Investigation

4 Implementation

5 Follow-up

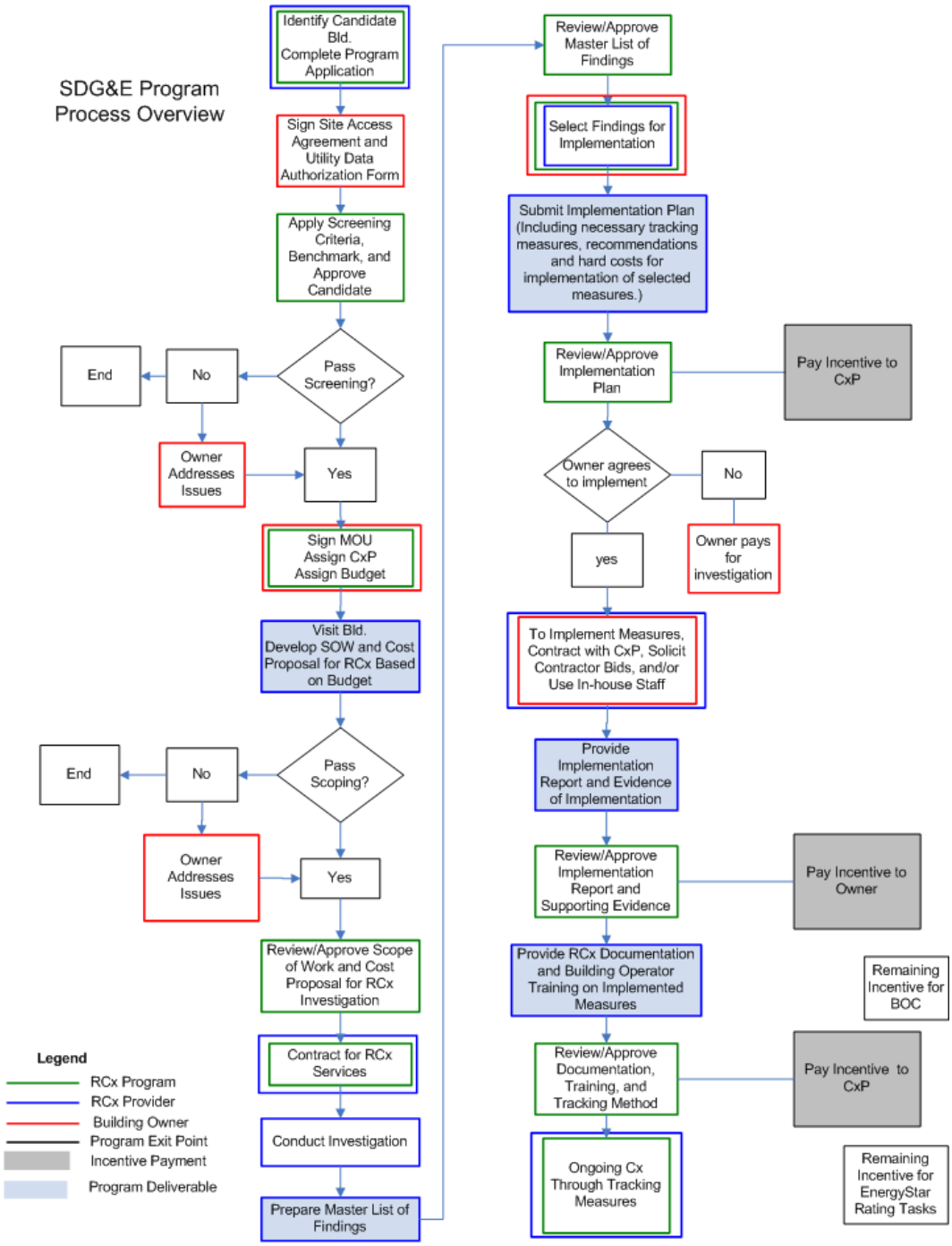


Figure 1: Program Process Overview

Candidate Screening

Candidate screening determines eligibility for the program and assesses potential for cost-effective retrocommissioning opportunities. A careful, thorough screening process is essential to ensuring that participant buildings are successful and proceed to implementation.

The Commissioning Market Specialists will screen buildings, following a multi-step process that includes telephone contact and a site visit. Working directly with a building manager or designated facility staff person, the Commissioning Market Specialist will gather information about the building (square footage, uses, annual energy consumption, primary equipment and systems, etc.) and identify any red flags that may preclude participation, such as plans for a major retrofit, renovation or sale of the building.

Evolving from PECI's previous program design, expanded candidate screening includes scoping activities and is performed primarily by the program team. Additional screening and assessment guidelines for demand-response potential will also be developed. This will streamline the process and move buildings to investigation more rapidly and will enable coordination with demand-response activities. Commissioning providers that bring projects to the program will work with a program representative to screen the projects according to the program protocol.

Scope of Work

Once a building passes screening and the owner agrees to move forward, the program assigns the investigation incentive and matches the project with a commissioning provider best suited for the owner's needs and building's size and complexity. Owners may choose their own preferred providers provided they are qualified in the program. To prepare a plan for the investigation, the commissioning provider reviews the information gathered during screening and assesses the buildings systems and operation. This plan will be agreed to by the owner, including expected requirements for the owner's staff time to participate where needed. Once finalized, this plan becomes the scope of work for the contract between the commissioning provider and the program to complete the investigation.

In order to proceed with the retrocommissioning process, the facility must repair major maintenance items to achieve basic functionality of the system. These items may include replacing belts, repairing broken damper linkages, and calibrating key control sensors. Without these maintenance items repaired, the commissioning provider will not able to properly evaluate the operation of the system.

Investigation

During investigation, the commissioning provider conducts an analysis of the building's systems and identifies opportunities for operational improvements. Opportunities for demand response will be analyzed in parallel activities. The program investigation protocol will include guidance on how to document findings and calculate energy savings. A primary deliverable from the investigation phase is a complete Master List of Findings and cost-benefit analysis by measure. This analysis will be submitted to the program for review and calculation of the implementation incentive that may be applied to measures selected for implementation.

Once finalized, the commissioning provider and a program representative will present the investigation findings, savings, and incentives to the decision-maker at the facility, and assist in selection of improvements for implementation. The commissioning provider will draft an Implementation Plan for the selected measures. The final package of improvements and incentives will be reviewed and approved by the program.

The findings from the investigation will focus on operational improvements with short paybacks, but major capital improvement opportunities may also be identified. Major retrofit and demand-response opportunities will be documented and supplied to the owner for planning purposes. The program will coordinate with SDG&E's demand-response and retrofit programs to complete these projects. Consumer Powerline financing will be available as an option for implementing all of the retrocommissioning, demand-response and retrofit measures.

Implementation

After improvements are chosen, the commissioning provider will draft an Implementation Plan for the selected measures. Using the Implementation Plan, the program will allow flexibility in how the owner wishes to implement the selected measures. For instance, the owner may utilize in-house building staff, hire the commissioning provider to implement or provide technical assistance, contract with outside service contractors, or any combination of the above. The Implementation Plan will provide sufficient detail for the owner to accurately specify the implementation tasks to staff or contractors.

In addition, the commissioning provider will be retained by the program to drive implementation through to completion and ensure that measures are properly implemented and verified. For example, for a measure that entails a controls strategy change, the commissioning provider may help explain the improvement to the owner's controls contractor or may develop a written specification for the measure and ensure that the post-implementation trend is produced for verification of implementation to the program.

Implementation activities for the commissioning provider will include:

- Assist facility staff with implementation of improvements
- Provide specifications and review bids for measures that are implemented by outside contractors
- Submit implementation progress reports to the program
- Document and verify implementation for program approval and payment of incentives

Following Through

The protocol for post-implementation, or follow-up, services will include strategies to ensure measures endure for their expected life. The combination of documentation, training and tracking is the key to persistent savings. We have

found that proper execution of these elements can lead to increasing savings over time.

The commissioning provider will work with the building manager and facility staff to ensure that the savings from retrocommissioning persist. The program will finalize guidelines for the following steps to maximize measure persistence:

- **Targeted Documentation** The commissioning provider will be responsible for developing documentation describing the implemented measures, including: new or improved sequences of operation; the energy savings impact of the measures; the requirements for ongoing maintenance and monitoring of the measures; and contact information for the service provider, in-house staff or contractors responsible for implementation. Good documentation is critical to persistence because it is a resource to operators and service contractors for the *life of the measure*.
- **Training** Before handing over the targeted documentation, the commissioning provider and contractors provide follow-up training for the owner and the appropriate building operations personnel on the new documentation and implemented measures. The training covers the measures that were implemented and requirements for ongoing maintenance and monitoring. This is a critical step for ensuring lasting savings, since informed building operators are much less apt to circumvent or tamper with the new measures.

Tracking / Measurement and Verification

The program provides support for monitoring the performance of implemented measures through program end. Targeting larger, more complex buildings and measures that are known to have low persistence, the program will set up a tracking system to monitor key problems that were fixed through retrocommissioning, utilizing data loggers or the existing EMCS trending capabilities. The tracking system information will be available to the facility managers and building operators, as well as for analysis in the program's EM&V process. Where plausible, the commissioning provider may submit a proposal to satisfy the program's monitoring and tracking needs and receive program support.

Architectural Energy Corporation will be responsible for specifying and operating the tracking systems that are implemented or installed in each building. Three basic approaches will be taken to retrieving data from buildings. They are: setting up trends in the existing EMS, installing a Tridium JACE to interface with the EMS and extract the necessary data, and installing a completely separate system for data collection. Selecting the right approach for any particular building will be determined by considering the following:

- **Accuracy** What accuracy is needed of the diagnostics and calculations? Does the existing equipment and sensors have sufficient accuracy?
- **Security of Data Collection and Storage** Can trends be established that will be secure from being erased by operators and repair personnel? Is the data storage capability of the system adequate so that data will not be lost?
- **Communications** Can data be retrieved over the Internet or via telephone? Are there any limitations on how often it can be retrieved?
- **Ease of implementation** How easy is it to implement each of the options? What are the obstacles to the approaches? Are subcontractors needed to perform the implementation?
- **Cost** What will it cost to purchase? What will it cost to install? What will it cost to maintain? What are the ongoing costs of communications?

Each of the three options is described below.

- **Energy Management System** This option uses the existing energy management system equipment to trend data and makes it available to the project team. Ideally, the EMS would be web enabled so that data could be retrieved over the Internet. Sensors will need to have adequate accuracy. New sensors may have to be installed, if data are needed that are not on the existing system.
- **Tridium System** Tridium has equipment and software drivers to interface with BACNet and Lonworks, as well as many of the legacy systems. The advantage of the Tridium systems is that the project team would control all of its own data. It would not have to rely on the EMS for any data. The disadvantage may be the cost.
- **Other Systems** For some buildings it will be most cost effective to install sensor that are completely separate from the EMS sensors that would communicate with a gateway. The gate way would consist of a computer for data logging and a communications interface. In some case the communications interface will be a wireless modem so that data communications is completely independent of the building's systems. The system may collect data via a wired RS485 network or using sensors with radio transmitters, creating a wireless network. AEC has developed and tested this system and is quite pleased with its reliability.

The operational feature that each of these systems will have in common is that all of the data will be stored in Architectural Energy Corporation's server and the diagnostic routines will be run on the data at that location. The data, plots, analysis results, and recommended improvements will be available for each building to all members of the project team over the Internet. Separate password-protected web sites will be established for each building. The project team will include the building operators and their maintenance companies.

Calculating and Processing Incentives

Table 4 summarizes the incentive levels throughout the retrocommissioning process.

Table 4: Overview of Program Incentive Structure

Phase	Paid to	Description of Service
Investigation	RCx Provider	The program will calculate the investigation incentive based on building size and systems and, in most cases, the incentive will cover the investigation in full.
Implementation	Building Owner	The program expects owners to implement measures that payback in less than one year using their own funds, while a custom incentive is available to help implement measures with longer paybacks.
Follow-up	RCx Provider	The program pays to retain the provider through implementation to provide oversight, verify the measures are implemented correctly, and provide documentation and training that will help to ensure building operators have resources to monitor and maintain the implemented measures.
Performance Tracking	—	When applicable, the program will set up a system for tracking implemented measures through the end of the program using the existing building automation system or independent data loggers.

Calculating the Investigation Incentive

The investigation incentive, paid to the retrocommissioning provider, will range from $0.05 to $0.10 per square foot and will be calculated by the program using a formula (shown in Table 5) that considers square footage and building systems.

Table 5: Formula for Calculating the Investigation Incentive

	Description
Base incentive	Incentive for all buildings
Square footage allowance	Square footage of conditioned space to be retrocommissioned
Built-up air handlers	Built-up cooling or heating air handlers with supply fans over 5 hp. Dedicated outside air fans without cooling do not count towards total.
Chillers	Chillers with significant hours of operation. Do not count emergency back-up chillers.
Cooling towers	One cooling tower is defined as serving one chilled water plant. Cooling towers with multiple cells are counted as one tower.
Chilled water distribution loop	The number of secondary chilled water distribution loops in parallel, each with its own pump(s).
Limit	Upper limit of total investigation incentive

The base incentive reflects the fixed costs of retrocommissioning, including preparing for and attending meetings, preparing reports for the owner, and completing program deliverables. The square footage and equipment cost allowances approximate the hours spent investigating systems and determining appropriate findings and resolutions.

The investigation incentive is determined by the program and the commissioning provider will develop their plan and scope of work for completing the investigation using the incentive amount as a guideline. Based on previous experience using this formula, PECI expects that the calculated incentive will be sufficient to cover the investigation activities, although the commissioning provider may add to their scope of work if they wish to propose additional services to the owner.

Calculating the Implementation Incentive

From the findings of the investigation, the program will expect owners to implement, at their own expense, measures that pay back in one year or less. (An owner's expenditures for these measures will be capped at the onset of the project). For measures whose simple payback exceeds one year, the program will offer a financial incentive to offset the implementation cost by buying down the simple payback of these measures to one year or less. The available implementation incentive is estimated at $0.05 per square foot, although the actual incentive amount will be calculated based on *kWh savings for measures that payback in greater than one year*. Since the incentive will be calculated per kWh saved from longer payback measures that the owner chooses to implement, the more measures implemented, the greater the incentive.

Calculating the Follow-up Incentive

It is in the program's best interest to retain the commissioning provider through implementation period, helping to maintain momentum for the project and oversee implementing the measures. Therefore, an additional incentive will be paid to the provider for this service and to provide building operators with follow-up documentation and training on the implemented measures.

The incentive will be determined by building size and tiered for three groups of buildings:

- Small (100,000–250,000 square feet)
- Medium (250,000–500,000 square feet)
- Large (more than 500,000 square feet)

For these three categories, the incentive will range between $4,000 and $10,000.

Payment Process

Each incentive will be directly tied to one or more deliverables that are reviewed and approved by the program as a condition of payment. Table 6 summarizes the payment process for each of the program incentives.

Table 6: Incentive Payment Process

Incentive	Recipient	Schedule	Primary Deliverable(s)
Investigation	Commissioning provider	100% paid upon completion of investigation	Master List of Findings Implementation Plan

Incentive	Recipient	Schedule	Primary Deliverable(s)
Implementation	Owner	100% paid upon completion of implementation	Implementation Report, including verification of implementation
Follow-up	Commissioning provider	50% paid upon completion of implementation	Implementation progress reports Verification of implementation
		50% paid upon completion of final documentation and training	Building Operator Training Targeted Documentation
Performance Tracking	Program service, unless negotiated with the provider	—	—

Upon approval of the corresponding deliverable, the program will generate a check request for the provider or owner. The check request and accompanying documentation are approved by the Program Manager and sent to Accounting. Accounting will cut the check and return it to the program staff. The program makes copies of all incentive checks and keeps them in the project file. The check is sent to the recipient, accompanied by a cover letter. All documentation is retained at PECI for a period of seven years, and made available upon request to program administrators and auditors.

11. Customer Description

The program will seek buildings that:

- Are 100,000 square feet or larger
- Use direct digital controls (DDC)
- Exhibit high electricity consumption
- Have mechanical equipment in relatively good condition

The primary market actors targeted will be building owners and key financial decision-makers. To date, most retrocommissioning has occurred in government-owned and institutional buildings. Therefore, the hard-to-reach market sector for retrocommissioning includes commercial office buildings. As discussed in a previous section, private commercial building owners are traditionally difficult to recruit for energy efficiency efforts because of their risk-adverse business structures. The SDG&E BCRC Program and the marketing plan are designed to directly address these market barriers and spur the market for retrocommissioning in the private sector.

12. Customer Interface

The proposed BCRC Program will expand and deepen the relationship between SDG&E and important commercial customers. This process begins by introducing the retrocommissioning opportunity to customers through existing business relationships. Our program will recruit a large number of building owners in order

to meet the program goals. The key requirement for recruiting on this scale will be leverage. The program will provide extensive project-management assistance to owners, utilizing Commissioning Market Specialists (CxMSs) in the field and working with providers to keep the projects moving to completion.

Leverage Existing Business Relationships

The program must recruit a large number of building owners in order to meet the program goals. The key requirement for recruiting on this scale is leveraging existing relationships. The program will use multiple channels to contact and recruit owners, including:

- Firms with existing real-estate, energy-efficiency, and financial relationships with owners (such as RealWinWin and Consumer Powerline)
- Full-service HVAC companies that want to bring expanded services to their existing clients
- Past participants in SDG&E rebate programs customers selected by SDG&E's account representatives
- Buildings staffed by participants and graduates of the Building Operator Certification Program
- Marketing the program opportunity to various building-management trade organizations such as BOMA, APPA and IFMA to find owner-occupied or single tenant candidate buildings

Recruiting from these sources owners that will successfully complete projects will be the first step in a process that includes:

- An introduction to the retrocommissioning opportunity
- Education on the requirements of the process
- Integration with demand-response and retrofit potential
- Identification of an internal champion
- Close cooperation with building-operation staff
- Implementation assistance and project follow-up

Throughout this process the program will carefully screen owners to eliminate those who will not successfully implement the retrocommissioning measures.

Assign a Commissioning Market Specialist to See Each Project Through

Undertaking a retrocommissioning project can be a complex decision for a building owner. In addition to deciding whether to invest capital, the owner must also dedicate staff resources and implement several other changes in order to maximize and ensure energy savings. Understanding the greater burden that these decisions place on the owner and making sure the program provides assistance and solutions to overcome owners' concerns is critical to program success.

Our approach to cultivating a business relationship with the owner models the remarkably effective "Inform to Invest" process developed in our Energy Smart Grocer programs. This approach includes: an initial visit which provides useful unbiased information to the owner, fix-as-you-go measures in the investigation process so the owner experiences immediate benefits, and an extensive findings list which builds trust, highlights building specific opportunities, and allows initial projects to lead to longer projects in a phased approach. At the onset of this process the Commissioning Market Specialists will also screen owners to eliminate those who are unlikely to successfully implement the retrocommissioning measures, minimizing dry hole costs for the program.

Managing the inform-to-invest process is the major assignment of the program's on-the-ground Commissioning Market Specialists. The program marketing materials will provide the resources for a series of communications with the owner to build recognition and familiarity with the program and educate them on the retrocommissioning opportunity. The Commissioning Market Specialists will meet with owners and facility managers to present more specific information, answer objections and screen buildings. These same staff will track the project's progress and team with the retrocommissioning provider to keep the project moving.

This ongoing owner-coordination function is key to program success. We cannot underestimate the barriers that the owner's team will face keeping up the momentum on projects that require their recurring attention and time in the face of their existing full-time jobs. The program team must identify a champion for retrocommissioning within the owner's organization, but must fill that role themselves in the short term with coordination services at the project.

Allow for Multiple Phases of Implementation

Maximum savings will be achieved at each site by linking ongoing commissioning services with second and third rounds of additional measure implementation with little additional administrative cost. This is another productive long-term feature of our program. The retrocommissioning process requires a significant investment in investigating and diagnosing building problems. The investigation will invariably reveal more potential measures than the owner can undertake at one time. Leveraging this resource investment through successive returns to the owner at that project will yield more and more savings without incurring the costs of a new study. The process becomes easier and faster as the owner gains familiarity with the process and sees the results of the initial round. Success will increase the willingness of the owner to take on more ambitious projects and investments.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

See SDG&E February 1 Filing Workbook

13.2. kWh Level Data

See SDG&E February 1 Filing Workbook

13.3. Non-energy Activities

Several essential program activities will not result in direct energy savings. These include:

- A half-day program orientation for retrocommissioning providers on the retrocommissioning protocols and program processes and reporting requirements
- A one-day training for commercial building owners and less-experienced commissioning providers
- Retrocommissioning investigations, resulting in a Master List of Findings and cost-benefit analysis for the owner
- Cross-program referrals with other, relevant SDG&E offerings

Table 7 summarizes the program-related features of each of these activities.

Table 7: Overview of Non-energy Activities

Non-energy activity	i. End Use Load	ii. Targeted Sector	iii. Activity Description	iv. Quantitative Activity Goals	v. Assigned attributes of the activity (market sector, end use)
Half-Day Orientation	N/A	Commissioning providers	Training	Two orientations will be provided.	Education, recruitment, qualification
One-Day Training	N/A	Commercial building owners, operators, new commissioning providers	Training	One one-day training will be provided.	Education, recruitment
Retro-commissioning Investigations	N/A	Commercial buildings	Audit and analysis	We expect to conduct about 50 investigations.	Identify and assess operational savings opportunities
Cross-Program Referrals	N/A	Commercial buildings	Identify retrofit and demand control-response opportunities, assist with other program participation	We expect to make about 25 cross-program referrals.	Energy saving retrofits and demand response

13.3.1. Activity Description

See Table 7.

13.3.2. Quantitative Activity Goals

See Table 7.

13.3.3. Assigned attributes of the activity (market sector, end use)

See Table 7.

14. Subcontractor Activities

For this program, PECI has enlisted an exceptional team that draws on many of our greatest employee assets. Figure 2 shows the overall organization of the SDG&E BCRC Program, including the role of our subcontractor (AEC), retrocommissioning service providers, and marketing partners (discussed elsewhere in the proposal).

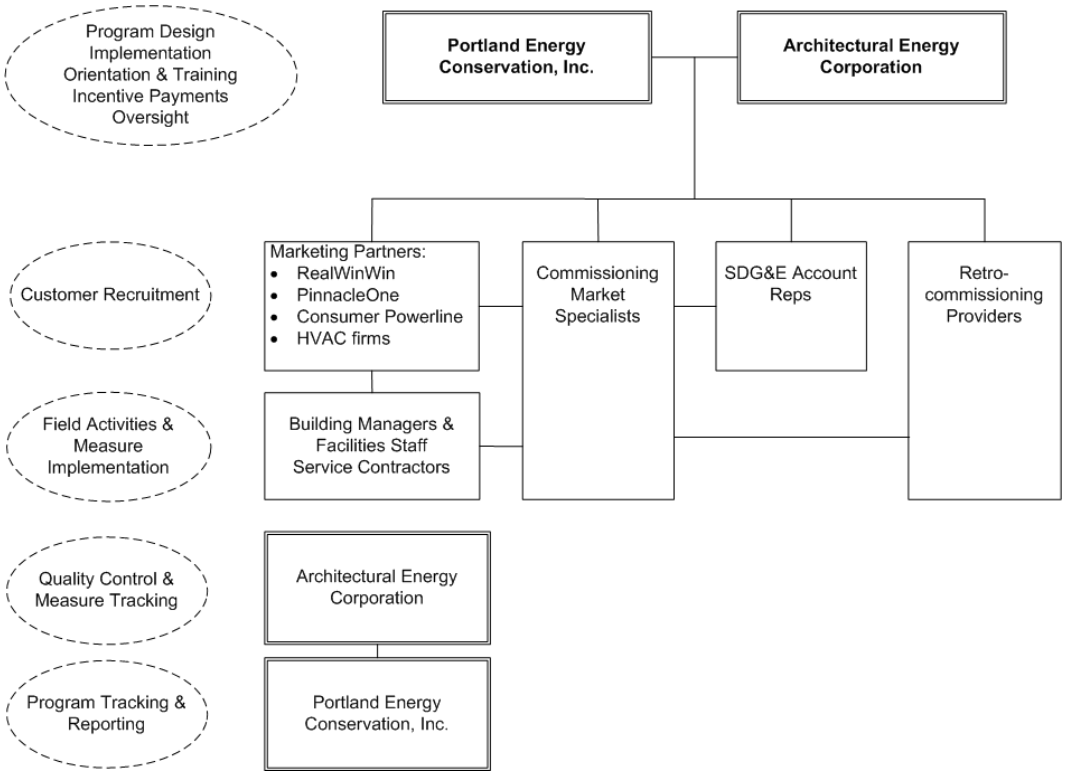


Figure 2: Structure of the SDG&E BCRC Program

PECI and AEC have been working in the retrocommissioning field for over fifteen years. We can make the staff and resources available to run a successful program in one or all utilities territories. PECI's staff of nearly 70 includes eight employees located throughout California. In addition, the team currently has an office in the San Francisco Bay Area and we are prepared to open an office in Southern California to deliver this and other programs.

PECI will be the *primary* implementer of the program, drawing on our subcontractors for specialty services in their area of expertise.

PECI and AEC have partnered on previous programs and will collaborate closely to design and launch the SDG&E BCRC Program. During program implementation, AEC and PECI will share the responsibilities for reviewing commissioning provider deliverables and with the day-to-day program quality control. AEC will perform the essential verification and tracking function, and will be responsible for specifying and operating the tracking systems that are implemented or installed in each building.

Table 8 specifies how the implementation tasks will be allocated.

Table 8: Task Responsibilities

Program Task	PECI	AEC
Develop marketing plan / materials	Lead	Support
Revise retrocommissioning protocols	Lead	Support
Recruit / screen customers	Lead	Support
Revise eligibility criteria for commissioning providers	Lead	Support
Pre-qualify commissioning providers	Lead	Support
Begin fast start projects	Lead	Support
Develop and present Program Orientation and Training	Lead	Support
Assign commissioning providers	Lead	Support
Review / approve retrocommissioning investigation scopes	Lead	Support
Review the required retrocommissioning deliverables for quality assurance purposes	Joint Task	
Verify implemented measures	Joint Task	
Provide technical assistance to commissioning providers and facility staff	Support	Lead
Develop tracking protocols to ensure persistence of savings	Support	Lead
Perform tracking protocol when Cx provider is not able to provide the service	Support	Lead
Process incentive payments	Lead	

Between the two parties, it is expected that the percentage share for the work to be performed will be as follows:

- PECI88%
- AEC 12%

In all, the scope of work for the commissioning providers will include: performing the in-depth investigation, developing a Master List of Findings for the owner, helping to select and prioritize measures for implementation, assisting through implementation, and providing follow-up documentation and training and in some cases ongoing commissioning services. At the mandatory Program Orientation, the program team will review the commissioning provider tasks and the expectations for deliverables. In addition, an on-the-ground Commissioning Market Specialist will be assigned as a program resource for each project to support the commissioning provider and owner.

15. Quality Assurance and Evaluation Activities

There are several key quality assurance activities that the program team will implement. First, the Commissioning Market Specialists will be assigned to a project at the onset, and then maintain a project-management relationship with each project until its completion. These specialists will be the “eyes and ears” of the program in the field, working closely with owners and providers. The program will emphasize the relationship between the Specialist and the building owner, so that

they can be the first point of contact and the owner can obtain quick responses and resolutions to any issues that arise.

Also, all deliverables submitted by commissioning providers, including reports, calculations and data, will be reviewed for accuracy and energy savings by the program. Payment of incentives at each milestone of the project will be dependent on the review and approval of the deliverables.

Finally, all implemented measures will be verified through inspection or monitoring or both.

16. Marketing Activities

The SDG&E BCRC Program will require ambitious marketing to recruit and educate building owners. Program success will depend not only on the quantity of owners in the program, but also upon the quality of owners and the buildings they bring to the program. The marketing effort will target particular owner candidates, seeking those owners likely to seriously consider the retrocommissioning opportunity. This will include those who can be reached through trusted business associates, past participants in other efficiency programs, those with BOC participants and graduates, and SDG&E customer representatives.

Our approach features a multi-channel marketing effort designed to tap existing successful relationships with a variety of building owners both in the SDG&E territory and with national firms that have facilities in the SDG&E territory.

Marketing partners who can bring these relationships to the program include RealWinWin, PinnacleOne, Consumer Powerline, and full-service HVAC firms, such as California Comfort Systems USA and ARC Comfort Systems USA. Each of these firms and their potential role are described below.

RealWinWin is a firm that specializes in serving large commercial real-estate organizations, helping them assess their facilities and make decisions implementing energy-efficiency projects. These clients rely on RealWinWin to help them prioritize which projects to pursue within their building portfolios. Many of these decisions rely on utility incentives to make the financial case that compels action. RealWinWin tracks these opportunities for clients nationwide, many in the in SDG&E territory. RealWinWin will bring their entire portfolio of national customers with facilities in the SDG&E territory for screening and participation in the SDG&E BCRC Program.

PinnacleOne is a well-known construction-management firm whose principals have utility experience. PinnacleOne has relationships with an extensive network of building owners in the SDG&E territory and is interested in recruiting these owners into the SDG&E BCRC Program as a means of bringing new services to their clients and raising clients' awareness to the prevalence of operational opportunities in current buildings. They view this as an educational process that will help them sell more extensive management services to their clients, including more new building commissioning assistance.

Consumer Powerline has developed a unique technology platform that allows them to identify shedable electricity consumption in customer facilities and manage the facility's demand response. Consumer Powerline absorbs all performance risk and contracts directly with the utilities and market authorities to deliver their customer's demand response. For this program Consumer Powerline will bring their portfolio of national customers with facilities in the SDG&E territory for screening and participation in the SDG&E BCRC Program. Whenever a customer shows interest in both retrocommissioning and demand response, we will work with Consumer Powerline to develop an integrated offer. We will create a single proposal for the customer in which the retrocommissioning incentives and demand-response incentives are presented as a unified offering of expected costs and cash flows. If requested by the customer, Consumer Powerline will provide financing for implementation of both retrocommissioning measures, retrofits, and demand response with financing included in the proposal. (These transactions will be monitored to avoid double-dipping.)

California Comfort Systems USA and ARC Comfort Systems USA are full-service HVAC firms with an initial interest in the opportunity to recruit their customers to participate in the program. We will recruit additional HVAC service firms during the recruiting phase of the project. These firms see this opportunity as a way to raise customer awareness of better operations opportunities and open the door for the subsequent sale of enhanced O&M services. These full-service HVAC firms include operations engineers who will participate in the retrocommissioning process, particularly in implementing measures.

PECI and AEC will continue to seek out other unique marketing partners who can provide the program entrée to building owners as a part of other business objectives. We will also directly market to several other select audiences listed in the program summary above who already have an awareness or experience with energy efficiency projects.

Also, the program marketing materials will include a suite of information that communicates three primary messages:

1 The retrocommissioning opportunity is significant

2 The best professional building managers are adopting retrocommissioning practices

3 The SDG&E BCRC Program is a resource that makes the benefits easily accessible

The materials will include: program brochure, website, PowerPoint presentation for small groups, case studies and testimonials, and a short business case white paper. These materials will be used in successive contacts with candidate owners to keep the retrocommissioning opportunity in front of them and answer the usual objections to proceeding. These contacts will lead to the onsite screening visit where final objections can be answered in the context of the owner's own project.

Commissioning Market Specialists will continue the marketing process with owners and managers at candidate sites, using the onsite screening process to further explain the retrocommissioning opportunity and process, point out any obvious potential measures and identify someone who can be cultivated as an internal champion for the project. The relationships created at this point in the process will carry through to the investigation and implementation steps as the program staff actively guides the project to completion.

Following the building screening process and eligibility approval, participating customers will be required to sign a Memorandum of Understanding (MOU) to confirm their enrollment in the program. The MOU will be guided by the requirements detailed in the program protocol. In addition, the MOU will clearly articulate the terms under which the program will dispense incentive payments for retrocommissioning services. Upon signing the MOU, the program will engage and contract retrocommissioning investigation and implementation assistance services directly with the commissioning providers.

17. CPUC Objective

Achieving Long-Term Energy Savings

The program will deliver energy savings by improving the performance of HVAC equipment, primarily chillers, cooling towers, economizers, and controls. It also includes several unique and innovative strategies for ensuring the long-term persistence of those savings.

Also, our plans to recruit virtually all engineering firms with appropriate commissioning expertise into the program as providers will transform the marketplace for commissioning services.

Minimizing Lost Opportunities

Our multi-channel marketing strategy leverages the involvement of key players in the marketplace to maximize the likelihood that building owners who are considering HVAC improvements of any kind will be made aware of the program and invited to participate. Also, our strategy of identifying suitable retrocommissioning projects for referral to SDG&E's retrofit and demand-response programs ensures that such opportunities will not be missed.

Bringing Emerging Technologies to Market

In the sense that rigorous commissioning practice constitutes an emerging technology, this program will make great strides in bringing that technology to the marketplace. Assembling a large pool of qualified practitioners, establishing rigorous protocols and processes for commissioning, and monitoring the results will all move commissioning into the mainstream of HVAC-engineering practice.

	SDGE3027 3P RCx Retrocomissioning Program
BUDGET	
Administrative Costs	**$ 295,120**
Overhead and G&A	$ 285,120
Other Administrative Costs	$ 10,000
Marketing/Outreach	**$ 267,200**
Direct Implementation	**$ 2,578,744**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ 2,000,000
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 543,744
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ 35,000
EM&V Costs	**$ -**
Budget	**$ 3,141,064**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 3,141,064**
PROGRAM IMPACTS	
User Entered kW (kW)	2,496
Net Jul-Sept Peak (kW)	3,967
Net Dec-Feb Peak (kW)	1,583
Net NCP (kW)	3,368
Net CEC (kW)	2,645
Annual Net kWh	12,191,040
Lifecycle Net kWh	48,764,160
Annual Net Therms	183,168
Lifecycle Net Therms	732,672
Cost Effectiveness	
TRC	
Costs	$ 3,400,550
Electric Benefits	$ 4,087,544
Gas Benefits	$ 436,939
Net Benefits (NPV)	$ 1,123,933
BC Ratio	1.33
PAC	
Costs	$ 2,884,494
Electric Benefits	$ 4,087,544
Gas Benefits	$ 436,939
Net Benefits (NPV)	$ 1,639,989
BC Ratio	1.57
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	38,268,215
Cost	$ 0.0803
Benefits	$ 0.1068
Benefit-Cost	$ 0.0265
Levelized Cost PAC ($/kWh)	
Discounted kWh	38,268,215
Cost	$ 0.0681
Benefits	$ 0.1068
Benefit-Cost	$ 0.0387
Levelized Cost TRC ($/therm)	
Discounted Therms	574,972
Cost	$ 0.5712
Benefits	$ 0.7599
Benefit-Cost	$ 0.1888
Levelized Cost PAC ($/therm)	
Discounted Therms	574,972
Cost	$ 0.4845
Benefits	$ 0.7599
Benefit-Cost	$ 0.2755

3P RCx Retrocomissioning Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 769,192	$ 400,000	$ 369,192	2,438,208	36,634	499
2007	$ 1,074,442	$ 700,000	$ 374,442	4,266,864	64,109	874
2008	$ 1,297,430	$ 900,000	$ 397,430	5,485,968	82,426	1,123

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	252001	Retrocommissioning	1	0	0.00	0.96	square feet	4	2,000,000	$ 0.20	$ 0.27	2,438,208	36,634	499
2007	252001	Retrocommissioning	1	0	0.00	0.96	square feet	4	3,500,000	$ 0.20	$ 0.27	4,266,864	64,109	874
2008	252001	Retrocommissioning	1	0	0.00	0.96	square feet	4	4,500,000	$ 0.20	$ 0.27	5,485,968	82,426	1,123

2006-2008 Energy Efficiency Programs
SEE Savings Concept Paper

1. Projected Program Budget (all numbers in '000s)

		2006	2007	2008
Administration				
	Administrative Overheads	$ 152,000	$ 237,000	$ -
	Administrative Other	$ 168,000	$ 162,000	$ -
Marketing & Outreach		$ 186,000	$ 115,000	$ -
Direct Implementation				
	Activity	$ -	$ -	$ -
	Installation	$ 60,000	$ -	$ -
	Hardware & Materials	$ 700,000	$ 16,000	$ -
	Procurement	$ -	$ -	$ -
	Incentives	$ 10,000	$ 10,000	$ -
EM&V		$ -	$ -	$ -
Total		*$ 1,276,000*	*$ 540,000*	*$ -*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
137,467	300	671,548	110,557	258	438,174	-	-	-

3. Program Cost Effectiveness.
Attached

4. Program Descriptors

4.1.1. Program Market Sectors:

The Program is targeted approximately as follows:

- 50% Residential Market:
- 100 single family residences, proposed as:
- 50 pre-1978 residences,
- 20 post-1978 residences, and
- 30 new sustainable building / green building homes.

each enabled with an individual "Intelligent Services Director" (ISD) master controller and 10 smart modular robot "ModBot" devices.

- 50% Non-Residential Sector:
- 100 non-residential buildings, proposed as:
- 50 pre-1978 construction,
- 50 post-1978 construction:

Consisting of:

- **35 Commercial Office** facilities (small commercial and public-sector offices/buildings).
- **30 Food Service facilities (15 grocery and 15 fast food)**
- **10 Retail facilities** (shops) in a range of sizes,
- **5 Health Care facilities** (hospitals and/or clinics), (targeting non-critical areas only),
- **10 Hospitality/Lodging facilities** (5 hotels and 5motels),
- **10 Educational/School facilities** (5 primary and 5 secondary schools)

Where each "facility" consists of an individual "Intelligent Services Director" (ISD) master controller and 30 smart modular robot "ModBot" devices. A single "customer" in the Program may have a large building or operation that requires or offers the Program opportunities to have multiple ISD/ModBot installations; therefore, there may be fewer separate Program "customers" or buildings than there are ISD/ModBot "facilities"

Note: SDG&E sustainable building / green building new construction programs could also be included.

4.1.2. Program Classification

Optimal's proposed Program is a new, **innovative local program**, involving emerging technologies and integrating Energy Efficiency (EE) and Demand Response (DR).

SUREFAST is a new and emerging technology platform. The proposed Program represents a demonstration of SUREFAST's core functionality and cost-effectiveness, and marketing approaches for its system and services. The SUREFAST system is described more fully in this Program Concept Questionnaire.

4.1.3. Program Status (New, Existing, and Modified)

This is a **New** Program called "SEE Savings™" (**S**UREFAST **E**nergy **E**fficiency **Savings**) that:

- deploys new SUREFAST hardware and software system prototypes,
- explores, verifies, and further develops the long term engaged acceptance (customer relationship) of Optimal's new SUREFAST and AskOT technologies.

Note: Optimal owns the domain name "SEESavings.net" and will be using it for this Project.

4.1.4. Geographic Area Targeted by this Program

The Program is focused in SDG&E climate Zones 10, 14, 15 (inland areas with more extreme temperatures) that include Riverside, El Centro, China Lake, Escondido, Rancho Bernardo, Miramar, San Diego, National City, Chula Vista.

To the extent possible, and subject to discussions with SDG&E, Optimal would prefer to identify an area within these climate zones that (1) is "constrained" with respect to the SDG&E transmission and/or distribution system (for reasons further described below); and (2) provides a reasonably compact geographic Project area offering the range of proposed applications described in the next paragraph.

4.1.5. Percentage of the Market Expected to be Impacted

Because the Program is for an emerging technology, the percentage of total SDG&E market expected to be impacted is small:

- <1% of the total single-family residences and <1% total residential market electricity demand in the SDG&E service area
- <1% of the total office buildings market and <1% total office building market electricity demand in the SDG&E service area
- <1% of the total small retail buildings market and
- <1% total food services sector electricity in the SDG&E service area;
- <1% total retail sector electricity in the SDG&E service area;
- 1%-5% of the health care facilities in the SDG&E service area; <1% of total electricity demand in the health care facilities in the SDG&E service area
- 1%-5% of the primary/secondary school facilities in the SDG&E service area; <1% of total electricity demand in the primary/secondary school facilities in the SDG&E service area.

This Program can be expanded readily to meet significant percentages of each of the markets addressed.

5. Program Statement

The Program will provide a turn-key solution designed to address the following problems:

A. Non-Holistic Approach to Energy Savings:

Energy- and budget-conscious consumers presently must engage with multiple program initiatives, incentives, and rewards (energy conservation, energy efficiency, demand response, renewable energy), all of which produce incremental savings for the customer and have aggregated incremental consequences for utility resource planning and costs. SDG&E's Energy Efficiency portfolio submittal recognizes that to achieve the overall energy savings required to meet CPUC resource planning goals after 2008, the utility must find ways to encourage customers to integrate energy efficiency, demand response, and renewable energy programs as a "holistic" approach to meeting customer needs and producing increased energy savings.

B. Poor or Incorrect End-User Engagement:

Energy efficiency and demand response programs that fail to vigorously engage the customer/end-user tend to result in diminishing end-user attention and involvement, and diminishing results. The end-user decides whether a Service is valuable over time. End-users want real-time, clearly-displayed information regarding energy use, energy costs, and cost savings; and they want convenience and, if available, other benefits. Today's energy efficiency solutions tend to focus too much on gaining efficiencies that have obscure use and cost consequences to customers, or, worse, that diminish or counter the wishes of end-users and often lead to distrust of utilities and other retail energy service providers. For example, today when a utility shuts off a customer's air conditioner during peak demand, the customer is directly inconvenienced, and likely has little or no advance information or control as to when the interruption will happen, what the length of the interruption may be, and what cost savings may accrue to the customer for being interrupted. To the extent that end-users pay attention to their energy use and costs, they want clear, current information as to their use, the current costs of that use, their accrued monthly costs to date, and their current opportunities to save money or, if the opportunity were available, even to earn money by curtailing their own demand in peak periods or by installing a passive or active renewable energy system. End-users now want differentiated services that must be sophisticated yet enable their wishes as well as those of the utility; if they're to be asked to become engaged in energy savings programs, customers want to be actively and happily engaged, and to have critical information and control as a part of their engagement – all with an improved level of service.

This is especially important because the vast majority of residential and small commercial end-users put a low priority on managing their energy use and costs. Research shows that customers' concern over energy use/costs typically ranks well below comfort, security, convenience, entertainment, and actionable information. Energy savings programs typically have been unable to package their energy- related activities with other services that might attract and sustain the customer's involvement with the energy-related program.

C. Poor "Convergence" Platform Architecture that Causes Customer Confusion and Complicates Service Delivery:

Retail Service Providers of all types of services, including energy management or control services, install only the equipment necessary to provide their own Service. These "single function systems" all require specialized operating systems, user interfaces, hardware, wiring, communications protocols. End-users want coordinated integration and engagement of services that might include, for example, energy management, home automation, integrated on-demand audio and video, security, surveillance, medical monitoring, and more. As a result of current disjointed approaches to energy management systems meeting both utility and end- user requirements, multiple disparate boxes

typically have been required (depending on features and configurations) within the premise. The boxes might include energy management gateways, media gateways, voice mail servers, ACDs, switches, routers, and firewalls. Integration is poor, complexity is high, and the ultimate value is low, if sustainable at all. This complexity to the in-building network is counterproductive to customer engagement and retention.

D. High Unit Costs For Engaging Technologies Are Barriers to Deployment:

Without significant numbers of happy end-users the unit costs often are prohibitive and there can be little, if any, significant market deployment.

E. Poor and Inadequate Demand-Side Load Information:

The information produced by the vast majority of automated meters and switches is insufficient to meet sophisticated utility or facility energy management requirements -- complete and proper energy information is scarce amidst a glut in billing information. AMR and simple sensor feedback is not sufficient when it comes to understanding Transmission & Distribution (T&D) network challenges -- much richer data is required. For example, the California ISO has stated that a grid friendly building system must include: active and reactive power, impedance, voltage, current, and other measurements to determine accurate load profiles and forecasts. Few, if any, of the major building automation vendors provide this data. Further, this information must be available in real-time and not based on 15 minute polled events that are now common.

F. Insufficient and "Conflicting" In-Building Communications infrastructure:

Because people can occupy any part of a building, the cost of providing structured wiring everywhere has been prohibitive. High deployment costs have spawned many new low cost Power-Line Carrier (PLC) and wireless Radio Frequency (RF) communications approaches. Approaches that use only RF communications are plagued with distance, dead zone, and sufficient bandwidth challenges that require costly truck- rolls to install signal boosters or other expensive work-arounds. Approaches that use PLC communications require additional and costly work- arounds that must "hop" the communications signal past local transformers and some circuit breakers, because these devices isolate (stop) the PLC signal. Since most office buildings contain many transformers, reliability is a serious and costly issue.

Security, fire protection, surveillance, computer, telephone, cable, audio, video, and building automation systems typically follow separate and different wiring methods and protocols. This leads to numerous separate networks that are each expensive to install, and difficult to configure, manage, maintain, and upgrade.

Other than expensive Cat 5 structured wiring, none of the other network methods are significantly dominant, yet most of these systems utilize/share the

same unlicensed communications spectrum and consume/degrade the same available bandwidth. For example WiFi, Zigbee, Bluetooth, Wireless USB, WiMAX, Cordless Phones, and other wireless consumer electronics typically share the same wireless spectrum, degrading the bandwidth capacity for all. In the wireline arena, HomePlug, Intellon, DS2, and others share the same PLC spectrum.

G. High Support Costs that Fail to Establish a Sustainable Business Model:

High system support costs are associated with disparate, often numerous service devices/vendors to perform metering, sub-metering, advanced sensing, and device control. High support costs are much more important than up-front deployment costs due to the long-lived nature of the installation. There are simply too many different interfaces, protocols, operating systems, user displays, communication types, and so called "standards" that need to be included. The extraordinary deployment, support, and call center costs for each additional Service most often breaks business models because of the inability to spread the deployment costs over any single platform that can easily provide for multiple complementary Services.

As was stated by an executive of a major regional phone company: "It wouldn't matter if the equipment was free, we still can't make money until we can deliver integrated Services. Our call-center and IT costs are simply too high. And what's worse is that customers get mad at us for not being able to quickly fix their problems. We can't partner with other Services providers because now our various boxes only further exacerbate the deployment, customer, and back-office issues. We need a cohesive system that works for all Services whether or not we sell those Services ourselves." This implies a high speed communication and control network that is easily installed and maintained and that talks to everything, as SUREFAST does.

H. Inadequate Demand-Side Resource Options Contribute Significantly to Supply-Side Constraints; a Need Exists for "Grid Friendly" Building Systems:

The relentless increase in demand for electricity and natural gas continues to strain the grid. This is happening in the midst of a re-invention of the electric utility industry due to new environmental concerns and the rapid need to meet information-age system reliability. For reasons given elsewhere in this section, demand- side, distributed energy resources solutions and alternatives are now severely limited -- modern building are not "grid friendly". CPUC Objectives, p. 5, IV.2. focus on programs that serve as resource alternatives to supply-side options. Because it is much less expensive to incent users to reduce peak power usage than to build new power grid systems, many jurisdictions (regulators and legislators) are now mandating that buildings be "grid friendly" so as to be a significant component of the utility resource mix.

To create a sustainable resource, "grid-friendly" buildings must be able respond to management requests from the utility without causing hardship for their occupants or building managers. These conflicting goals require new "in-building" Energy Information Systems (EIS) as well as new Energy Management Control Systems (EMCS).

I. Inability to Effectively Aggregate Distributed Resources, including Manageable Load, Distributed Generation, including Renewable Resources Contributes Significantly to Supply-Side Constraints:

Current approaches to Distributed Energy Resource potfolio strategies lack the ability to identify and capture significant distributed resource (load management) aggregation and aggregated management opportunities, and to integrate DG and renewable resources with the EE and DR programs that are the main focus of this Program.

J. Inability to Optimize and Rank Real-Time Balancing of Generation and Load Contributes to Utility Resource Planning and Management Difficulties:

This most difficult challenge can be addressed only with a robust and versatile state-of-the-art grid optimization and ranking technology, able to receive and integrate into a highly-detailed, data-intensive grid model accommodating both supply-side and demand-side resource and load data. Current demand-side approaches cannot generate, aggregate, and report the demand-side data at anywhere near the required level; and current supply-side grid models and optimization/analysis approaches cannot handle the vast quantities of new data necessary, accurately optimize for both local and system-wide objectives, and precisely indicate and rank the best operating and upgrade options along with next-best-choice contingencies.

6. Program Rationale

6.1. The Program will use SUREFAST, Optimal's new building and end-user automation platform to address the problems described above. The specific summary descriptions of how the Program will address each of the problems are presented above in Section 5. SUREFAST focuses on sustainable (short and long-term) energy savings, consistent with SDG&E EE Portfolio objectives as stated in the utility's testimony to the CPUC in support of its EE Portfolio for 2005-2006.

This Program is being advanced because it offers an innovative and emerging energy management technology with capabilities not otherwise available in the marketplace. SUREFAST's innovations contain numerous patent-pending technologies that achieve interactive, automated energy efficiency savings by providing new levels of:

- real-time monitoring, direct control, metering, reporting (local and

aggregated) at building/room/appliance/device levels, with automated threshold control capabilities;

- useful, real-time information that can be used for new energy efficiency measures as well as aggregated (local and utility) automated "rules & reason- based" curtailment;
- price/performance capabilities;
- measurement, verification, and interactive automation capabilities;
- complimentary services that further engage the end-user;
- customer engagement and retention.

The Program will also:

- test possible alternative SUREFAST applications and market approaches.
- provide preliminary technical assessment of integrating solar hot water heating and solar PV devices into the proposed EE and DR Program.

The potential of this Program to:

- dramatically enhance the effectiveness of SDG&E's EE portfolio,
- integrate energy efficiency and demand response programs immediately,
- provide a single, integrated platform for a "holistic" approach to energy savings combining EE, DR, and renewable resource implementation, and
- sustain customer engagement in such programs, is great compared to other program opportunities.

6.2. SUREFAST Technology Overview

SUREFAST, a division of Optimal Technologies International Inc. is a leading developer of sophisticated "grid-friendly" building automation systems and services.

SUREFAST is a single platform of hardware and software that provides unparalleled building automation and energy management as well as high-speed communications without the requirement for new wires. It integrates rich sensing technologies, intelligent automation, and new high speed no-new-wires communications technology with intuitive and easy-to-use interfaces to deliver next-generation premise automation for end-users, building managers, and utilities.

SUREFAST treats all building and end-user concerns -- from communications to energy cost to comfort and convenience to safety and security to entertainment and surveillance -- as a problem that can be addressed by a single, scalable solution. It is designed to be an integrated platform that delivers bulk new interactive, on-demand Services anywhere within a building. SUREFAST Services include: "High-Speed-Anywhere"

broadband; and customer-directed, device-level and aggregated energy monitoring, management, and optimization and utility demand response. In addition SUREFAST can provide other complementary customer Services: security; building automation; fire protection; medical monitoring; and on-demand audio and video, including HDTV.

SUREFAST-enabled Services beyond energy-related Services can create new revenue streams, increase productivity, lower operating costs, and enhance competitive differentiation for retail service providers. This includes utilities, cable operators, telecommunications companies, Internet Service Providers Security companies, and other retail services providers.

SUREFAST provides centralized control for thousands of different electronic devices, including sensors, energy controllers, video/audio components, lighting equipment, educational media, environmental control systems, security systems, and teleconferencing devices. SUREFAST communicates with its own in-building devices, called ModBots (Modular Robots) and embraces emerging open standards. Support for legacy protocols include: Modbus, BACnet, LonWorks, Johnson Metasys, Trane Tracer, Barber Coleman, and Andover, among others.

SUREFAST economically accelerates the deployment, implementation, and ongoing management of digital Services for commercial office buildings, hotels, schools and hospitals as well as residential consumers.

SUREFAST is designed to maximize both “static” and “dynamic” energy savings -- it goes beyond the simple capabilities in the E3 DEER worksheets to ascribed other energy management systems.

SUREFAST delivers the following technologies and benefits;

a. New Communications Technologies:

New high performance, low-cost, plug & play, “no-new-wires” communications system that addresses the biggest communications challenge of all: the fragmented landscape of wired and wireless in-building networks, protocols and edge devices. SUREFAST has many potential applications since it creates the first high-speed wireless in-building interconnect infrastructure that can replace structured wiring (but with better security and at lower cost). SUREFAST, for example, is designed to replace up to 7 separate networks: Data, Security, Building Automation, Telephone, Fire Protection, Audio, and Video. It offers a combination of low cost, reliability, scalability, performance and ease of use unparalleled by other available in-building options. SUREFAST:

- uses enhanced redundant “mesh” network communication technologies to overcome the inherent limitations of wireless and

powerline carrier approaches while also delivering industry standard communications to third party devices connected to the SUREFAST network.

- focuses on an integrated "systems" approach using downloadable software enhancements vs. hardware replacement.
- avoids the need to rewire the building or place of business and can be installed with relative ease, requiring few, if any, installation skills.

SUREFAST communications encompasses numerous patent pending MAC Layer1 technologies including;

- ad-hoc hopping mesh network protocols, where any node can talk to any other using multiple media types including wired and wireless with complete freedom,
- "smooth and uniform" range extension without signal-degradation protocols,2
- transmission of multiple protocols without the need for protocol conversion, and
- performance enhancing protocols that avoid signal degradation over long distances.

b. New Data Collection, Measurement, and Verification Technologies:

Buildings are still much like they were 50 years ago -- "dumb", unresponsive, and expensive to operate. SUREFAST uses low cost, integrated sensors to create a real-time "digital copy of the building" to make a wide range of energy monitoring, control, and aggregation services and other Services real and increasingly valuable. Basic information, taken together and verified at every point, includes: operating status, power (active and reactive), voltage, frequency, impedance, power factor, current, time, temperature, light, occupancy, electricity prices, and operating costs;

c. New Control Capabilities:

SUREFAST provides optimized control for each device, appliance, and light. Energy use and cost information can be viewed in real time and historical information can be displayed graphically allowing customers instantly to analyze consumption, monitor trends, and make informed decisions. SUREFAST can control individual devices based either on manual input/overrides or automatically based on customer-configurable or dynamic parameters such as energy price, occupancy, temperature and/or ambient light. SUREFAST-enabled devices can respond to

1 The Media Access Control (MAC) Layer is a critical sublayer in the Data Link Layer of the OSI Model and is responsible for moving data packets to and from one Network Interface (NIC) to another across a shared media.

2 Mesh networks typically suffer from poor performance that quickly suppress data throughput to useless levels after only a few hops.

information collected as well as signals transmitted by a utility, service provider or other appropriate body.

d. New Utility Revenue Opportunities:

SUREFAST provides a wide variety of utility Services using a single platform. Such Services can generate significant new revenue streams and provide critical differentiation in an increasingly competitive environment;

e. New Aggregation Capabilities:

SUREFAST provides utility wide-area co-ordination/aggregation/control of load and Distributed Generation;

f. New Energy Efficiency and Demand Response Energy Savings:

SUREFAST provides for "least-pain", yet aggressive Energy Efficiency (EE) and Demand Response (DR) activities. The customer has fully-automated and immediate control to automatically shed, restrict, or over-ride energy use at ModBot-equipped devices during peak periods, or upon receipt of utility-originated system demand-response signals. Lighting ModBots, for example, can be used to create and verify defendable voltage reduction programs.

Further, SUREFAST real-time DR control and aggregation capabilities enable creation of robust, automated real-time "virtual power plants".

g. Integration of Renewable Energy Resources With EE and DR Programs:

SUREFAST enables automated integration of renewable energy resources into utility EE and DR programs such as solar PV or micro-wind generation systems with local load.

h. SUREFAST is also designed to meet Green Building and Carbon Offset Credits.

In short, SUREFAST has the ability to dramatically enhance utility Service offerings and customer/end-user lifestyles. Optimal has developed and is continuing to develop prototypes that have the capabilities to meet the needs of the proposed Program. These capabilities are available for select deployment now.

6.2.1. SUREFAST Hardware and Software Components

SUREFAST is deployed as the following hardware and software subsystems:

- **Intelligent Services Director** or **ISD**: a small hardware device that enables and manages multiple Internet-enable Services inside the premise. The ISD provides communications gateway, firewall, and private networking capabilities between the Internet and the premise. Standards conformance allows the ISD to also work with many existing automation systems.

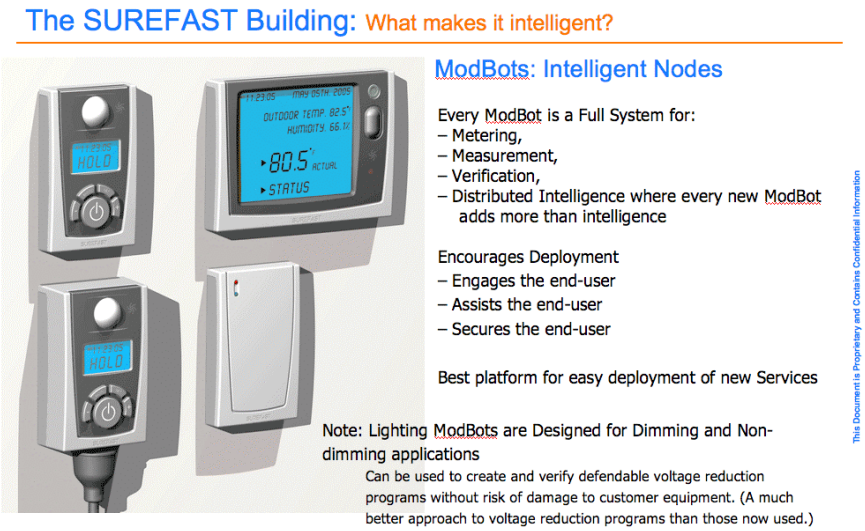
SUREFAST ISDs act as "gateways" between the Internet, ModBots, and other ISDs. The ISD manages the interactive and locally aggregated functions of the ModBots and collects data from each end point device as well as third party devices/meters. Information collected from many ISDs is then aggregated using the Internet (or public phone network) to AskOT, Optimal's centralized web-based data collection and management system.

SUREFAST Intelligent Services Director (ISD)

- Modular Robots or ModBots: sophisticated endpoint devices that intelligently perform numerous measurement, data gathering, and control functions. ModBots are interactive, bi-directionally communicative sensors and control devices, for monitoring, management, and "metering" of individual appliances, individual rooms, and building systems. ModBots work for loads and for local and micro-generation, including renewables. Each ModBot measures and can report, in real time, device operating status, active power use, reactive power use, frequency, impedance, voltage, current, ambient temperature, ambient lighting, ambient motion, and more, and provides full control capabilities at every device.

- ModBots include patent-pending technologies, are sold separately, and can be custom branded. Third parties that wish to sell complimentary products are encouraged to do so through licensing agreements.

SUREFAST ModBots (showing a few types)



SUREFAST ModBots (showing Lighting ModBots only)

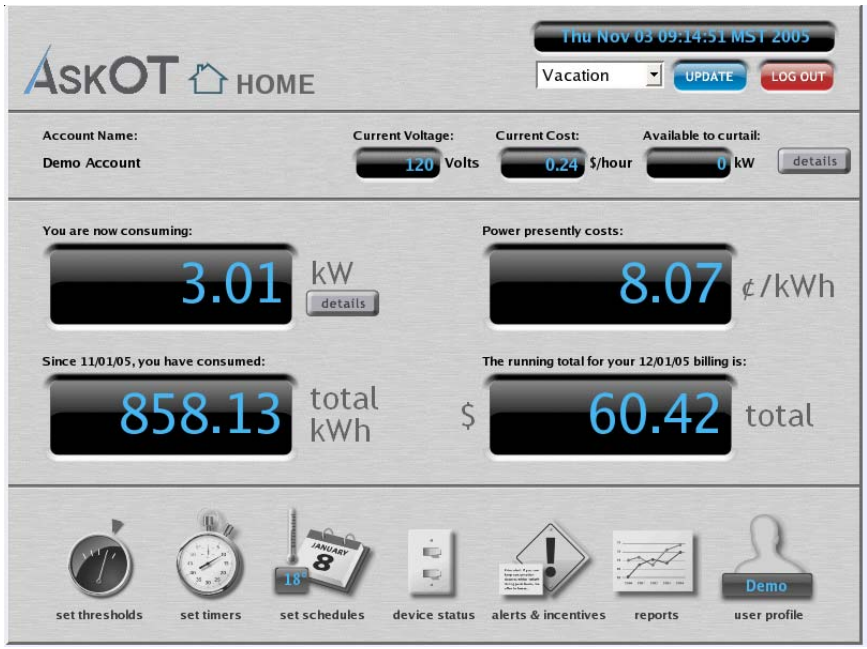
- AskOT (Ask Optimal Technologies): a web-based "back-office" aggregation, automation, and data mining portal for SUREFAST. AskOT provides separate User Interfaces for Service Providers and End-Users and can also work with third party systems.

  AskOT is a user-friendly, Internet-based, wide-area aggregation and control system. It works together with local SUREFAST/ModBot display/control panels to provide real-time customer and utility metering, aggregation, and feedback.

AskOT displays real-time energy usage information for each appliance, room, building, or selected group of appliances, rooms, or buildings. It also gives the

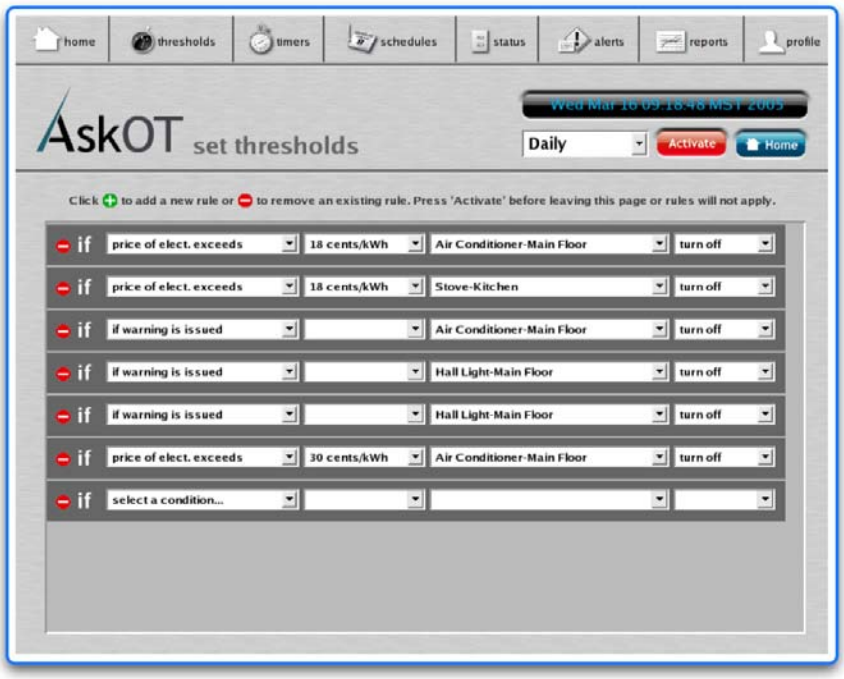
customer the ability to easily pre-define automated, appliance-level operation for numerous conditions including; off-peak, on-peak, vacation, time-of-day, time-of-month, time-of-year, and end-user and utility emergencies.

AskOT End User Dashboard Screen Shot

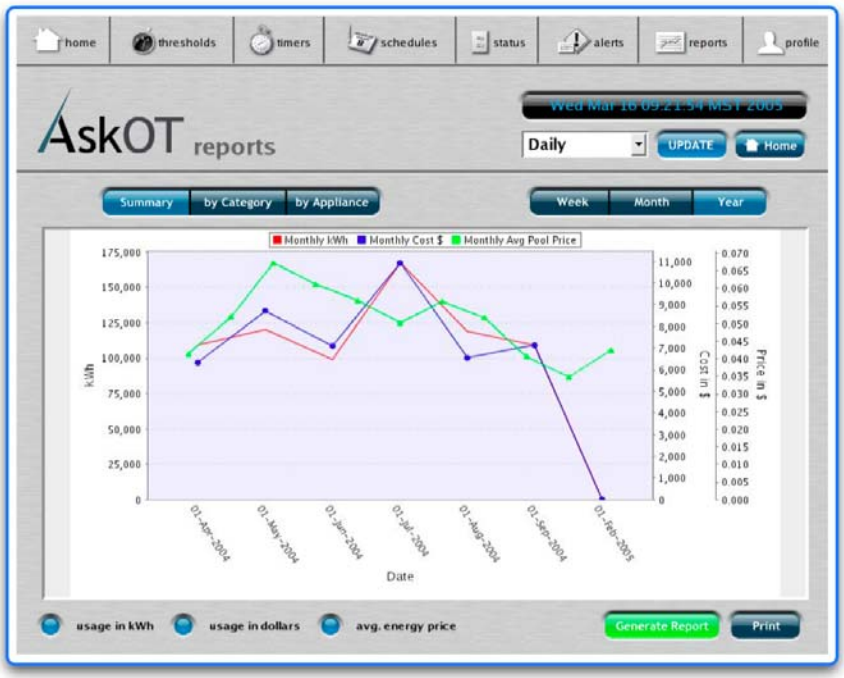


AskOT End User Device Status Screen Shot

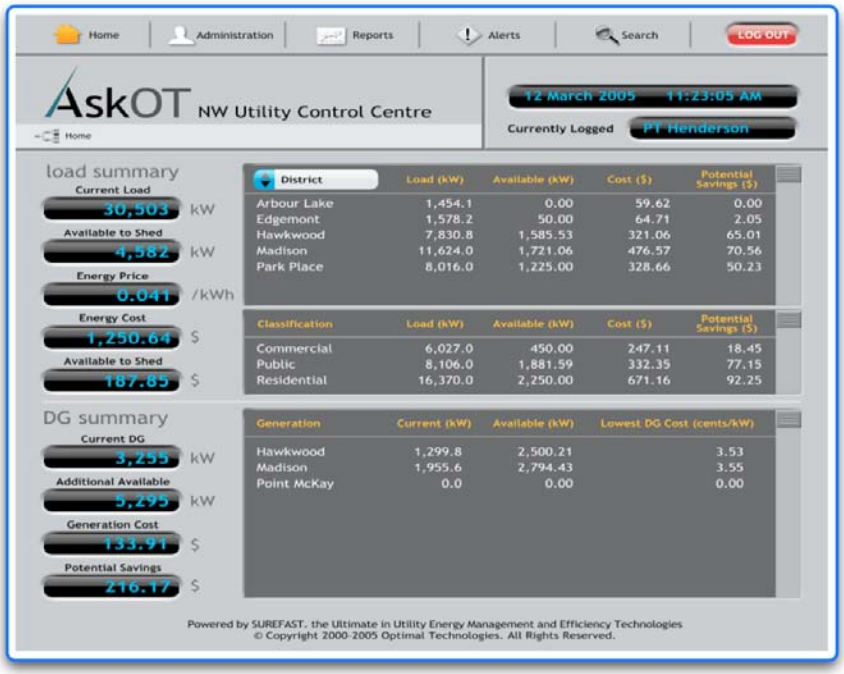
AskOT End User Set Thresholds Automation Screen Shot



AskOT End User Reports Screen Shot (1 of many types)

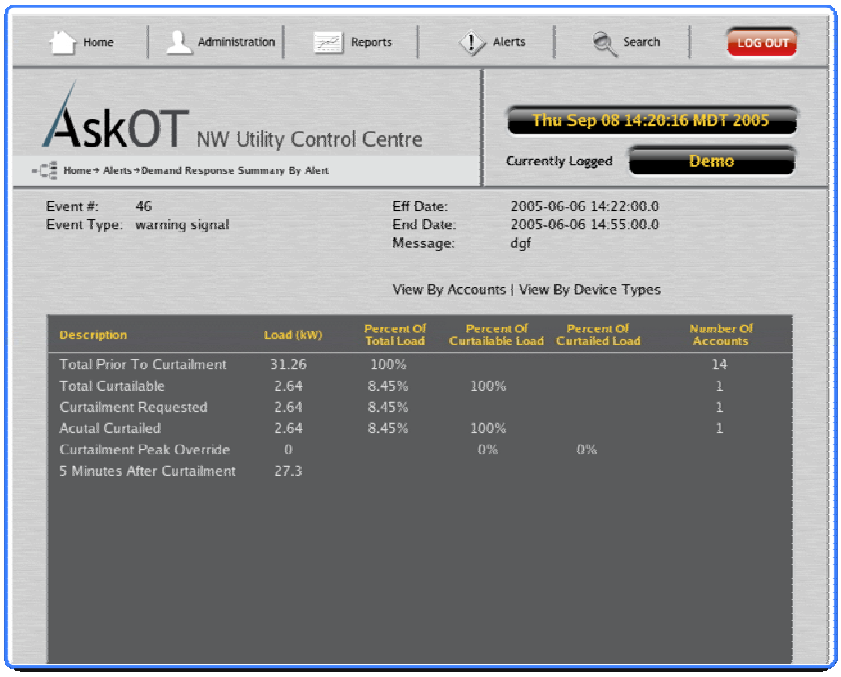


AskOT Utility Dashboard (Aggregated)



AskOT Utility "Drilldown" Screen Shot

AskOT: Utility Curtailment and Ramp Rate Reporting" Screen Shot



6.3. The Program will address the problems described in Section 5 by applying the various functionalities of SUREFAST technologies as they have been described above in Sections 6.2 and 6.2.1, through the Program design and accomplishment of the Milestones described below in Section 7.

a. Non-Holistic Approach to Energy Savings.

Program response: The Program will use SUREFAST's customer-directed, device-level monitoring, control, and aggregation capabilities to offer Program customers integrated EE and DR technologies for energy savings and cost savings. The Program also will work toward developing a still further "holistic" approach for helping customers address their energy needs while producing energy savings and cost savings, by actively exploring integration of EE, DR, distributed generation (DG), and renewable technologies using SUREFAST/ AskOT technologies.

b. Poor or Incorrect End-User Engagement in Energy Savings Programs.

Program response: The Program will focus on delivering customers improved end-use device interfaces and Web-based services that deliver real-time device- level and premise-level energy use, current building profile information, detailed reports of historical energy use and cost, and customer device and premise control. SUREFAST encourages immediate and effective customer engagement without the need for specialized customer education.

The Program will include an exploration of the potential for maximizing end-user engagement by also offering higher priority (more valuable to

the customer) Services deliverable over the SUREFAST platform. Higher-priority Services may be offered as incentives (in lieu of small cash incentives which have proven to have limited sustainable benefit.

c. Poor "Convergence" Platform Architecture Causes Customer Confusion and Complicates Service Delivery.

Program response: The Program will provide maximum convergence opportunities using SUREFAST's robust, flexible, open source platform architecture.

d. High Unit Costs For Emerging Technologies Are Barriers to Deployment and Testing.

Program response: The Program will allow Optimal to (1) meet the high prototype unit costs for SUREFAST technology, (2) demonstrate SUREFAST's functionality, reliability, integrated EE and DR energy savings capabilities, (3) demonstrate its ability quickly to engage customers in energy management and control, creating the basis for wide-scale deployment and decreasing costs, and (4) begin to delineate SUREFAST's threshold cost-effectiveness.

e. Poor and Inadequate Load Information and Control Limits the Ability to Analyze and Operate Power Grid Systems and Facilities Efficiently.

Program response: SUREFAST is a low-cost real-time, sensor and control platform that serves to create a rich "manageable digital copy" of the in-building environment. It enables true, real-time optimization of the many facets of the facilities (i.e. energy, security, comfort, productivity, etc.) well beyond the traditional pre-programmable solutions of today.

Using SUREFAST, the Program will demonstrate rich new data-gathering and management systems that deliver reliable energy savings for California's ratepayers.

The Program will meet the need for rigorous evaluation, measurement, and verification of energy savings and demand response. It will verify SUREFAST energy savings, will demonstrate a basis for improving the design and success of future energy efficiency programs, and will enhance the reliability of forecasted savings for resource planning purposes.

f. Insufficient and "Conflicting" In-Building Communications infrastructure Limits Energy Control System Effectiveness.

Program response: The Program will demonstrate SUREFAST's new low-cost, high-performance, robust communications technology, and its ability to provide an effective platform for achieving new levels of device monitoring, control, and aggregation, EE and DR program effectiveness, off-peak and on-peak energy savings, and customer engagement and retention.

g. High support costs typically associated with energy control systems are a major reason for failure to establish a sustainable business model.

Program response: The Program will demonstrate significantly reduced support and maintenance cost opportunities through SUREFAST's "plug-and-play" technology, its reliability, and the ease of customer training and education in understanding and use of the technology, and through pre-installation testing of SUREFAST hardware.

h. Inadequate Demand-Side Resource Options Contribute Significantly to Supply-Side Constraints; a Need Exists for "Grid Friendly" Building Systems:

Program response: The Program will demonstrate SUREFAST/AskOT's applications for new "grid-friendly" building automation, real-time energy-device monitoring and control opportunities, and real-time building-space and building- systems monitoring and control opportunities. SUREFAST technologies will allow the Program to demonstrate the ability to create a sustainable resource in "grid-friendly" buildings. Such buildings will be able respond to customer-selected and customer-authorized management requests from the utility without causing hardship for their occupants or building managers. These conflicting goals will be met with new SUREFAST "in-building" Energy Information Systems (EIS) as well as new Energy Management Control Systems (EMCS).

i. Inability to Effectively Aggregate Distributed Resources, Including Manageable Load, Distributed Generation, Including Renewable Resources, Contributes Significantly to Supply-Side Constraints.

Program response: The Program will demonstrate SUREFAST's ability to support significant distributed resource (load management) aggregation and aggregated management opportunities. It also will include a threshold assessment of SUREFAST's ability to integrate DG and renewable resources with the EE and DR programs that are the main focus of this Program.

j. Inability to Optimize and Rank Real-Time Balancing of Generation and Load Contributes to Utility Resource Planning and Management Difficulties.

Program response: This difficult challenge can be addressed by combining SUREFAST demand-side and DG management technologies with AEMPFAST, Optimal's state-of-the-art (patent-pending) grid optimization and ranking technology. AEMPFAST allows near-real-time optimized deployment of T&D system resources, including load management resources, based on accurate information as to the location, scale, and deliverability of system resources. SUREFAST allows real-time identification and customer-authorized delivery of aggregated manageable loads, and thereby has the potential to contribute to new levels of utility resource planning and management.

This Program will measure these SUREFAST functionalities for possible inclusion in future programs or phases of the proposed Program. Current

grid planning and management approaches cannot handle the vast quantities of new data involved in wide-scale aggregation of device-level and premise-level monitoring and control, then accurately optimize for both local and system-wide objectives, while precisely indicating and ranking the best grid operating and upgrade options along with next-best-choice contingencies.

7. Program Outcomes

Optimal, with appropriate program subcontractors, will take the following specific Program actions and meet the identified, measurable Milestones:

A. Program Organizational Phase: Engaging Employees and Subcontractors

a. **Milestone:** Engage qualified Program employee or statewide or local subcontractor to assist in designing, planning, and implementing Program Marketing, Customer Recruiting, and Customer Enrollment.

b. **Milestone:** Engage and train licensed local electrical subcontractor to assist in installing, maintaining, and troubleshooting SUREFAST hardware systems.

c. **Milestone:** Engage and train qualified Program employee or local education and training subcontractor to educate, train, and engage customers in Program goals, in functionality of SUREFAST hardware and software, in accessing the Program website, in actively using their AskOT customer-directed monitoring control, and using the Program's customer-support channels.

d. **Milestone:** Engage subcontractor to assist in designing, planning, and implementing in-Program participation and progress audits, Quality Assurance, and Final Program Evaluation, Measurement, and Verification Program.

e. **Milestone:** Engage and train Program Spanish-speaking capability for customer enrollment, system installation, customer training and education, enhanced customer engagement, and customer support (system maintenance and troubleshooting) for residential and non-residential customers.

B. Final Program Design and Planning Phase. Completion of detailed Program design, planning, and scheduling.

a. **Milestone:** Identify the specific geographic Program area(s) in Climate Zones 10, 14, 15 within the SDG&E distribution grid, preferably in particularly constrained areas within the SDG&E distribution grid where Optimal also can meet Program marketing sector goals. Consult California Independent System Operator, SDG&E, and Marketing Subcontractor.

b. **Milestone:** Preparation and activation, and internal testing of Program website, including on-line enrollment and customer in-take forms; an enrolled customer accounts section, with secured customer access; AskOT customer and utility software "dashboard" templates showing the specific types of appliances to be included in the Program; and customer support e-mail hot-

line., among other features.

c. **Milestone:** Completion of marketing plan document identifying specific existing and new residential sectors targets, specific non-residential office, grocery and food service, hospital/clinic, hotel/motel, and primary/secondary school targets, marketing channels, and timetable. Identify Spanish-language sector targets.

d. **Milestone:** Completion of plan for development and evaluation of retail distribution strategies, channels, and messages for sale of SUREFAST hardware (ModBots and ISDs).

e. **Milestone:** Completion of specific recruiting and enrollment plan document for meeting each Program target sector goal, identifying specific recruiting targets and methods, personnel requirements, group and individual meetings, and timetables for meeting each sector participation goal.

f. **Milestone:** Completion of plan and schedule for pre-testing, installing, connecting, and activating SUREFAST hardware and software systems, keyed to projected recruiting and enrollment schedules.

g. **Milestone:** Completion of SUREFAST technical instruction manual for local electrical subcontractor and for customers.

h. **Milestone:** Completion of plan for establishing, maintaining, and building active customer engagement, participation, and retention in an integrated EE, DR, and renewables program for energy savings and customer cost savings.

i. **Milestone:** Completion of customer service plans including customer telephone hot-line, customer website/e-mail inquiry and response capability, customer on- site troubleshooting and repair, and databases for logging incidence and type of inquiry, and outcome of each customer call.

j. **Milestone:** Completion of plan for auditing customer profiles, participation, proficiency, and energy savings returns at early-stage, mid-Program stage, and late-Program stage.

k. **Milestone:** Completion of plan for conducting Program Quality Assurance.

l. **Milestone:** Define potential and method for measuring system-wide effects of Program on-peak savings on T&D congestion and loss reduction, increase in load-serving capability using existing system resources.

m. **Milestone:** Investigate future potential for integrating SDG&E renewable technologies program activities into Integrated EE and DR Emerging Technology Program, using SUREFAST and AskOT EE and DR programs.

n. **Milestone:** Complete design and implement a rigorous Evaluation, Measurement, and Verification (EM&V) program for an integrated energy efficiency/demand response program involving device-level, customer-

directed, real-time energy use control systems.

o. Milestone: Completion of plan for exploring the potential for maximizing end-user engagement by offering, in addition to the Program's SUREFAST EE and DR services, higher priority (more valuable to the customer) Services deliverable over the SUREFAST platform. Higher-priority Services may be offered as incentives (in lieu of small cash incentives which have proven to have limited sustainable benefit.

C. Implement Program Marketing and Recruiting Phase.

Conduct Program marketing (1) to new and existing residential customers within the identified geographic areas; (2) to each of the 5 targeted non-residential sectors in which the Program seeks customers:

- 35 ISD installations at commercial offices (small commercial and public-sector offices/buildings) (each ISD installation to have an average 30 ModBots);
- 30 food service facilities (15 grocery and 15 fast food);
- 10 small retail merchandise stores;
- 5 ISD installations at 1-3 hospital or medical clinic facilities (each ISD installation to have an average 30 ModBots – non-critical end-uses only);
- 5 ISD installations at 1-2 hotels (each ISD installation to have an average 30 ModBots);
- 5 ISD installations at 2-5 motels (each ISD installation to have an average 30 ModBots); and
- 5 ISD installations at 2-3 primary schools (each ISD installation to have an average 30 ModBots);and
- 5 ISD installations at 2-3 secondary schools (each ISD installation to have an average 30 ModBots).

a. Milestone: Preparation of low-cost printed Program marketing/ informational brochures for new residential, existing residential, and non-residential sector targets, including Spanish-language version of materials.

b. Milestone: Preparation of Program website with Program component descriptions marketing and recruitment information, including Spanish-language section.

c. Milestone: Completion of initial-phase marketing to all target sectors using all identified marketing channels.

d. Milestone: Completion of Program component marketing Program EE and DR SUREFAST services bundled with one or more other services deliverable over the SUREFAST platform.

D. Conduct Enrollment, Installation, and Activation Phases for Residential and Non-Residential Customers

a. **Milestone:** Preparation of customer Program enrollment questionnaire and documentation.

b. **Milestone:** Completion of recruitment group and individual meetings per recruiting and enrollment plan document. Consider whether adjustments should be made in sector recruitment goals.

c. **Milestone:** Completion of customer enrollments in fulfillment of all recruiting goals for all target sectors.

d. **Milestone:** Complete installation and activation of SUREFAST system hardware (1 ISD installation, each with 10 ModBots) for 70 existing residential customers.

e. **Milestone:** Complete installation and activation of SUREFAST system hardware (1 ISD installation, each with 10 ModBots) for 30 new residential homes customers.

f. **Milestone:** Complete installation and activation of SUREFAST system hardware for 35 office building ISD installations, each with 30 MobBots.

g. **Milestone:** Complete installation and activation of SUREFAST system hardware for 15 ISD installations, each with 30 ModBots, at grocery customer facilities, and 15 ISD installations, each with 30 ModBots, at fast food customer facilities.

h. **Milestone:** Complete installation and activation of SUREFAST system hardware for 5 ISD installations, each with 30 ModBots, at 1-3 hospital/clinic customers.

i. **Milestone:** Complete installation and activation of SUREFAST system hardware for 5 ISD installations, each with 30 ModBots, at 2-3 primary schools, and 5 ISD installations, each with 30 ModBots, at 2-3 secondary schools.

j. **Milestone:** Complete installation and activation of SUREFAST system hardware 5 ISD installations, each with 30 ModBots, for 1-2 hotel customer facilities, and 5 ISD installations, each with 30 ModBots, for 2-5 motel customers.

E. Customer Education, Training, and Engagement Phase.

a. **Milestone:** Complete hiring and training of local education and training subcontractor, including Spanish-speaking capability, to educate, train, and engage customers in Program goals, in functionality of SUREFAST modbots and Intelligent Service Directors (ISDs), in accessing the Program website, in active use of their AskOT customer-directed monitoring control, and in use of the Program's customer-support channels.

b. **Milestone:** With each customer as described below, design and install the

customer SUREFAST appliance and usage operating profile, including definition of customer savings targets, on-peak demand reduction and on-peak demand response goals, cost savings goals, and customer SUREFAST strategies for meeting such targets.

c. Milestone: Inclusion in Program education, training, and engagement multiple members of each residential customer household and each non-residential customer business site;

d. Milestone: Complete education, training and initiation of Program participation for 70 existing residential customer households.

e. Milestone: Complete education, training, and initiation of Program participation for 30 new residential homes customer households.

f. Milestone: Complete education, training, and initiation of Program participation for managers and staff at office building customer facility sites involving 35 ISD installations and their associated ModBots.

g. Milestone: Complete education, training, and initiation of Program participation for managers and staff at grocery and fast food customer facility sites involving a total of 30 ISD installations and their associated ModBots.

h. Milestone: Complete education, training, and initiation of Program participation for managers and staff at small retail merchandise customer facility sites involving a total of 10 ISD installations and their associated ModBots.

h. Milestone: Complete education, training, and initiation of Program participation for managers and staff at 1-2 hospital or clinic customers with 5 ISD installations and their associated ModBots.

i. Milestone: Complete education, training, and initiation of Program participation for managers and staff at 4-6 primary and secondary schools customers involving 10 ISD installations and their associated ModBots.

j. Milestone: Complete design and implementation of a hands-on training and energy efficiency/demand response education component for students at the Program customer school-sites.

k. Milestone: Complete education and training of managers and staff at 1-2 hotel and 1-5 motel customer sites, involving 10 ISD installations and their associated ModBots.

l. Milestone: For each customer sector, within 4-6 weeks of start of active customer participation, carry out customer on-site participation and proficiency audit.

m. Milestone: Optimal and SDG&E will design, plan, and implement an in-

Program energy usage aggregation program and templates, and an in-Program monitoring, analysis, and Program adjustment plan.

n. **Milestone:** For customers interested in receiving SUREFAST EE and DR capabilities bundled with one or more other services deliverable over the SUREFAST platform, complete installation and activation of the other Service.

F. Program Operations Phase: Establish Customer Service Program; Maintain and Troubleshoot Hardware and Software Systems; Establish Program Operations Phase Activities

a. **Milestone:** Establish customer telephone hot-line, and database for logging incidence and type of inquiry, and outcome.

b. **Milestone:** Establish customer website/e-mail inquiry and response capability, and database for logging incidence and type of inquiry, and outcome.

c. **Milestone:** Establish site-visit response and troubleshooting capability through local electrical subcontractor and site-visit reports protocol; maintain database reporting on incidence and type of found-problem, and outcome.

d. **Milestone:** Monitoring, analysis, and Program adjustment plan. At monthly intervals, analyze hot-line, web site, and troubleshooting site-visit databases, and prepare brief summary report, including any recommendations for in-Program adjustments.

e. **Milestone:** Optimal and local subcontractor will design, plan, and implement program for auditing customer profile, participation, proficiency, and energy savings returns at early-stage, mid-Program stage, and late-Program stage.

G. Perform EM&V Phase: Perform baseline, ongoing, and post-Program EM&V

Optimal and EM&V subcontractor acquire or develop Program baseline on-peak and off-peak energy usage data (1) per appliance, each Program customer; (2) per building or site (appliances aggregated), each Program customer; (3) per area (customer buildings and/or sites aggregated), against Program goals.

a. **Milestone:** At in-Program intervals identified in EM&V Work Plan, measure on- peak and off-peak energy usage data (1) per appliance, each Program customer; (2) per building or site (appliances aggregated), each Program customer; (3) per area (customer buildings and/or sites aggregated), against Program goals.

b. **Milestone:** At Final Program date identified in EM&V Work Plan, measure on- peak and off-peak energy usage data (1) per appliance, each Program customer; (2) per building or site (appliances aggregated), each Program customer; (3) per area (customer buildings and/or sites aggregated), against Program goals. Determine whether Program has met goals of (A) Reducing

customers' total base load consumption immediately and permanently by 15-20%; and (B) demonstrating integration of energy efficiency and demand response goals by meeting, in addition, a complementary demand response goal of reducing Program customer on-peak consumption by 35-40%.

c. Milestone: Confirm operating and performance capability of advanced prototype hardware (ModBots and ISD gateways), and integrated software and Web- based systems (AskOT), to deliver integrated EE, DR, and Renewables Energy programs and services.

d. Milestone: Completion of EM&V report that includes evaluation and measurement of all Program elements and topics listed in the description of Non-energy Activities in Section 13.3, of this document, below.

8. Program Strategy

The Program will address the following strategies per the Program Strategies Document below:

- Non-Residential and Residential Energy Efficiency Technology Commercialization
- Nonresidential and Residential Targeted Marketing
- Nonresidential and Residential Direct Install
- Nonresidential and Residential Downstream Training
- Nonresidential and Residential Benchmarking and Measurement
- Nonresidential and Residential Upstream Retail Markets and Training

8.1.1. Program Strategy Description

8.1.1.1. Overall Strategy: Non-Residential and Residential Technology Commercialization

a. Optimal's Program overall strategy is to market, deploy, test, and demonstrate and commercialize its emerging integrated SUREFAST / AskOT technologies as a promising emerging energy efficiency and demand response technology that could contribute to developing a new marketplace presence.

b. In a cross-section of nonresidential and residential customers, the Program will evaluate SUREFAST / AskOT technologies program costs; evaluate and refine technology performance in order to reduce performance uncertainties typically associated with new technologies and products; and promote and demonstrate the significant benefits of the technologies based on their applications, all as critical next-steps toward commercialization of the technologies,

c. Aspects of the SUREFAST/AskOT technologies to be demonstrated that are critical to commercialization include program elements that will be identified and detailed as further strategic components in this Section 8.1.1, items 2-6, below.

- Ability to accomplish targeted marketing of the SUREFAST/AskOT technologies and products to nonresidential and residential customers, including new residential construction

- Ease of installation of advanced SUREFAST/AskOT hardware and software prototypes, through direct installation (in this program) at a cross-section of nonresidential and residential customer sites of a limited number and diversity of SUREFAST appliances/devices at each customer site, and ease and cost-effectiveness of augmenting and expanding installed SUREFAST systems simply by adding ModBots to include control of additional devices and building spaces, thus eliminating the "lost opportunities" problem.

- Ease and efficacy of education and training of new customers, and enhanced ability to actively engage customers and maintain customer participation toward off-peak and on-peak energy savings and energy cost savings.

- The multiple Energy Efficiency and Demand Response functionalities of the technologies,

- Ability, using the technologies and the products, to provide accessibility and manageability of energy efficiency and demand response capabilities to the customers (end-users) and the utility;

- Ability to help overcome current institutional and market barriers to rapid deployment by developing and testing various upstream marketing channels, including home improvement retailers (e.g. Home Depot, Loews), consumer electronics retailers (e.g., Best Buy, Circuit City, Fry's) and value-added speciality home automation vendors. Hard-to-reach market sectors will also be reviewed.

8.1.1.2. Component Strategy: Targeted Marketing to Nonresidential and New and Existing Residential Customers

a. Optimal will engage subcontractor(s) as described in Section 9, below, to assist with overall Program design and planning, including design and planning of the Marketing and Recruiting Phase and the Enrollment, Installation, and Enrollment Phases
b. Optimal, with input from the California ISO and, preferably but not necessarily, from SDG&E, will identify the specific geographic areas within Zones 10, 14, and 15 in which the Program energy savings would be expected to have maximum beneficial effect on grid congestion, reduction of losses, and increased grid load serving capability, while offering opportunities to meet the several Program objectives for market sectors, EE savings, and DR savings.
c. Optimal, with input from the Program marketing subcontractor, will design and plan the Program marketing and recruiting plan, including:
    - Identification of specific non-residential targets and existing and new residential customer targets;
    - Identification of a small number of nonresidential and residential customers who already have installed solar hot water heating or solar photo voltaic technology, or micro wind technology, around whom Optimal could conduct planning and design of a possible next-phase program integrating Energy Efficiency, Demand Response, and Renewable Energy program components.
    - Types of printed, on-line, and media marketing and recruiting materials required, including Spanish-language materials, ("Marketing Materials");
    - Development of marketing and recruiting channels, including, among others, existing community energy-focused organizations and offices, such as San Diego REO and municipal energy program co-ordinators; trade associations; Chambers of Commerce; and existing residential organizations, such as subdivision developers and homeowners associations. Use of meetings of such organizations; mailings and other distributions; media announcements; direct phone calls; invitational and public meetings, etc.); and
    - Priorities, sequences, and schedules for addressing the

respective targeted market sectors.

d. Optimal, with input from SDG&E, will prepare the Program website, the on-line enrollment and customer account forms, and AskOT customer and utility software "dashboard" templates showing the specific types of appliances and devices to be included in the Program.
e. Optimal and the Program marketing subcontractor, with input from SDG&E, will prepare the Marketing Materials, as described elsewhere in this Concept document, including Spanish-language materials, and will initiate and carry out the marketing, recruiting, and customer enrollment campaign.

8.1.1.3. Component Strategy: Direct Installation of SUREFAST/AskOT Systems In Nonresidential and New and Existing Residential Sites

a. Optimal and local electrical subcontractor(s) will plan and execute SUREFAST installation, and connection with AskOT and the Program website.
    - Install SUREFAST ModBots and the ISD gateway in each enrolled customer's premise;
    - Connect the customer premise to the Program website;
    - Confirm operation of the Premise system and connectivity with the Program website, including both the customer dashboard and the utility dashboard;
b. Optimal will design, plan, and implement a telephone hot line and a Program website / e-mail technical assistance request and response facility for customers. Optimal will maintain a log recording and describing all inquiries, responses, and outcomes.
c. Optimal and the local electrical subcontractor will plan and implement on-site technical assistance, troubleshooting, and repair capability. optimal and the subcontractor will maintain a log recording and describing all inquiries, responses, and outcomes.
d. Optimal will conduct monthly review and analysis and prepare summary report of inquiries, responses, and outcomes.
e. Optimal and the Program design subcontractor will design and plan, and Optimal will implement a program for auditing customer participation, proficiency, and energy savings returns at early-stage, mid-Program stage, and late-Program stage.
f. Optimal will design, plan, and implement an in-Program energy usage and demand response aggregation program, including templates for potential utility use in aggregating use information, demand response information, and load

forecasting information, and in sending of warnings, alerts, and control directives., Optimal also will design and implement an in-Program monitoring, analysis, and Program adjustment plan.

g. Optimal will design and implement a small component of the Program involving 2-10 residential and non-residential customers who already have installed solar hot water heating or solar photo voltaic technology, or micro wind generation technology, around whom Optimal could conduct planning and design of a possible next-phase SUREFAST program integrating Energy Efficiency, Demand Response, and Renewable Energy program components.

8.1.1.4. Component Strategy: Training of Downstream Nonresidential and Residential Customers

a. Optimal will complete hiring and training of local education and training subcontractor, including Spanish-speaking capability, to educate, train, and engage customers in Program goals, in functionality of SUREFAST modbots and Intelligent Service Directors (ISDs), in accessing the Program website, in active use of their AskOT customer-directed monitoring control, and in use of the Program's customer-support channels.
b. Optimal will carry out on-site customer education and training, focusing on hands-on engagement and proficiency of multiple management and staff personnel at each non-residential site and multiple members of new residential subdivision developers and residential households.
c. Optimal and each of the nonresidential and residential customer participants will identify customer energy use and energy cost savings goals, and SUREFAST strategies for achieving them. With each customer as described below, Optimal will design and install the customer SUREFAST appliance and usage operating profile, including definition of customer savings targets, on-peak demand reduction and on-peak demand response goals, cost savings goals, and customer SUREFAST strategies for meeting such targets,
d. Optimal will include a Spanish-language capability for its education and training program, as described elsewhere in this document.

8.1.1.5. Component Strategy: Benchmarking of Nonresidential and Residential Customer Premise and Appliance-Level Performance (Pre-Program, In-Program, and End of Program)

a. Optimal and EM&V subcontractor will develop pre-Program customer and appliance-specific energy use benchmarks, in the

form of pre-Program baseline on-peak and off-peak energy usage data (1) per appliance, each Program customer; (2) per building or site (appliances aggregated), each Program customer; (3) per area (customer buildings and/or sites aggregated), against Program goals.

b. Optimal and EM&V subcntractor will develop, at in-Program benchmark intervals identified in EM&V Work Plan, measure on- peak and off-peak energy usage data (1) per appliance, each Program customer; (2) per building or site (appliances aggregated), each Program customer; (3) per area (customer buildings and/or sites aggregated), against Program goals.

c. Optimal and EM&V subcntractor, at Final Program date identified in EM&V Work Plan, will measure on-peak and off-peak energy usage data (1) per appliance, each Program customer; (2) per building or site (appliances aggregated), each Program customer; (3) per area (customer buildings and/or sites aggregated), against Program goals. Determine whether Program has met goals of (A) Reducing customers' total base load consumption immediately and permanently by 15-20%; and (B) demonstrating integration of energy efficiency and demand response goals by meeting, in addition, a complementary demand response goal of reducing Program customer on-peak consumption by 35-40%.

8.1.1.6. Component Strategy: Testing and Training of Upstream Channels for Marketing to Nonresidential and Residential

a. The Program will identify, solicit, educate and train, and test a small number of representative upstream marketing channels for nonresidential and residential SUREFAST hardware components, including home improvement retailers (e.g. Home Depot, Loews), consumer electronics retailers (e.g., Best Buy, Circuit City, Fry's), value-added speciality home automation vendors; and new residential subdivision developers.

8.1.2. Program Indicators

8.1.2.1. Program Indicators, Overall Strategy: Non-Residential and Residential Technology Commercialization

a. The program indicators for the measurement of the Program strategy include all of the program indicators for the component strategies as set forth below, and, in addition, all other energy savings, cost, cost-effectiveness, and other Program data described and presented in the Program EM&V.

8.1.2.2. Program Indicators,Targeted Marketing to Nonresidential and New and Existing Residential Customers

a. Number and quality of marketing materials prepared and distributed to potential customers during recruitment phase.
b. Number of marketing and recruiting presentations for each of the Program sectors or sub-sectors, ideally taking advantage of already-planned meetings of marketing channel organizations.
c. Enrollment of 100 customers in non-residential buildings, proposed as: 50 customers in pre-1978 constructed buildings and 50 customers in post-1978 constructed buildings, further distributed among nonresidential market segments as follows:

- 35 ISD installations at commercial offices (small commercial and public-sector offices/buildings) (each ISD installation to have an average 30 ModBots);
- 30 food service facilities (15 grocery and 15 fast food);
- 10 small retail merchandise stores;
- 5 ISD installations at 1-3 hospital or medical clinic facilities (each ISD installation to have an average 30 ModBots – non-critical end-uses only);
- 5 ISD installations at 1-2 hotels (each ISD installation to have an average 30 ModBots);
- 5 ISD installations at 2-5 motels (each ISD installation to have an average 30 ModBots); and
- 5 ISD installations at 2-3 primary schools (each ISD installation to have an average 30 ModBots); and
- 5 ISD installations at 2-3 secondary schools (each ISD installation to have an average 30 ModBots)

d. Enrollment of 100 single family residential customers, each enabled with an individual "Intelligent Services Director" (ISD) master controller and 10 smart modular robot "ModBot" devices, proposed as customers in:

- 50 pre-1978 residences,
- 20 post-1978 residences, and
- 30 new sustainable building / green building homes.

8.1.2.3. Program Indicators, Direct Installation of SUREFAST/AskOT Systems In Nonresidential and New and Existing Residential Sites

a. Number of successfully installedand connected SUREFAST/AskOT systems in the targeted 100 nonresidential customer premises and 100 residential customer premises identified in Section 8.1.2.3.

b. Number of customer profiles designed and installed at targeted nonresidential and residential customer sites.
c. Successful maintenance and troubleshooting of all installed SUREFAST/AskOT systems
d. Number of customer problems and complaints

8.1.2.4. Program Indicators, Component Strategy: Training of Downstream Nonresidential and Residential Customers

a. Number of nonresidential and residential customer sites at which education and training has been completed.
b. Number of individuals at nonresidential and residential customer sites for whom education and training has been completed.
c. Number of follow-up customer inquiries
d. Number of follow-up training visits required
e. Number of customers who actively or passively drop out of Program

8.1.2.5. Program Indicators, Benchmarking of Nonresidential and Residential Customer Premise and Appliance-Level Performance (Pre-Program, In-Program, and End of Program)

a. Completion of premise and appliance-specific off-peak and on-peak energy use baselines; recording of all such baseline data in Program database.

b. Completion of in-Program interval customer-level and appliance-specific performance benchmarking

c. Completion of final customer-level and appliance-specific performance benchmarking

8.1.2.6. Program Indicators, Testing and Training of Upstream Channels for Retail Marketing to Nonresidential and Residential

a. Number of presentations made to potential upstream marketing channels

b. Number of upstream retail marketing channels secured for Program SUREFAST system hardware (for possible customer expansions or interested non-Program customers)

Number of upstream retail channel trainings completed; number of individuals per channel trained.

9. Program Objectives

Optimal, with appropriate program subcontractors, will take the following specific Program actions via the identified, measurable Milestones to meet the Program Objectives:

A. Program Organizational Phase: Engaging Employees and Subcontractors.

a. Milestone: Engage qualified Program employee or statewide or local subcontractor to assist in designing, planning, and implementing Program Marketing, Customer Recruiting, and Customer Enrollment.

b. Milestone: Engage and train licensed local electrical subcontractor to assist in installing, maintaining, and troubleshooting SUREFAST hardware systems.

c. Milestone: Engage and train qualified Program employee or local education and training subcontractor to educate, train, and engage customers in Program goals, in functionality of SUREFAST hardware and software, in accessing the Program website, in actively using their AskOT customer-directed monitoring control, and using the Program's customer-support channels.

d. Milestone: Engage subcontractor to assist in designing, planning, and implementing in-Program participation and progress audits, Quality Assurance, and Final Program Evaluation, Measurement, and Verification Program.

e. Milestone: Engage and train Program Spanish-speaking capability for customer enrollment, system installation, customer training and education, enhanced customer engagement, and customer support (system maintenance and troubleshooting) for residential and non-residential customers.

B. Final Program Design and Planning Phase. Completion of detailed Program design, planning, and scheduling.

a. Milestone: Identify the specific geographic Program area(s) in Climate Zones 10, 14, 15 within the SDG&E distribution grid, preferably in particularly constrained areas within the SDG&E distribution grid where Optimal also can meet Program marketing sector goals. Consult California Independent System Operator, SDG&E, and Marketing Subcontractor.

b. Milestone: Preparation and activation, and internal testing of Program website, including on-line enrollment and customer in-take forms; an enrolled customer accounts section, with secured customer access; AskOT customer and utility software "dashboard" templates showing the specific types of appliances to be included in the Program; and customer support e-mail hot-line., among other features.

c. **Milestone:** Completion of marketing plan document identifying specific existing and new residential sectors targets, specific non-residential office, grocery and food service, hospital/clinic, hotel/motel, and primary/secondary school targets, marketing channels, and timetable. Identify Spanish-language sector targets.

d. **Milestone:** Completion of plan for development and evaluation of retail distribution strategies, channels, and messages for sale of SUREFAST hardware (ModBots and ISDs).

e. **Milestone:** Completion of specific recruiting and enrollment plan document for meeting each Program target sector goal, identifying specific recruiting targets and methods, personnel requirements, group and individual meetings, and timetables for meeting each sector participation goal.

f. **Milestone:** Completion of plan and schedule for pre-testing, installing, connecting, and activating SUREFAST hardware and software systems, keyed to projected recruiting and enrollment schedules.

g. **Milestone:** Completion of SUREFAST technical instruction manual for local electrical subcontractor and for customers.

h. **Milestone:** Completion of plan for establishing, maintaining, and building active customer engagement, participation, and retention in an integrated EE, DR, and renewables program for energy savings and customer cost savings.

i. **Milestone:** Completion of customer service plans including customer telephone hot-line, customer website/e-mail inquiry and response capability, customer on- site troubleshooting and repair, and databases for logging incidence and type of inquiry, and outcome of each customer call.

j. **Milestone:** Completion of plan for auditing customer profiles, participation, proficiency, and energy savings returns at early-stage, mid-Program stage, and late-Program stage.

k. **Milestone:** Completion of plan for conducting Program Quality Assurance.

l. **Milestone:** Define potential and method for measuring system-wide effects of Program on-peak savings on T&D congestion and loss reduction, increase in load-serving capability using existing system resources.

m. **Milestone:** Investigate future potential for integrating SDG&E renewable technologies program activities into Integrated EE and DR Emerging Technology Program, using SUREFAST and AskOT EE and DR programs.

n. Milestone: Complete design and implement a rigorous program Evaluation, Measurement, and Verification (EM&V) program for an integrated energy efficiency/demand response program involving device-level, customer-directed, real-time energy use control systems.

o. Milestone: Completion of plan for exploring the potential for maximizing end-user engagement by offering, in addition to the Program's SUREFAST EE and DR services, higher priority (more valuable to the customer) Services deliverable over the SUREFAST platform. Higher-priority Services may be offered as incentives (in lieu of small cash incentives which have proven to have limited sustainable benefit.

C. Implement Program Marketing and Recruiting Phase.

Conduct Program marketing (1) to new and existing residential customers within the identified geographic areas; (2) to each of the 5 targeted non-residential sectors in which the Program seeks customers:

- 35 ISD installations at commercial offices (small commercial and public-sector offices/buildings) (each ISD installation to have an average 30 ModBots);
- 30 food service facilities (15 grocery and 15 fast food);
- 10 small retail merchandise stores;
- 5 ISD installations at 1-3 hospital or medical clinic facilities (each ISD installation to have an average 30 ModBots – non-critical end-uses only);
- 5 ISD installations at 1-2 hotels (each ISD installation to have an average 30 ModBots);
- 5 ISD installations at 2-5 motels (each ISD installation to have an average 30 ModBots); and
- 5 ISD installations at 2-3 primary schools (each ISD installation to have an average 30 ModBots);and
- 5 ISD installations at 2-3 secondary schools (each ISD installation to have an average 30 ModBots).

a. Milestone: Preparation of low-cost printed Program marketing/ informational brochures for new residential, existing residential, and non-residential sector targets, including Spanish-language version of materials.

b. Milestone: Preparation of Program website with Program component descriptions marketing and recruitment information, including Spanish-language section.

c. Milestone: Completion of initial-phase marketing to all target sectors using all identified marketing channels.

d. Milestone: Completion of Program component marketing Program EE and DR SUREFAST services bundled with one or more other services deliverable over the SUREFAST platform.

D. Conduct Enrollment, Installation, and Activation Phases for Residential and Non-Residential Customers.

a. **Milestone:** Preparation of customer Program enrollment questionnaire and documentation.

b. **Milestone:** Completion of recruitment group and individual meetings per recruiting and enrollment plan document. Consider whether adjustments should be made in sector recruitment goals.

c. **Milestone:** Completion of customer enrollments in fulfillment of all recruiting goals for all target sectors.

d. **Milestone:** Complete installation and activation of SUREFAST system hardware (1 ISD installation, each with 10 ModBots) for 70 existing residential customers.

e. **Milestone:** Complete installation and activation of SUREFAST system hardware (1 ISD installation, each with 10 ModBots) for 30 new residential homes customers.

f. **Milestone:** Complete installation and activation of SUREFAST system hardware for 35 office building ISD installations, each with 30 MobBots.

g. **Milestone:** Complete installation and activation of SUREFAST system hardware for 15 ISD installations, each with 30 ModBots, at grocery customer facilities, and 15 ISD installations, each with 30 ModBots, at fast food customer facilities.

h. **Milestone:** Complete installation and activation of SUREFAST system hardware for 5 ISD installations, each with 30 ModBots, at 1-3 hospital/clinic customers.

i. **Milestone:** Complete installation and activation of SUREFAST system hardware for 5 ISD installations, each with 30 ModBots, at 2-3 primary schools, and 5 ISD installations, each with 30 ModBots, at 2-3 secondary schools.

j. **Milestone:** Complete installation and activation of SUREFAST system hardware 5 ISD installations, each with 30 ModBots, for 1-2 hotel customer facilities, and 5 ISD installations, each with 30 ModBots, for 2-5 motel customers.

E. Customer Education, Training, and Engagement Phase.

a. **Milestone:** Complete hiring and training of local education and training subcontractor, including Spanish-speaking capability, to educate, train, and engage customers in Program goals, in functionality of SUREFAST modbots and Intelligent Service Directors (ISDs), in accessing the Program website, in active use of their AskOT customer-directed

monitoring control, and in use of the Program's customer-support channels.

b. Milestone: With each customer as described below, design and install the customer SUREFAST appliance and usage operating profile, including definition of customer savings targets, on-peak demand reduction and on-peak demand response goals, cost savings goals, and customer SUREFAST strategies for meeting such targets.

c. Milestone: Inclusion in Program education, training, and engagement multiple members of each residential customer household and each non-residential customer business site;

d. Milestone: Complete education, training and initiation of Program participation for 70 existing residential customer households.

e. Milestone: Complete education, training, and initiation of Program participation for 30 new residential homes customer households.

f. Milestone: Complete education, training, and initiation of Program participation for managers and staff at office building customer facility sites involving 35 ISD installations and their associated ModBots.

i. Milestone: Complete education, training, and initiation of Program participation for managers and staff at grocery and fast food customer facility sites involving a total of 30 ISD installations and their associated ModBots.

j. Milestone: Complete education, training, and initiation of Program participation for managers and staff at small retail merchandise customer facility sites involving a total of 10 ISD installations and their associated ModBots.

h. Milestone: Complete education, training, and initiation of Program participation for managers and staff at 1-2 hospital or clinic customers with 5 ISD installations and their associated ModBots.

i. Milestone: Complete education, training, and initiation of Program participation for managers and staff at 4-6 primary and secondary schools customers involving 10 ISD installations and their associated ModBots.

j. Milestone: Complete design and implementation of a hands-on training and energy efficiency/demand response education component for students at the Program customer school-sites.

k. Milestone: Complete education and training of managers and staff at 1-2 hotel and 1-5 motel customer sites, involving 10 ISD installations and their associated ModBots.

l. Milestone: For each customer sector, within 4-6 weeks of start of active

customer participation, carry out customer on-site participation and proficiency audit.

m. Milestone: Optimal and SDG&E will design, plan, and implement an in-Program energy usage aggregation program and templates, and an in-Program monitoring, analysis, and Program adjustment plan.

n. Milestone: For customers interested in receiving SUREFAST EE and DR capabilities bundled with one or more other services deliverable over the SUREFAST platform, complete installation and activation of the other Service.

F. Program Operations Phase: Establish Customer Service Program; Maintain and Troubleshoot Hardware and Software Systems; Establish Program Operations Phase Activities

a. Milestone: Establish customer telephone hot-line, and database for logging incidence and type of inquiry, and outcome.

b. Milestone: Establish customer website/e-mail inquiry and response capability, and database for logging incidence and type of inquiry, and outcome.

c. Milestone: Establish site-visit response and troubleshooting capability through local electrical subcontractor and site-visit reports protocol; maintain database reporting on incidence and type of found-problem, and outcome.

d. Milestone: Monitoring, analysis, and Program adjustment plan. At monthly intervals, analyze hot-line, web site, and troubleshooting site-visit databases, and prepare brief summary report, including any recommendations for in-Program adjustments.

e. Milestone: Optimal and local subcontractor will design, plan, and implement program for auditing customer profile, participation, proficiency, and energy savings returns at early-stage, mid-Program stage, and late-Program stage.

G. Perform EM&V Phase: Perform baseline, ongoing, and post-Program EM&V

Optimal and EM&V subcontractor acquire or develop Program baseline on-peak and off-peak energy usage data (1) per appliance, each Program customer; (2) per building or site (appliances aggregated), each Program customer; (3) per area (customer buildings and/or sites aggregated), against Program goals.

a. Milestone: At in-Program intervals identified in EM&V Work Plan, measure on- peak and off-peak energy usage data (1) per appliance, each Program customer; (2) per building or site (appliances aggregated), each

Program customer; (3) per area (customer buildings and/or sites aggregated), against Program goals.

b. Milestone: At Final Program date identified in EM&V Work Plan, measure on- peak and off-peak energy usage data (1) per appliance, each Program customer; (2) per building or site (appliances aggregated), each Program customer; (3) per area (customer buildings and/or sites aggregated), against Program goals. Determine whether Program has met goals of (A) Reducing customers' total base load consumption immediately and permanently by 15-20%; and (B) demonstrating integration of energy efficiency and demand response goals by meeting, in addition, a complementary demand response goal of reducing Program customer on-peak consumption by 35-40%.

c. Milestone: Confirm operating and performance capability of advanced prototype hardware (ModBots and ISD gateways), and integrated software and Web- based systems (AskOT), to deliver integrated EE, DR, and Renewables Energy programs and services.

d. Milestone: Completion of EM&V report that includes evaluation and measurement of all Program elements and topics listed in the description of Non-energy Activities in Section 13.3, of this document, below.

10. Program Implementation

A. Mechanics of Program Design and Planning, and Marketing, Recruiting, and Enrollment Phases

a. Optimal will engage subcontractor(s) as described in Section 12, below, to assist with overall Program design and planning, including design and planning of the Marketing and Recruiting Phase the Enrollment, Installation, and Enrollment Phases;

b. Optimal, with input from the California ISO and, preferably but not necessarily, from SDG&E, will identify the specific geographic areas within Zones 10, 14, and 15 in which the Program energy savings would be expected to have maximum beneficial effect on grid congestion, reduction of losses, and increased grid load serving capability, while offering opportunities to meet the several Program objectives for market sectors, EE savings, and DR savings.

c. Optimal, with input from the Program marketing subcontractor, will design and plan the Program marketing and recruiting plan, including:

i. Identification of specific existing and new residential customer targets, and specific non-residential targets;

ii. Identification of a small number of residential and non-residential customers who already have installed solar hot water heating or solar photo voltaic technology, or micro wind technology, around whom Optimal could conduct planning and design of a possible next-phase program integrating Energy Efficiency, Demand Response, and Renewable Energy program components.

iii. Types of printed, on-line, and media marketing and recruiting materials required, including Spanish-language materials, ("Marketing Materials");

iv. Marketing and recruiting channels (existing residential organizations, such as homeowners associations, and subdivision developers; existing community energy-focused organizations and offices, such as San Diego REO and municipal energy program co-ordinators); trade associations; Chambers of Commerce, etc.; use of meetings of such organizations; mailings and other distributions; media announcements; direct phone calls; invitational and public meetings, etc.); and

v. Priorities, sequences, and schedules for addressing the respective targeted market sectors.

d. Optimal, with input from SDG&E, will prepare the Program website, the on-line enrollment and customer account forms, and AskOT customer and utility software "dashboard" templates showing the specific types of appliances and devices to be included in the Program.

e. Optimal and the Program marketing subcontractor, with input from SDG&E, will prepare the Marketing Materials, as described elsewhere in this Concept document, including Spanish-language materials, and will initiate and carry out the marketing, recruiting, and customer enrollment campaign.

B. Mechanics of Installation, Connection, and Customer Education and Training Phases

a. Optimal and local electrical subcontractor(s) will plan and execute SUREFAST installation, and connection with AskOT and the Program website.

i. Install SUREFAST ModBots and the ISD gateway in each enrolled customer's premise;

ii. Connect the customer premise to the Program website;

iii. Confirm operation of the Premise system and connectivity with the Program website, including both the customer dashboard and the utility dashboard;

b. Optimal will carry out on-site customer education and training, focusing on hands-on engagement and proficiency of multiple members of residential households and multiple management and staff personnel at each non-residential site.

c. Optimal and the customer will identify customer energy use and energy cost savings goals and SUREFAST strategies for achieving them,

d. Optimal will include a Spanish-language capability for its education and training program, as described elsewhere in this document.

C. Mechanics of Program Operations and Customer Service Phases

a. Optimal will design, plan, and implement a telephone hot line and a Program website / e-mail technical assistance request and response facility for customers. Optimal will maintain a log recording and describing all inquiries, responses, and outcomes.

b. Optimal and the local electrical subcontractor will plan and implement on-site technical assistance, troubleshooting, and repair capability. optimal and the subcontractor will maintain a log recording and describing all inquiries, responses, and outcomes.

c. Optimal will conduct monthly review and analysis and prepare summary report of inquiries, responses, and outcomes.

d. Optimal and the Program design subcontractor will design and plan, and Optimal will implement a program for auditing customer participation, proficiency, and energy savings returns at early-stage, mid-Program stage, and late-Program stage.

e. Optimal will design, plan, and implement an in-Program energy usage and demand response aggregation program, including templates for potential utility use in aggregating use information, demand response information, and load forecasting information, and in sending of warnings, alerts, and control directives., Optimal also will design and implement an in-Program monitoring, analysis, and Program adjustment plan.

f. Optimal will design and implement a small component of the Program involving 2-10 residential and non-residential customers who already have installed solar hot water heating or solar photo voltaic technology, or micro wind generation technology, around whom Optimal could conduct planning and design of a possible next-phase SUREFAST program integrating Energy Efficiency, Demand Response, and Renewable Energy program components.

g. Optimal and the Program Quality Assurance subcontractor will design, and the Quality Assurance subcontractor will implement, the Quality Assurance program described in this document below.

D. Mechanics of Program Evaluation, Measurement, and Verification

a. Optimal and the Program EM&V subcontractor will design, and the EM&V subcontractor will implement, the EM&V program described in this document below.

11. Customer Description

Customers targeted by the Program include the following:

A. Residential Sector:

a. 70 existing single-family residential customers within the selected geographic area, all of which must have broadband interconnection, and any of the

following installed appliances: an air conditioner; lighting fixtures and lamps; a water heater; a pool and pool pump/heater; and a spa and spa pump/heater. Of the 70 homes, 50 must be pre-1978 construction, and 20 post-1978 construction

b. 30 new sustainable building / green building homes that have the following appliances: an air conditioner; lighting fixtures and lamps; a water heater; a pool and pool pump; and a spa and spa pump/heater.

c. This Program is applicable, as well, in this or future stages to Multi-Family Residential, if SDG&E should prefer, focusing on the same appliances;

B. Non-Residential Sector: Non-residential customers located in the following building types within the geographic area, all of which must have broadband interconnection. One-half of the non-residential customer buildings must have been constructed pre-1978, one-half post-1978

a. Office sector customers in a mix of commercial and public- sector small office buildings offering sites for 35 ISD installations, each with 30 ModBots.

b. Grocery and fast food customer facilities, offering sites for a total of 30 ISD installations, each with 30 ModBots

b. Small retail customer merchandise stores offering sites for 10 ISD installations, each with 30 ModBots;

c. 2-3 hospitals or health care clinics, offering sites for a total of 5 ISD installations, each with 30 ModBots;

d. 2-3 hotels and 5 motels, offering sites for a total of 10 ISD installations, each with 30 ModBots; and

e. 2-3 primary and 2-3 secondary schools offering sites for a total of 10 ISD installations, each with 30 ModBots.

Any number of the non-residential sites could be, as well, sites that are in the SDG&E sustainable building / green building new construction programs.

All non-residential customers must have the following appliances and systems that will be SUREFAST connected and controlled:

- Refrigeration units (firm requirement for grocery and fast food customers; preferred feature for other customers)
- Heater
- Heater (Gas)
- Air conditioner
- Lighting
- Water heater

12. Customer Interface

Four Phases of Customer Interface.

The Program and SUREFAST will be presented to its customers in four progressive phases. Each phases will involve an increased level of familiarization of the customer with the purpose and structure of the Program and with the end-user friendly SUREFAST/AskOT hardware, website, and AskOT control and reporting screens at the Program website, and progressively increasing customer engagement:

a. Marketing Phase. During the Program marketing phase, the Program first will be presented to potential customers through illustrated but inexpensive brochures describing SUREFAST, the Program, and its goals, and showing AskOT customer display and control screens.

b. Recruiting Phase. During the Program recruiting phase, potentially interested customers will be invited to small group recruiting presentations at which SUREFAST, AskOT customer display and control screens, and the Program and its goals all will be presented both on large screens and in hands-on demonstration mini-SUREFAST hardware and active computer displays

c. Customer Education and Training Phase. During the post-installation, customer education and training phase, Program personnel will provide on-site, side-by-side education and training of customer residents and, for the non-residential sector, customer managers and employees, supported by written and on-line Customer instructional materials Because the SUREFAST/ AskOT interfaces are designed for ease of understanding and interactive customer use, the Program will make a specific effort to engage multiple members of each residential family, and multiple managers and employees at each non-residential Program site, in understanding Program purposes and goals, SUREFAST operation, and access to the real-time and cumulative premise energy performance reports AskOT provides.

d. Operations Phase. During the Program operations phase, the Program will (a) maintain an instructional website, (b) maintain a customer instructional and troubleshooting hot-line, and (c) conduct intermediate customer "participation" check-ups (participation audits) to interview customers regarding SUREFAST system and appliance energy usage issues.

SUREFAST hardware and its AskOT ("**Ask** **O**ptimal **T**echnologies") software itself provide clear, attractive customer interfaces" ("customer dashboard" screens) over the customer's computer that afford easy program presentation, and that invite customer hands-on, "instructional driving" of the energy control system.

AskOT's functionality and interfaces involve unique built-in energy sequences, leading to reduced education and training requirements, and easy involvement of most building dwellers and users in understanding how the building uses energy and operates.

AskOT customer "dashboard screens" include, among others, interactive screens including the following:

- Customer overview use/price/bill-to-date screens: Screens that show, in real time, the aggregate amount of power the customer currently is using (kW); the price of electricity (cents/kwh); the total number of kwh the customer has used during the current billing period to date; and the approximate total amount of money the customer has spent on electricity to date during the current billing period. The screen offers active links to all other customer screens.
- Customer usage summary screens: Screens that show the customer electricity usage summary (in kwh) by customer-identified category (e.g., environmental controls; appliances; lighting)
- Set thresholds screens: Screens that offers the customer the opportunity to set price, utility-warning, or other thresholds that are to trigger automated on-off or automated dimming for identified ModBot-controlled device (e.g., "If price exceeds 18 cents/kwh, turn off air conditioner.").
- Set schedules/set timers screens: Screens that offer the customer the opportunity to do "graphic system scheduling" for buildings, zones, or devices, hour-by- hour, day-by-day, week-by-week, simply by blocking-in, through a "drag-and- drop" mechanism, the times at which specific ModBot-controlled devices are to be turned on, turned off, curtailed when temperature changes are to be set.
- Device status screens: Screens that show the real-time status ("in-use", "curtailed", or "off") of every ModBot-enabled device in the premise (by device location, or by device category), and the occupancy status, temperature, power consumption, energy cost, running operating costs, voltage, light levels, of spaces in which ModBots are installed.
- Alerts & incentives screens: Screens that show utility-identified alerts or warnings in effect for the SUREFAST premise and price incentives for use curtailment.
- Reports screens: Screens that offers the customer the opportunity instantly to call up various graphic reports (line graphs, bar charts, pie charts) of its use of electricity in kwh, and its accrued billed cost to date in dollars/cents, including a summary of overall use and cost, use and/or cost to date, and average energy price (cents/kwh), or its use/cost by any designated time period, by pre-named and –structured category , by individual appliance, and/or by the hour, day, week, or year.

- User profile screen: A screen that provides a comprehensive overview of the Customer and its SUREFAST profile: The Account name and number; the customer name, address, and phone contacts (home, office, mobile); the customer pre-sets ; the SUREFAST-enabled zones of the customer premise (e.g., Main Floor; Kitchen); the customer occupancy modes (e.g., away, holiday, present); and devices outfitted with ModBots (e.g., air conditioner, pool pump, hall light, kitchen light, water heater, etc.)

AskOT customer "dashboard screens" are customer-accessible and customer-operable with secure access over the Internet on any computer screen. From computer locations either within the premise or in remote locations, customers can obtain real-time and cumulative reports on all connected features and appliances of their SUREFAST energy monitoring and control at their premise, and can either re-set system control features or override previously-set automated operations parameters and actively operate individual appliances.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

See SDG&E February 1 Filing Workbook

13.2. kWh Level Data

See SDG&E February 1 Filing Workbook

13.3. Non-energy Activities

i. End Use Load (if applicable)

The Program will incorporate education and training in use of SUREFAST and AskOT to monitor, understand, control, and analyze the Program targeted end- use loads controlled by ModBots. This education and training will occur in progressive detail in the marketing, recruiting, customer training and education, and operating phases described above in Section 12.

ii. Targeted Sector (if applicable)

The Program will incorporate education and training in use of SUREFAST and AskOT specific to monitoring, understanding, controlling, and analyzing premise and appliance energy use in the respective existing and new Residential and the several respective Non-Residential sectors addressed in the Program. This education and training will occur in progressive detail in the specific sector customer training, education, and operating phases described above in Section 12.

13.3.1. Activity Description

a. Customer Education and Training.

The Program will conduct customer education and training in progressive detail as described in Phases (2) – (4) in Section 12, above, during the Program Marketing Phase, Recruiting Phase, Post-Installation Customer Education and Training Phase, and Program Operations Phase Follow-Up.

In addition, the Program will design and implement other Program participation modes, including a Program website "chat room", and informal evening or weekend events at 3-month intervals to which all Program customers and other interested parties can come to discuss Program progress, ask use or technical questions, seek information regarding potential SUREFAST applications, and discuss new integrated energy management and technology generally.

b. In-Program Operations Phase Participation and Proficiency Audits.

The Program will conduct three intermediate customer "SUREFAST participation and proficiency check-ups" at intervals during the Program.

i. The <u>first such audit</u> of each customer, which will be a 15-30 minute customer site visit, will occur 4-6 weeks after installation and commencement of SUREFAST operation. Its intent is to review and rate (1) the customer's understanding and use of the SUREFAST program, equipment, and management, and (2) the customer's level of engagement (including number of customer household or business staff members with active awareness of the Program) with the Program and the SUREFAST system. It also will share any accumulating wisdom and lessons from the Program to date. It will involve administration of a questionnaire by a Program representative. It has a goal of reinforcing customer interest and participation.

ii. The <u>second and third such audit</u> of each customer which will be a 10-20 minute customer phone and on-line interview, will occur at the 8-month and 16-month intervals after installation and commencement of SUREFAST operation. It will have the same goals as the first participation and proficiency audit, but will benefit from the customer's experience of the first, on-site audit. It will involve a phone conversation with a customer representative conducted with a customer questionnaire in front of both the interviewer and customer at the Program website.

c. Final Program Evaluation, Measurement, and Verification (EM&V) Program.

The Program will include an EM&V Program that evaluates and/or measures and verifies, among other Program features:

i. Effectiveness and reliability of the SUREFAST emerging technology (ISD and ModBot hardware, and AskOT software and web-based systems) in meeting SUREFAST/AskOT functionality goals.

   a. Effectiveness and costs of pre-Program and in-Program technical, troubleshooting, and repair services, and incidence of customer need for and use of such services.

ii. Program energy savings (gross energy savings, off-peak energy savings, on-peak energy savings), including energy savings by appliance categories, and by market sector categories.

   a. Establish measured and/or estimated pre-Program customer baseline profile of total energy use, pattern of energy use, and use by appliance, and customer energy costs.

   b. At in-Program intervals, and post-Program, review and measure profile of total energy use, pattern of energy use, and use by appliance, and customer energy costs.

   c. Evaluate the degree to which the Program has advanced the potential for accurate forecasts of potential energy savings from integrated energy efficiency/demand response programs such as the SUREFAST/ AskOT Program, for resource planning purposes.

   d. Determine whether Program has met goals of (A) Reducing customers' total base load consumption immediately and permanently by 15-20%; and (B) demonstrating integration of energy efficiency and demand response goals by meeting, in addition, a complementary demand response goal of reducing Program customer on-peak consumption by 35- 40%.

iii. Program Cost-Effectiveness

   a. Apply both the TRC and PAC tests utilizing the avoided cost methodologies and input assumptions, including non-price factors (e.g., for avoiding greenhouse gas and non-greenhouse gas pollutants) that are developed for the evaluation of energy efficiency programs in the CPUC's avoided cost rulemaking, R.04-04-025.

   b. Perform paper evaluation, using both the TRC and PAC tests, of the cost- effectiveness of a hypothetical scaled-up program reflecting (1) the average energy savings per installation achieved by the Program, and (2) the reduced unit SUREFAST

hardware, software, and web-based system components that would result from program scaling-up.

iv. Changes in use patterns and trends occurring in SUREFAST-controlled premises, measured pre-Program, at in-Program intervals, and post-Program.

v. Effectiveness of SUREFAST/AskOT in demonstrating the potential for integrating traditional Energy Efficiency programs and goals, and Demand Response programs and goals.

vi. Effectiveness and efficiency of Program (1) in meeting marketing and recruiting goals, and (2) in developing approaches and channels for attracting, enrolling, and pre-educating customers.

vii. Effectiveness and efficiency of Program customer education and training goals, measured at in-Program and immediately post-Program intervals, particularly as they relate to:

1. Customer understanding of the SUREFAST/AskOT system;
2. Customer proficiency and engagement with the system toward smooth operations start-up and reduced in-program instructional and troubleshooting needs;
3. Customer awareness of energy and cost effects of the SUREFAST system; and
4. Participation by more than one representative at each customer premise.

viii. Success of Program at identifying and developing retail channels for distribution and sale of SUREFAST ModBot and ISD hardware to Program and other customers.

ix. Overall performance of Program administrators and subcontractors.

x. Potential improvements in Program design and planning

xi. Potential for scaling up the Program within the Program area, and for transferring it and scaling it up in other program areas.

xii. Potential for future integration of SDG&E renewable technologies program activities into Integrated EE and DR Emerging Technology Program, using SUREFAST and AskOT EE and DR programs.

xiii. Potential and method for measuring system-wide effects of Program on- peak savings on T&D congestion and loss reduction, increase in load-serving capability using existing

system resources.

13.3.2. Quantitative Activity Goals

a. Marketing Phase and Recruiting Phase Quantitative Activity Goals

i. Identification and engagement of at least 1 marketing channel for each of the 6 Program customer sectors and sub-sectors in the form of a community- based sector association (e.g., homeowner associations, residential builder associations, building-owner association, local Chamber of Commerce, county health care administration, county building energy management office, San Diego Regional Energy Office, etc.)

ii. Preparation of Program marketing materials designed and written for each of the 6 Program sectors and sub-sectors:

iii. Distribution of marketing materials through engaged marketing channels in quantities sufficient to ensure Program sector participation goals and to identify potential future customers for expanded program.

iv. Organization and execution of 1-4 marketing and recruiting presentations for each of the Program sectors or sub-sectors, ideally taking advantage of already-planned meetings of marketing channel organizations.

v. Distribution of marketing materials, and conduct of recruiting activities through homeowner associations and targeted door-to-door leafleting and recruiting of existing residential and small retail businesses in targeted localities in quantity sufficient to ensure participation goals of 70 existing residences (50 pre-1978 construction) and 30 small retail and service customers, and to identify potential future customers for expanded program.

b. Enrollment Phase Quantitative Activity Goals

i. Enrollment of customers in 70 existing residences (50 pre-1978 construction, 20 post-1978 construction) and 30 new residential premises; and in Program non-residential sectors involving 100 ISD installations and ModBots groupings.

a. Customer intake and Program website connection of all enrolled customers: establish up to 200 energy profiles and customer accounts at website.

c. Post-Installation Customer Education and Training Phase Activity Goals activity by numbers – equals number of residential and non-residential participants.

i. Education, training, customer-directed design and installation of AskOT controls, for each of up to 200 customer accounts.

d. Program Operations Phase Activity Goals, Follow-Up and Participation Audit Phase activity by numbers

i. Up to 200 in-program customer site visits for participation and proficiency audits

ii. Up to 200 in-program telephone customer interviews for participation and proficiency audits

e. Program Operations Quality Assurance

i. Up to 10 customer site visits at 3 different program intervals to test and review sample operations of ModBots, ISDs, and AskOT customer screens.

ii. Up to 10 in-Program reviews at 3 different program intervals of AskOT aggregation functionalities.

13.3.3. Assigned attributes of the activity (market sector, end use)

a. Residential Market Sector and End-Use Program Attributes.

- All residential customer premises must be located within the selected geographic area;
- 50 of the 70 existing residential customer premises must be pre-1978 construction, the rest post-1978 construction;
- 30 of the residential premises are to be new, sustainable building / green building homes to be identified and recruited through established new residential energy efficiency programs within SDG&E service area;
- All residential premises must have broadband interconnection to the premise;
- All residential premises must have the following installed appliances:

  -air conditioner;

  -lighting fixtures and lamps;

  -water heater;

  -pool and pool pump/heater and/or spa and spa pump/heater.

- Identification of at least 15 Spanish speaking residential households as pilot program involving development of Spanish-language marketing, recruitment and enrollment, and education and training materials.

- Identification and recruitment of 1-5 residential customers who already have installed solar hot water heating or solar photo voltaic technology, around whom Optimal could conduct planning and design of a possible next-phase program integrating Energy Efficiency, Demand Response, and Renewable Energy program components.

b. Non-Residential Market Sector and End-Use Program Attributes.

- All Non-Residential customer premises must be located within the selected geographic area;

- All customer premises must have broadband interconnection to the premise;

- All premises must have the following installed appliances:

  -Refrigeration units (firm requirement for grocery and fast food Program customer facilities; preferred feature for other customers)

  -Heater; Heater (Gas);

  -Air conditioner;

  -Lighting system;

  -Water heater;

- Non-residential customers also are to have the following attributes:

- Office sites [commercial and public-sector small office buildings, and/or large office buildings with multiple separate office suites as separate but interconnected Project sites], and offering sites for 35 total ISD installations, each with 30 ModBots, deployed in a range of office building sizes.

- small retail stores offering sites for 10 ISD installations, each with 30 ModBots, deployed in a range of small retail buildings

- Health care buildings, offering sites for a total of 10 ISD installations, each with 30 ModBots, in 1-2 hospitals or clinics.

- Hospitality/Lodging buildings, offering sites for 5 ISD installations, each with 30 ModBots, deployed in one or two hotels; and 5 ISD installations, each with 30 ModBots, deployed in 2-5 motels;

- Education/School buildings, offering sites for 5 ISD installations, each with 30 ModBots, deployed in 2-3 primary schools; and 5 ISD installations, each with 30 ModBots, deployed in 2-3 secondary schools.

- Identification of at least 15 Spanish speaking small retail and service commercial customers as pilot program involving development of Spanish-language marketing, recruitment and enrollment, and education and training materials for non-residential customers.

- Identification and recruitment of 1-5 non-residential customers who already have installed solar hot water heating or solar photo voltaic technology, or micro wind technology, around whom Optimal could conduct planning and design of a possible next-phase program integrating Energy Efficiency, Demand Response, and Renewable Energy program components.

14. Subcontractor Activities

A. Program Design Subcontractor.

Local or statewide subcontractor to assist Optimal Technologies in strategic design and implementation of local program design, marketing and recruiting, including:

- Specific locations of existing residences (including pre- and post-1978) for target marketing
- Specific locations and channels for target marketing of potential customers in new, energy-saving residences.
- Specific locations and mix of sites:
- Office and commercial retail and services sites, and potential channels for target marketing for and recruiting such sites, including Spanish-language channels and sites;
- Health care sites, and channels for target marketing for and recruiting such sites

- Hotel and motel sites, and channels for target marketing for and recruiting such sites

- Primary and secondary school sites, and channels for target marketing for and recruiting such sites

B. Local Licensed Electrical Subcontractor.

Local licensed electrical subcontractor to assist Optimal in installation, electrical and hardware troubleshooting, and network maintenance.

C. Local Education and Training Subcontractor (If qualified employee is not hired).

Local education and training subcontractor to educate, train, and engage customers in Program goals, in functionality of SUREFAST hardware and software, in accessing the Program website, in actively using their AskOT customer-directed monitoring control, and using the Program's customer-support channels, and in designing and carrying out the in-program participation and proficiency audits.

D. Quality Assurance Subcontractor.

National, statewide, or local subcontractor to perform Program Quality Assurance tasks. May be the same subcontractor as is hired for the Program PM&V tasks.

E. EM&V Subcontractor.

National, statewide, or local subcontractor for designing and carrying out a Program Evaluation, Measurement, and Verification program. This may be the same subcontractor as is hired for the Program Quality Assurance tasks.

15. Quality Assurance and Evaluation Activities

The Program includes the following Quality Assurance and Evaluation Activities:

- Optimal and Quality Assurance Subcontractor will design a Program Quality Assurance Plan.
- The QA program will include focus on maintaining quality in the following program elements:
- SUREFAST hardware (ModBots and ISD) installations, operation, interconnection and communication, and reliability;
- AskOT software and website functionality and reliability
- Customer interconnection to Program Website and customer account
- Customer training and education, and establishment of customer SUREFAST operating profiles with customer energy savings targets, including on-peak demand reduction and on-peak demand response goals, and cost-savings targets.
- Customer support, troubleshooting, and repair.
- The QA program also will include:
- Optimal's pre-testing of all SUREFAST modbots and ISDs before customer installation.

- Pre-program testing of the website using "dummy" customer accounts and test-site ISDs and ModBots.
- Monitoring of the Program website customer support log and customer on- site troubleshooting and repair log, and identification of recurrent problems.
- A review of customer hardware and software functionality (1) at the initial "participation and proficiency audit" conducted on-site 4-6 weeks after customer installation and activation, and (2) at subsequent in-Program phone interviews with customers and completion of the website questionnaire.
- When possible, customer "exit interviews" with any customers leaving the Program, to determine the reason for their departure, including dissatisfaction with the program, the technology, the results, etc.
- Customer "participation audits" – how well, how much, how often are customers actively using the system.

16. Marketing Activities

The marketing program proposes to use traditional marketing approaches based on identification, development, and use of market channels specific to each of seven market sectors, and leveraging of ongoing activities in those sector market channels to present the Program opportunity.

The marketing activities will be used to meet program goals of recruiting customers from a range of residential and non-residential sectors, in order to demonstrate the applicability of the emerging technology to all the involved market sectors.

The marketing activities also will be used to preliminarily educate prospective Program customers as to SUREFAST technology and its potential for energy savings and reduced customer energy costs, and to begin to engage the customers. The Program will develop Spanish-language marketing materials and Spanish-speaking marketing presenters, in an effort to test SUREFAST's marketability with Spanish-speaking customers that have broadband access.

An innovative feature of the Program marketing campaign will be use of the SUREFAST/ AskOT technology itself, which has some "Wow-appeal", in the marketing itself. The technology can be demonstrated using a laptop computer and a portable kit of ModBots and small appliances, to show exactly how it works, and to allow prospective customers hands-on test-driving of the technology.

The Program also will actively use the Program website in its marketing, with printed materials, news releases and stories, and public service announcements directing prospective customers to the website, where customers will find illustrated Program descriptions, photographs of SUREFAST ModBots and ISDs, "screen shots" of AskOT customer interfaces, and customer marketing and recruitment information, including a Spanish-language section.

a. Optimal and Program design contractor will complete a marketing plan document outlining marketing strategies, channels, and messages that can reach a range of residential and non-residential market sectors, including traditionally hard-to-reach customers, and identifying:

   i. Targets for meeting the Program's specific existing and new residential sector goals;

   ii. Targets for meeting the Program's specific non-residential office, food service, small retail, hospital, hotel/motel, and primary/secondary schools targets;

   iii. Targets for meeting the Program's Spanish-speaking customer goals in the residential and non-residential sectors;

   iv. Potential marketing channels for each of the target residential and non-residential market sectors, including marketing channels to Spanish-speaking customers;

   v. A public news and information campaign using print and broadcast media news and public service announcement strategies;

   vi. Marketing priorities and schedules.

b. Optimal will prepare a Program website with illustrated Program descriptions, photographs of SUREFAST ModBots and ISDs, “screen shots” of AskOT customer interfaces, and customer marketing and recruitment information, including a Spanish-language section.

c. Optimal will identify and engage at least 2 marketing channel for each of the 7 Program customer sectors and sub-sectors in the targeted Program geographic areas. Marketing channels may be, for example, existing utility-sponsored programs (e.g., the Sustainable Communities and Advance Home programs); and community-based sector associations or offices (e.g., homeowner or neighborhood associations; residential builder associations; building-owner and manager association; local Chambers of Commerce or tourist bureaus; the County healthcare administration, the County or municipal energy management office, the San Diego Regional Energy Office, etc.)

d. Optimal will prepare low-cost printed and “e-mailable” Program marketing/ informational brochures designed for each of the 7 Program sectors and sub- sectors. These will include Spanish-language marketing materials and channels to reach Spanish-speaking residential and non-residential customers. The materials will describe the Program as a new technology program combining Energy Efficiency and Demand Response goals, intended to save energy and reduce customer energy bills. All such materials will prominently encourage readers to visit the Program website.

e. Optimal will prepare and issue press releases and seek print and broadcast media news coverage of the Program and specific meetings and informational opportunities and sources of Program information.

f. Optimal will actively market the Program to all target sectors using all identified marketing channels.

   i. Optimal will organize and execute 1-5 marketing and recruiting presentations for each of the Program sectors or sub-sectors, or more as required to fulfill Program sector goals.

   ii. A priority will be to take advantage of already-planned meetings of marketing channel organizations and offices, or other scheduled community or neighborhood events.

   iii. Optimal will distribute marketing materials through engaged marketing channels in quantities and using distribution strategies sufficient to ensure Program sector participation goals and to identify potential future customers for expanded program.

   iv. Optimal will promote and hold small evening or weekend public meetings in the targeted geographic areas evening to provide informational marketing information and SUREFAST technology demonstrations.

   v. For marketing and recruiting of existing residential customers in targeted geographic areas and pre-1978 subdivisions, Optimal will distribute marketing materials and conduct other marketing and recruiting activities for residential customers through homeowner associations or neighborhood organizations, where available, and, where necessary to meet sector participation goals, through targeted door-to-door leafleting and recruiting.

   vi. For marketing and recruiting of small retail and service businesses in targeted localities in quantity sufficient to ensure Program sector participation goals, Optimal will distribute marketing materials and conduct other marketing and recruiting activities for residential customers through commercial associations, where available, and, where necessary to meet sector participation goals, through targeted door-to-door leafleting and customer recruiting.

17. CPUC Objective

17.1. The Program meets all CPUC objectives for innovative programs and emerging technologies encourage enhanced funding for such programs. These objectives are as follows:

1. [identification of] innovative approaches or technologies for meeting savings

goals with improved performance (Attachment 3, Page 11, VI. 1);

2. the deployment of new and improved energy efficiency products and applications [that] can help sustain or increase current savings yields from program dollars; (Attachment 3, Page 4, II, 8);
3. [creation of] a new generation of technologies available to tap the cost-effective potential of energy efficiency in ways we cannot predict today. (Attachment 3, Page 4, II, 8);
4. In order to provide higher levels of bridging between available upstream innovations and the marketplace, annual funding for emerging technologies programs should increase. (Attachment 3, Page 4, II.8);

The CPUC Energy Efficiency Policy Manual, Version 3, defines "Emerging Technologies" as:

> "New energy efficiency technologies, systems, or practices that have significant energy savings potential but have not yet achieved sufficient market share (for a variety of reasons) to be considered self sustaining or commercially viable. Emerging technologies include early prototypes of hardware, software, design tools or energy services that if implemented will result in energy savings."

The Program is a next-generation suite of unique integrated hardware, software, and Web-based tools that support new combinations of energy efficiency, demand response, and renewable resource applications and programs capable of delivering both immediate and long-term off-peak and on-peak energy savings. The Program and SUREFAST technologies have the potential significantly to improve the utility's EE portfolio performance.

The Program and the innovative emerging technology it will deploy are precisely the types of programs and emerging technologies for which the CPUC objectives include support for enhanced funding to improve performance reliability and to overcome institutional and marketing barriers.

Optimal's Program logic or theory is that its emerging integrated SUREFAST/AskOT hardware, software, and Web-based device-level control, monitoring, metering, and aggregation technology can be marketed using a variety of traditional marketing approaches to a cross-section of residential and non-residential customers, (1) to demonstrate its multiple Energy Efficiency and Demand Response functionalities, its user- accessibility, its capability to actively engage customers, and its capability to result in off-peak and on-peak energy savings and energy cost savings, and (2) to test, evaluate, and improve its reliability in order to reduce performance uncertainties typically associated with new technologies and products, among its other Program objectives.

The Program logic also has as a design feature limiting initial application of advanced SUREFAST/ AskOT hardware and software prototypes to a relatively smaller number and diversity of appliances/devices at each customer site, in order to restrain costs of this initial-phase program, yet demonstrate SUREFAST's customer-directed device control and customer site aggregation functions, and its ability to integrate Energy Efficiency and Demand Response technology and

functions in a way that eliminates "lost opportunities" and "cream skimming", as described below in Section 17.3, "Lost Opportunities"

17.2. Program Response -- The Program meets the following CPUC objectives as described in the The CPUC Energy Efficiency Policy Manual Version 3:

1. Page 2, II, 1: Commission and state energy policy, as expressed in the Energy Action Plan and reaffirmed in Decision (D.) 04-12-048, make energy efficiency the utilities' highest priority procurement resource. In other words, cost-effective energy efficiency should be first in the "loading order" of resources used by the utilities to meet their customers' energy service needs.
2. Page 3, II, 3: In order to promote the resource procurement policies articulated in the Energy Action Plan and by this Commission, energy efficiency activities funded by ratepayers should focus on programs that serve as alternatives to more costly supply-side resource options ("resource programs").

   Program Response: The Program is a "resource" program that has the capability to directly displace both base load and peak load resources through integration of Energy Efficiency and Demand Response programs, and, in a next phase, to integrate active and passive Renewable Resource technologies, as well.
3. Page 2-3, II, 2: "The Commission's overriding goal guiding its energy efficiency efforts is to pursue all cost-effective energy efficiency opportunities over both the short- and long-term. By D.04-09-060, the Commission translated this policy into specific annual and cumulative numerical goals for electricity and natural gas savings by utility service territory… Program Administrators should develop their energy efficiency program portfolios so that they will meet or exceed these annual and cumulative savings goals, both over the short- and long-term."

   Program Response: The Program addresses both electricity and natural gas energy savings, and both short-term and long-term energy savings goals.
4. Page 2, II,1: "The Governor's and the state's policies also seek to reduce the environmental impact (including the greenhouse gas emissions) associated with the state's energy consumption, to protect the public's health and safety."

   Program Response: The Program is a resource program that facilitates both off-peak and on-peak electricity and natural gas energy savings, and thus will reduce the environmental impacts (including greenhouse gas emissions) associated with energy consumption, both on a short-term and a long-term basis.
5. Page 3, II,5: Program Administrators should develop their energy efficiency program portfolios so that they will meet or exceed these annual and cumulative savings goals, both over the short- and long-term. In addition, the Program Administrators should demonstrate in their program planning applications for PY2006-PY2008 how their proposed portfolio will aggressively increase overall capacity utilization and lower peak loads through the deployment of low load factor/high critical peak saving measures. The aggressive annual and cumulative savings goals established by the Commission will serve to discourage cream-

skimming program designs or implementation approaches that create lost opportunities. Nonetheless, Program Administrators should actively develop strategies to minimize lost opportunities, and should describe those strategies in the applications they submit for each program cycle."

Program Response: The Program is a "resource" program that has the capability to directly displace both base load and peak load resources through integration of Energy Efficiency and Demand Response programs, and, in a next phase, to integrate active and passive Renewable Resource technologies, as well. It will help SDG&E as a Program Administrator to meet that CPUC objective. In addition, as explained in Section D of this document, below, the SUREFAST/AskOT technology to be deployed in this Program will virtually eliminate "cream skimming" and "lost opportunities", and will provide a foundational energy efficiency and demand response aggregation network that will be able to wrap around, preserve, and convert both existing unrealized EE and DR opportunities and future such opportunities.

6. Page 4, II, 6: "Compliance with Rule II.5 will generally dictate the appropriate balance for portfolio funding of resource programs across market sectors (e.g., residential, industrial, commercial) and geography, as well as the most appropriate program designs."

   Program Response: The Program involves a mix of residential and non-residential market sector applications, and will test market approaches to each. The emerging SUREFAST technology can be applied equally readily to residential, commercial, and industrial applications, and can be deployed in a wide range of possible program designs.

7. Page 4, II, 6: "Program Administrators should also include a selection of statewide marketing and outreach programs, upstream market transformation programs, information and education programs … and other activities in their proposed portfolios that support the Commission's short-term and long-term energy savings goals."

   Program Response: The Program will test upstream marketing and retail market approaches for the SUREFAST emerging technology. It also will make significant use of SUREFAST's features that promote customer information and education and customer engagement. SUREFAST promotes integration of other energy savings, demand response, and renewable resource programs, and provides a platform for long-term, multi-faceted integrated energy savings strategies.

8. Pages 4-5, II,8: "The deployment of new and improved energy efficiency products and applications can help sustain or increase current savings yields from program dollars, and serves to create a new generation of technologies available to tap the cost-effective potential of energy efficiency in ways we cannot predict today. In order to provide higher levels of bridging between available upstream innovations and the marketplace, annual funding for emerging technologies programs should increase… In their program planning applications, the Program Administrators shall jointly propose emerging technologies programs and increases to current funding levels for these programs. The main purpose of

these programs should be to increase the probability that promising technologies will be commercialized within 6 years of program funding and thereby increase the chance of obtaining additional energy savings from these technologies in the long run. Program strategies should focus on reducing both the performance uncertainties associated with new products and applications and the institutional barriers to introducing them into the market."

Program Response: SUREFAST is a next-generation technology capable of tapping the cost-effective potential of integrated energy efficiency, demand response, and renewable energy programs and technologies. Optimal expects SUREFAST to become cost-effective in well under 6 years, as larger hardware production orders markedly bring down the capital costs of the ModBot and ISD hardware devices, and as SUREFAST's "plug-and-play" technology becomes more robust. The Program has among its express Program objectives to reduce both the performance uncertainties associated with SUREFAST as a new product having new applications and the institutional barriers to introducing SUREFAST into the market.

9. Page 5, III, 1: Program definitions should be designed to facilitate to the extent possible: (1) the identification of energy efficiency activities by end-use savings potential, (2) the evaluation, measurement and verification (EM&V) of those activities based on Commission-adopted EM&V protocols, and (3) the coordination of program development and evaluation with resource planning and procurement needs.

   Program Response: The SUREFAST/AskOT emerging technology, with its real- time device-level monitoring and control and its aggregation capability, clearly identifies and measures energy efficiency and demand response activities by end-use savings potential and actual achievement. The Program proposes to develop and implement a Program EM&V element based on Commission- adopted protocols. SUREFAST technology allows aggregated energy savings data that supports load trending and forecasting and significant improvements in utility resource planning, procurement, and dispatch.

10. Page 8, IV, 9: The usefulness of the TRC test as a primary indicator of cost-effectiveness is limited for certain programs which do not necessarily focus on the timing or type of resource needs of the utility, such as programs designed to demonstrate or commercialize promising emerging energy efficiency technologies or structurally change the marketplace.

    Program Response: The Program is designed to demonstrate and commercialize a promising emerging energy efficiency and demand response technology that could contribute to developing a new marketplace presence. The Program expects to be cost-effective even with its high per unit prototype hardware costs; but it will be dramatically cost-effective as unit hardware costs drop to a fraction of current prototype costs, and as upstream retail distribution channels are proven and established.

17.3. The Program spports the CPUC's goals for Minimizing Lost Opportunities.

From the CPUC Energy Efficiency Policy Manual, Version 3: "Lost opportunities" are those energy efficiency options which offer long-lived, cost-effective savings and which, if not exploited promptly or simultaneously with other low cost energy efficiency measures or in tandem with other load-reduction technologies or distributed generation technologies being installed at the site (e.g., solar heating or photo voltaics), are lost irretrievably or rendered much more costly to achieve.

This Program virtually eliminates the occurrence of "lost opportunities" in relation to any phase of its development, including its first phases, or in relation to any given SUREFAST site or project. In fact, SUREFAST cost-effectively captures, converts, and integrates energy savings, load reduction, and DG technologies that otherwise might be lost or isolated and left to function and seek to be cost-effective on their own.

SUREFAST system technology involves (1) "plug-and-play" (2) self-configuring SUREFAST hardware and software communications networks, (3) ISDs capable of controlling and aggregating numerous ModBots each, and (4) robust AskOT web-based software.

Each customer site therefore can integrate with and embrace other energy management and control systems and other load-reduction technologies or distributed generation technologies being installed at the site (e.g., solar heating or photo voltaics); and each customer site can be expanded easily and cost-effectively to include new load reduction device controls, other load reduction technologies, and other active DG or passive renewable energy systems.

Such system expansions or further integrations can occur either in one or more subsequent Program phases or on the customer's own initiative, simply by adding ModBots to include control of additional devices and, for example, passively solar-heated building spaces at the customer site, by adding the ModBots and devices/spaces to the customer's AskOT profile and templates. Optimal has specific plans to build a "Distributed Generation" ModBot, which will link renewable and non-renewable distributed generation resources, and will accomplish real-time, automated balancing of load, available renewable energy supply, and on-site energy storage, taking into account price of power from the grid, price for renewable power supplied to the grid, and price for load reduction supplied into ancillary markets.

SUREFAST expandability and flexibility allow development of new types of SUREFAST ModBots to control and aggregate more types of devices, and accommodation of competing or complementary energy saving technologies

Moreover, any number of new customers of any market sector can be added to the AskOT website and aggregated in the AskOT aggregation system.

In conclusion, the plug-and-play, open-source, Web-based SUREFAST/AskOT technology will establish a foundational energy efficiency and demand response aggregation network that will be able to wrap around, preserve, and convert both existing unrealized EE and DR opportunities and future such opportunities.

17.5. OPTONAL INFORMATION: In addition to the CPUC Objectives, the Program fits well into the SDG&E portfolio -- as submitted to and approved by the CPUC.

1. Programs to test commercialization/demonstration of emerging energy savings technologies. SDG&E testimony presented to the CPUC (Athena M. Besa, Energy Efficiency Administration and Policy Manager, Mass Markets Department, SDG&E and SoCalGas), stated, in relevant part,

   > "In addition to the targeted solicitation, SDG&E proposes to conduct a general solicitation to seek new program designs that may include commercialization/ demonstration projects for emerging technologies that have a potential for cost effective energy savings…
   >
   > "The Innovative Program Idea solicitation will provide third-parties the opportunity to submit bids to test the market feasibility for newer energy efficiency technologies and innovative market approaches. This solicitation will seek new program designs that have a longer term potential for cost- effective energy savings, and may include commercialization/demonstration projects for emerging technologies."

   The Program is an innovative program design that includes a commercialization/ demonstration component for testing the performance capability and market feasibility of integrated SUREFAST technologies that have the potential for cost- effective energy savings.

2. Programs to demonstrate "holistic" approach to customer energy needs. SDG&E testimony presented to the CPUC (Patricia Wagner, SDG&E Director of Customer Programs, Excerpt From Testimony to CPUC Sponsoring SDG&E Proposal to Achieve the CPUC's Adopted Energy Efficiency Savings and Demand Reductions for 2006-2008), stated, in relevant part,

   > "One of the key policy initiatives that SDG&E is pursuing is the integration of Energy Efficiency, Demand Response ("DR") and Renewable technologies into what it considers the "holistic" approach to responding to the customer's energy needs but at the same time ensuring system reliability. By utilizing the synergies between these options, SDG&E believes that customers will be encouraged to address all the opportunities to improve their energy usage and be more willing to continuously participate in these programs as they adopt these measures as part of their overall energy management strategy thereby resulting in significantly higher levels of energy savings and load reduction, and giving the customer more control over how much they pay for energy and how they can respond to changing energy market conditions…
   >
   > "Numerous challenges affect today's energy efficiency program planners:
   >
   > "Energy efficiency standards, codes, and ordinances are catching up with today's best technologies. As an example, minimum efficiency standards for residential furnaces and boilers could be increased within the next few

years.

> "As today's technologies approach "theoretical" maximums, incremental efficiency becomes ever more expensive. SDG&E has been implementing energy efficiency programs for the last 10 years and the proverbial "low hanging fruit" has been harvested making it more difficult and expensive to achieve energy savings.
>
> "As incremental efficiency gains become more expensive, market-potential total resource net benefits decline. On-site renewable systems cannot be marketed on simple payback.
>
> "SDG&E's portfolio addresses these challenges by (1) incorporating flexibility into program design, allocating significant resources towards the identification and development of emerging technologies, and (2) by promoting the "holistic" approach by offering customers a wide range of choices on how best to address their energy needs **through the integration of energy efficiency, demand response and renewable technologies** as exemplified by the Sustainable Communities and Advance Home programs." (Emphasis added.)

The CPUC Final Decision for the SDG&E Energy Efficiency Portfolio said, at Section 4.2.3.2.

> "The Innovative Program Idea solicitation will provide third-parties the opportunity to submit bids to test the market feasibility for newer energy efficiency technologies and innovative market approaches. This solicitation will seek new program designs that have a longer term potential for cost- effective energy savings, and may include commercialization/demonstration projects for emerging technologies. Results of this solicitation may override submittals for the targeted solicitation if they better address a customer segment and/or offer more portfolio innovation. The winning bidders will be allowed up to two years to implement and complete their programs."

The Program has as main objectives demonstrating and developing SUREFAST as an emerging technology capable of adding new dimensions with long-term effectiveness to SDG&E's Energy Efficiency portfolio, and capable immediately of integrating customer energy efficiency and demand response goals, and in the near future, integrating customer on-site renewable energy, as well.

17.6. OPTIONAL INFORMATION: Beyond Energy Efficiency – The Program Has a Demand Response and Renewable Component.

As explained in the overview description of the emerging SUREFAST/AskOT technology to be demonstrated in the Program, the Program has a major Demand Response component, which the Program presents as being integrated with the

Energy Efficiency component of the program. In addition, the Program proposes to include a threshold assessment of the potential of SUREFAST/ AskOT technology to actively integrate customer on-site active and passive Renewable Resource applications with objectives for off-peak and on-peak energy savings, and customer energy cost-savings.

The “holistic” Program component is based in SUREFAST's integrated hardware, software, and web-based technologies. The SUREFAST system employs a user-friendly, wide-area aggregation and control software system called “AskOT”, using the Internet and local display monitors and control panels to provide real-time customer and utility metering, aggregation, and analysis services over the building communications infrastructure and over the Internet.

The AskOT system provides real-time energy usage information for each appliance, room, building, or selected group of appliances, rooms, or buildings. It also allows customer pre-definition of a load profile for automated, appliance-level operation in off- peak or on-peak periods, and in utility-defined system emergency conditions.

These several features allow more efficient use of energy appliances and devices off- peak and on-peak through increased customer awareness and customer-directed automated “off” or “use reduction” signals.

These features also allow for integrated, aggressive Demand Response (DR) activities based on customer-directed, automated on-peak DR controls that automatically shed or restrict (subject to customer override) energy use at ModBot-equipped devices during identified peak periods, or upon receipt of utility-originated system emergency signals. Lighting ModBots, for example, are designed for dimming and non-dimming applications. The SUREFAST system can be used to create and verify defendable voltage reduction programs without risk of damage to customer equipment.

The SUREFAST/AskOT real-time DR control and aggregation capabilities enable creation of robust, automated real-time “virtual power plants”.

SUREFAST and AskOT will enable automated integration of renewable energy resource devices into utility EE and DR programs. SUREFAST will allow automated integration of solar hot water heating systems, for example, with gas/electric water heaters, or with space heating/cooling systems. Through planned development of a DG-device control ModBot, the SUREFAST emerging technology system also will enable dynamic management and aggregation of distributed renewable generation resources such as solar PV or micro-wind generation systems.

The proposed Program will involve a preliminary technical assessment of integrating solar hot water heating and solar PV devices into the proposed EE and DR Program at one or more residential or non-residential Program sites already deploying or interested in future deployment of solar hot water or solar PV, using SUREFAST hardware and software. The technical assessment also will involve preliminary scoping and budgeting for a possible future program proposal.

	SDGE3038 3P SUREFAST Optimal_Technologies
BUDGET	
Administrative Costs	**$ 659,000**
Overhead and G&A	$ 329,000
Other Administrative Costs	$ 330,000
Marketing/Outreach	**$ 301,000**
Direct Implementation	**$ 796,000**
Total Incentives and Rebates	
User Input Incentive	$ 20,000
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ -
Installation	$ 60,000
Hardware & Materials	$ 716,000
Rebate Processing & Inspection	$ -
EM&V Costs	**$ 60,000**
Budget	**$ 1,816,000**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 1,816,000**
PROGRAM IMPACTS	
User Entered kW (kW)	558
Net Jul-Sept Peak (kW)	65
Net Dec-Feb Peak (kW)	31
Net NCP (kW)	57
Net CEC (kW)	54
Annual Net kWh	248,024
Lifecycle Net kWh	2,377,281
Annual Net Therms	1,109,721
Lifecycle Net Therms	12,218,926
Cost Effectiveness	
TRC	
Costs	$ 1,820,211
Electric Benefits	$ 167,614
Gas Benefits	$ 6,752,455
Net Benefits (NPV)	$ 5,099,858
BC Ratio	3.80
PAC	
Costs	$ 1,816,000
Electric Benefits	$ 167,614
Gas Benefits	$ 6,752,455
Net Benefits (NPV)	$ 5,104,069
BC Ratio	3.81
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	1,627,860
Cost	$ 0.0300
Benefits	$ 0.1030
Benefit-Cost	$ 0.0730
Levelized Cost PAC ($/kWh)	
Discounted kWh	1,627,860
Cost	$ 0.0270
Benefits	$ 0.1030
Benefit-Cost	$ 0.0759
Levelized Cost TRC ($/therm)	
Discounted Therms	8,048,306
Cost	$ 0.2201
Benefits	$ 0.8390
Benefit-Cost	$ 0.6189
Levelized Cost PAC ($/therm)	
Discounted Therms	8,048,306
Cost	$ 0.2202
Benefits	$ 0.8390
Benefit-Cost	$ 0.6188

3P Surefast Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 1,276,000	$ 10,000	$ 1,266,000	137,467	671,548	300
2007	$ 540,000	$ 10,000	$ 530,000	110,557	438,174	258
2008	$ -	$ -	$ -	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	262001	Programmable Thermostat: 1978: Residential	(215)	(738)	-	0.83	16	12	8	$ -	$ 73.33	(1,428)	(4,901)	-
2006	262002	Programmable Thermostat: 1978: Residential	(90)	(2,243)	-	0.83	16	12	8	$ -	$ 73.33	(597)	(14,891)	-
2006	262003	Programmable Thermostat: 1978: Residential	(207)	(678)	-	0.83	16	12	8	$ -	$ 73.33	(1,373)	(4,503)	-
2006	262004	Programmable Thermostat: 1978 - 1992: Residential	(168)	(166)	-	0.83	16	12	8	$ -	$ 73.33	(1,117)	(1,099)	-
2006	262005	Programmable Thermostat: 1978 - 1992: Residential	(56)	(761)	-	0.83	18	12	9	$ -	$ 73.33	(417)	(5,688)	-
2006	262006	Programmable Thermostat: 1978 - 1992: Residential	(143)	(39)	-	0.83	18	12	9	$ -	$ 73.33	(1,064)	(291)	-
2006	262007	AC unit - Load Impact: Single family	65	-	2.08	0.83	32	12	16	$ -	$ -	863	-	28
2006	262008	AC unit - Load Impact: Single family	65	-	2.08	0.83	32	12	16	$ -	$ -	863	-	28
2006	262009	AC unit - Load Impact: Single family	65	-	2.08	0.83	36	12	18	$ -	$ -	971	-	31
2006	262010	Electric Water Heater - Load Impact: Single family	89	-	2.11	0.83	2	12	1	$ -	$ 23.60	74	-	2
2006	262011	Electric Water Heater - Load Impact: Single family	89	-	2.11	0.83	2	12	1	$ -	$ 23.60	74	-	2
2006	262012	Electric Water Heater - Load Impact: Single family	89	-	2.11	0.83	3	12	2	$ -	$ 23.60	148	-	4
2006	262013	Pool pump - Load Impact: Single family	118	-	2.05	0.83	4	12	2	$ -	$ 23.60	196	-	3
2006	262014	Pool pump - Load Impact: Single family	118	0	2.05461538	0.83	4	12	2	$ -	$ 23.60	196	-	3
2006	262015	Pool pump - Load Impact: Single family	118	0	2.05461538	0.83	5	12	3	$ -	$ 23.60	294	-	5
2006	262016	Spa load - Load Impact: single family	80	0	2.24519231	0.83	4	12	2	$ -	$ 23.60	133	-	4
2006	262017	Spa load - Load Impact: single family	80	0	2.24519231	0.83	4	12	2	$ -	$ 23.60	133	-	4
2006	262018	Spa load - Load Impact: single family	80	0	2.24519231	0.83	5	12	3	$ -	$ 23.60	199	-	6
2006	262019	Small area lighting sensor control - single family	880.221	-91.68	0.239232	0.83	32	8	16	$ -	$ -	11,689	(1,218)	3
2006	262020	Small area lighting sensor control - single family	864.54	-473.971	0.239232	0.83	32	8	16	$ -	$ -	11,481	(6,294)	3

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	262021	Small area lighting sensor control - single family	915.875	-19.63	0.229351	0.83	36	8	18	$ -	$ -	13,683	(293)	3
2006	262022	Programmable Thermostat - small office, < 1978	898.879	2908.1	-0.222	0.83	11	11	6	$ -	$ 174.76	4,476	14,482	(1)
2006	262023	Programmable Thermostat - small office, < 1978	1394.88	6633.73	-0.311039	0.83	11	11	6	$ -	$ 174.76	6,947	33,036	(2)
2006	262024	Programmable Thermostat - small office, < 1978	1516.2	1603.64	-0.344365	0.83	13	11	7	$ -	$ 174.76	8,809	9,317	(2)
2006	262025	Small area lighting sensor control - small office	880.221	-91.6897	0.239322	0.83	11	8	6	$ -	$ -	4,384	(457)	1
2006	262026	Small area lighting sensor control - small office	864.544	-473.971	0.239323	0.83	11	8	6	$ -	$ -	4,305	(2,360)	1
2006	262027	Small area lighting sensor control - small office	915.875	-19.633	0.229351	0.83	13	8	7	$ -	$ -	5,321	(114)	1
2006	262028	Small office: AC load impact	153.03	0	2.22	0.83	11	11	6	$ -	$ -	762	-	11
2006	262029	Small office: AC load impact	153.03	0	2.22	0.83	11	11	6	$ -	$ -	762	-	11
2006	262030	Small office: AC load impact	153.03	0	2.22	0.83	13	11	7	$ -	$ -	889	-	13
2006	262031	Small Office: Water heater load impact	5	$ 2.47	$ 0.98	0.83	11	11	6	$ -	$ 49.71	24	12	5
2006	262032	Small Office: Water heater load impact	5	$ 2.47	$ 0.98	0.83	11	11	6	$ -	$ 49.71	24	12	5
2006	262033	Small Office: Water heater load impact	5	$ 2.47	$ 0.98	0.83	13	11	7	$ -	$ 49.71	28	14	6
2006	262034	Programmable thermostat - hospital < 1978	2,964	$ 41,547.20	$ (0.01)	0.83	1	11	1	$ -	$ 174.76	2,460	34,484	(0)
2006	262035	Programmable thermostat - hospital < 1978	2,957	$ 44,405.80	$ (0.00)	0.83	2	11	1	$ -	$ 174.76	2,455	36,857	(0)
2006	262036	Programmable thermostat - hospital < 1978	3,278	$ 40,346.70	$ (0.01)	0.83	2	11	1	$ -	$ 174.76	2,721	33,488	(0)
2006	262037	Small area lighting sensor control - Hospital	880	$ (91.69)	$ 0.24	0.83	1	8	1	$ -	$ -	731	(76)	0
2006	262038	Small area lighting sensor control - Hospital	865	$ (473.97)	$ 0.24	0.83	2	8	1	$ -	$ -	718	(393)	0
2006	262039	Small area lighting sensor control - Hospital	916	$ (19.63)	$ 0.23	0.83	2	8	1	$ -	$ -	760	(16)	0
2006	262040	Hospital: AC load impact	108	$ -	$ 1.73	0.83	2	11	1	$ -	$ -	90	-	1
2006	262041	Hospital: AC load impact	108	$ -	$ 1.73	0.83	4	11	2	$ -	$ -	180	-	3
2006	262042	Hospital: AC load impact	108	$ -	$ 1.73	0.83	4	11	2	$ -	$ -	180	-	3
2006	262043	Hospital: Waterheater load impact	2	$ 4.35	$ 2.11	0.83	2	11	1	$ -	$ 49.71	2	4	2
2006	262044	Hospital: Waterheater load impact	2	$ 4.35	$ 2.11	0.83	4	11	2	$ -	$ 49.71	3	7	4
2006	262045	Hospital: Waterheater load impact	2	$ 4.35	$ 2.11	0.83	4	11	2	$ -	$ 49.71	3	7	4
2006	262046	Programmable thermostat: retail small, < 1978	788	$ 3,818.73	$ (0.19)	0.83	3	11	2	$ -	$ 174.76	1,308	6,339	(0)
2006	262047	Programmable thermostat: retail small, < 1978	1,070	$ 12,626.96	$ (0.21)	0.83	3	11	2	$ -	$ 174.76	1,776	20,961	(0)
2006	262048	Programmable thermostat: retail small, < 1978	1,196	$ 1,898.54	$ (0.21)	0.83	4	11	2	$ -	$ 174.76	1,985	3,152	(0)
2006	262049	Retail: AC load impact	101	$ -	$ 1.42	0.83	3	11	2	$ -	$ -	167	-	2

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	262050	Retail: AC load impact	101	$ -	$ 1.42	0.83	3	11	2	$ -	$ -	167	-	2
2006	262051	Retail: AC load impact	101	$ -	$ 1.42	0.83	4	11	2	$ -	$ -	167	-	2
2006	262052	Programmable thermostat: lodging - hotel	645	$ 6,358.75	$ (0.06)	0.83	1	11	1	$ -	$ 174.76	535	5,278	(0)
2006	262053	Programmable thermostat: lodging - hotel	632	$ 8,464.98	$ (0.06)	0.83	2	11	1	$ -	$ 174.76	525	7,026	(0)
2006	262054	Programmable thermostat: lodging - hotel	618	$ 7,262.09	$ (0.05)	0.83	2	11	1	$ -	$ 174.76	513	6,028	(0)
2006	262055	Small area lighting sensor control - lodging - hotel	826	$ (18.49)	$ 0.13	0.83	1	8	1	$ -	$ -	685	(15)	0
2006	262056	Small area lighting sensor control - lodging - hotel	741	$ (62.49)	$ 0.13	0.83	2	8	1	$ -	$ -	615	(52)	0
2006	262057	Small area lighting sensor control - lodging - hotel	868	$ (7.35)	$ 0.12	0.83	2	8	1	$ -	$ -	721	(6)	0
2006	262058	Programmable thermostat: lodging - motel	1,692	$ (2.80)	$ (0.06)	0.83	1	11	1	$ -	$ 174.76	1,404	(2)	(0)
2006	262059	Programmable thermostat: lodging - motel	1,913	$ (3.21)	$ (0.08)	0.83	2	11	1	$ -	$ 174.76	1,588	(3)	(0)
2006	262060	Programmable thermostat: lodging - motel	1,520	$ 2.65	$ (0.11)	0.83	2	11	1	$ -	$ 174.76	1,262	2	(0)
2006	262061	Small area lighting sensor control - lodging - motel	553	$ (1.26)	$ 0.09	0.83	1	8	1	$ -	$ -	459	(1)	0
2006	262062	Small area lighting sensor control - lodging - motel	509	$ (1.13)	$ 0.09	0.83	2	8	1	$ -		422	(1)	0
2006	262063	Small area lighting sensor control - lodging - motel	575	$ (1.18)	$ 0.09	0.83	2	8	1	$ -	$ -	477	(1)	0
2006	262064	Lodging: AC load impact	94	$ -	$ 1.41	0.83	2	11	1	$ -	$ -	78	-	1
2006	262065	Lodging: AC load impact	94	$ -	$ 1.41	0.83	4	11	2	$ -	$ -	156	-	2
2006	262066	Lodging: AC load impact	94	$ -	$ 1.41	0.83	4	11	2	$ -	$ -	156	-	2
2006	262067	Lodging: water heater load impact	7	$ 3.75	$ 1.72	0.83	2	12	1	$ -	$ 49.71	6	3	1
2006	262068	Lodging: water heater load impact	7	$ 3.75	$ 1.72	0.83	4	12	2	$ -	$ 49.71	12	6	3
2006	262069	Lodging: water heater load impact	7	$ 3.75	$ 1.72	0.83	4	12	2	$ -	$ 49.71	12	6	3
2006	262070	Programmable thermostat: education - primary	1,691	$ 24,211.60	$ (0.14)	0.83	1	11	1	$ -	$ 174.76	1,404	20,096	(0)
2006	262071	Programmable thermostat: education - primary	1,775	$ 29,110.60	$ (0.16)	0.83	2	11	1	$ -	$ 174.76	1,473	24,162	(0)
2006	262072	Programmable thermostat: education - primary	2,568	$ 14,707.50	$ (0.20)	0.83	2	11	1	$ -	$ 174.76	2,132	12,207	(0)
2006	262073	Small area lighting sensor control - education - primary	506	$ (134.34)	$ 0.10	0.83	1	8	1	$ -	$ -	420	(111)	0
2006	262074	Small area lighting sensor control - education - primary	489	$ (358.94)	$ 0.10	0.83	2	8	1	$ -	$ -	406	(298)	0
2006	262075	Small area lighting sensor control - education - primary	522	$ (39.18)	$ 0.10	0.83	2	8	1	$ -	$ -	433	(33)	0
2006	262076	Programmable thermostat: education - secondary	2,228	$ 35,183.10	$ (0.16)	0.83	1	11	1	$ -	$ 174.76	1,849	29,202	(0)
2006	262077	Programmable thermostat: education - secondary	2,084	$ 39,672.80	$ (0.18)	0.83	2	11	1	$ -	$ 174.76	1,730	32,928	(0)

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	262078	Programmable thermostat: education - secondary	2,554	$ 23,088.40	$ (0.25)	0.83	2	11	1	$ -	$ 174.76	2,119	19,163	(0)
2006	262079	Large area lighting sensor control - education - secondary	449	$ (306.31)	$ 0.10	0.83	1	8	1	$ -	$ -	372	(254)	0
2006	262080	Large area lighting sensor control - education - secondary	442	$ (416.37)	$ 0.11	0.83	2	8	1	$ -	$ -	367	(346)	0
2006	262081	Large area lighting sensor control - education - secondary	464	$ (90.83)	$ 0.10	0.83	2	8	1	$ -	$ -	385	(75)	0
2006	262082	Education: AC load impact	123	$ -	$ 1.76	0.83	2	11	1	$ -	$ -	102	-	1
2006	262083	Education: AC load impact	123	$ -	$ 1.76	0.83	4	11	2	$ -	$ -	204	-	3
2006	262084	Education: AC load impact	123	$ -	$ 1.76	0.83	4	11	2	$ -	$ -	204	-	3
2006	262085	Programmable Thermostat: Grocery	1,698	$ 18,012.80	$ (0.02)	0.83	5	11	3	$ -	$ 174.76	4,227	44,852	(0)
2006	262086	Programmable Thermostat: Grocery	844	$ 16,179.60	$ (0.06)	0.83	5	11	3	$ -	$ 174.76	2,100	40,287	(0)
2006	262087	Programmable Thermostat: Grocery	1,292	$ 12,352.60	$ (0.05)	0.83	5	11	3	$ -	$ 174.76	3,216	30,758	(0)
2006	262088	Turn off fixture lights when store closed - Grocery	67	$ (26.68)	$ 0.68	0.83	5	16	3	$ -	$ 5.84	167	(66)	2
2006	262089	Turn off fixture lights when store closed - Grocery	68	$ (27.47)	$ 0.68	0.83	5	16	3	$ -	$ 5.84	168	(68)	2
2006	262090	Turn off fixture lights when store closed - Grocery	67	$ (18.12)	$ 0.51	0.83	5	16	3	$ -	$ 5.84	167	(45)	1
2006	262091	Grocery: AC Load impact	85	$ -	$ 2.46	0.83	5	11	3	$ -	$ -	213	-	6
2006	262092	Grocery: AC Load impact	85	$ -	$ 2.46	0.83	5	11	3	$ -	$ -	213	-	6
2006	262093	Grocery: AC Load impact	85	$ -	$ 2.46	0.83	5	11	3	$ -	$ -	213	-	6
2006	262094	Grocery: Refrigeration load impact	265	$ -	$ 3.72	0.83	5	11	3	$ -	$ 49.71	660	-	9
2006	262095	Grocery: Refrigeration load impact	265	$ -	$ 3.72	0.83	5	11	3	$ -	$ 49.71	660	-	9
2006	262096	Grocery: Refrigeration load impact	265	$ -	$ 3.72	0.83	5	11	3	$ -	$ 49.71	660	-	9
2006	262097	Programmable Thermostat: Restaurant - Fast Food	1,345	$ 24,526.60	$ (0.33)	0.83	5	11	3	$ -	$ 174.76	3,348	61,071	(1)
2006	262098	Programmable Thermostat: Restaurant - Fast Food	1,782	$ 52,061.00	$ (0.22)	0.83	5	11	3	$ -	$ 174.76	4,437	129,632	(1)
2006	262099	Programmable Thermostat: Restaurant - Fast Food	1,345	$ 24,526.60	$ (0.33)	0.83	5	11	3	$ -	$ 174.76	3,348	61,071	(1)
2006	262100	EMS system reduced unoccupied lighting levels - Restaurant - Fast Food	167	$ (49.07)	$ -	0.83	5	8	3	$ -	$ 118.69	415	(122)	-
2006	262101	EMS system reduced unoccupied lighting levels - Restaurant - Fast Food	162	$ (100.74)	$ -	0.83	5	8	3	$ -	$ 118.69	403	(251)	-
2006	262102	EMS system reduced unoccupied lighting levels - Restaurant - Fast Food	169	$ (22.79)	$ -	0.83	5	8	3	$ -	$ 118.69	422	(57)	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	262103	Restaurant - Fast Food: AC Load impact	139	$ -	$ 3.11	0.83	5	11	3	$ -	$ -	346	-	8
2006	262104	Restaurant - Fast Food: AC Load impact	139	$ -	$ 3.11	0.83	5	11	3	$ -	$ -	346	-	8
2006	262105	Restaurant - Fast Food: AC Load impact	139	$ -	$ 3.11	0.83	5	11	3	$ -	$ -	346	-	8
2006	262106	Restaurant - Fast Food: Refrigeration load impact	75	$ -	$ 1.06	0.83	5	11	3	$ -	$ 49.71	188	-	3
2006	262107	Restaurant - Fast Food: Refrigeration load impact	75	$ -	$ 1.06	0.83	5	11	3	$ -	$ 49.71	188	-	3
2006	262108	Restaurant - Fast Food: Refrigeration load impact	75	$ -	$ 1.06	0.83	5	11	3	$ -	$ 49.71	188	-	3
2006	262109	User Input Incentive	-	$ -	$ -	0.8		0	1	$ 10,000.00	$ -	-	-	-
2007	262001	Programmable Thermostat: 1978: Residential	(215)	$ (738.04)	$ -	0.83	16	12	8	$ -	$ 73.33	(1,428)	(4,901)	-
2007	262002	Programmable Thermostat: 1978: Residential	(90)	$ (2,242.65)	$ -	0.83	16	12	8	$ -	$ 73.33	(597)	(14,891)	-
2007	262003	Programmable Thermostat: 1978: Residential	(207)	$ (678.22)	$ -	0.83	16	12	8	$ -	$ 73.33	(1,373)	(4,503)	-
2007	262004	Programmable Thermostat: 1978 - 1992: Residential	(168)	$ (165.57)	$ -	0.83	16	12	8	$ -	$ 73.33	(1,117)	(1,099)	-
2007	262005	Programmable Thermostat: 1978 - 1992: Residential	(56)	$ (761.48)	$ -	0.83	18	12	9	$ -	$ 73.33	(417)	(5,688)	-
2007	262006	Programmable Thermostat: 1978 - 1992: Residential	(143)	$ (38.95)	$ -	0.83	18	12	9	$ -	$ 73.33	(1,064)	(291)	-
2007	262007	AC unit - Load Impact: Single family	65	$ -	$ 2.08	0.83	32	12	16	$ -	$ -	863	-	28
2007	262008	AC unit - Load Impact: Single family	65	$ -	$ 2.08	0.83	32	12	16	$ -	$ -	863	-	28
2007	262009	AC unit - Load Impact: Single family	65	$ -	$ 2.08	0.83	36	12	18	$ -	$ -	971	-	31
2007	262010	Electric Water Heater - Load Impact: Single family	89	$ -	$ 2.11	0.83	2	12	1	$ -	$ 23.60	74	-	2
2007	262011	Electric Water Heater - Load Impact: Single family	89	$ -	$ 2.11	0.83	2	12	1	$ -	$ 23.60	74	-	2
2007	262012	Electric Water Heater - Load Impact: Single family	89	$ -	$ 2.11	0.83	3	12	1	$ -	$ 23.60	74	-	2
2007	262013	Pool pump - Load Impact: Single family	118	$ -	$ 2.05	0.83	4	12	2	$ -	$ 23.60	196	-	3
2007	262014	Pool pump - Load Impact: Single family	118	$ -	$ 2.05	0.83	4	12	2	$ -	$ 23.60	196	-	3
2007	262015	Pool pump - Load Impact: Single family	118	$ -	$ 2.05	0.83	5	12	2	$ -	$ 23.60	196	-	3
2007	262016	Spa load - Load Impact: single family	80	$ -	$ 2.25	0.83	4	12	2	$ -	$ 23.60	133	-	4
2007	262017	Spa load - Load Impact: single family	80	$ -	$ 2.25	0.83	4	12	2	$ -	$ 23.60	133	-	4
2007	262018	Spa load - Load Impact: single family	80	$ -	$ 2.25	0.83	5	12	2	$ -	$ 23.60	133	-	4
2007	262019	Small area lighting sensor control - single family	880	$ (91.68)	$ 0.24	0.83	32	8	16	$ -	$ -	11,689	(1,218)	3

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	262020	Small area lighting sensor control - single family	865	$ (473.97)	$ 0.24	0.83	32	8	16	$ -	$ -	11,481	(6,294)	3
2007	262021	Small area lighting sensor control - single family	916	$ (19.63)	$ 0.23	0.83	36	8	18	$ -	$ -	13,683	(293)	3
2007	262022	Programmable Thermostat - small office, < 1978	899	$ 2,908.10	$ (0.22)	0.83	11	11	5	$ -	$ 174.76	3,730	12,069	(1)
2007	262023	Programmable Thermostat - small office, < 1978	1,395	$ 6,633.73	$ (0.31)	0.83	11	11	5	$ -	$ 174.76	5,789	27,530	(1)
2007	262024	Programmable Thermostat - small office, < 1978	1,516	$ 1,603.64	$ (0.34)	0.83	13	11	6	$ -	$ 174.76	7,551	7,986	(2)
2007	262025	Small area lighting sensor control - small office	880	$ (91.69)	$ 0.24	0.83	11	8	5	$ -	$ -	3,653	(381)	1
2007	262026	Small area lighting sensor control - small office	865	$ (473.97)	$ 0.24	0.83	11	8	5	$ -	$ -	3,588	(1,967)	1
2007	262027	Small area lighting sensor control - small office	916	$ (19.63)	$ 0.23	0.83	13	8	6	$ -	$ -	4,561	(98)	1
2007	262028	Small office: AC load impact	153	$ -	$ 2.22	0.83	11	11	5	$ -	$ -	635	-	9
2007	262029	Small office: AC load impact	153	$ -	$ 2.22	0.83	11	11	5	$ -	$ -	635	-	9
2007	262030	Small office: AC load impact	153	$ -	$ 2.22	0.83	13	11	6	$ -	$ -	762	-	11
2007	262031	Small Office: Water heater load impact	5	$ 2.47	$ 0.98	0.83	11	11	5	$ -	$ 49.71	20	10	4
2007	262032	Small Office: Water heater load impact	5	$ 2.47	$ 0.98	0.83	11	11	5	$ -	$ 49.71	20	10	4
2007	262033	Small Office: Water heater load impact	5	$ 2.47	$ 0.98	0.83	13	11	6	$ -	$ 49.71	24	12	5
2007	262034	Programmable thermostat - hospital < 1978	2,964	$ 41,547.20	$ (0.01)	0.83	1	11	0	$ -	$ 174.76	-	-	-
2007	262035	Programmable thermostat - hospital < 1978	2,957	$ 44,405.80	$ (0.00)	0.83	2	11	1	$ -	$ 174.76	2,455	36,857	(0)
2007	262036	Programmable thermostat - hospital < 1978	3,278	$ 40,346.70	$ (0.01)	0.83	2	11	1	$ -	$ 174.76	2,721	33,488	(0)
2007	262037	Small area lighting sensor control - Hospital	880	$ (91.69)	$ 0.24	0.83	1	8	0	$ -	$ -	-	-	-
2007	262038	Small area lighting sensor control - Hospital	865	$ (473.97)	$ 0.24	0.83	2	8	1	$ -	$ -	718	(393)	0
2007	262039	Small area lighting sensor control - Hospital	916	$ (19.63)	$ 0.23	0.83	2	8	1	$ -	$ -	760	(16)	0
2007	262040	Hospital: AC load impact	108	$ -	$ 1.73	0.83	2	11	1	$ -	$ -	90	-	1
2007	262041	Hospital: AC load impact	108	$ -	$ 1.73	0.83	4	11	2	$ -	$ -	180	-	3
2007	262042	Hospital: AC load impact	108	$ -	$ 1.73	0.83	4	11	2	$ -	$ -	180	-	3
2007	262043	Hospital: Waterheater load impact	2	$ 4.35	$ 2.11	0.83	2	11	1	$ -	$ 49.71	2	4	2
2007	262044	Hospital: Waterheater load impact	2	$ 4.35	$ 2.11	0.83	4	11	2	$ -	$ 49.71	3	7	4
2007	262045	Hospital: Waterheater load impact	2	$ 4.35	$ 2.11	0.83	4	11	2	$ -	$ 49.71	3	7	4
2007	262046	Programmable thermostat: retail small, < 1978	788	$ 3,818.73	$ (0.19)	0.83	3	11	1	$ -	$ 174.76	654	3,170	(0)
2007	262047	Programmable thermostat: retail small, < 1978	1,070	$ 12,626.96	$ (0.21)	0.83	3	11	1	$ -	$ 174.76	888	10,480	(0)

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	262048	Programmable thermostat: retail small, < 1978	1,196	$ 1,898.54	$ (0.21)	0.83	4	11	2	$ -	$ 174.76	1,985	3,152	(0)
2007	262049	Retail: AC load impact	101	$ -	$ 1.42	0.83	3	11	1	$ -	$ -	84	-	1
2007	262050	Retail: AC load impact	101	$ -	$ 1.42	0.83	3	11	1	$ -	$ -	84	-	1
2007	262051	Retail: AC load impact	101	$ -	$ 1.42	0.83	4	11	2	$ -	$ -	167	-	2
2007	262052	Programmable thermostat: lodging - hotel	645	$ 6,358.75	$ (0.06)	0.83	1	11	0	$ -	$ 174.76	-	-	-
2007	262053	Programmable thermostat: lodging - hotel	632	$ 8,464.98	$ (0.06)	0.83	2	11	1	$ -	$ 174.76	525	7,026	(0)
2007	262054	Programmable thermostat: lodging - hotel	618	$ 7,262.09	$ (0.05)	0.83	2	11	1	$ -	$ 174.76	513	6,028	(0)
2007	262055	Small area lighting sensor control - lodging - hotel	826	$ (18.49)	$ 0.13	0.83	1	8	0	$ -	$ -	-	-	-
2007	262056	Small area lighting sensor control - lodging - hotel	741	$ (62.49)	$ 0.13	0.83	2	8	1	$ -	$ -	615	(52)	0
2007	262057	Small area lighting sensor control - lodging - hotel	868	$ (7.35)	$ 0.12	0.83	2	8	1	$ -	$ -	721	(6)	0
2007	262058	Programmable thermostat: lodging - motel	1,692	$ (2.80)	$ (0.06)	0.83	1	11	0	$ -	$ 174.76	-	-	-
2007	262059	Programmable thermostat: lodging - motel	1,913	$ (3.21)	$ (0.08)	0.83	2	11	1	$ -	$ 174.76	1,588	(3)	(0)
2007	262060	Programmable thermostat: lodging - motel	1,520	$ 2.65	$ (0.11)	0.83	2	11	1	$ -	$ 174.76	1,262	2	(0)
2007	262061	Small area lighting sensor control - lodging - motel	553	$ (1.26)	$ 0.09	0.83	1	8	0	$ -	$ -	-	-	-
2007	262062	Small area lighting sensor control - lodging - motel	509	$ (1.13)	$ 0.09	0.83	2	8	1	$ -		422	(1)	0
2007	262063	Small area lighting sensor control - lodging - motel	575	$ (1.18)	$ 0.09	0.83	2	8	1	$ -	$ -	477	(1)	0
2007	262064	Lodging: AC load impact	94	$ -	$ 1.41	0.83	2	11	1	$ -	$ -	78	-	1
2007	262065	Lodging: AC load impact	94	$ -	$ 1.41	0.83	4	11	2	$ -	$ -	156	-	2
2007	262066	Lodging: AC load impact	94	$ -	$ 1.41	0.83	4	11	2	$ -	$ -	156	-	2
2007	262067	Lodging: water heater load impact	7	$ 3.75	$ 1.72	0.83	2	12	1	$ -	$ 49.71	6	3	1
2007	262068	Lodging: water heater load impact	7	$ 3.75	$ 1.72	0.83	4	12	2	$ -	$ 49.71	12	6	3
2007	262069	Lodging: water heater load impact	7	$ 3.75	$ 1.72	0.83	4	12	2	$ -	$ 49.71	12	6	3
2007	262070	Programmable thermostat: education - primary	1,691	$ 24,211.60	$ (0.14)	0.83	1	11	0	$ -	$ 174.76	-	-	-
2007	262071	Programmable thermostat: education - primary	1,775	$ 29,110.60	$ (0.16)	0.83	2	11	1	$ -	$ 174.76	1,473	24,162	(0)
2007	262072	Programmable thermostat: education - primary	2,568	$ 14,707.50	$ (0.20)	0.83	2	11	1	$ -	$ 174.76	2,132	12,207	(0)
2007	262073	Small area lighting sensor control - education - primary	506	$ (134.34)	$ 0.10	0.83	1	8	0	$ -	$ -	-	-	-
2007	262074	Small area lighting sensor control - education - primary	489	$ (358.94)	$ 0.10	0.83	2	8	1	$ -	$ -	406	(298)	0
2007	262075	Small area lighting sensor control - education - primary	522	$ (39.18)	$ 0.10	0.83	2	8	1	$ -	$ -	433	(33)	0

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	262076	Programmable thermostat: education - secondary	2,228	$ 35,183.10	$ (0.16)	0.83	1	11	0	$ -	$ 174.76	-	-	-
2007	262077	Programmable thermostat: education - secondary	2,084	$ 39,672.80	$ (0.18)	0.83	2	11	1	$ -	$ 174.76	1,730	32,928	(0)
2007	262078	Programmable thermostat: education - secondary	2,554	$ 23,088.40	$ (0.25)	0.83	2	11	1	$ -	$ 174.76	2,119	19,163	(0)
2007	262079	Large area lighting sensor control - education - secondary	449	$ (306.31)	$ 0.10	0.83	1	8	0	$ -	$ -	-	-	-
2007	262080	Large area lighting sensor control - education - secondary	442	$ (416.37)	$ 0.11	0.83	2	8	1	$ -	$ -	367	(346)	0
2007	262081	Large area lighting sensor control - education - secondary	464	$ (90.83)	$ 0.10	0.83	2	8	1	$ -	$ -	385	(75)	0
2007	262082	Education: AC load impact	123	$ -	$ 1.76	0.83	2	11	1	$ -	$ -	102	-	1
2007	262083	Education: AC load impact	123	$ -	$ 1.76	0.83	4	11	2	$ -	$ -	204	-	3
2007	262084	Education: AC load impact	123	$ -	$ 1.76	0.83	4	11	2	$ -	$ -	204	-	3
2007	262085	Programmable Thermostat: Grocery	1,698	$ 18,012.80	$ (0.02)	0.83	5	11	2	$ -	$ 174.76	2,818	29,901	(0)
2007	262086	Programmable Thermostat: Grocery	844	$ 16,179.60	$ (0.06)	0.83	5	11	2	$ -	$ 174.76	1,400	26,858	(0)
2007	262087	Programmable Thermostat: Grocery	1,292	$ 12,352.60	$ (0.05)	0.83	5	11	2	$ -	$ 174.76	2,144	20,505	(0)
2007	262088	Turn off fixture lights when store closed - Grocery	67	$ (26.68)	$ 0.68	0.83	5	16	2	$ -	$ 5.84	111	(44)	1
2007	262089	Turn off fixture lights when store closed - Grocery	68	$ (27.47)	$ 0.68	0.83	5	16	2	$ -	$ 5.84	112	(46)	1
2007	262090	Turn off fixture lights when store closed - Grocery	67	$ (18.12)	$ 0.51	0.83	5	16	2	$ -	$ 5.84	111	(30)	1
2007	262091	Grocery: AC Load impact	85	$ -	$ 2.46	0.83	5	11	2	$ -	$ -	142	-	4
2007	262092	Grocery: AC Load impact	85	$ -	$ 2.46	0.83	5	11	2	$ -	$ -	142	-	4
2007	262093	Grocery: AC Load impact	85	$ -	$ 2.46	0.83	5	11	2	$ -	$ -	142	-	4
2007	262094	Grocery: Refrigeration load impact	265	$ -	$ 3.72	0.83	5	11	2	$ -	$ 49.71	440	-	6
2007	262095	Grocery: Refrigeration load impact	265	$ -	$ 3.72	0.83	5	11	2	$ -	$ 49.71	440	-	6
2007	262096	Grocery: Refrigeration load impact	265	$ -	$ 3.72	0.83	5	11	2	$ -	$ 49.71	440	-	6
2007	262097	Programmable Thermostat: Restaurant - Fast Food	1,345	$ 24,526.60	$ (0.33)	0.83	5	11	2	$ -	$ 174.76	2,232	40,714	(1)
2007	262098	Programmable Thermostat: Restaurant - Fast Food	1,782	$ 52,061.00	$ (0.22)	0.83	5	11	2	$ -	$ 174.76	2,958	86,421	(0)
2007	262099	Programmable Thermostat: Restaurant - Fast Food	1,345	$ 24,526.60	$ (0.33)	0.83	5	11	2	$ -	$ 174.76	2,232	40,714	(1)
2007	262100	EMS system reduced unoccupied lighting levels - Restaurant - Fast Food	167	$ (49.07)	$ -	0.83	5	8	2	$ -	$ 118.69	277	(81)	-
2007	262101	EMS system reduced unoccupied lighting levels - Restaurant - Fast Food	162	$ (100.74)	$ -	0.83	5	8	2	$ -	$ 118.69	269	(167)	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	262102	EMS system reduced unoccupied lighting levels - Restaurant - Fast Food	169	$ (22.79)	$ -	0.83	5	8	2	$ -	$ 118.69	281	(38)	-
2007	262103	Restaurant - Fast Food: AC Load impact	139	$ -	$ 3.11	0.83	5	11	2	$ -	$ -	231	-	5
2007	262104	Restaurant - Fast Food: AC Load impact	139	$ -	$ 3.11	0.83	5	11	2	$ -	$ -	231	-	5
2007	262105	Restaurant - Fast Food: AC Load impact	139	$ -	$ 3.11	0.83	5	11	2	$ -	$ -	231	-	5
2007	262106	Restaurant - Fast Food: Refrigeration load impact	75	$ -	$ 1.06	0.83	5	11	2	$ -	$ 49.71	125	-	2
2007	262107	Restaurant - Fast Food: Refrigeration load impact	75	$ -	$ 1.06	0.83	5	11	2	$ -	$ 49.71	125	-	2
2007	262108	Restaurant - Fast Food: Refrigeration load impact	75	$ -	$ 1.06	0.83	5	11	2	$ -	$ 49.71	125	-	2

2006-2008 Energy Efficiency Programs
Upstream HVAC/Motor Distributor Rebate Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ 16,270	$ 16,164	$ 15,507
	Administrative Other	$ 203,550	$ 189,102	$ 194,385
Marketing & Outreach		$ 111,200	$ 101,400	$ 94,400
Direct Implementation				
	Activity	$ -	$ -	$ -
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ -	$ -	$ -
	Procurement	$ 23,055	$ 32,960	$ 32,960
	Incentives	$ 768,480	$ 1,098,690	$ 1,098,690
EM&V		$ -	$ -	$ -
Total		*$ 1,122,555*	*$ 1,438,316*	*$ 1,435,942*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
2,376,390	2,130	(4,006)	3,395,095	3,044	(5,701)	3,395,095	3,044	(5,701)

3. Program Cost Effectiveness

Attached

Our proposed program design and implementation will cost-effectively contribute to the achievement of balanced energy savings and peak demand reduction by SDG&E's portfolio of programs through:

- Reducing air conditioning load that is a major component of critical peak system load.
- Balancing the needs of residential and non-residential customers by obtaining 11.0% of energy savings and 25.0% peak demand reduction from residential customers, through directing 18.5% of incentives to them. This balance expands the market for cost-effective savings beyond the non-residential sector, developing market channels for the future. This is especially important in SDG&E's service territory, which is disproportionately residential compared to that of the other California IOUs.
- Requiring quality installation to qualify for an equipment incentive. The program will reinforce the midstream program; help to align the interests of upstream and midstream market actors; and contribute to a more complete transformation of market practices, balancing short term resource acquisition with longer term market transformation.

- Building on developments in building codes, federal equipment standards, ENERGY STAR branding, and the efforts by CEE, NATE, and others to define and deploy quality installation standards and practices.

4. Program Descriptors

The proposed Upstream HVAC/Motor Program targets residential and small-to--medium commercial customers in both the retrofit and new construction applications. This is part of a comprehensive statewide approach to addressing the HVAC market at the upstream, midstream, and downstream levels; the Conservation Services Group (CSG) Team proposes a similar approach to coordinating upstream and midstream efforts and to distributing incentives at the midstream level to SCE and Southern California Gas (So Cal Gas). The proposed program is a modification of SDG&E's current Upstream HVAC/Motor Distributor Rebate Program. The most significant change in the proposed modification is that incentives would be issued at the midstream level to maximize cost-effectiveness and market impacts, while working with upstream players – manufacturers and distributors – in a manner that supports their business goals and secures their participation. Also worth noting is that the proposed program expands from non-residential HVAC and motors to include residential HVAC equipment and installation. The program targets all of SDG&E territory, but emphasizes customers in Climate Zones 10, 14, and 15.

We project that reasonable market penetration for the program will provide incentives for an average of 3,800 premium efficiency residential systems per year (12% market share of replacement residential systems; 20% market share for new construction residential systems) and 2,000 high efficiency commercial systems per year (25% market share for replacement commercial systems; 30% market share for new construction commercial systems). We project throughput of motor incentives to total about 400 per year on average.

5. Program Statement

The HVAC equipment market is highly competitive. Customers tend to view equipment as commodities, and consider brand important only as a measure of anticipated product reliability or customer service, based on prior experience. Further, as in the appliance industry, foreign manufacturers are beginning to enter the US market and are competing based on price as they work to increase brand recognition. Price competition, increasing materials and component costs, first-cost approaches to sales, and the commoditization of HVAC equipment have driven profits down so that most upstream and midstream actors are earning maximum profits of about 5 percent on each sale. As a result of these market conditions, manufacturers in particular are desperate to find opportunities for increased brand recognition and market differentiation. In summary, the current HVAC market is characterized by sales based predominantly on equipment costs. This has led to dwindling profitability in the upstream and midstream sectors, and insufficient information among customers about the benefits of energy efficiency. All parties

would benefit from changing the discussion at the time of sale to focus on comfort, customer service, and long-term cost of operating the equipment.

At the same time, residential and commercial customers who are at all attuned to energy efficiency concerns may be aware of the increasing stringency of federal standards and state codes, and therefore believe that products that just meet the standard are already highly energy efficient. Customers need more information about the range of efficiency available in the market, and the size of efficiency gain they can experience by combining premium equipment with quality installation and sealed ducts.

6. Program Rationale

To address the first problem identified above – an HVAC market focused on first cost, resulting in generic equipment installation and minimal profitability in the industry – the CSG Team proposes a coordinated program that brings upstream and midstream strategies closer together. Our approach can help the entire industry move from the marginally profitable business of selling standard equipment to customers every 18 years to a sustainable service-oriented business model that integrates proper sizing, installation techniques, duct sealing, and ongoing maintenance. The service-based approach has been proven to increase customer retention, predict and prevent peak season equipment failure, improve customer service scheduling, and dramatically increase profits at both the upstream and midstream levels. This will also help to achieve cost-effective energy savings and significant peak demand reductions.

To address the second problem – customers' assumption that they are getting good energy efficiency with standard products and installation – the program requires that incentives tie premium efficiency equipment together with quality installation to maximize energy savings, cost-effectiveness, and customer association of efficiency with quality customer service.

The CSG Team proposes a new approach, namely to drive all incentives toward the midstream level rather than upstream or downstream. We are advancing this approach for several reasons:

- Manufacturers and distributors already have a strong business motivation to sell premium efficiency equipment – more advanced equipment yields higher profitability. They do not need financial incentives to motivate their efforts to sell higher margin equipment, but instead need market support and tools to change the critical actor in the entire HVAC (and motor) decision process: the contractor and specifier. In fact, manufacturers have commented that incentives need to be higher than the market would truly require simply to justify their administrative burden for identifying customer information. In this market sector, it is more cost-effective – and leads to more lasting market changes – to aim the incentives at the midstream.

- Manufacturers and distributors can influence the products available to the midstream and provide the technical, business, and sales tools to allow dealers to upsell high efficiency equipment with a quality installation.
- The incentives at the midstream allow the contractor the option of either passing the incentive along to the customer or keeping the incentive as profit (or more likely, something in between). The key is for contractors to sharpen the value proposition to the customer and also improve their sales techniques so that the customer will choose the premium efficiency package.
- Influencing the knowledge, behavior, and power of the midstream will have longer term impacts on HVAC installation practices, minimizing lost opportunities that might be created with an upstream, rebate-only approach.

We believe that, compared to others, this approach offers the potential for changing stocking and supply practices without upstream incentives, therefore adding greater cost-effectiveness. By coordinating incentives with midstream actors, we intend to create strong motivation for dealers and contractors to improve their sales techniques for premium efficiency equipment and integrate quality installation as a standard practice. This approach leads to a sustainable HVAC and motors effort that serves as a profitable business model for all market sectors, and benefits customers by providing them with improved equipment and installation.

7. Program Outcomes

The major program outcomes anticipated for the proposed upstream HVAC and Motors program are:

- Participation of all major HVAC manufacturers and distributors, and motors distributors, active in SDG&E territory (participants should represent at least 75% of combined market share);
- Increased supply and stocking of premium efficiency HVAC and motors for SDG&E residential and commercial customers;
- Increased sales and technical training of midstream contractors focused on premium efficiency equipment and quality installation;
- Increased integration of quality installation with HVAC systems installation;
- Increased market penetration of duct sealing as a percentage of HVAC installations;
- Increased energy efficiency-oriented advertising by upstream and midstream participants.

2006-2008 Energy Efficiency Programs
Upstream HVAC/Motor Distributor Rebate Concept Paper

In the first program year, the CSG Team anticipates focusing upstream efforts on the manufacturers representing the largest share of the HVAC market: Carrier (UTC), Trane (American Standard), Goodman (Amana) and Lennox, in addition to recruiting Sears as part of the residential upstream sector. Combined, these manufacturers' products constitute over 70 percent of residential HVAC systems sold in California, and even a greater share of the commercial sector. In addition to their concentrated market power, these manufacturers – and their distributors, an increasingly consolidated market sector – have the closest ties to the midstream players, and have expressed interest in moving beyond business models based on first-cost and equipment replacement on failure.

With regard to motors, we will focus heavily on the major distributors of motors in SDG&E territory. We maintain the conventional strategy for motors because of the lack of a midstream program similar to HVAC TIMIC and because of the relatively smaller unit volumes for motors as compared to HVAC equipment expected in the program.

We will work with all manufacturers and distributors participating in the current statewide program to ensure a smooth transition to the new approach. We will build upon our existing contact base to ensure we develop a manufacturer and distributor network that fully represents the commercial and residential sectors and includes product and technical personnel as well as sales, marketing, and training representatives.

By summer 2006, in time to influence planning and sales for the 2007 air conditioning season, we will recruit all major manufacturers and distributors. Because the program does not rely on upstream incentives, participation will be defined by:

- Active engagement and expressed interest in the program;
- Dedicated contacts who will work with the program;
- Commitment to increased stocking and sale of premium efficiency HVAC equipment or motors;
- Commitment to promoting, through training, coordinated manufacturer/distributor incentives, and marketing, the proper installation of premium efficiency equipment at the midstream level, especially to their "elite" dealer and contractor networks;
- Assistance in downstream marketing efforts focused on achieving efficiency gains, to be executed through the midstream.

The major milestones will be measuring impacts during the pre- and peak sales seasons for air conditioning and heating equipment, allowing an assessment of market impacts at the upstream and midstream levels. The CSG Team will provide quarterly market updates to ensure the program is on target for its goals and that all upstream actors have the tools, information, and motivation they need to increase the supply of premium efficiency motors and HVAC systems.

8. Program Strategy

The CSG Team will use the following strategies for program success:

- Nonresidential Midstream Rebates
- Nonresidential Upstream Rebates
- Nonresidential Quality Installation
- Nonresidential Appliance Early Retirement (HVAC)
- Nonresidential New Construction
- Nonresidential Upstream Training
- Nonresidential Targeted Marketing
- Residential Midstream Rebates
- Residential Upstream Rebates
- Residential Quality Installation
- Residential Appliance Early Retirement (HVAC)
- Residential New Construction
- Residential Comprehensive HVAC
- Residential Upstream Training
- Residential Targeted Marketing

8.1.1. Program Strategy Description

- *Nonresidential and Residential Midstream Rebates*: While this is an upstream focused program, the strategy is intended to increase the level of coordination between the upstream and midstream sectors, leveraging the significant influence of the midstream on the equipment installed. Therefore, the CSG Team will coordinate with SDG&E's TIMIC contractor to issue rebates at the midstream level. We will work with the key upstream players – manufacturers, distributors, and retailers – to present the business case for both them and for their midstream representatives, and they will carry the message to the midstream sector, supported by the coordinated effort of this program and the TIMIC program.

- *Nonresidential and Residential Upstream Rebates*: As noted above, the rebates in the proposed program will be issued at the midstream rather than upstream level, with the cooperation of upstream players. In some cases, this approach will enhance the efforts of upstream players, who offer both midstream and downstream rebates for selected equipment during early season promotions. The CSG Team will coordinate the program planning and provide up-to-date information about rebate activities, successes, and lessons learned with the upstream participants. We anticipated that the results of our upstream and coordinated midstream approach will be changed stocking practices towards high and premium efficiency equipment by the upstream sector, and improved sales techniques and customer service at the midstream level.

- *Nonresidential and Residential Quality Installation*: One of the innovative elements of the CSG Team strategy is that all HVAC installations are required to meet defined quality installation standards in order to be eligible for the incentive. This strategy increases total energy and demand savings, and is expected to improve customer satisfaction and business relationships between customers and their HVAC suppliers.

- *Nonresidential and Residential Appliance Early Retirement* (HVAC): The CSG Team, as part of its upstream relationships, anticipates working with manufacturers and distributors to encourage them to track and share (at least with the midstream) data on product sales by date. By identifying customers with older, inefficient systems, we will target good candidates for early retirement and lock in energy saving at the earliest possible date.

- *Nonresidential and Residential New Construction*: Incentives and quality installation will be offered for both existing/retrofit applications and new construction. In order to secure the quality installation of premium efficiency equipment in nonresidential new construction, the CSG Team will coordinate with relevant programs such as SDG&E's Savings by Design and other statewide programs to ensure that builders and developers are aware of the HVAC program.

- *Residential Comprehensive HVAC*: The proposed program incorporates residential comprehensive HVAC, along with nonresidential offerings. The components of the comprehensive HVAC program include new construction and residential retrofit, high and premium efficiency heating and cooling equipment, as well as quality installation. The program will address these measures through the upstream in coordination with the midstream to deliver increased stocking of premium efficiency equipment, improved sales training by the upstream players, and improved customer service and quality installation at the midstream levels.

- *Nonresidential and Residential Upstream Training*: Manufacturers and distributors typically offer sales tools and incentives to influence the products and models sold by the midstream sector. The CSG Team will work with the upstream players to provide technical, business, and sales tools to improve the conversion rate for early retirement, annual maintenance, and adoption of premium efficiency units. The Team will work through the upstream, and will help manufacturers and distributors incorporate these training tools into their own training curricula and offerings to the midstream.

- *Nonresidential and Residential Targeted Marketing:* As an upstream program, the CSG Team will target the manufacturers and distributors of HVAC equipment representing SDG&E territory. The team will build on existing relationships with industry to reach out to these players, and will

work one-on-one with each organization. Therefore, the Team does not anticipate the need for large quantities of marketing materials; key materials will include program overviews and the business case for selling premium efficiency equipment through the program.

8.1.2. Program Indicators

The primary goal of the program strategy is to procure energy savings and demand reduction. The program savings goals are summarized in Section 2.

9. Program Objectives

Program objectives and milestones are addressed in Section 7 – Program Outcomes, above.

10. Program Implementation

CSG, as the prime contractor for the Upstream HVAC/Motor program, will serve as the point of contact for SDG&E and with midstream vendors to ensure consistency of goals, approach, and messaging.

D&R International will lead upstream outreach and coordination. D&R has extensive experience working in the upstream sector, based on its work with the national ENERGY STAR program, serving as the liaison for the program with manufacturers and retailers for several major product groups. D&R has already contacted several leading manufacturers. D&R and CSG will work with these companies, as well as building on their contacts in trade associations such as North American Technical Excellence (NATE), Air Conditioning Contractors of America (ACCA), Air Conditioning and Refrigeration Institute (ARI), and Heating, Air Conditioning, and Refrigeration Distributors International (HARDI), to explain the details of the program, understand the specifics of their business models, and find custom-tailored ways for them to expand their sale and stocking of premium efficiency equipment. We will also develop plans, tools, and content for distributor and dealer training to improve the follow-through at the critical time of contractor-customer interaction. D&R will work with manufacturers and distributors on an ongoing basis to identify any market barriers to increased supply of high efficiency equipment, help overcome them, and provide the tools and information that upstream actors require.

Rather than offering incentives to the upstream players, waiting extended periods for equipment to move from stocking to installation, and requiring upstream actors to track down the detailed customer information required to obtain a rebate, we will work with the midstream program implementer to drive incentives at that level. We have specified incentive levels for each measure. For HVAC measures, incentives are only available when qualified equipment is installed according to defined quality installation practices, including proper sizing and the correction of airflow and refrigerant charge. In addition, ducts must be tested, and duct sealing, when needed, can earn an additional incentive. As noted in Section B.1, CSG proposes

the same approach with SCE and So Cal Gas; if successful in our proposals, we anticipate a coordinated approach that will make the process clearer to all upstream and midstream market actors.

The most complicated aspect of the program mechanics is that we will need to coordinate the distribution of incentives with the TIMIC program. Our proposed upstream HVAC/Motor program defines the eligible equipment and incentive levels. When the midstream implementer verifies a quality installation of eligible products, provides the requisite customer data, and ensures appropriate quality assurance measures, CSG will issue the incentive to the midstream vendor for distribution to the contractors.

11. Customer Description

The program, while focused on interacting primarily with upstream actors and the midstream program implementer, targets residential and small and medium sized commercial customers seeking HVAC or motors replacements in existing buildings, or installations in new construction applications. We will especially target customers in climate zones 10, 14, and 15, in line with SDG&E's priorities for the HVAC TIMIC Program.

12. Customer Interface

The program design, moving incentives to the midstream, is intended to support the critical communication between contractors and their customers, but also creates a motivation on the part of contractors to promote the sale of premium efficiency equipment and quality installation. The CSG Team will ensure that manufacturers and distributors have up-to-date information about program status, numbers of incentives issued and remaining, and market impacts in SDG&E territory.

The CSG Team will provide clear and concise information about incentives, applicable federal tax credits and deductions, and sales techniques, as well as quality installation checklists and other marketing and education materials to manufacturers and distributors, so they can provide them to dealers/contractors, for use in presenting energy efficiency opportunities to their customers.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

See SDG&E February 1, 2006 Workbook

13.2. kWh Level Data

See SDG&E February 1, 2006 Workbook

13.3. Non-energy Activities

End Use Load (if applicable)

Residential and small/commercial HVAC: equipment, proper sizing and installation, duct testing and sealing; commercial motors.

Targeted Sector (if applicable)

The market segments that will be reached through the proposed program are:

1. HVAC and motors manufacturers and distributors;
2. Midstream contractors in HVAC and motors industries;
3. Residential and commercial customers for new construction and HVAC/motors replacements.

13.3.1. Activity Description

The following non-energy activities are a core part of the proposed program:

1. Outreach and account management for upstream sector – HVAC and motors manufacturers and distributors;
2. Development and distribution of business, sales, and technical training content via the upstream players;
3. Development of customer marketing tools and information for use by contractors, to be distributed by upstream players.

13.3.2. Quantitative Activity Goals

The quantitative goals for the non-energy activities include:

1. Securing participation of upstream actors representing over 75% of market share in SDG&E territory;
2. Increasing stocking and sales of premium efficiency equipment in SDG&E territory by 25%;
3. Integration of program tools into dealer/contractor training by manufacturers/distributors representing at least 50% of market share.

13.3.3. Assigned attributes of the activity (market sector, end use)

The proposed approach will target the residential replacement and new construction sectors, and the small and medium size commercial markets. The majority of measures will be installed in Climate Zone 10, given the concentration of population (and commercial businesses) and associated air conditioning in that part of SDG&E territory.

The residential sector will account for fully half of the air conditioning capacity upgraded to higher efficiency equipment (measured in tons) achieved through the proposed program. The first year will focus on assisting market actors in the transition to, and beyond, the new federal standard for residential air conditioning equipment, as well as the tax credits introduced with the 2005 energy bill. Starting in the 2007 cooling season, the CSG Team will target efforts to increase installation of higher efficiency equipment. Both the residential and commercial sectors will be targeted in a manner that takes into account the rising cost of natural gas, and therefore greater appeal of energy efficient heating equipment.

The commercial sector will achieve greater overall cost-effectiveness and energy savings per project, due to the lower federal standard and therefore greater incremental measure savings in that part of the market.

14. Subcontractor Activities

Provide a list of subcontractors and subcontractor responsibilities

D&R will be the primary subcontractor, leading the outreach to HVAC manufacturers and distributors. D&R has established relationships with several key upstream players and trade associations, and will leverage its understanding of both business models for and market barriers to premium efficiency equipment. D&R will establish an account management system for manufacturers and distributors, so that each company has an assigned point of contact who is familiar with their needs and will provide customized materials and information to ensure the program is meeting the needs of each participant. D&R will also develop content for sales training and marketing materials.

15. Quality Assurance and Evaluation Activities

The purpose of quality assurance is not so much to catch mistakes or improper conduct after the fact, although this is an essential feature of any QA/QC system, but to reduce the chances of such things happening in the first place. Therefore, our QA/QC activities will start with clear and simple rules for incentives, carefully designed collateral materials, education and training of market participants, and a robust information system (potentially that of the HVAC TIMIC contractor if it meets our standards) for tracking and analyzing program data. We will supplement

this approach with a rigorous inspection protocol (please see below) in coordination with the HVAC TIMIC contractor.

We will coordinate with the HVAC TIMIC contractor's inspection system to make sure that: a) the above code equipment has in fact been installed; and, b) that the installation has met the quality installation standards SDG&E expects. We assume that the HVAC TIMIC contractor will require HVAC contractors to have a QA/QC system in place, and that they will report the results of that system to the HVAC TIMIC contractor. We further assume that the HVAC TIMIC contractor will layer on an additional level of inspections. We would assume that this level of inspections would be at least 5% of the jobs, and would be based on a random, but representative, sample of jobs by each HVAC contractor enrolled in the program. We will require regular reporting from this system to verify that claimed measures have actually been installed. Finally, upstream program staff will perform direct inspections of a random sample of 0.5 – 1% of equipment installations. This three-tier system will provide assurance to SDG&E that program spending is producing real results.

16. Marketing Activities

Given the high level of market concentration at the upstream level for HVAC and motors, marketing to upstream actors will be direct and customized for each company. CSG and D&R will develop residential and commercial, technical, sales, marketing, and training contacts with each major manufacturer and distributor. The CSG Team will develop general content for training and marketing materials for upstream players to integrate into their own businesses, and will provide assistance in customizing them based on an understanding of the specific needs and approaches of each company.

Marketing materials for use by contractors in their interactions with downstream customers will be developed in conjunction with the HVAC TIMIC contractor and with SDG&E program and marketing staff, and will include:

- Program informational brochures targeted to residential and commercial customers;
- Self-audit/pre-qualification forms including potential savings by zip code;
- Co-op ads;
- Customer/contractor success stories as they become available among program early adopters.

In addition to performing program marketing activities, the CSG Team will coordinate with:

- HVAC and motors program leads within SDG&E;
- SDG&E commercial account representatives;

- The SDG&E Customer Contact Center;
- Statewide marketing and outreach implementers (Flex Your Power, UTEEM, RSE).

17. CPUC Objective

The program meets the following CPUC objectives (as stated in the Energy Efficiency Policy Manual, Version 3, pages 2-4):

- "Reduce the environmental impact (including the greenhouse gas emissions) associated with the state's energy consumption": The program reduces the need to generate electricity and does so at a high level of coincidence with system peak, thereby reducing the demand on what are often the most polluting generating assets.
- "Pursue all cost-effective energy efficiency opportunities over both the short- and long-term": Our proposed program design and implementation will contribute to the achievement of balanced energy savings and peak demand reduction by SDG&E's portfolio of programs through:
    - Reducing air conditioning load that is a major component of critical peak system load.
    - Balancing the needs of residential and non-residential customers by obtaining 11.0% of energy savings and 25.0% peak demand reduction from residential customers, through directing 18.5% of incentives to them. This balance expands the market for cost-effective savings beyond the non-residential sector, developing market channels for the future. This is especially important in SDG&E's service territory, which is disproportionately residential compared to that of the other California IOUs.
    - Requiring quality installation to qualify for an equipment incentive. The program will reinforce the midstream program; help to align the interests of upstream and midstream market actors; and contribute to a more complete transformation of market practices, balancing short term resource acquisition with longer term market transformation.
    - Building on developments in building codes, federal equipment standards, ENERGY STAR branding, and the efforts by CEE, NATE, and others to define and deploy quality installation standards and practices.

- Reduce lost opportunities and eliminate cream skimming: The program links equipment incentives with quality installation, thus reducing the lost opportunities and cream skimming inherent in equipment only programs. Full coordination between the upstream and midstream programs will best leverage the investments in each program in marketing, customer contact and

enrollment, field costs, and program administration, thereby further reducing lost opportunities.

- "Aggressively increase overall capacity utilization and lower peak loads through the deployment of low load factor/high critical peak saving measures": This program focuses primarily on reducing air conditioning load thereby lowering system peaks and flattening the load shape at all scales of the system (generation, transmission, and distribution down to the sub-station or network level).
- "Appropriate balance for portfolio funding of resource programs across market sectors (e.g., residential, industrial, commercial)": The program has extensive goals for air conditioning savings in residential buildings, thereby complementing SDG&E's continued work in commercial buildings and increasing equity across customer sectors.
- "Deployment of new and improved energy efficiency products and applications": The program will incentivize above code equipment, thus continuing to guide the HVAC and motors industries to push efficiency beyond building code and federal equipment standards. The link we propose between HVAC equipment incentives and quality installation will assist SDG&E in the broader deployment of more advanced energy efficiency services that have not yet become established in the market.

	SDGE3029 3P Upstream HVAC/Motors Program	
BUDGET		
Administrative Costs	**$**	**634,977**
Overhead and G&A	$	634,977
Other Administrative Costs	$	-
Marketing/Outreach	**$**	**307,000**
Direct Implementation	**$**	**3,054,836**
Total Incentives and Rebates		
User Input Incentive	$	-
Direct Install Rebate	$	2,965,860
Direct Install Labor	$	-
Direct Install Materials	$	-
Activity	$	-
Installation	$	-
Hardware & Materials	$	-
Rebate Processing & Inspection	$	88,976
EM&V Costs	**$**	**-**
Budget	**$**	**3,996,813**
Costs recovered from other sources	**$**	**-**
Budget (plus other costs)	**$**	**3,996,813**
PROGRAM IMPACTS		
User Entered kW (kW)		8,418
Net Jul-Sept Peak (kW)		4,169
Net Dec-Feb Peak (kW)		1,127
Net NCP (kW)		4,843
Net CEC (kW)		2,101
Annual Net kWh		9,684,112
Lifecycle Net kWh		148,453,538
Annual Net Therms		-
Lifecycle Net Therms		-
Cost Effectiveness		
TRC		
Costs	$	9,649,252
Electric Benefits	$	10,062,853
Gas Benefits	$	-
Net Benefits (NPV)	$	413,600
BC Ratio		1.04
PAC		
Costs	$	3,643,272
Electric Benefits	$	10,062,853
Gas Benefits	$	-
Net Benefits (NPV)	$	6,419,581
BC Ratio		2.76
Levelized Cost		
Levelized Cost TRC ($/kWh)		
Discounted kWh		81,870,931
Cost	$	0.1179
Benefits	$	0.1229
Benefit-Cost	$	0.0051
Levelized Cost PAC ($/kWh)		
Discounted kWh		81,870,931
Cost	$	0.0445
Benefits	$	0.1229
Benefit-Cost	$	0.0784
Levelized Cost TRC ($/therm)		
Discounted Therms		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-
Levelized Cost PAC ($/therm)		
Discounted Therms		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-

3P Upstream HVAC/Motors Program

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 1,122,555	$ 768,480	$ 354,075	2,376,390	(4,006)	2,130
2007	$ 1,438,316	$ 1,098,690	$ 339,626	3,395,095	(5,701)	3,044
2008	$ 1,435,942	$ 1,098,690	$ 337,252	3,395,095	(5,701)	3,044

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	253001	14 SEER (11.99 EER) Split-System Air Conditioner	16	0	0.03	0.8	ton	18	2,499	$ 10.00	$ 92.62	31,538	351	66
2006	253002	14 SEER (11.99 EER) Split-System Air Conditioner	16		0.05	0.8	ton	18	85	$ 10.00	$ 92.62	1,068	-	3
2006	253003	14 SEER (11.99 EER) Split-System Air Conditioner	50		0.05	0.8	ton	18	9	$ 10.00	$ 92.62	357	-	0
2006	253004	15 SEER (12.72 EER) Split-System Air Conditioner	38	(1)	0.08	0.8	ton	18	7,498	$ 15.00	$ 185.24	230,202	(4,357)	457
2006	253005	15 SEER (12.72 EER) Split-System Air Conditioner	56		0.09	0.8	ton	18	256	$ 15.00	$ 185.24	11,386	-	19
2006	253006	15 SEER (12.72 EER) Split-System Air Conditioner	99		0.10	0.8	ton	18	26	$ 15.00	$ 185.24	2,054	-	2
2006	253007	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	291	-	0.24	0.8	ton	15	-	$ 68.00	$ 148.36	-	-	-
2006	253008	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	367	-	0.20	0.8	ton	15	135	$ 68.00	$ 148.36	39,612	-	21
2006	253009	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	116	-	0.17	0.8	ton	15	-	$ 68.00	$ 148.36	-	-	-
2006	253010	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	120	-	0.18	0.8	ton	15	-	$ 68.00	$ 148.36	-	-	-
2006	253011	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	103	-	0.19	0.8	ton	15	-	$ 68.00	$ 148.36	-	-	-
2006	253012	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	226	-	0.22	0.8	ton	15	265	$ 68.00	$ 148.36	47,951	-	46
2006	253013	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	193	-	0.17	0.8	ton	15	-	$ 68.00	$ 148.36	-	-	-
2006	253014	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	424.343	0	0.193083	0.8	ton	15	370	$ 68.00	$ 148.36	125,606	-	57
2006	253015	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	365.692	0	0.2338	0.8	ton	15	105	$ 68.00	$ 148.36	30,718	-	20

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	253016	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	184.277	0	0.214273	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253017	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	168.127	0	0.152859	0.8	ton	15	105	$ 68.00	$ 148.36	14,123	-	13
2006	253018	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	295.572	0	0.2134	0.8	ton	15	1330	$ 68.00	$ 148.36	314,489	-	227
2006	253019	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	265.298	0	0.234097	0.8	ton	15	210	$ 68.00	$ 148.36	44,570	-	39
2006	253020	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	249.788	0	0.234716	0.8	ton	15	135	$ 68.00	$ 148.36	26,977	-	25
2006	253021	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	322.889	0	0.228367	0.8	ton	15	1595	$ 68.00	$ 148.36	412,006	-	291
2006	253022	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	302.411	0	0.224087	0.8	ton	15	1060	$ 68.00	$ 148.36	256,445	-	190
2006	253023	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	90.3139	0	0.153126	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253024	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	353.195	0	0.207684	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253025	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	249.197		0.211579	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253026	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	326.203		0.197499	0.8	ton	15	5	$ 68.00	$ 148.36	1,305	-	1
2006	253027	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	84.7444		0.184897	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253028	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	88.7597		0.189917	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253029	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	75.4775		0.197482	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253030	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	208.63		0.216624	0.8	ton	15	10	$ 68.00	$ 148.36	1,669	-	2
2006	253031	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	170		$ 0.17	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253032	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	346		$ 0.18	0.8	ton	15	15	$ 68.00	$ 148.36	4,157	-	2

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	253033	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	316		$ 0.23	0.8	ton	15	5	$ 68.00	$ 148.36	1,263	-	1
2006	253034	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	166		$ 0.21	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253035	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	148		$ 0.15	0.8	ton	15	5	$ 68.00	$ 148.36	591	-	1
2006	253036	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	261		$ 0.21	0.8	ton	15	45	$ 68.00	$ 148.36	9,381	-	7
2006	253037	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	226		$ 0.22	0.8	ton	15	5	$ 68.00	$ 148.36	902	-	1
2006	253038	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	214		$ 0.22	0.8	ton	15	5	$ 68.00	$ 148.36	857	-	1
2006	253039	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	259		$ 0.22	0.8	ton	15	55	$ 68.00	$ 148.36	11,394	-	9
2006	253040	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	251		$ 0.21	0.8	ton	15	35	$ 68.00	$ 148.36	7,033	-	6
2006	253041	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	102		$ 0.17	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253042	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	294		$ 0.19	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253043	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	468		$ 0.23	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253044	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	498		$ 0.23	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253045	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	176		$ 0.23	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253046	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	172		$ 0.22	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253047	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	170		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253048	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	379		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253049	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	319		$ 0.18	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	253050	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	520		$ 0.20	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253051	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	447		$ 0.25	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253052	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	313		$ 0.25	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253053	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	286		$ 0.16	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253054	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	410		$ 0.24	0.8	ton	15	5	$ 68.00	$ 148.36	1,639	-	1
2006	253055	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	425		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253056	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	416		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253057	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	458		$ 0.24	0.8	ton	15	5	$ 68.00	$ 148.36	1,830	-	1
2006	253058	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	442		$ 0.24	0.8	ton	15	5	$ 68.00	$ 148.36	1,769	-	1
2006	253059	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	213		$ 0.21	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253060	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	454		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2006	253061	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	172	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253062	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	217	$ -	$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2006	253063	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	69	$ -	$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-
2006	253064	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	71	$ -	$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2006	253065	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	61	$ -	$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2006	253066	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	134	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-

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2006	253067	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	114	$ -	$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2006	253068	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	251	$ -	$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2006	253069	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	217	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253070	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	109	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2006	253071	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	100	$ -	$ 0.09	0.8	ton	15	0		$ 118.88	-	-	-
2006	253072	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	175	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2006	253073	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	157	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253074	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	148	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253075	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	191	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253076	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	179	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2006	253077	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	53	$ -	$ 0.09	0.8	ton	15	0		$ 118.88	-	-	-
2006	253078	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	209	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2006	253079	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	148		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2006	253080	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	193		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2006	253081	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	50		$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2006	253082	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	53		$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-
2006	253083	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	45		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-

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2006	253084	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	124		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2006	253085	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	101		$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-
2006	253086	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	205		$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2006	253087	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	187		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253088	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	98		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2006	253089	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	87		$ 0.08	0.8	ton	15	0		$ 118.88	-	-	-
2006	253090	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	154		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2006	253091	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	134		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2006	253092	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	127		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2006	253093	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	153		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2006	253094	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	149		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2006	253095	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	61		$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-
2006	253096	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	174		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2006	253097	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	277		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253098	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	295		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2006	253099	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	104		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2006	253100	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	102		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-

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2006	253101	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	101		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253102	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	224		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253103	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	189		$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2006	253104	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	308		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2006	253105	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	264		$ 0.15	0.8	ton	15	0		$ 118.88	-	-	-
2006	253106	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	186		$ 0.15	0.8	ton	15	0		$ 118.88	-	-	-
2006	253107	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	169		$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-
2006	253108	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	243		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253109	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	252		$ 0.15	0.8	ton	15	0		$ 118.88	-	-	-
2006	253110	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	247		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253111	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	271		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253112	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	262		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253113	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	126		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2006	253114	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	269		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2006	253115	High eff. packaged unitary system A/C (65-134k)	292	$ -	$ 0.24	0.8	ton	15	288	$ 55.00	$ 149.13	67,321	-	55
2006	253116	High eff. packaged unitary system A/C (65-134k)	257	$ -	$ 0.20	0.8	ton	15	56	$ 55.00	$ 149.13	11,508	-	9
2006	253117	High eff. packaged unitary system A/C (65-134k)	108	$ -	$ 0.18	0.8	ton	15	56	$ 55.00	$ 149.13	4,826	-	8
2006	253118	High eff. packaged unitary system A/C (65-134k)	100	$ -	$ 0.20	0.8	ton	15	56	$ 55.00	$ 149.13	4,464	-	9

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2006	253119	High eff. packaged unitary system A/C (65-134k)	107	$ -	$ 0.10	0.8	ton	15	56	$ 55.00	$ 149.13	4,773	-	4
2006	253120	High eff. packaged unitary system A/C (65-134k)	191	$ -	$ 0.17	0.8	ton	15	144	$ 55.00	$ 149.13	21,994	-	20
2006	253121	High eff. packaged unitary system A/C (65-134k)	210	$ -	$ 0.11	0.8	ton	15	144	$ 55.00	$ 149.13	24,249	-	12
2006	253122	High eff. packaged unitary system A/C (65-134k)	289	$ -	$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253123	High eff. packaged unitary system A/C (65-134k)	177	$ -	$ 0.22	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253124	High eff. packaged unitary system A/C (65-134k)	167	$ -	$ 0.15	0.8	ton	15	144	$ 55.00	$ 149.13	19,282	-	18
2006	253125	High eff. packaged unitary system A/C (65-134k)	253	$ -	$ 0.21	0.8	ton	15	432	$ 55.00	$ 149.13	87,313	-	74
2006	253126	High eff. packaged unitary system A/C (65-134k)	261	$ -	$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253127	High eff. packaged unitary system A/C (65-134k)	245	$ -	$ 0.23	0.8	ton	15	144	$ 55.00	$ 149.13	28,258	-	27
2006	253128	High eff. packaged unitary system A/C (65-134k)	296	$ -	$ 0.23	0.8	ton	15	1008	$ 55.00	$ 149.13	238,835	-	185
2006	253129	High eff. packaged unitary system A/C (65-134k)	284	$ -	$ 0.23	0.8	ton	15	344	$ 55.00	$ 149.13	78,023	-	63
2006	253130	High eff. packaged unitary system A/C (65-134k)	91	$ -	$ 0.15	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253131	High eff. packaged unitary system A/C (65-134k)	308	$ -	$ 0.21	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253132	High eff. packaged unitary system A/C (65-134k)	250		$ 0.21	0.8	ton	15	8	$ 55.00	$ 149.13	1,601	-	1
2006	253133	High eff. packaged unitary system A/C (65-134k)	230		$ 0.20	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253134	High eff. packaged unitary system A/C (65-134k)	80		$ 0.19	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253135	High eff. packaged unitary system A/C (65-134k)	73		$ 0.20	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253136	High eff. packaged unitary system A/C (65-134k)	99		$ 0.10	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253137	High eff. packaged unitary system A/C (65-134k)	170		$ 0.16	0.8	ton	15	8	$ 55.00	$ 149.13	1,088	-	1
2006	253138	High eff. packaged unitary system A/C (65-134k)	178		$ 0.10	0.8	ton	15	8	$ 55.00	$ 149.13	1,139	-	1
2006	253139	High eff. packaged unitary system A/C (65-134k)	249		$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253140	High eff. packaged unitary system A/C (65-134k)	164		$ 0.21	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253141	High eff. packaged unitary system A/C (65-134k)	148		$ 0.15	0.8	ton	15	8	$ 55.00	$ 149.13	947	-	1
2006	253142	High eff. packaged unitary system A/C (65-134k)	229		$ 0.21	0.8	ton	15	16	$ 55.00	$ 149.13	2,937	-	3
2006	253143	High eff. packaged unitary system A/C (65-134k)	224		$ 0.21	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	253144	High eff. packaged unitary system A/C (65-134k)	213		$ 0.22	0.8	ton	15	8	$ 55.00	$ 149.13	1,364	-	1
2006	253145	High eff. packaged unitary system A/C (65-134k)	248		$ 0.22	0.8	ton	15	32	$ 55.00	$ 149.13	6,342	-	6
2006	253146	High eff. packaged unitary system A/C (65-134k)	244		$ 0.21	0.8	ton	15	8	$ 55.00	$ 149.13	1,559	-	1
2006	253147	High eff. packaged unitary system A/C (65-134k)	103		$ 0.17	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253148	High eff. packaged unitary system A/C (65-134k)	253		$ 0.19	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253149	High eff. packaged unitary system A/C (65-134k)	470		$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253150	High eff. packaged unitary system A/C (65-134k)	448		$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253151	High eff. packaged unitary system A/C (65-134k)	174		$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253152	High eff. packaged unitary system A/C (65-134k)	170		$ 0.25	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253153	High eff. packaged unitary system A/C (65-134k)	179		$ 0.11	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253154	High eff. packaged unitary system A/C (65-134k)	320		$ 0.18	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253155	High eff. packaged unitary system A/C (65-134k)	282		$ 0.11	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253156	High eff. packaged unitary system A/C (65-134k)	416		$ 0.25	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253157	High eff. packaged unitary system A/C (65-134k)	313		$ 0.25	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253158	High eff. packaged unitary system A/C (65-134k)	287		$ 0.17	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253159	High eff. packaged unitary system A/C (65-134k)	393		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253160	High eff. packaged unitary system A/C (65-134k)	425		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253161	High eff. packaged unitary system A/C (65-134k)	416		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253162	High eff. packaged unitary system A/C (65-134k)	447		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253163	High eff. packaged unitary system A/C (65-134k)	435		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253164	High eff. packaged unitary system A/C (65-134k)	215		$ 0.21	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253165	High eff. packaged unitary system A/C (65-134k)	438		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2006	253166	High eff. packaged unitary system A/C (135-239k)	168	$ -	$ 0.14	0.8	ton	15	105	$ 45.00	$ 110.89	14,081	-	12
2006	253167	High eff. packaged unitary system A/C (135-239k)	147	$ -	$ 0.11	0.8	ton	15	45	$ 45.00	$ 110.89	5,305	-	4
2006	253168	High eff. packaged unitary system A/C (135-239k)	62	$ -	$ 0.10	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	253169	High eff. packaged unitary system A/C (135-239k)	57	$ -	$ 0.11	0.8	ton	15	45	$ 45.00	$ 110.89	2,058	-	4
2006	253170	High eff. packaged unitary system A/C (135-239k)	130	$ -	$ 0.13	0.8	ton	15	45	$ 45.00	$ 110.89	4,680	-	5
2006	253171	High eff. packaged unitary system A/C (135-239k)	109	$ -	$ 0.10	0.8	ton	15	105	$ 45.00	$ 110.89	9,190	-	8
2006	253172	High eff. packaged unitary system A/C (135-239k)	229	$ -	$ 0.10	0.8	ton	15	15	$ 45.00	$ 110.89	2,750	-	1
2006	253173	High eff. packaged unitary system A/C (135-239k)	166	$ -	$ 0.13	0.8	ton	15	45	$ 45.00	$ 110.89	5,967	-	5
2006	253174	High eff. packaged unitary system A/C (135-239k)	102	$ -	$ 0.12	0.8	ton	15	150	$ 45.00	$ 110.89	12,212	-	15
2006	253175	High eff. packaged unitary system A/C (135-239k)	96	$ -	$ 0.09	0.8	ton	15	45	$ 45.00	$ 110.89	3,456	-	3
2006	253176	High eff. packaged unitary system A/C (135-239k)	145	$ -	$ 0.12	0.8	ton	15	105	$ 45.00	$ 110.89	12,175	-	10
2006	253177	High eff. packaged unitary system A/C (135-239k)	149	$ -	$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253178	High eff. packaged unitary system A/C (135-239k)	141	$ -	$ 0.14	0.8	ton	15	15	$ 45.00	$ 110.89	1,689	-	2
2006	253179	High eff. packaged unitary system A/C (135-239k)	170	$ -	$ 0.13	0.8	ton	15	195	$ 45.00	$ 110.89	26,506	-	21
2006	253180	High eff. packaged unitary system A/C (135-239k)	163	$ -	$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253181	High eff. packaged unitary system A/C (135-239k)	52	$ -	$ 0.09	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253182	High eff. packaged unitary system A/C (135-239k)	177	$ -	$ 0.11	0.8	ton	15	45	$ 45.00	$ 110.89	6,364	-	4
2006	253183	High eff. packaged unitary system A/C (135-239k)	144		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253184	High eff. packaged unitary system A/C (135-239k)	132		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253185	High eff. packaged unitary system A/C (135-239k)	46		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253186	High eff. packaged unitary system A/C (135-239k)	42		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253187	High eff. packaged unitary system A/C (135-239k)	120		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253188	High eff. packaged unitary system A/C (135-239k)	98		$ 0.09	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253189	High eff. packaged unitary system A/C (135-239k)	196		$ 0.10	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253190	High eff. packaged unitary system A/C (135-239k)	143		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253191	High eff. packaged unitary system A/C (135-239k)	94		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253192	High eff. packaged unitary system A/C (135-239k)	85		$ 0.08	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253193	High eff. packaged unitary system A/C (135-239k)	132		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	253194	High eff. packaged unitary system A/C (135-239k)	129		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253195	High eff. packaged unitary system A/C (135-239k)	122		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253196	High eff. packaged unitary system A/C (135-239k)	142		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253197	High eff. packaged unitary system A/C (135-239k)	140		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253198	High eff. packaged unitary system A/C (135-239k)	59		$ 0.10	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253199	High eff. packaged unitary system A/C (135-239k)	145		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253200	High eff. packaged unitary system A/C (135-239k)	270		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253201	High eff. packaged unitary system A/C (135-239k)	257		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253202	High eff. packaged unitary system A/C (135-239k)	100		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253203	High eff. packaged unitary system A/C (135-239k)	98		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253204	High eff. packaged unitary system A/C (135-239k)	219		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253205	High eff. packaged unitary system A/C (135-239k)	184		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253206	High eff. packaged unitary system A/C (135-239k)	302		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253207	High eff. packaged unitary system A/C (135-239k)	238		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253208	High eff. packaged unitary system A/C (135-239k)	180		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253209	High eff. packaged unitary system A/C (135-239k)	165		$ 0.10	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253210	High eff. packaged unitary system A/C (135-239k)	226		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253211	High eff. packaged unitary system A/C (135-239k)	244		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253212	High eff. packaged unitary system A/C (135-239k)	239		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253213	High eff. packaged unitary system A/C (135-239k)	257		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253214	High eff. packaged unitary system A/C (135-239k)	250		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253215	High eff. packaged unitary system A/C (135-239k)	123		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253216	High eff. packaged unitary system A/C (135-239k)	251		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2006	253217	High eff. packaged unitary system A/C (240-759k)	100	$ -	$ 0.08	0.8	ton	15	75	$ 30.00	$ 115.13	5,975	-	5
2006	253218	High eff. packaged unitary system A/C (240-759k)	88	$ -	$ 0.07	0.8	ton	15	25	$ 30.00	$ 115.13	1,751	-	1

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	253219	High eff. packaged unitary system A/C (240-759k)	37	$ -	$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253220	High eff. packaged unitary system A/C (240-759k)	34	$ -	$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253221	High eff. packaged unitary system A/C (240-759k)	77	$ -	$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253222	High eff. packaged unitary system A/C (240-759k)	65	$ -	$ 0.06	0.8	ton	15	50	$ 30.00	$ 115.13	2,606	-	2
2006	253223	High eff. packaged unitary system A/C (240-759k)	113	$ -	$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253224	High eff. packaged unitary system A/C (240-759k)	98	$ -	$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253225	High eff. packaged unitary system A/C (240-759k)	60	$ -	$ 0.07	0.8	ton	15	175	$ 30.00	$ 115.13	8,463	-	10
2006	253226	High eff. packaged unitary system A/C (240-759k)	57	$ -	$ 0.05	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253227	High eff. packaged unitary system A/C (240-759k)	86	$ -	$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253228	High eff. packaged unitary system A/C (240-759k)	89	$ -	$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253229	High eff. packaged unitary system A/C (240-759k)	84	$ -	$ 0.08	0.8	ton	15	25	$ 30.00	$ 115.13	1,672	-	2
2006	253230	High eff. packaged unitary system A/C (240-759k)	101	$ -	$ 0.08	0.8	ton	15	75	$ 30.00	$ 115.13	6,056	-	5
2006	253231	High eff. packaged unitary system A/C (240-759k)	97	$ -	$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253232	High eff. packaged unitary system A/C (240-759k)	31	$ -	$ 0.05	0.8	ton	15	25	$ 30.00	$ 115.13	620	-	1
2006	253233	High eff. packaged unitary system A/C (240-759k)	105	$ -	$ 0.08	0.8	ton	15	25	$ 30.00	$ 115.13	2,103	-	2
2006	253234	High eff. packaged unitary system A/C (240-759k)	85		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253235	High eff. packaged unitary system A/C (240-759k)	78		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253236	High eff. packaged unitary system A/C (240-759k)	27		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253237	High eff. packaged unitary system A/C (240-759k)	25		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253238	High eff. packaged unitary system A/C (240-759k)	71		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253239	High eff. packaged unitary system A/C (240-759k)	58		$ 0.05	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253240	High eff. packaged unitary system A/C (240-759k)	96		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253241	High eff. packaged unitary system A/C (240-759k)	85		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253242	High eff. packaged unitary system A/C (240-759k)	56		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253243	High eff. packaged unitary system A/C (240-759k)	50		$ 0.05	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	253244	High eff. packaged unitary system A/C (240-759k)	78		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253245	High eff. packaged unitary system A/C (240-759k)	76		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253246	High eff. packaged unitary system A/C (240-759k)	73		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253247	High eff. packaged unitary system A/C (240-759k)	84		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253248	High eff. packaged unitary system A/C (240-759k)	83		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253249	High eff. packaged unitary system A/C (240-759k)	35		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253250	High eff. packaged unitary system A/C (240-759k)	86		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253251	High eff. packaged unitary system A/C (240-759k)	160		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253252	High eff. packaged unitary system A/C (240-759k)	153		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253253	High eff. packaged unitary system A/C (240-759k)	59		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253254	High eff. packaged unitary system A/C (240-759k)	58		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253255	High eff. packaged unitary system A/C (240-759k)	130		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253256	High eff. packaged unitary system A/C (240-759k)	109		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253257	High eff. packaged unitary system A/C (240-759k)	164		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253258	High eff. packaged unitary system A/C (240-759k)	142		$ 0.09	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253259	High eff. packaged unitary system A/C (240-759k)	107		$ 0.09	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253260	High eff. packaged unitary system A/C (240-759k)	98		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253261	High eff. packaged unitary system A/C (240-759k)	134		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253262	High eff. packaged unitary system A/C (240-759k)	145		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253263	High eff. packaged unitary system A/C (240-759k)	142		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253264	High eff. packaged unitary system A/C (240-759k)	152		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253265	High eff. packaged unitary system A/C (240-759k)	148		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253266	High eff. packaged unitary system A/C (240-759k)	73		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253267	High eff. packaged unitary system A/C (240-759k)	149		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2006	253268	Premium Efficiency Motor - 5 HP, ODP, 2076 hrs	-	$ -	$ -	0.8	motor	15	31	$ 45.00	$ 40.76	-	-	-

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2006	253269	Premium Efficiency Motor - 10 HP, ODP, 2076 hrs	-	$ -	$ -	0.8	motor	15	31	$ 60.00	$ 74.47	-	-	-
2006	253270	Premium Efficiency Motor - 15 HP, ODP. 2076 hrs	-	$ -	$ -	0.8	motor	15	31	$ 75.00	$ 53.05	-	-	-
2006	253271	Premium Efficiency Motor - 20 HP, ODP, 2820 hrs	-	$ -	$ -	0.8	motor	15	21	$ 90.00	$ 225.29	-	-	-
2006	253272	Premium Efficiency Motor - 25 HP, ODP, 2820 hrs	-	$ -	$ -	0.8	motor	15	21	$ 120.00	$ 283.47	-	-	-
2006	253273	Premium Efficiency Motor - 50 HP, ODP, 2820 hrs	-	$ -	$ -	0.8	motor	15	21	$ 250.00	$ 704.87	-	-	-
2006	253274	Premium Efficiency Motor - 100 HP, OPD, 2820 hrs	-	$ -	$ -	0.8	motor	15	0	$ 400.00	$ 490.69	-	-	-
2006	253275	Premium Efficiency Motor - 5 HP, TEFC, 2076 hrs	-	$ -	$ -	0.8	motor	15	31	$ 45.00	$ 59.03	-	-	-
2006	253276	Premium Efficiency Motor - 10 HP, TEFC, 2076 hrs	-	$ -	$ -	0.8	motor	15	31	$ 60.00	$ 122.45	-	-	-
2006	253277	Premium Efficiency Motor - 15 HP, TEFC, 2076 hrs	-	$ -	$ -	0.8	motor	15	31	$ 75.00	$ 240.45	-	-	-
2006	253278	Premium Efficiency Motor - 20 HP, TEFC, 2820 hrs	-	$ -	$ -	0.8	motor	15	21	$ 90.00	$ 109.51	-	-	-
2006	253279	Premium Efficiency Motor - 25 HP, TEFC, 2820 hrs	-	$ -	$ -	0.8	motor	15	21	$ 120.00	$ 467.96	-	-	-
2006	253280	Premium Efficiency Motor - 50 HP, TEFC, 2820 hrs	-	$ -	$ -	0.8	motor	15	21	$ 250.00	$ 688.86	-	-	-
2006	253281	Premium Efficiency Motor - 100 HP, TEFC, 2820 hrs	-	$ -	$ -	0.8	motor	15	0	$ 400.00	$ 213.71	-	-	-
2007	253001	14 SEER (11.99 EER) Split-System Air Conditioner	16	$ 0.18	$ 0.03	0.8	ton	18	3557	$ 10.00	$ 92.62	44,890	500	93
2007	253002	14 SEER (11.99 EER) Split-System Air Conditioner	16		$ 0.05	0.8	ton	18	122	$ 10.00	$ 92.62	1,533	-	5
2007	253003	14 SEER (11.99 EER) Split-System Air Conditioner	50		$ 0.05	0.8	ton	18	12	$ 10.00	$ 92.62	476	-	0
2007	253004	15 SEER (12.72 EER) Split-System Air Conditioner	38	$ (0.73)	$ 0.08	0.8	ton	18	10671	$ 15.00	$ 185.24	327,618	(6,201)	650
2007	253005	15 SEER (12.72 EER) Split-System Air Conditioner	56		$ 0.09	0.8	ton	18	365	$ 15.00	$ 185.24	16,233	-	28
2007	253006	15 SEER (12.72 EER) Split-System Air Conditioner	99		$ 0.10	0.8	ton	18	37	$ 15.00	$ 185.24	2,924	-	3
2007	253007	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	291	$ -	$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253008	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	367	$ -	$ 0.20	0.8	ton	15	190	$ 68.00	$ 148.36	55,751	-	30
2007	253009	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	116	$ -	$ 0.17	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253010	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	120	$ -	$ 0.18	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	253011	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	103	$ -	$ 0.19	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253012	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	226	$ -	$ 0.22	0.8	ton	15	380	$ 68.00	$ 148.36	68,760	-	66
2007	253013	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	193	$ -	$ 0.17	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253014	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	424	$ -	$ 0.19	0.8	ton	15	530	$ 68.00	$ 148.36	179,921	-	82
2007	253015	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	366	$ -	$ 0.23	0.8	ton	15	150	$ 68.00	$ 148.36	43,883	-	28
2007	253016	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	184	$ -	$ 0.21	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253017	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	168	$ -	$ 0.15	0.8	ton	15	150	$ 68.00	$ 148.36	20,175	-	18
2007	253018	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	296	$ -	$ 0.21	0.8	ton	15	1890	$ 68.00	$ 148.36	446,905	-	323
2007	253019	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	265	$ -	$ 0.23	0.8	ton	15	300	$ 68.00	$ 148.36	63,672	-	56
2007	253020	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	250	$ -	$ 0.23	0.8	ton	15	190	$ 68.00	$ 148.36	37,968	-	36
2007	253021	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	323	$ -	$ 0.23	0.8	ton	15	2265	$ 68.00	$ 148.36	585,075	-	414
2007	253022	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	302	$ -	$ 0.22	0.8	ton	15	1510	$ 68.00	$ 148.36	365,312	-	271
2007	253023	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	90	$ -	$ 0.15	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253024	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	353	$ -	$ 0.21	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253025	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	249		$ 0.21	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253026	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	326		$ 0.20	0.8	ton	15	5	$ 68.00	$ 148.36	1,305	-	1
2007	253027	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	85		$ 0.18	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	253028	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	89		$ 0.19	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253029	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	75		$ 0.20	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253030	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	209		$ 0.22	0.8	ton	15	15	$ 68.00	$ 148.36	2,504	-	3
2007	253031	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	170		$ 0.17	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253032	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	346		$ 0.18	0.8	ton	15	20	$ 68.00	$ 148.36	5,542	-	3
2007	253033	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	316		$ 0.23	0.8	ton	15	5	$ 68.00	$ 148.36	1,263	-	1
2007	253034	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	166		$ 0.21	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253035	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	148		$ 0.15	0.8	ton	15	5	$ 68.00	$ 148.36	591	-	1
2007	253036	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	261		$ 0.21	0.8	ton	15	65	$ 68.00	$ 148.36	13,550	-	11
2007	253037	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	226		$ 0.22	0.8	ton	15	10	$ 68.00	$ 148.36	1,804	-	2
2007	253038	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	214		$ 0.22	0.8	ton	15	5	$ 68.00	$ 148.36	857	-	1
2007	253039	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	259		$ 0.22	0.8	ton	15	75	$ 68.00	$ 148.36	15,537	-	13
2007	253040	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	251		$ 0.21	0.8	ton	15	50	$ 68.00	$ 148.36	10,047	-	9
2007	253041	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	102		$ 0.17	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253042	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	294		$ 0.19	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253043	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	468		$ 0.23	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253044	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	498		$ 0.23	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	253045	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	176		$ 0.23	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253046	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	172		$ 0.22	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253047	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	170		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253048	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	379		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253049	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	319		$ 0.18	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253050	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	520		$ 0.20	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253051	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	447		$ 0.25	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253052	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	313		$ 0.25	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253053	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	286		$ 0.16	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253054	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	410		$ 0.24	0.8	ton	15	5	$ 68.00	$ 148.36	1,639	-	1
2007	253055	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	425		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253056	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	416		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253057	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	458		$ 0.24	0.8	ton	15	10	$ 68.00	$ 148.36	3,661	-	2
2007	253058	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	442		$ 0.24	0.8	ton	15	5	$ 68.00	$ 148.36	1,769	-	1
2007	253059	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	213		$ 0.21	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253060	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	454		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2007	253061	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	172	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	253062	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	217	$ -	$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2007	253063	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	69	$ -	$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-
2007	253064	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	71	$ -	$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2007	253065	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	61	$ -	$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2007	253066	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	134	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2007	253067	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	114	$ -	$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2007	253068	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	251	$ -	$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2007	253069	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	217	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2007	253070	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	109	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2007	253071	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	100	$ -	$ 0.09	0.8	ton	15	0		$ 118.88	-	-	-
2007	253072	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	175	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2007	253073	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	157	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2007	253074	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	148	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2007	253075	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	191	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2007	253076	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	179	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2007	253077	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	53	$ -	$ 0.09	0.8	ton	15	0		$ 118.88	-	-	-
2007	253078	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	209	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	253079	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	148		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2007	253080	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	193		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2007	253081	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	50		$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2007	253082	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	53		$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-
2007	253083	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	45		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2007	253084	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	124		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2007	253085	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	101		$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-
2007	253086	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	205		$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2007	253087	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	187		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2007	253088	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	98		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2007	253089	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	87		$ 0.08	0.8	ton	15	0		$ 118.88	-	-	-
2007	253090	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	154		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2007	253091	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	134		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2007	253092	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	127		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2007	253093	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	153		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2007	253094	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	149		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2007	253095	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	61		$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-

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2007	253096	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	174		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2007	253097	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	277		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2007	253098	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	295		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2007	253099	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	104		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2007	253100	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	102		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2007	253101	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	101		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2007	253102	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	224		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2007	253103	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	189		$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2007	253104	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	308		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2007	253105	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	264		$ 0.15	0.8	ton	15	0		$ 118.88	-	-	-
2007	253106	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	186		$ 0.15	0.8	ton	15	0		$ 118.88	-	-	-
2007	253107	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	169		$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-
2007	253108	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	243		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2007	253109	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	252		$ 0.15	0.8	ton	15	0		$ 118.88	-	-	-
2007	253110	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	247		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2007	253111	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	271		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2007	253112	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	262		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-

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2007	253113	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	126		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2007	253114	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	269		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2007	253115	High eff. packaged unitary system A/C (65-134k)	292	$ -	$ 0.24	0.8	ton	15	408	$ 55.00	$ 149.13	95,372	-	78
2007	253116	High eff. packaged unitary system A/C (65-134k)	257	$ -	$ 0.20	0.8	ton	15	80	$ 55.00	$ 149.13	16,440	-	13
2007	253117	High eff. packaged unitary system A/C (65-134k)	108	$ -	$ 0.18	0.8	ton	15	80	$ 55.00	$ 149.13	6,894	-	11
2007	253118	High eff. packaged unitary system A/C (65-134k)	100	$ -	$ 0.20	0.8	ton	15	80	$ 55.00	$ 149.13	6,377	-	12
2007	253119	High eff. packaged unitary system A/C (65-134k)	107	$ -	$ 0.10	0.8	ton	15	80	$ 55.00	$ 149.13	6,819	-	6
2007	253120	High eff. packaged unitary system A/C (65-134k)	191	$ -	$ 0.17	0.8	ton	15	208	$ 55.00	$ 149.13	31,770	-	28
2007	253121	High eff. packaged unitary system A/C (65-134k)	210	$ -	$ 0.11	0.8	ton	15	208	$ 55.00	$ 149.13	35,026	-	18
2007	253122	High eff. packaged unitary system A/C (65-134k)	289	$ -	$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253123	High eff. packaged unitary system A/C (65-134k)	177	$ -	$ 0.22	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253124	High eff. packaged unitary system A/C (65-134k)	167	$ -	$ 0.15	0.8	ton	15	208	$ 55.00	$ 149.13	27,851	-	25
2007	253125	High eff. packaged unitary system A/C (65-134k)	253	$ -	$ 0.21	0.8	ton	15	616	$ 55.00	$ 149.13	124,502	-	105
2007	253126	High eff. packaged unitary system A/C (65-134k)	261	$ -	$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253127	High eff. packaged unitary system A/C (65-134k)	245	$ -	$ 0.23	0.8	ton	15	208	$ 55.00	$ 149.13	40,817	-	39
2007	253128	High eff. packaged unitary system A/C (65-134k)	296	$ -	$ 0.23	0.8	ton	15	1440	$ 55.00	$ 149.13	341,192	-	265
2007	253129	High eff. packaged unitary system A/C (65-134k)	284	$ -	$ 0.23	0.8	ton	15	496	$ 55.00	$ 149.13	112,499	-	91
2007	253130	High eff. packaged unitary system A/C (65-134k)	91	$ -	$ 0.15	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253131	High eff. packaged unitary system A/C (65-134k)	308	$ -	$ 0.21	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253132	High eff. packaged unitary system A/C (65-134k)	250		$ 0.21	0.8	ton	15	16	$ 55.00	$ 149.13	3,203	-	3
2007	253133	High eff. packaged unitary system A/C (65-134k)	230		$ 0.20	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253134	High eff. packaged unitary system A/C (65-134k)	80		$ 0.19	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253135	High eff. packaged unitary system A/C (65-134k)	73		$ 0.20	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253136	High eff. packaged unitary system A/C (65-134k)	99		$ 0.10	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	253137	High eff. packaged unitary system A/C (65-134k)	170		$ 0.16	0.8	ton	15	8	$ 55.00	$ 149.13	1,088	-	1
2007	253138	High eff. packaged unitary system A/C (65-134k)	178		$ 0.10	0.8	ton	15	8	$ 55.00	$ 149.13	1,139	-	1
2007	253139	High eff. packaged unitary system A/C (65-134k)	249		$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253140	High eff. packaged unitary system A/C (65-134k)	164		$ 0.21	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253141	High eff. packaged unitary system A/C (65-134k)	148		$ 0.15	0.8	ton	15	8	$ 55.00	$ 149.13	947	-	1
2007	253142	High eff. packaged unitary system A/C (65-134k)	229		$ 0.21	0.8	ton	15	24	$ 55.00	$ 149.13	4,406	-	4
2007	253143	High eff. packaged unitary system A/C (65-134k)	224		$ 0.21	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253144	High eff. packaged unitary system A/C (65-134k)	213		$ 0.22	0.8	ton	15	8	$ 55.00	$ 149.13	1,364	-	1
2007	253145	High eff. packaged unitary system A/C (65-134k)	248		$ 0.22	0.8	ton	15	48	$ 55.00	$ 149.13	9,512	-	8
2007	253146	High eff. packaged unitary system A/C (65-134k)	244		$ 0.21	0.8	ton	15	16	$ 55.00	$ 149.13	3,118	-	3
2007	253147	High eff. packaged unitary system A/C (65-134k)	103		$ 0.17	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253148	High eff. packaged unitary system A/C (65-134k)	253		$ 0.19	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253149	High eff. packaged unitary system A/C (65-134k)	470		$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253150	High eff. packaged unitary system A/C (65-134k)	448		$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253151	High eff. packaged unitary system A/C (65-134k)	174		$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253152	High eff. packaged unitary system A/C (65-134k)	170		$ 0.25	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253153	High eff. packaged unitary system A/C (65-134k)	179		$ 0.11	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253154	High eff. packaged unitary system A/C (65-134k)	320		$ 0.18	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253155	High eff. packaged unitary system A/C (65-134k)	282		$ 0.11	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253156	High eff. packaged unitary system A/C (65-134k)	416		$ 0.25	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253157	High eff. packaged unitary system A/C (65-134k)	313		$ 0.25	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253158	High eff. packaged unitary system A/C (65-134k)	287		$ 0.17	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253159	High eff. packaged unitary system A/C (65-134k)	393		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253160	High eff. packaged unitary system A/C (65-134k)	425		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253161	High eff. packaged unitary system A/C (65-134k)	416		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	253162	High eff. packaged unitary system A/C (65-134k)	447		$ 0.24	0.8	ton	15	8	$ 55.00	$ 149.13	2,863	-	2
2007	253163	High eff. packaged unitary system A/C (65-134k)	435		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253164	High eff. packaged unitary system A/C (65-134k)	215		$ 0.21	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253165	High eff. packaged unitary system A/C (65-134k)	438		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2007	253166	High eff. packaged unitary system A/C (135-239k)	168	$ -	$ 0.14	0.8	ton	15	135	$ 45.00	$ 110.89	18,104	-	15
2007	253167	High eff. packaged unitary system A/C (135-239k)	147	$ -	$ 0.11	0.8	ton	15	75	$ 45.00	$ 110.89	8,841	-	7
2007	253168	High eff. packaged unitary system A/C (135-239k)	62	$ -	$ 0.10	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253169	High eff. packaged unitary system A/C (135-239k)	57	$ -	$ 0.11	0.8	ton	15	75	$ 45.00	$ 110.89	3,430	-	7
2007	253170	High eff. packaged unitary system A/C (135-239k)	130	$ -	$ 0.13	0.8	ton	15	75	$ 45.00	$ 110.89	7,800	-	8
2007	253171	High eff. packaged unitary system A/C (135-239k)	109	$ -	$ 0.10	0.8	ton	15	135	$ 45.00	$ 110.89	11,815	-	10
2007	253172	High eff. packaged unitary system A/C (135-239k)	229	$ -	$ 0.10	0.8	ton	15	30	$ 45.00	$ 110.89	5,500	-	2
2007	253173	High eff. packaged unitary system A/C (135-239k)	166	$ -	$ 0.13	0.8	ton	15	75	$ 45.00	$ 110.89	9,945	-	8
2007	253174	High eff. packaged unitary system A/C (135-239k)	102	$ -	$ 0.12	0.8	ton	15	225	$ 45.00	$ 110.89	18,318	-	22
2007	253175	High eff. packaged unitary system A/C (135-239k)	96	$ -	$ 0.09	0.8	ton	15	75	$ 45.00	$ 110.89	5,761	-	5
2007	253176	High eff. packaged unitary system A/C (135-239k)	145	$ -	$ 0.12	0.8	ton	15	135	$ 45.00	$ 110.89	15,653	-	13
2007	253177	High eff. packaged unitary system A/C (135-239k)	149	$ -	$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253178	High eff. packaged unitary system A/C (135-239k)	141	$ -	$ 0.14	0.8	ton	15	30	$ 45.00	$ 110.89	3,377	-	3
2007	253179	High eff. packaged unitary system A/C (135-239k)	170	$ -	$ 0.13	0.8	ton	15	285	$ 45.00	$ 110.89	38,740	-	30
2007	253180	High eff. packaged unitary system A/C (135-239k)	163	$ -	$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253181	High eff. packaged unitary system A/C (135-239k)	52	$ -	$ 0.09	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253182	High eff. packaged unitary system A/C (135-239k)	177	$ -	$ 0.11	0.8	ton	15	75	$ 45.00	$ 110.89	10,606	-	7
2007	253183	High eff. packaged unitary system A/C (135-239k)	144		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253184	High eff. packaged unitary system A/C (135-239k)	132		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253185	High eff. packaged unitary system A/C (135-239k)	46		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253186	High eff. packaged unitary system A/C (135-239k)	42		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	253187	High eff. packaged unitary system A/C (135-239k)	120		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253188	High eff. packaged unitary system A/C (135-239k)	98		$ 0.09	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253189	High eff. packaged unitary system A/C (135-239k)	196		$ 0.10	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253190	High eff. packaged unitary system A/C (135-239k)	143		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253191	High eff. packaged unitary system A/C (135-239k)	94		$ 0.12	0.8	ton	15	15	$ 45.00	$ 110.89	1,130	-	1
2007	253192	High eff. packaged unitary system A/C (135-239k)	85		$ 0.08	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253193	High eff. packaged unitary system A/C (135-239k)	132		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253194	High eff. packaged unitary system A/C (135-239k)	129		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253195	High eff. packaged unitary system A/C (135-239k)	122		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253196	High eff. packaged unitary system A/C (135-239k)	142		$ 0.12	0.8	ton	15	15	$ 45.00	$ 110.89	1,705	-	1
2007	253197	High eff. packaged unitary system A/C (135-239k)	140		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253198	High eff. packaged unitary system A/C (135-239k)	59		$ 0.10	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253199	High eff. packaged unitary system A/C (135-239k)	145		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253200	High eff. packaged unitary system A/C (135-239k)	270		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253201	High eff. packaged unitary system A/C (135-239k)	257		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253202	High eff. packaged unitary system A/C (135-239k)	100		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253203	High eff. packaged unitary system A/C (135-239k)	98		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253204	High eff. packaged unitary system A/C (135-239k)	219		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253205	High eff. packaged unitary system A/C (135-239k)	184		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253206	High eff. packaged unitary system A/C (135-239k)	302		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253207	High eff. packaged unitary system A/C (135-239k)	238		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253208	High eff. packaged unitary system A/C (135-239k)	180		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253209	High eff. packaged unitary system A/C (135-239k)	165		$ 0.10	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253210	High eff. packaged unitary system A/C (135-239k)	226		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253211	High eff. packaged unitary system A/C (135-239k)	244		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-

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2007	253212	High eff. packaged unitary system A/C (135-239k)	239		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253213	High eff. packaged unitary system A/C (135-239k)	257		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253214	High eff. packaged unitary system A/C (135-239k)	250		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253215	High eff. packaged unitary system A/C (135-239k)	123		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253216	High eff. packaged unitary system A/C (135-239k)	251		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2007	253217	High eff. packaged unitary system A/C (240-759k)	100	$ -	$ 0.08	0.8	ton	15	100	$ 30.00	$ 115.13	7,966	-	7
2007	253218	High eff. packaged unitary system A/C (240-759k)	88	$ -	$ 0.07	0.8	ton	15	25	$ 30.00	$ 115.13	1,751	-	1
2007	253219	High eff. packaged unitary system A/C (240-759k)	37	$ -	$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253220	High eff. packaged unitary system A/C (240-759k)	34	$ -	$ 0.07	0.8	ton	15	25	$ 30.00	$ 115.13	679	-	1
2007	253221	High eff. packaged unitary system A/C (240-759k)	77	$ -	$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253222	High eff. packaged unitary system A/C (240-759k)	65	$ -	$ 0.06	0.8	ton	15	75	$ 30.00	$ 115.13	3,909	-	3
2007	253223	High eff. packaged unitary system A/C (240-759k)	113	$ -	$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253224	High eff. packaged unitary system A/C (240-759k)	98	$ -	$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253225	High eff. packaged unitary system A/C (240-759k)	60	$ -	$ 0.07	0.8	ton	15	250	$ 30.00	$ 115.13	12,090	-	15
2007	253226	High eff. packaged unitary system A/C (240-759k)	57	$ -	$ 0.05	0.8	ton	15	25	$ 30.00	$ 115.13	1,141	-	1
2007	253227	High eff. packaged unitary system A/C (240-759k)	86	$ -	$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253228	High eff. packaged unitary system A/C (240-759k)	89	$ -	$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253229	High eff. packaged unitary system A/C (240-759k)	84	$ -	$ 0.08	0.8	ton	15	25	$ 30.00	$ 115.13	1,672	-	2
2007	253230	High eff. packaged unitary system A/C (240-759k)	101	$ -	$ 0.08	0.8	ton	15	100	$ 30.00	$ 115.13	8,075	-	6
2007	253231	High eff. packaged unitary system A/C (240-759k)	97	$ -	$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253232	High eff. packaged unitary system A/C (240-759k)	31	$ -	$ 0.05	0.8	ton	15	25	$ 30.00	$ 115.13	620	-	1
2007	253233	High eff. packaged unitary system A/C (240-759k)	105	$ -	$ 0.08	0.8	ton	15	25	$ 30.00	$ 115.13	2,103	-	2
2007	253234	High eff. packaged unitary system A/C (240-759k)	85		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253235	High eff. packaged unitary system A/C (240-759k)	78		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253236	High eff. packaged unitary system A/C (240-759k)	27		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-

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2007	253237	High eff. packaged unitary system A/C (240-759k)	25		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253238	High eff. packaged unitary system A/C (240-759k)	71		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253239	High eff. packaged unitary system A/C (240-759k)	58		$ 0.05	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253240	High eff. packaged unitary system A/C (240-759k)	96		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253241	High eff. packaged unitary system A/C (240-759k)	85		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253242	High eff. packaged unitary system A/C (240-759k)	56		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253243	High eff. packaged unitary system A/C (240-759k)	50		$ 0.05	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253244	High eff. packaged unitary system A/C (240-759k)	78		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253245	High eff. packaged unitary system A/C (240-759k)	76		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253246	High eff. packaged unitary system A/C (240-759k)	73		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253247	High eff. packaged unitary system A/C (240-759k)	84		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253248	High eff. packaged unitary system A/C (240-759k)	83		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253249	High eff. packaged unitary system A/C (240-759k)	35		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253250	High eff. packaged unitary system A/C (240-759k)	86		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253251	High eff. packaged unitary system A/C (240-759k)	160		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253252	High eff. packaged unitary system A/C (240-759k)	153		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253253	High eff. packaged unitary system A/C (240-759k)	59		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253254	High eff. packaged unitary system A/C (240-759k)	58		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253255	High eff. packaged unitary system A/C (240-759k)	130		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253256	High eff. packaged unitary system A/C (240-759k)	109		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253257	High eff. packaged unitary system A/C (240-759k)	164		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253258	High eff. packaged unitary system A/C (240-759k)	142		$ 0.09	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253259	High eff. packaged unitary system A/C (240-759k)	107		$ 0.09	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253260	High eff. packaged unitary system A/C (240-759k)	98		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253261	High eff. packaged unitary system A/C (240-759k)	134		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2007	253262	High eff. packaged unitary system A/C (240-759k)	145		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253263	High eff. packaged unitary system A/C (240-759k)	142		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253264	High eff. packaged unitary system A/C (240-759k)	152		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253265	High eff. packaged unitary system A/C (240-759k)	148		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253266	High eff. packaged unitary system A/C (240-759k)	73		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253267	High eff. packaged unitary system A/C (240-759k)	149		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2007	253268	Premium Efficiency Motor - 5 HP, ODP, 2076 hrs	-	$ -	$ -	0.8	motor	15	44	$ 45.00	$ 40.76	-	-	-
2007	253269	Premium Efficiency Motor - 10 HP, ODP, 2076 hrs	-	$ -	$ -	0.8	motor	15	44	$ 60.00	$ 74.47	-	-	-
2007	253270	Premium Efficiency Motor - 15 HP, ODP. 2076 hrs	-	$ -	$ -	0.8	motor	15	44	$ 75.00	$ 53.05	-	-	-
2007	253271	Premium Efficiency Motor - 20 HP, ODP, 2820 hrs	-	$ -	$ -	0.8	motor	15	30	$ 90.00	$ 225.29	-	-	-
2007	253272	Premium Efficiency Motor - 25 HP, ODP, 2820 hrs	-	$ -	$ -	0.8	motor	15	30	$ 120.00	$ 283.47	-	-	-
2007	253273	Premium Efficiency Motor - 50 HP, ODP, 2820 hrs	-	$ -	$ -	0.8	motor	15	30	$ 250.00	$ 704.87	-	-	-
2007	253274	Premium Efficiency Motor - 100 HP, OPD, 2820 hrs	-	$ -	$ -	0.8	motor	15	0	$ 400.00	$ 490.69	-	-	-
2007	253275	Premium Efficiency Motor - 5 HP, TEFC, 2076 hrs	-	$ -	$ -	0.8	motor	15	44	$ 45.00	$ 59.03	-	-	-
2007	253276	Premium Efficiency Motor - 10 HP, TEFC, 2076 hrs	-	$ -	$ -	0.8	motor	15	44	$ 60.00	$ 122.45	-	-	-
2007	253277	Premium Efficiency Motor - 15 HP, TEFC, 2076 hrs	-	$ -	$ -	0.8	motor	15	44	$ 75.00	$ 240.45	-	-	-
2007	253278	Premium Efficiency Motor - 20 HP, TEFC, 2820 hrs	-	$ -	$ -	0.8	motor	15	30	$ 90.00	$ 109.51	-	-	-
2007	253279	Premium Efficiency Motor - 25 HP, TEFC, 2820 hrs	-	$ -	$ -	0.8	motor	15	30	$ 120.00	$ 467.96	-	-	-
2007	253280	Premium Efficiency Motor - 50 HP, TEFC, 2820 hrs	-	$ -	$ -	0.8	motor	15	30	$ 250.00	$ 688.86	-	-	-
2007	253281	Premium Efficiency Motor - 100 HP, TEFC, 2820 hrs	-	$ -	$ -	0.8	motor	15	0	$ 400.00	$ 213.71	-	-	-
2008	253001	14 SEER (11.99 EER) Split-System Air Conditioner	16	$ 0.18	$ 0.03	0.8	ton	18	3557	$ 10.00	$ 92.62	44,890	500	93
2008	253002	14 SEER (11.99 EER) Split-System Air Conditioner	16		$ 0.05	0.8	ton	18	122	$ 10.00	$ 92.62	1,533	-	5
2008	253003	14 SEER (11.99 EER) Split-System Air Conditioner	50		$ 0.05	0.8	ton	18	12	$ 10.00	$ 92.62	476	-	0
2008	253004	15 SEER (12.72 EER) Split-System Air Conditioner	38	$ (0.73)	$ 0.08	0.8	ton	18	10671	$ 15.00	$ 185.24	327,618	(6,201)	650
2008	253005	15 SEER (12.72 EER) Split-System Air Conditioner	56		$ 0.09	0.8	ton	18	365	$ 15.00	$ 185.24	16,233	-	28

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	253006	15 SEER (12.72 EER) Split-System Air Conditioner	99		$ 0.10	0.8	ton	18	37	$ 15.00	$ 185.24	2,924	-	3
2008	253007	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	291	$ -	$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253008	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	367	$ -	$ 0.20	0.8	ton	15	190	$ 68.00	$ 148.36	55,751	-	30
2008	253009	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	116	$ -	$ 0.17	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253010	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	120	$ -	$ 0.18	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253011	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	103	$ -	$ 0.19	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253012	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	226	$ -	$ 0.22	0.8	ton	15	380	$ 68.00	$ 148.36	68,760	-	66
2008	253013	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	193	$ -	$ 0.17	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253014	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	424	$ -	$ 0.19	0.8	ton	15	530	$ 68.00	$ 148.36	179,921	-	82
2008	253015	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	366	$ -	$ 0.23	0.8	ton	15	150	$ 68.00	$ 148.36	43,883	-	28
2008	253016	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	184	$ -	$ 0.21	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253017	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	168	$ -	$ 0.15	0.8	ton	15	150	$ 68.00	$ 148.36	20,175	-	18
2008	253018	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	296	$ -	$ 0.21	0.8	ton	15	1890	$ 68.00	$ 148.36	446,905	-	323
2008	253019	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	265	$ -	$ 0.23	0.8	ton	15	300	$ 68.00	$ 148.36	63,672	-	56
2008	253020	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	250	$ -	$ 0.23	0.8	ton	15	190	$ 68.00	$ 148.36	37,968	-	36
2008	253021	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	323	$ -	$ 0.23	0.8	ton	15	2265	$ 68.00	$ 148.36	585,075	-	414
2008	253022	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	302	$ -	$ 0.22	0.8	ton	15	1510	$ 68.00	$ 148.36	365,312	-	271

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	253023	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	90	$ -	$ 0.15	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253024	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	353	$ -	$ 0.21	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253025	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	249		$ 0.21	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253026	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	326		$ 0.20	0.8	ton	15	5	$ 68.00	$ 148.36	1,305	-	1
2008	253027	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	85		$ 0.18	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253028	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	89		$ 0.19	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253029	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	75		$ 0.20	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253030	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	209		$ 0.22	0.8	ton	15	15	$ 68.00	$ 148.36	2,504	-	3
2008	253031	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	170		$ 0.17	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253032	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	346		$ 0.18	0.8	ton	15	20	$ 68.00	$ 148.36	5,542	-	3
2008	253033	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	316		$ 0.23	0.8	ton	15	5	$ 68.00	$ 148.36	1,263	-	1
2008	253034	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	166		$ 0.21	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253035	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	148		$ 0.15	0.8	ton	15	5	$ 68.00	$ 148.36	591	-	1
2008	253036	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	261		$ 0.21	0.8	ton	15	65	$ 68.00	$ 148.36	13,550	-	11
2008	253037	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	226		$ 0.22	0.8	ton	15	10	$ 68.00	$ 148.36	1,804	-	2
2008	253038	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	214		$ 0.22	0.8	ton	15	5	$ 68.00	$ 148.36	857	-	1
2008	253039	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	259		$ 0.22	0.8	ton	15	75	$ 68.00	$ 148.36	15,537	-	13

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	253040	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	251		$ 0.21	0.8	ton	15	50	$ 68.00	$ 148.36	10,047	-	9
2008	253041	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	102		$ 0.17	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253042	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	294		$ 0.19	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253043	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	468		$ 0.23	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253044	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	498		$ 0.23	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253045	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	176		$ 0.23	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253046	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	172		$ 0.22	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253047	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	170		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253048	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	379		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253049	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	319		$ 0.18	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253050	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	520		$ 0.20	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253051	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	447		$ 0.25	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253052	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	313		$ 0.25	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253053	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	286		$ 0.16	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253054	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	410		$ 0.24	0.8	ton	15	5	$ 68.00	$ 148.36	1,639	-	1
2008	253055	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	425		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253056	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	416		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	253057	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	458		$ 0.24	0.8	ton	15	10	$ 68.00	$ 148.36	3,661	-	2
2008	253058	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	442		$ 0.24	0.8	ton	15	5	$ 68.00	$ 148.36	1,769	-	1
2008	253059	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	213		$ 0.21	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253060	High eff. packaged unitary system A/C (< 65k, 13 SEER, 3 phase before 2008)	454		$ 0.24	0.8	ton	15	0	$ 68.00	$ 148.36	-	-	-
2008	253061	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	172	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2008	253062	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	217	$ -	$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2008	253063	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	69	$ -	$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-
2008	253064	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	71	$ -	$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2008	253065	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	61	$ -	$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2008	253066	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	134	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253067	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	114	$ -	$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2008	253068	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	251	$ -	$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2008	253069	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	217	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2008	253070	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	109	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253071	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	100	$ -	$ 0.09	0.8	ton	15	0		$ 118.88	-	-	-
2008	253072	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	175	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253073	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	157	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	253074	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	148	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2008	253075	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	191	$ -	$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2008	253076	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	179	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253077	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	53	$ -	$ 0.09	0.8	ton	15	0		$ 118.88	-	-	-
2008	253078	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	209	$ -	$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253079	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	148		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253080	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	193		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2008	253081	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	50		$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2008	253082	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	53		$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-
2008	253083	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	45		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2008	253084	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	124		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253085	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	101		$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-
2008	253086	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	205		$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2008	253087	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	187		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2008	253088	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	98		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253089	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	87		$ 0.08	0.8	ton	15	0		$ 118.88	-	-	-
2008	253090	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	154		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	253091	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	134		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2008	253092	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	127		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253093	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	153		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253094	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	149		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253095	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	61		$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-
2008	253096	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	174		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2008	253097	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	277		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2008	253098	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	295		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253099	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	104		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253100	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	102		$ 0.13	0.8	ton	15	0		$ 118.88	-	-	-
2008	253101	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	101		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2008	253102	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	224		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2008	253103	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	189		$ 0.11	0.8	ton	15	0		$ 118.88	-	-	-
2008	253104	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	308		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2008	253105	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	264		$ 0.15	0.8	ton	15	0		$ 118.88	-	-	-
2008	253106	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	186		$ 0.15	0.8	ton	15	0		$ 118.88	-	-	-
2008	253107	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	169		$ 0.10	0.8	ton	15	0		$ 118.88	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	253108	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	243		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2008	253109	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	252		$ 0.15	0.8	ton	15	0		$ 118.88	-	-	-
2008	253110	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	247		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2008	253111	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	271		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2008	253112	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	262		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2008	253113	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	126		$ 0.12	0.8	ton	15	0		$ 118.88	-	-	-
2008	253114	High eff. packaged split system A/C (< 65k, 3 phase before 2008)	269		$ 0.14	0.8	ton	15	0		$ 118.88	-	-	-
2008	253115	High eff. packaged unitary system A/C (65-134k)	292	$ -	$ 0.24	0.8	ton	15	408	$ 55.00	$ 149.13	95,372	-	78
2008	253116	High eff. packaged unitary system A/C (65-134k)	257	$ -	$ 0.20	0.8	ton	15	80	$ 55.00	$ 149.13	16,440	-	13
2008	253117	High eff. packaged unitary system A/C (65-134k)	108	$ -	$ 0.18	0.8	ton	15	80	$ 55.00	$ 149.13	6,894	-	11
2008	253118	High eff. packaged unitary system A/C (65-134k)	100	$ -	$ 0.20	0.8	ton	15	80	$ 55.00	$ 149.13	6,377	-	12
2008	253119	High eff. packaged unitary system A/C (65-134k)	107	$ -	$ 0.10	0.8	ton	15	80	$ 55.00	$ 149.13	6,819	-	6
2008	253120	High eff. packaged unitary system A/C (65-134k)	191	$ -	$ 0.17	0.8	ton	15	208	$ 55.00	$ 149.13	31,770	-	28
2008	253121	High eff. packaged unitary system A/C (65-134k)	210	$ -	$ 0.11	0.8	ton	15	208	$ 55.00	$ 149.13	35,026	-	18
2008	253122	High eff. packaged unitary system A/C (65-134k)	289	$ -	$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253123	High eff. packaged unitary system A/C (65-134k)	177	$ -	$ 0.22	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253124	High eff. packaged unitary system A/C (65-134k)	167	$ -	$ 0.15	0.8	ton	15	208	$ 55.00	$ 149.13	27,851	-	25
2008	253125	High eff. packaged unitary system A/C (65-134k)	253	$ -	$ 0.21	0.8	ton	15	616	$ 55.00	$ 149.13	124,502	-	105
2008	253126	High eff. packaged unitary system A/C (65-134k)	261	$ -	$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253127	High eff. packaged unitary system A/C (65-134k)	245	$ -	$ 0.23	0.8	ton	15	208	$ 55.00	$ 149.13	40,817	-	39
2008	253128	High eff. packaged unitary system A/C (65-134k)	296	$ -	$ 0.23	0.8	ton	15	1440	$ 55.00	$ 149.13	341,192	-	265
2008	253129	High eff. packaged unitary system A/C (65-134k)	284	$ -	$ 0.23	0.8	ton	15	496	$ 55.00	$ 149.13	112,499	-	91

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	253130	High eff. packaged unitary system A/C (65-134k)	91	$ -	$ 0.15	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253131	High eff. packaged unitary system A/C (65-134k)	308	$ -	$ 0.21	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253132	High eff. packaged unitary system A/C (65-134k)	250		$ 0.21	0.8	ton	15	16	$ 55.00	$ 149.13	3,203	-	3
2008	253133	High eff. packaged unitary system A/C (65-134k)	230		$ 0.20	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253134	High eff. packaged unitary system A/C (65-134k)	80		$ 0.19	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253135	High eff. packaged unitary system A/C (65-134k)	73		$ 0.20	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253136	High eff. packaged unitary system A/C (65-134k)	99		$ 0.10	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253137	High eff. packaged unitary system A/C (65-134k)	170		$ 0.16	0.8	ton	15	8	$ 55.00	$ 149.13	1,088	-	1
2008	253138	High eff. packaged unitary system A/C (65-134k)	178		$ 0.10	0.8	ton	15	8	$ 55.00	$ 149.13	1,139	-	1
2008	253139	High eff. packaged unitary system A/C (65-134k)	249		$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253140	High eff. packaged unitary system A/C (65-134k)	164		$ 0.21	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253141	High eff. packaged unitary system A/C (65-134k)	148		$ 0.15	0.8	ton	15	8	$ 55.00	$ 149.13	947	-	1
2008	253142	High eff. packaged unitary system A/C (65-134k)	229		$ 0.21	0.8	ton	15	24	$ 55.00	$ 149.13	4,406	-	4
2008	253143	High eff. packaged unitary system A/C (65-134k)	224		$ 0.21	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253144	High eff. packaged unitary system A/C (65-134k)	213		$ 0.22	0.8	ton	15	8	$ 55.00	$ 149.13	1,364	-	1
2008	253145	High eff. packaged unitary system A/C (65-134k)	248		$ 0.22	0.8	ton	15	48	$ 55.00	$ 149.13	9,512	-	8
2008	253146	High eff. packaged unitary system A/C (65-134k)	244		$ 0.21	0.8	ton	15	16	$ 55.00	$ 149.13	3,118	-	3
2008	253147	High eff. packaged unitary system A/C (65-134k)	103		$ 0.17	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253148	High eff. packaged unitary system A/C (65-134k)	253		$ 0.19	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253149	High eff. packaged unitary system A/C (65-134k)	470		$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253150	High eff. packaged unitary system A/C (65-134k)	448		$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253151	High eff. packaged unitary system A/C (65-134k)	174		$ 0.23	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253152	High eff. packaged unitary system A/C (65-134k)	170		$ 0.25	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253153	High eff. packaged unitary system A/C (65-134k)	179		$ 0.11	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253154	High eff. packaged unitary system A/C (65-134k)	320		$ 0.18	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	253155	High eff. packaged unitary system A/C (65-134k)	282		$ 0.11	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253156	High eff. packaged unitary system A/C (65-134k)	416		$ 0.25	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253157	High eff. packaged unitary system A/C (65-134k)	313		$ 0.25	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253158	High eff. packaged unitary system A/C (65-134k)	287		$ 0.17	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253159	High eff. packaged unitary system A/C (65-134k)	393		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253160	High eff. packaged unitary system A/C (65-134k)	425		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253161	High eff. packaged unitary system A/C (65-134k)	416		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253162	High eff. packaged unitary system A/C (65-134k)	447		$ 0.24	0.8	ton	15	8	$ 55.00	$ 149.13	2,863	-	2
2008	253163	High eff. packaged unitary system A/C (65-134k)	435		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253164	High eff. packaged unitary system A/C (65-134k)	215		$ 0.21	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253165	High eff. packaged unitary system A/C (65-134k)	438		$ 0.24	0.8	ton	15	0	$ 55.00	$ 149.13	-	-	-
2008	253166	High eff. packaged unitary system A/C (135-239k)	168	$ -	$ 0.14	0.8	ton	15	135	$ 45.00	$ 110.89	18,104	-	15
2008	253167	High eff. packaged unitary system A/C (135-239k)	147	$ -	$ 0.11	0.8	ton	15	75	$ 45.00	$ 110.89	8,841	-	7
2008	253168	High eff. packaged unitary system A/C (135-239k)	62	$ -	$ 0.10	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253169	High eff. packaged unitary system A/C (135-239k)	57	$ -	$ 0.11	0.8	ton	15	75	$ 45.00	$ 110.89	3,430	-	7
2008	253170	High eff. packaged unitary system A/C (135-239k)	130	$ -	$ 0.13	0.8	ton	15	75	$ 45.00	$ 110.89	7,800	-	8
2008	253171	High eff. packaged unitary system A/C (135-239k)	109	$ -	$ 0.10	0.8	ton	15	135	$ 45.00	$ 110.89	11,815	-	10
2008	253172	High eff. packaged unitary system A/C (135-239k)	229	$ -	$ 0.10	0.8	ton	15	30	$ 45.00	$ 110.89	5,500	-	2
2008	253173	High eff. packaged unitary system A/C (135-239k)	166	$ -	$ 0.13	0.8	ton	15	75	$ 45.00	$ 110.89	9,945	-	8
2008	253174	High eff. packaged unitary system A/C (135-239k)	102	$ -	$ 0.12	0.8	ton	15	225	$ 45.00	$ 110.89	18,318	-	22
2008	253175	High eff. packaged unitary system A/C (135-239k)	96	$ -	$ 0.09	0.8	ton	15	75	$ 45.00	$ 110.89	5,761	-	5
2008	253176	High eff. packaged unitary system A/C (135-239k)	145	$ -	$ 0.12	0.8	ton	15	135	$ 45.00	$ 110.89	15,653	-	13
2008	253177	High eff. packaged unitary system A/C (135-239k)	149	$ -	$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253178	High eff. packaged unitary system A/C (135-239k)	141	$ -	$ 0.14	0.8	ton	15	30	$ 45.00	$ 110.89	3,377	-	3
2008	253179	High eff. packaged unitary system A/C (135-239k)	170	$ -	$ 0.13	0.8	ton	15	285	$ 45.00	$ 110.89	38,740	-	30

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	253180	High eff. packaged unitary system A/C (135-239k)	163	$ -	$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253181	High eff. packaged unitary system A/C (135-239k)	52	$ -	$ 0.09	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253182	High eff. packaged unitary system A/C (135-239k)	177	$ -	$ 0.11	0.8	ton	15	75	$ 45.00	$ 110.89	10,606	-	7
2008	253183	High eff. packaged unitary system A/C (135-239k)	144		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253184	High eff. packaged unitary system A/C (135-239k)	132		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253185	High eff. packaged unitary system A/C (135-239k)	46		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253186	High eff. packaged unitary system A/C (135-239k)	42		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253187	High eff. packaged unitary system A/C (135-239k)	120		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253188	High eff. packaged unitary system A/C (135-239k)	98		$ 0.09	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253189	High eff. packaged unitary system A/C (135-239k)	196		$ 0.10	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253190	High eff. packaged unitary system A/C (135-239k)	143		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253191	High eff. packaged unitary system A/C (135-239k)	94		$ 0.12	0.8	ton	15	15	$ 45.00	$ 110.89	1,130	-	1
2008	253192	High eff. packaged unitary system A/C (135-239k)	85		$ 0.08	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253193	High eff. packaged unitary system A/C (135-239k)	132		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253194	High eff. packaged unitary system A/C (135-239k)	129		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253195	High eff. packaged unitary system A/C (135-239k)	122		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253196	High eff. packaged unitary system A/C (135-239k)	142		$ 0.12	0.8	ton	15	15	$ 45.00	$ 110.89	1,705	-	1
2008	253197	High eff. packaged unitary system A/C (135-239k)	140		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253198	High eff. packaged unitary system A/C (135-239k)	59		$ 0.10	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253199	High eff. packaged unitary system A/C (135-239k)	145		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253200	High eff. packaged unitary system A/C (135-239k)	270		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253201	High eff. packaged unitary system A/C (135-239k)	257		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253202	High eff. packaged unitary system A/C (135-239k)	100		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253203	High eff. packaged unitary system A/C (135-239k)	98		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253204	High eff. packaged unitary system A/C (135-239k)	219		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	253205	High eff. packaged unitary system A/C (135-239k)	184		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253206	High eff. packaged unitary system A/C (135-239k)	302		$ 0.11	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253207	High eff. packaged unitary system A/C (135-239k)	238		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253208	High eff. packaged unitary system A/C (135-239k)	180		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253209	High eff. packaged unitary system A/C (135-239k)	165		$ 0.10	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253210	High eff. packaged unitary system A/C (135-239k)	226		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253211	High eff. packaged unitary system A/C (135-239k)	244		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253212	High eff. packaged unitary system A/C (135-239k)	239		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253213	High eff. packaged unitary system A/C (135-239k)	257		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253214	High eff. packaged unitary system A/C (135-239k)	250		$ 0.14	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253215	High eff. packaged unitary system A/C (135-239k)	123		$ 0.12	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253216	High eff. packaged unitary system A/C (135-239k)	251		$ 0.13	0.8	ton	15	0	$ 45.00	$ 110.89	-	-	-
2008	253217	High eff. packaged unitary system A/C (240-759k)	100	$ -	$ 0.08	0.8	ton	15	100	$ 30.00	$ 115.13	7,966	-	7
2008	253218	High eff. packaged unitary system A/C (240-759k)	88	$ -	$ 0.07	0.8	ton	15	25	$ 30.00	$ 115.13	1,751	-	1
2008	253219	High eff. packaged unitary system A/C (240-759k)	37	$ -	$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253220	High eff. packaged unitary system A/C (240-759k)	34	$ -	$ 0.07	0.8	ton	15	25	$ 30.00	$ 115.13	679	-	1
2008	253221	High eff. packaged unitary system A/C (240-759k)	77	$ -	$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253222	High eff. packaged unitary system A/C (240-759k)	65	$ -	$ 0.06	0.8	ton	15	75	$ 30.00	$ 115.13	3,909	-	3
2008	253223	High eff. packaged unitary system A/C (240-759k)	113	$ -	$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253224	High eff. packaged unitary system A/C (240-759k)	98	$ -	$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253225	High eff. packaged unitary system A/C (240-759k)	60	$ -	$ 0.07	0.8	ton	15	250	$ 30.00	$ 115.13	12,090	-	15
2008	253226	High eff. packaged unitary system A/C (240-759k)	57	$ -	$ 0.05	0.8	ton	15	25	$ 30.00	$ 115.13	1,141	-	1
2008	253227	High eff. packaged unitary system A/C (240-759k)	86	$ -	$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253228	High eff. packaged unitary system A/C (240-759k)	89	$ -	$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253229	High eff. packaged unitary system A/C (240-759k)	84	$ -	$ 0.08	0.8	ton	15	25	$ 30.00	$ 115.13	1,672	-	2

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2008	253230	High eff. packaged unitary system A/C (240-759k)	101	$ -	$ 0.08	0.8	ton	15	100	$ 30.00	$ 115.13	8,075	-	6
2008	253231	High eff. packaged unitary system A/C (240-759k)	97	$ -	$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253232	High eff. packaged unitary system A/C (240-759k)	31	$ -	$ 0.05	0.8	ton	15	25	$ 30.00	$ 115.13	620	-	1
2008	253233	High eff. packaged unitary system A/C (240-759k)	105	$ -	$ 0.08	0.8	ton	15	25	$ 30.00	$ 115.13	2,103	-	2
2008	253234	High eff. packaged unitary system A/C (240-759k)	85		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253235	High eff. packaged unitary system A/C (240-759k)	78		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253236	High eff. packaged unitary system A/C (240-759k)	27		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253237	High eff. packaged unitary system A/C (240-759k)	25		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253238	High eff. packaged unitary system A/C (240-759k)	71		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253239	High eff. packaged unitary system A/C (240-759k)	58		$ 0.05	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253240	High eff. packaged unitary system A/C (240-759k)	96		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253241	High eff. packaged unitary system A/C (240-759k)	85		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253242	High eff. packaged unitary system A/C (240-759k)	56		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253243	High eff. packaged unitary system A/C (240-759k)	50		$ 0.05	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253244	High eff. packaged unitary system A/C (240-759k)	78		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253245	High eff. packaged unitary system A/C (240-759k)	76		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253246	High eff. packaged unitary system A/C (240-759k)	73		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253247	High eff. packaged unitary system A/C (240-759k)	84		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253248	High eff. packaged unitary system A/C (240-759k)	83		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253249	High eff. packaged unitary system A/C (240-759k)	35		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253250	High eff. packaged unitary system A/C (240-759k)	86		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253251	High eff. packaged unitary system A/C (240-759k)	160		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253252	High eff. packaged unitary system A/C (240-759k)	153		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253253	High eff. packaged unitary system A/C (240-759k)	59		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253254	High eff. packaged unitary system A/C (240-759k)	58		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	253255	High eff. packaged unitary system A/C (240-759k)	130		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253256	High eff. packaged unitary system A/C (240-759k)	109		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253257	High eff. packaged unitary system A/C (240-759k)	164		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253258	High eff. packaged unitary system A/C (240-759k)	142		$ 0.09	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253259	High eff. packaged unitary system A/C (240-759k)	107		$ 0.09	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253260	High eff. packaged unitary system A/C (240-759k)	98		$ 0.06	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253261	High eff. packaged unitary system A/C (240-759k)	134		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253262	High eff. packaged unitary system A/C (240-759k)	145		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253263	High eff. packaged unitary system A/C (240-759k)	142		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253264	High eff. packaged unitary system A/C (240-759k)	152		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253265	High eff. packaged unitary system A/C (240-759k)	148		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253266	High eff. packaged unitary system A/C (240-759k)	73		$ 0.07	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253267	High eff. packaged unitary system A/C (240-759k)	149		$ 0.08	0.8	ton	15	0	$ 30.00	$ 115.13	-	-	-
2008	253268	Premium Efficiency Motor - 5 HP, ODP, 2076 hrs	-	$ -	$ -	0.8	motor	15	44	$ 45.00	$ 40.76	-	-	-
2008	253269	Premium Efficiency Motor - 10 HP, ODP, 2076 hrs	-	$ -	$ -	0.8	motor	15	44	$ 60.00	$ 74.47	-	-	-
2008	253270	Premium Efficiency Motor - 15 HP, ODP. 2076 hrs	-	$ -	$ -	0.8	motor	15	44	$ 75.00	$ 53.05	-	-	-
2008	253271	Premium Efficiency Motor - 20 HP, ODP, 2820 hrs	-	$ -	$ -	0.8	motor	15	30	$ 90.00	$ 225.29	-	-	-
2008	253272	Premium Efficiency Motor - 25 HP, ODP, 2820 hrs	-	$ -	$ -	0.8	motor	15	30	$ 120.00	$ 283.47	-	-	-
2008	253273	Premium Efficiency Motor - 50 HP, ODP, 2820 hrs	-	$ -	$ -	0.8	motor	15	30	$ 250.00	$ 704.87	-	-	-
2008	253274	Premium Efficiency Motor - 100 HP, OPD, 2820 hrs	-	$ -	$ -	0.8	motor	15	0	$ 400.00	$ 490.69	-	-	-
2008	253275	Premium Efficiency Motor - 5 HP, TEFC, 2076 hrs	-	$ -	$ -	0.8	motor	15	44	$ 45.00	$ 59.03	-	-	-
2008	253276	Premium Efficiency Motor - 10 HP, TEFC, 2076 hrs	-	$ -	$ -	0.8	motor	15	44	$ 60.00	$ 122.45	-	-	-
2008	253277	Premium Efficiency Motor - 15 HP, TEFC, 2076 hrs	-	$ -	$ -	0.8	motor	15	44	$ 75.00	$ 240.45	-	-	-
2008	253278	Premium Efficiency Motor - 20 HP, TEFC, 2820 hrs	-	$ -	$ -	0.8	motor	15	30	$ 90.00	$ 109.51	-	-	-
2008	253279	Premium Efficiency Motor - 25 HP, TEFC, 2820 hrs	-	$ -	$ -	0.8	motor	15	30	$ 120.00	$ 467.96	-	-	-

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2008	253280	Premium Efficiency Motor - 50 HP, TEFC, 2820 hrs	-	$ -	$ -	0.8	motor	15	30	$ 250.00	$ 688.86	-	-	-
2008	253281	Premium Efficiency Motor - 100 HP, TEFC, 2820 hrs	-	$ -	$ -	0.8	motor	15	0	$ 400.00	$ 213.71	-	-	-

2006-2008 Energy Efficiency Programs
Value and Energy Stream Mapping Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ 20,000	$ 20,000	$ 20,000
	Administrative Other	$ 213,150	$ 249,900	$ 271,950
Marketing & Outreach		$ 85,500	$ 99,750	$ 99,750
Direct Implementation				
	Activity	$ 38,400	$ 57,600	$ 64,000
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ -	$ -	$ -
	Procurement	$ -	$ -	$ -
	Incentives	$ 270,000	$ 405,000	$ 450,000
EM&V		$ -	$ -	$ -
Total		*$ 627,050*	*$ 832,250*	*$ 905,700*

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2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
1,240,800	141	194,580	1,861,200	212	291,870	2,068,000	235	324,300

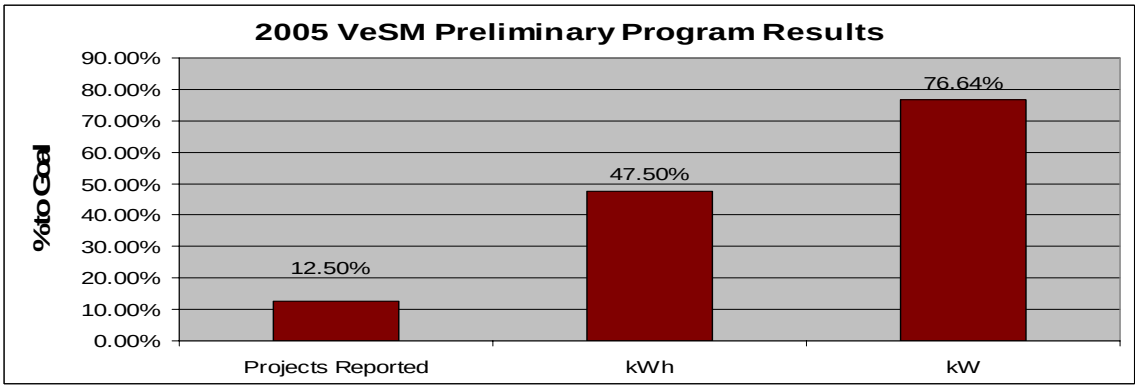
3. Program Cost Effectiveness

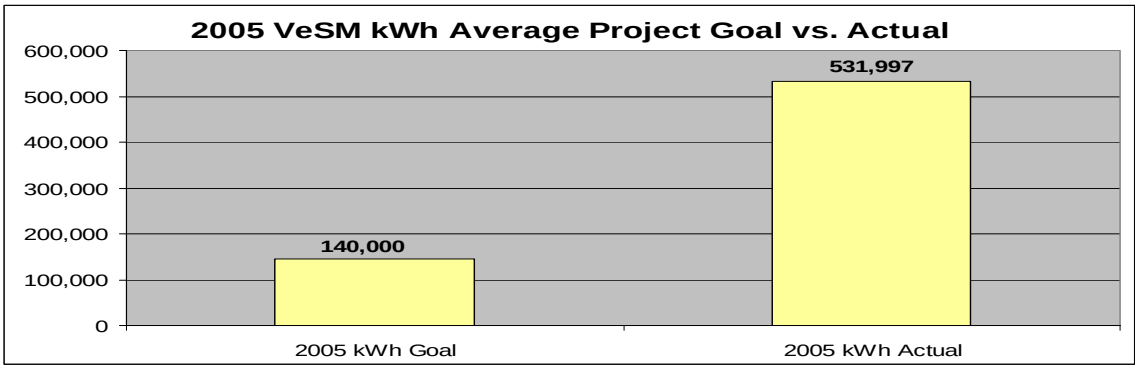
Attached

Of special note:

CMTC is operating under an SCE 2005 local energy efficiency program. The first four projects demonstrate greater energy savings than originally forecasted. The following charts show preliminary results.

CMTC is confident that the same performance will be possible in an energy efficiency program centered on gas consumption. This proposal is on the conservative side with respect to therm savings per project. To date, 2005 VeSM performance:





4. Program Descriptors

The status of the proposed Value and Energy Stream Mapping (VeSM™) program is to modify an existing SCE local energy efficiency program. Due to VeSM's ™ robust solution, ***significant gas and electric savings have been produced at the same time in the same projects.*** Therefore, it's a simple transition to provide the VeSM™ program to Southern California Gas Company customers targeting gas intensive manufacturing processes. Other program descriptors include:

- The market sector and focus of VeSM™ is medium and large manufacturers
- VeSM™ will operate under a Local Program Classification
- VeSM™ has been operating under an existing SCE energy efficiency program, however, VeSM™ if approved, will be a new energy efficiency tool in SoCal Gas' service territory.
- The VeSM™ Program is proposed to operate SDG&E service area wide
- In accordance with the 2002 US Economic Census, there are an estimated 3,473 manufacturing establishments within San Diego County. CMTC proposes to complete 50 VeSM™ projects and conduct 6 VeSM™ workshops reaching approximately 150 manufacturing companies or 5% of the total.

5. Program Statement

Our VeSM™ experience has found that energy efficiency has not been a priority for manufacturers and the knowledge base for achieving savings is limited. This is supported by the American Council for an Energy Efficient Economy (ACEEE, 1994) study: "Designing Industrial DSM (Demand Side Management) Programs that Work", which concluded that many manufacturing companies have poor performance regarding energy efficiency projects for the following reasons:

- Energy costs are often small relative to other costs.
- Energy efficiency projects are not considered of strategic value and typically do not garner the necessary focus and dedicated resources for proper implementation.
- Concerns over the long-term benefits of energy efficiency savings.

- Payback periods have been long term in nature.
- Companies lack in-house expertise to implement energy efficiency improvement projects.

The VeSM™ program overcomes many of the manufacturer's barriers to focusing on energy efficiency by providing companies with a rapid, substantial, long term financial return.

Using productivity improvements to improve the efficient use of energy is not new. For approximately a decade, the 25 university-based Industrial Assessment Centers (IAC) has worked with audits in conjunction with estimating the benefits of energy efficient solutions.

Recently IAC expanded auditing procedures by adding productivity and waste minimization components to their energy audits. On analyzing the IAC database, it has been noted "About 50% of the effective energy savings identified are directly from productivity improvements." (See "On Accounting for Energy Savings from Industrial Productivity Improvements," ACEEE Summer Program 2004). The authors state, "Often the impact of productivity projects on energy use in the plant is ignored or underestimated."

6. Program Rationale

Focusing on manufacturing production offers the highest potential for improving the efficient use of energy. Manufacturers represent 83% of total industrial use, and account for over 40% of the state's electrical use. Industrial sector end use is concentrated in process applications, lighting, and HVAC.

Approximately 70% of electricity consumption in manufacturing facilities is attributable to manufacturing process applications; 49% to process machines. Other non-process uses account for 18% of the sector's electricity use. (See the 2001 survey of Xenergy Inc., California Industrial Energy Efficiency Market Characterization Study).

The Program's rationale is to address this high potential manufacturing market by:

- Implementing a program that addresses the specific energy efficiency needs of the manufacturing customer segment.
- Tapping into significant potential for energy savings through a field-tested and proven process improvement strategy.
- Increasing the overall efficiency of manufacturing processes which will lead to a more efficient use of energy.
- Stimulating regional economic growth by improving the manufacturing sector's productivity making manufacturers more competitive in the world economy.

7. Program Outcomes

Program tasks included in the VeSM™ program will include the following:

Task 1 - Conduct 6 VeSM™ Workshops

- Provide orientation and awareness to approximately 150 manufacturing company representatives.

Task 2 -Conduct 50 VeSM™ Projects to capture Annual Net Reduction of 8,000,000 kWh and Annual Net Reduction of 862,500 therms through the following steps

- Develop 50 VeSM™ Energy Savings Assessments showing changes needed from current to future state production process
- Implement 100 Process Improvements in the manufacturing plant (Two Kaizen events per implementation) yielding the potentially highest energy efficiency gains.
- Document 50 Project Summaries calculating energy efficiency savings.

8. Program Strategy

The VeSM™ Program is designed to increase energy efficiency for manufacturing companies through the improvement of production processes.

The proposed VeSM™ Advantage Plus (VeSM™) is based on an overall concept that has been used successfully for many years in conjunction with "Lean" manufacturing principals. CMTC expanded the "Lean" approach to include an energy efficiency element and successfully piloted a program in the City of Los Angeles in conjunction with the Los Angeles Department of Water & Power. [1]

The VeSM™ program was so successful, it was funded and expanded by Southern California Edison (SCE) as part of SCE's 2005 Innovative Energy Efficiency Energy Application (IDEEA) program. The SCE contract which started in December 2004 funds 24 industrial projects for SIC codes 2000-3999. Thus far, twelve projects have been implemented successfully; all 24 are under contract. Due to the robust nature of VeSM™, a broad range of process improvement events were proven to produce energy savings in both gas and electric applications.

CMTC is proposing the VeSM™ program to increase energy efficiency for manufacturing companies in the SoCal Gas region. Based on the experience of the SCE program and the characteristics of SoCal Gas' region, the proposed VeSM™ Program will be enhanced to include gas savings to the existing energy efficiency model.

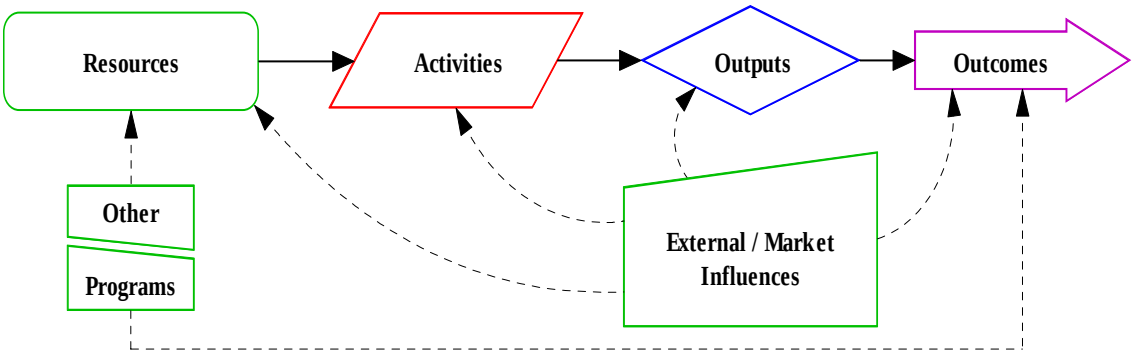
The following discussion represents the fundamental logic behind applying a market intervention model for the proposed VeSM program. CMTC has learned first hand that customers respond to benefits (Outcomes) and will move forward with

[1] Gerald Church, CMTC, "Value and Energy Stream Mapping, Linking Process Improvement to Energy Savings," World Energy Engineering Congress Proceedings, 2005.

additional projects (Other Programs) when their objectives are met. The following describes the model:

A Market Intervention Program Logic Model[2] can be used to describe the theory and logic of the VeSM Program. This model assumes the use of Resources to provide Activities, which generate Outputs (for targeted program "customers") resulting in Outcomes (over the short, intermediate or long term). In addition, the program model is affected by External Influences as well as by Other Interventions. A graphical depiction of the normative Market Intervention Program Logic Model is shown below.

Logic Model: Outputs for the "Customers" Served



It is important to note that this logic model is "customer-centric" in the sense that it assumes all program Outputs are intended to impact specific primary groups of targeted market participants, the so called "customers" of the program. The VeSM program is designed to produce Outputs affecting medium to large size industrial manufacturers in the SoCal Gas Company service area. Hence these are the primary "customers" that the program is intended to directly influence and benefit.

The program takes strategic advantage of CMTC's proprietary tools that improves manufacturing efficiencies by up to 25 % therein increasing the energy efficiency of each manufactured product by as much as 15%. The deployment of the VeSM™ tool establishes a very high potential for using energy more efficiently. For example, a medium size manufacturing company of 150 employees saved 81,416 therms annually.

The Program has synergy with Economic Development Organizations. Its unique energy saving potential offers an economic development tool to help manufacturing businesses become more competitive, thereby retaining and/or expanding the manufacturing capability in the region. Because of this synergy and the resulting

[2] Adapted by GeoPraxis from McLaughlin & Jordan, 1999 and other studies.

benefits, CMTC will form alliances with economic development organizations servicing SoCal Gas' service area. These organizations, with their extensive network and ability to reach the target market, will extend the Program's reach and provide excellent outreach and educational opportunities to encourage participation by manufacturers.

The objective of the VeSM™ Program is to provide a turnkey solution to provide quantified energy savings through manufacturing improvements. The program will identify new areas of energy waste and reduce the amount of energy consumed per unit of output. CMTC will strategically deploy the following key elements of the VeSM™ Program to achieve energy efficiency goals:

- Energy project evaluations
- Waste minimization strategies
- Process efficiency
- Operational improvements
- Potential for direct reinvestment from VeSM™ projects into improved energy systems and equipment

8.1.1. Program Strategy Description

The total cost of each project is $30,000 of which the participating manufacturer pays the first $7,500 (client cost share) and the balance ($22,500) will be billed on a Time and Material basis to SDG&E. CMTC will also bill SDG&E (on a Time and Material basis) for Administrative, Marketing, Evaluation and Monitoring costs.

Essential design elements of the Program are Client Cost Share, Engaging the Manufacturer in Multi-Improvement Events including Two-Phase Implementation and Energy Efficiency Analysis.

Client Cost Share

CMTC has learned first hand about the importance of client investment into projects. CMTC designed the proposed VeSM™ program based on a history of implementing hundreds of projects with manufacturers. For example: Having contracts to deliver training from California's Employer Training Panel (ETP), CMTC discovered problems with furnishing 100% project offsets with no client investment. CMTC learned the need to scope projects with the right balance between client monetary investment and time commitment.

CMTC now delivers almost exclusively hands-on projects with a client financial contribution. From these experiences, CMTC proposed a 30% cost share mechanism for SCE's IDEEA program in 2004-2005 that met client price elasticity constraints while providing a strong motive to move forward with a contract. The proposed client share for the VeSM™ program under SDG&E Innovation Programs is 25%. The slight

adjustment is made to stimulate greater customer participation and reduce marketing costs.

Multiple Efficiency Improvement Solution Events

From CMTC's experience with the SCE contract, CMTC learned that the broad variety of potential clients and project scope demonstrated that two process improvement events per project was an optimum number to ensure enough manufacturing processes were addressed to generate the anticipated results.

Two-Phase Implementations Process

Phase 1 - Identification of Key Opportunities for Energy Efficiency

Each participating manufacturer will receive an extensive assessment of their production processes using the CMTC proprietary VeSM™ opportunity mapping tool, that systematically documents all actions (both value added and non-value added) in the production process. This helps companies understand the flow of material and information as a product makes its way through the production process. The tool applied by CMTC senior consultants will provide manufacturing companies opportunities to:

- Identify energy use and savings potential of production process improvements,
- Quantify and validate energy reductions as processes are improved,
- Establish an energy used per unit produced ratio for finished goods,
- Link benefits of process improvements to energy improvements,
- Quantify relationships between scrap and rework and energy savings,
- Reduce company operating costs; and,
- Increase production capacity.

Phase 2 – Implementing Energy Efficiency Solutions (Kaizens)

Once the most significant production energy efficiency opportunities are identified, CMTC will propose an action plan and implement two improvement events, called Kaizen. Both events will quantify baseline performance and measure post-Kaizen improvements, which forms the basis for energy efficiency calculations. Process improvement strategies typically focus on:

- Productivity and Capacity Improvements
- Waste Minimization
- Efficiency Improvements
- Scheduling Enhancements
- Material Handling
- Lean Manufacturing

- Equipment Maintenance

Energy Efficiency Analysis

Energy Efficiency Analysis services will be conducted by Alternative Energy Systems Consulting, Inc. (AESC), an engineering and project development firm devoted to providing technical services available to a broad range of energy service providers and end-users. CMTC will bill SoCal Gas for these services on a fixed fee basis in accordance to CMTC's agreement with AESC.

The Energy Efficiency Analysis will include the following information:

- Evaluation and assessment of current energy usage by energy systems and equipment
- Performance assessment of existing energy saving equipment in use at manufacturing facilities
- Data collection and analysis in support of energy efficiency calculations
- Evaluation and tailored recommendations of additional energy saving technologies
- Information and assistance in leveraging local energy incentive programs

8.1.2. Program Indicators

The VeSM™ Advantage Plus™ Program (VeSM™) is an energy efficiency program for manufacturing companies. The program takes strategic advantage of CMTC's proprietary tools that improves manufacturing efficiencies by up to 25 % therein increasing the energy efficiency of each manufactured product by as much as 15%. The deployment of the VeSM™ tool establishes a very high potential for using energy more efficiently. For example, a recent VeSM project for a medium size manufacturing company of 150 employees, was able to save 81,416 therms annually through process improvements.

The VeSM™ provides energy efficiencies in both electricity and gas. CMTC recently implemented a VeSM™ project at a small forge shop with 19 employees that saved $48,000 annually by reducing the use of unnecessary gas-fired kilns on the second shift. At the same time electric savings were estimated to be 613,641 kWh.

VeSM™ focuses on improving energy efficiency by enhancing manufacturing productivity, reducing waste, and improving process efficiencies. The objectives of the VeSM™ Program are:

- Eliminate primary sources of manufacturing wastes regardless of energy source especially related to gas consumption applications.
- Identify other related energy efficiency opportunities inherent in manufacturing facilities, to encourage upgrading equipment such as boilers, heat treat equipment, lighting, motors, air systems, HVAC and refrigeration.
- Provide manufacturers with production scheduling alternatives enabling them to shut down unnecessary equipment, thereby reducing the amount of energy consumed per unit produced.
- Improve cash flow enabling companies to commit to other energy efficiency initiatives.
- Implement two manufacturing improvement solutions per participating manufacturer
- VeSM™ stimulates regional economic growth by improving manufacturing sector productivity and competitiveness; and by, creating new productivity improvements based linkage with traditional hardware-based energy efficiency incentive programs offered by utilities and non-utilities.

9. Program Objectives

CMTC management will project manage the overall implementation of the 48 projects, 6 workshops and achievement of program goals, including; program interface with SoCal Gas, selection of the proper target companies, scheduling of VeSM™ projects, overseeing the collection of project documentation and coordination of project auditing.

VeSM 2006-08 Milestones	2006	2007	2008	Totals
Workshops	3	2	1	6
Projects	12	18	20	50

10. Program Implementation

CMTC has developed a proven set of standard procedures and guidelines for implementing the VeSM™ Program. Over the past year, these set of standarized procedures have optimized outcomes for VeSM™ clients. Standard process flows, project plans, checklists, kickoff meeting documents, quantifying baselines and post-Kaizen results are part of the systematic approach that provides consistent, reproducible results.

Secondary benefits also flow from the VeSM™ Program. In the first seven SCE VeSM™ projects the following observations and recommendations were made outside the standard improvement or Kaizen events demonstrating secondary benefits:

Industry Type	Recommendation or Measure
Textile	Boiler leaks and potential upgrade, bulk gas purchasing advice, lighting project, waste water treatment options from dyeing process
Food Processing	Lighting audit, heating and cooling system requirements, air compressor leak detection, install plastic barriers
Battery Manufacturer	Aluminum heating options for casting and pasting operations, cogeneration candidate, lighting project, controls, waste heat recovery, load shift analysis
Thermoforming Plastics	Deferred purchase of 2 machines, process change in regrinding operation, lighting audit, DOE IAC referral
Injection Molder Plastics	Review motor replacement strategy, controls recommendations
Forge Shop	Collapse second shift and turn off two 2000 degree kilns estimated to generate $48,000 annual gas savings
Heath Care Equipment	Lighting audit, investigating resource capacity to reduce energy consumption by eliminating unnecessary systems

11. Customer Description

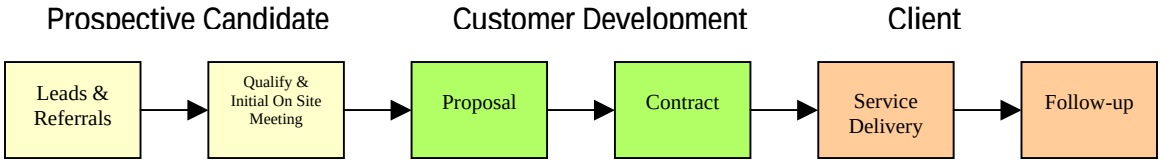
Customer characteristics:

1. Manufacturers from SIC codes 2000-3999 with specific targeting to high percentage of gas and electric consumption related to unit output
2. Medium size companies with annual consumption from 400,000-750,000 therms and 1,000,000 to 3,000,000 kWh; and large size companies greater than 750,000 therms and 3,000,000 kWh
3. Specific industries identified by SDG&E and CMTC with greatest energy savings opportunities and manufacturing improvement benefits

12. Customer Interface

CMTC has developed a unique process flow for enrolling the highest opportunity candidates in the VeSM™ program, including referrals/leads from CMTC's account representatives, business development staff, partner organizations and/or promotional programs.

Customer Enrollment Process



Relative to enrollment for on-site services, the program anticipates leads and referrals will be received from partner organizations (EDCs or other partners), utility account executives, workshops and/or previously served clients. All referrals will be submitted to CMTC's consulting group who will verify initial eligibility (i.e., location within the service area, minimum therm qualification, manufacturer in appropriate SIC). After passing an initial assessment as to the opportunity for energy efficiency, the prospective candidates will be scheduled for an initial on-site meeting.

During the on-site meeting the VeSM™ consultant will review facilities to determine appropriateness, explain program benefits and process. If a prospective candidate is willing to engage and participate in the program, the VeSM™ consultant will prepare and have the customer sign a VeSM™ contact that includes a scope of work listing deliverables and other pertinent information.

Once the customer has signed the contract, the company is considered a participant and is scheduled for VeSM™ service delivery, including a VeSM™ assessment followed by process improvement/optimization events. After service delivery is complete, customers will be scheduled for a follow-up site inspection and evaluation.

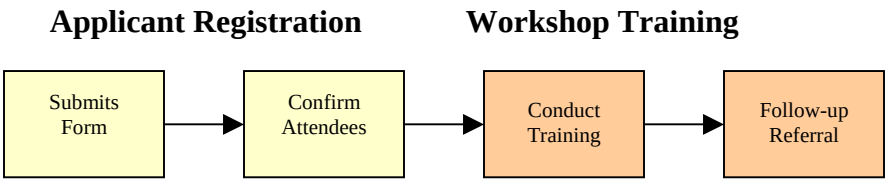
CMTC has developed delivery principles to help ensure clearly defined project goals and activities, consistent quality, and timely performance of a project.

There are five basic principles that VeSM™ consultants apply to our standardized service delivery: (1) confirm objectives and success criteria; (2) develop a milestone plan; (3) hold a review meeting (including confirmation of scope and deliverables); (4) implement service delivery procedures; and (5) manage the transitions associated with project completion.

Throughout the project process, groundwork is laid for referrals to other energy efficiency programs. A systematic series of progress reports is developed during a project. Many projects lend themselves to cross-linking with other areas of the customer's business. Referrals are actively encouraged during the entire project.

Consultants also look for and integrate other resources to enhance the project, such as VeSM™ workshops. CMTC has developed a proven process for identifying and building workshop attendance outlined in the Chart below.

Workshop Enrollments and Training Process



Regarding workshop enrollment, the program distributes a self-registration brochure explaining the benefits of the workshop, who should attend and what attendees can expect to get out of the workshop, dates/times/locations where the workshops will

be held and a simple (user friendly) registration form. The registration form will request attendee's contact information, include the program's contact information and allow prospective attendees to phone/fax or e-mail in registration forms. The VeSM™ workshop brochure will also be converted into PDF format for e-mailing. It is anticipated that registration forms will be received via a toll free phone number (800) 300-CMTC, and from partner organizations (EDCs or other partners), partner associations and e-mail.

Once a registration form is received, the program will submit a confirmation notice to attendees and to assure attendance, follow-up with a second confirmation notice one-week before the scheduled workshop.

Workshop agendas will include an *Energy Efficiency Outreach* time-slot to highlight the VeSM™ on-site services and other energy efficiency programs. At the end of each workshop, attendees will be provided an opportunity to be referred to the VeSM™ Program. Follow-up calls will be made to attendees to determine if any energy efficiency actions have been undertaken.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

See SDG&E February 1, 2006 Workbook

13.2. kWh Level Data

See SDG&E February 1, 2006 Workbook

13.3. Non-energy Activities

Phase 1 - Identification of Key Opportunities for Energy Efficiency

Each participating manufacturer will receive an extensive assessment of their production processes using the CMTC proprietary VeSM™ opportunity mapping tool that systematically documents all actions in the production process. This helps companies understand the flow of material and information as a product makes its way through the production process. The tool applied by CMTC senior consultants will provide manufacturing companies opportunities to:

- Identify energy use and savings potential of production process improvements,
- Quantify and validate energy reductions as processes are improved,
- Establish an energy used per unit produced ratio for finished goods,
- Link benefits of process improvements to energy improvements,

Workshop Training

Over the 2006-2008 period, CMTC will conduct six half-day workshops designed to create a maximum benefit for manufacturers even if not

enrolled as a VeSM™ participant. Workshops will be designed to build awareness in how to reduce energy usage and how operations can support a strategy of doing more with less. The workshop will also serve a screening purpose to filter those companies with a willingness to adopt lean manufacturing. It will be explained that process improvement requires substantial effort from participating companies and qualification into the program requires their commitment in time and dedicated resources.

A number of workshop participants will adopt immediate steps to improve manufacturing operations, adapt schedules to reduce energy usage and review energy efficiency equipment options. Companies will be shown the VeSM™ process using an approved workshop from the Lean Enterprise Institute entitled "Learning to see". CMTC's Lean Manufacturing Consultants are trained and approved in delivering the workshop, which has been adapted to include an energy component demonstrating the relationship between world-class manufacturing and energy efficiency.

i. End Use Load (if applicable)

N/A

ii. Targeted Sector (if applicable)

CMTC will work with SoCal Gas to develop a target list of gas intensive manufacturing sectors and applications. In the case of the current SCE contract, CMTC and account executives have identified prospects in need of reducing energy costs and upgrading poor performance from older equipment and technologies.

From its own resources, CMTC has over a dozen years working with manufacturers and has developed relationships with thousands of manufacturing companies that fit the need for the VeSM™ program. CMTC has an up-to-date database with key management contacts. In many cases these same contacts have an understanding of CMTC's efforts to improve manufacturer's competitiveness and are receptive to meeting with CMTC.

Included in this past history are long-term relationships with local economic development groups, city officials, trade organizations, industry groups and professional associations. Over a dozen years CMTC has made hundreds of presentations to these same groups.

13.3.1. Activity Description

Under this program CMTC will operate as a primary subcontractor and report to SoCal Gas' assigned program manager. CMTC assigns a VeSM™ program manager to work with SoCal Gas' program manager to implement marketing, enrollment, evaluation/monitoring and verification (EM&V) services.

CMTC has identified three key personnel in addition to seven VeSM™ consultants within CMTC whose time will be allocated to the VeSM™ program.

- Program Manager (Gerald Church) will be dedicated to the program and will handle the overall management of the program and interface with SoCal Gas program staff. The CMTC Program Manager reports to the Vice President of Operations.
- Energy Efficiency Program Analyst (Kirk Prather) will be assigned to the program to coordinate the collection of onsite data, run statistical analysis, and validate project data before submitting for inspection.
- A Senior Consultant (Michael Gigliotti) will be assigned to this project as a project manager coordinating project resources, timelines, and milestones.

A pool of seven VeSM™ consultants will be assigned on an as needed basis. The CMTC Program Manager will provide monthly reports to SoCal Gas' program manager. CMTC will also coordinate EM&V support services as required and schedule on-site participant interviews/visits on an as needed basis.

13.3.2. Quantitative Activity Goals

- 50 VeSM™ Projects
- 6 VeSM™ Workshops

13.3.3. Assigned attributes of the activity (market sector, end use)

CMTC's VeSM™ program will serve the Non-Residential Industrial Sector, medium to large manufacturers and provide process improvement assessments and implementation.

14. Subcontractor Activities

In addition to work performed by key CMTC staff members, CMTC proposes to contract with Alternative Energy Systems Consulting, Inc. (AESC), an engineering and project development firm devoted to providing technical services available to a broad range of energy service providers and end-users. AESC was instrumental in developing the current energy efficiency model and has spent more than one year learning about the VeSM process. AESC's extensive knowledge in the energy industry, advanced energy systems and advanced computing technologies provides CMTC and its participants advanced energy assessment and analysis services to assure energy savings are properly calculated and link CMTC services with SoCal Gas and/or 3rd party energy efficiency services.

AESC will conduct the following on-site services:

- Evaluate and assess current energy usage

- Assess performance of existing energy saving equipment in use at manufacturing facilities
- Evaluate and recommend additional energy saving technologies where appropriate
- Determine appropriate energy incentive programs

15. Quality Assurance and Evaluation Activities

CMTC, the primary subcontractor, has provided on-site consulting services for over 12-years and has developed policies and procedures for addressing customer concerns that have resulted in a very low customer complaint percentage. To assure customer needs and/or service delivery concerns are addressed, CMTC includes a high-quality commitment in all of its contracts with clients. CMTC maintains and publicizes a toll-free telephone number (800) 300-CMTC (2682) and logs all customer calls through a centralized control desk. All customer complaint calls are referred to the Operations Vice President's office, investigated by quality control/customer satisfaction personnel.

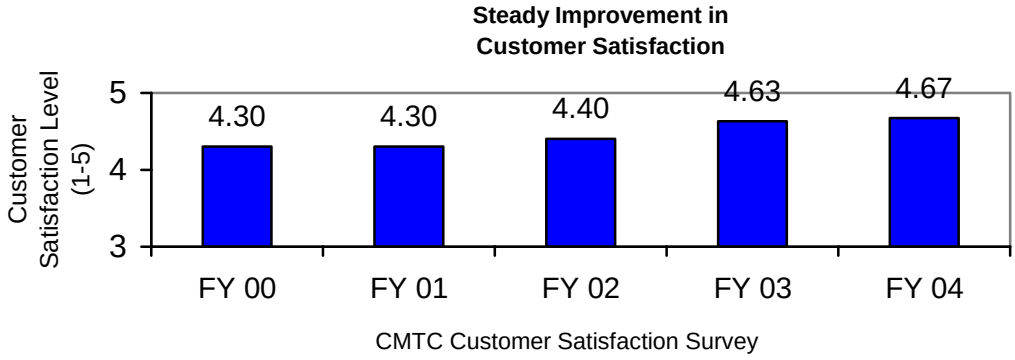
CMTC's customer complaint percentage is also extremely low due to an ongoing monitoring and satisfaction survey program conducted internally and by the National Institute of Standards and Technology (NIST) under the U.S. Department of Commerce. These programs are designed to identify and handle potential client satisfaction issues before they become problems.

Projects are also monitored, while in progress and at closeout, to ensure that every preventative measure is taken to assure customer satisfaction. The number of complaints are posted and rigorously reviewed by the leadership team for appropriate action. Complaint data is collected, charted and analyzed to assess trends and establish benchmarks. We require direct action by industry sector directors on all customer complaints. CMTC's quality statement is "To Exceed Our Clients' Expectations, Period." is indicative of a company culture that ensures a rigorous follow-up to any customer issues and an expeditious resolution to customer problems (refer to the following chart).

Specifically, CMTC has established a formal evaluation process and schedule in order to track project performance and measure impacts. The evaluation is made primarily through customer surveys. The process is monitored by NIST, which conducts customer surveys on a quarterly basis.

At the end of each quarter, CMTC provides NIST with a comprehensive listing of customers served. Each quarter NIST compiles customers served a year prior and sends the data to an independent research firm (currently Synovate) to conduct the survey. Once the survey is completed, Synovate sends the survey results to NIST, which is then forwarded to CMTC. In its most recent full year evaluation, in FY 2004, CMTC received a 4.67 customer satisfaction rating on a 1-5 scale with 5 measuring "Extremely Satisfied."

CMTC Exceeds Customer Expectations



In addition to third party surveys through NIST, CMTC also conducts its internal surveys to measure customer satisfaction and quality of service delivery. These surveys are conducted during project implementation and at project closeout. Surveys that are conducted during project implementation provide information on customer satisfaction at mid-point of the project, so that timely corrective actions can be taken as necessary. Surveys at project closeout show a customer's satisfaction with the implementation of the entire project. They review the entire project, identifying strengths and weaknesses in project implementation and service delivery, as well as reporting outcomes achieved. Project evaluation allows CMTC to measure customer satisfaction and service quality.

Customer feedback is utilized at every level of service delivery to assure that services are on target with industry needs and expectations. Customer feedback is obtained in a formal way through surveys, and the results are used to make improvements in the service delivery model. This applies to one-on-one services (i.e., projects) as well as group services (i.e., seminars, workshops, and training).

CMTC's policy is to distribute evaluation forms after each seminar and workshop. Evaluation forms are analyzed thoroughly, and follow-up interviews are conducted with various attendees to ascertain their satisfaction level, lessons learned and follow-up needs. Customer feedback from on-site meetings also provides extensive and valuable information.

All completed projects will be submitted to NIST for follow-up survey services for client satisfaction and impact.

16. Marketing Activities

CMTC has been successful in enrolling 24 companies in the SCE VeSM™ program in approximately 12-months (15 VeSM™ projects were engaged within a 3-month period). CMTC attributes its success to not only the VeSM™ program design but also to its marketing capabilities. In addition to VeSM™ workshops, active referrals from strategic economic development partners, CMTC has highly skilled and dedicated business development and account management staff assigned to promote CMTC programs including VeSM™. CMTC has successfully marketed to

the manufacturing sector and is considered an "expert" in process improvement techniques.

17. CPUC Objective

VeSM™ meets all CPUC objectives numbered 1-10 as summarized below:

1. VeSM™ demonstrates cost effective energy efficiency
2. VeSM™ is cost-effective both on a short and long term basis
3. VeSM™ energy efficiency approach is less costly than supply-side options
4. VeSM™ demonstrates a "lost opportunity" characteristic -- long lived, cost-effective savings energy, which if not exploited with other low cost options, would be lost
5. VeSM™ results in reduced peak loads
6. VeSM™ provides SoCal Gas an opportunity to more equitably serve the hard-to-reach manufacturing sector
7. VeSM™ contributes to reduced greenhouse gas emissions
8. VeSM™ is an innovative, new and improved energy efficiency program application
9. VeSM™ complies with proposal guidelines and selection criteria in conjunction with SoCal Gas' advisory group
10. VeSM™ is proposed to be implemented within SoCal Gas' service territory and offered to eligible rate payers

In summary, VeSM™ has proven to be a cost-effective energy efficiency program. As proposed the program will realize at least a TRC ratio of 4.60 and a PAC of 4.30. In addition, to being cost effective, VeSM™ demonstrates short and long term energy savings, all of which are high priorities and objectives voiced by the CPUC.

	SDGE3044 3P VeSM Advantage Plus
BUDGET	
Administrative Costs	**$ 795,000**
Overhead and G&A	$ 60,000
Other Administrative Costs	$ 735,000
Marketing/Outreach	**$ 285,000**
Direct Implementation	**$ 1,285,000**
Total Incentives and Rebates	
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ 1,125,000
Direct Install Materials	$ -
Activity	$ -
Installation	$ 160,000
Hardware & Materials	$ -
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 2,365,000**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 2,365,000**
PROGRAM IMPACTS	
User Entered kW (kW)	588
Net Jul-Sept Peak (kW)	704
Net Dec-Feb Peak (kW)	777
Net NCP (kW)	699
Net CEC (kW)	1,122
Annual Net kWh	5,170,000
Lifecycle Net kWh	103,400,000
Annual Net Therms	810,750
Lifecycle Net Therms	16,215,000
Cost Effectiveness	
TRC	
Costs	$ 2,064,960
Electric Benefits	$ 4,695,324
Gas Benefits	$ 6,019,015
Net Benefits (NPV)	$ 8,649,379
BC Ratio	5.19
PAC	
Costs	$ 2,227,320
Electric Benefits	$ 4,695,324
Gas Benefits	$ 6,019,015
Net Benefits (NPV)	$ 8,487,020
BC Ratio	4.81
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	49,757,635
Cost	$ 0.0183
Benefits	$ 0.0944
Benefit-Cost	$ 0.0761
Levelized Cost PAC ($/kWh)	
Discounted kWh	49,757,635
Cost	$ 0.0197
Benefits	$ 0.0944
Benefit-Cost	$ 0.0746
Levelized Cost TRC ($/therm)	
Discounted Therms	7,802,902
Cost	$ 0.1481
Benefits	$ 0.7714
Benefit-Cost	$ 0.6233
Levelized Cost PAC ($/therm)	
Discounted Therms	7,802,902
Cost	$ 0.1597
Benefits	$ 0.7714
Benefit-Cost	$ 0.6117

3P VeSM Advantage Plus

Year	Total Budget	Total Incentives	Admin Budget	Net kWh	Net Therms	Net kW
2006	$ 627,050	$ 270,000	$ 357,050	1,240,800	194,580	141
2007	$ 832,250	$ 405,000	$ 427,250	1,861,200	291,870	212
2008	$ 905,700	$ 450,000	$ 455,700	2,068,000	324,300	235

Year	Filing Meas. #	Meas. Desc.	Gross kWh	Gross Therms	Gross kW	NTG	Unit Type	Meas. Life	Units	Incentive	IMC	Total Net kWh	Total Net Therms	Total Net kW
2006	268001	Medium Size Manufacturing -- Process Optimization	100,000	13,500	9.00	0.94	Per Project	20	6	$ 22,500	$ 20,000	564,000	76,140	51
2006	268002	Large Size Manufacturing -- Process Optimization	120,000	21,000	16.00	0.94	Per Project	20	6	$ 22,500	$ 20,000	676,800	118,440	90
2007	268001	Medium Size Manufacturing -- Process Optimization	100,000	13,500	9.00	0.94	Per Project	20	9	$ 22,500	$ 20,000	846,000	114,210	76
2007	268002	Large Size Manufacturing -- Process Optimization	120,000	21,000	16.00	0.94	Per Project	20	9	$ 22,500	$ 20,000	1,015,200	177,660	135
2008	268001	Medium Size Manufacturing -- Process Optimization	100,000	13,500	9.00	0.94	Per Project	20	10	$ 22,500	$ 20,000	940,000	126,900	85
2008	268002	Large Size Manufacturing -- Process Optimization	120,000	21,000	16.00	0.94	Per Project	20	10	$ 22,500	$ 20,000	1,128,000	197,400	150

THIRD PARTY NON-RESOURCE PROGRAMS

2006-2008 Energy Efficiency Programs
Advanced Home Renovation Project Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ -	$ -	$ -
	Administrative Other	$ 31,104	$ 5,832	$ 1,944
Marketing & Outreach		$ 6,340	$ 54,521	$ 65,932
Direct Implementation				
	Activity	$ 145,226	$ 27,230	$ 9,077
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ 109,600	$ -	$ -
	Procurement	$ -	$ -	$ -
	Incentives	$ -	$ -	$ -
EM&V		$ -	$ -	$ -
Total		*$ 292,269*	*$ 87,583*	*$ 76,953*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
-	-	-	-	-	-	-	-	-

RHA's Advanced Home Renovation Project is a Non-Resource Program whose purpose is to develop and provide cost-effective energy saving renovation information to contractors, builders, and homeowners seeking to reduce energy usage in pre-Title 24 homes. By conducting an "Extreme Energy Makeover" of a single, pre-Title 24 home and utilizing the experience gained as an informational tool, the energy impact from the renovation would be negligible in terms of utility-wide consumption. The purpose of the project is to demonstrate and educate ratepayers in San Diego Gas & Electric Company's service territory, thereby creating future energy impacts through cost-effective renovations and targeted conservation programs.

3. Program Cost Effectiveness

N/A

One of the purposes of this program is to determine the cost-effectiveness of retrofitting pre-Title 24 homes with state-of-the-art equipment and techniques. To do this RHA will estimate the cost effectiveness of each retrofit measure or activity before installation; then, through measurement and analysis, determine the actual cost effectiveness of the measure after it has operated for one year.

To be cost-effective in the approach to managing this project and funds, RHA will seek out leveraging opportunities with manufacturers and distributors in the following manner:

- RHA will recruit trade allies, who produce high-quality energy conservation and efficiency equipment, to donate their products and expertise in exchange for "co-sponsorships" and "partnering" agreement in marketing and promotional materials developed for this project.
- Equipment, products, and materials obtained through leveraging will not be charged against the cost of this project and actually may reduce the overall cost of the project, allowing RHA to consider and provide additional measures.

4. Program Descriptors

RHA's "Extreme Energy Makeover" Advanced Home Renovation Project is a "mass market" residential sector, local, non-resource program targeting single-family homes with summertime cooling needs (Climate Zones 10, 14, and/or 15) in San Diego County. According to US Census information, over 230,000 single-family housing units existed before 1980 in San Diego County.

5. Program Statement

RHA's "Extreme Energy Makeover" Advanced Home Renovation Project is designed to address the energy conservation opportunities of pre-1978, single-family residential structures. Built prior to implementation of California's Title 24 residential energy standards, these residences provide an opportunity for SDG&E to conserve additional energy through the retrofit of existing appliances and systems. To date, programs addressing the energy conservation opportunities of these homes have either focused on income (low-income programs) or rebate programs. For this reason, a large portion of this population segment has been underserved by a lack of comprehensive energy conservation programs to address the energy conservation and demand reduction potential of pre-Title 24 single-family structures.

6. Program Rationale

Since the late 1970s, RHA has been involved in the weatherization of hundreds of thousands of homes throughout the state and has been a major contributor to residential energy conservation program development and implementation. By selecting a "representative", pre-Title 24, San Diego home in a cooling climate, RHA will demonstrate the energy conservation and efficiency potential that can be achieved with today's high efficiency equipment, appliances, materials, and methods. The program will provide ratepayers and the renovation industry with up-to-date information on state-of-the-art equipment, materials, and methods designed to save energy for the average San Diego family, in the targeted climate zones.

Previous programs that targeted these homes were either educational in nature (encouraging homeowners to take steps to reduce energy consumption on their own) or through rebate programs (which were limited and usually resulted in a homeowner installing only one or two measures while the rebate was available). This project will

bring the current knowledge base on the cost-effectiveness of retrofits and renovations up to date for pre-Title 24 homes. The project home will also function as a model that homeowners may emulate to achieve their energy savings potential.

The "Extreme Energy Makeover" will reduce cooling and heating loads through insulation, weatherstripping, high-performance windows, shading, cool roofs; reduce cooling costs with ventilation and two-stage evaporative cooling; reduce heating cost with a highly efficient, appropriately-sized gas heating system and an optimally designed duct system; lower lighting costs by retrofitting with CFL fixtures and/or other energy-efficient light types and add skylights and/or tube-lights to harvest available daylighting; reduce water consumption (with low-flow devices and fix leaks) and water heating energy consumption with a solar water heating system combined with a instantaneous gas water heater; and install ENERGY STAR® rated appliances to minimize phantom loads and maximize efficiency.

RHA will monitor all aspects of the renovation for at least a year after completion of the project and develop a how-to-guide and a website featuring the house with real-time energy consumption information.

7. Program Outcomes

This pilot project has two different program focuses. One focus, and therefore program outcome, is to identify cost-effective energy savings measures that are beneficial for pre-1978 single-family residences. The other focus is to disseminate information to the renovation industry and homeowners on what measures they should be installing to reduce energy consumption and reduce peak demand.

To address the outcomes of the first program focus, RHA will conduct a complete energy analysis and base-case energy use and comfort profile. A renewable energy capacity analysis will also be conducted to determine how much of the residence's energy profile can be met on-site while reducing peak demand consumption to its lowest level through:

1) Minimizing summer cooling loads (via insulation, weatherstripping, high-performance windows, shading [attached and freestanding], roofing, and heat generating appliances) before designing a four-part cooling system with passive ventilation, active ventilation, two-stage evaporative cooling, and appropriately-sized, high SEER, mechanical cooling system.
2) Minimizing winter heating loads before utilizing the highest efficiency, appropriately-sized gas heating system. The duct system will be analyzed and then sized and laid out to maximize duct and air-flow efficiency.
3) Improving lighting efficiency by retrofit of the entire house with off-the-shelf compact fluorescent fixtures or other state-of-the-art energy-efficient light types and styles, adding skylights or tube-lights to harvest available lighting when appropriate.

4) Minimizing water heating energy by utilizing a solar batch water heating system combined with a pilot-less instantaneous gas water heater. Low-flow devices will be installed and leaks fixed.

5) Installing state-of-the-art appliances to minimize phantom loads and maximize efficiency.

The second program focus is the dissemination of the results of the "Extreme Energy Makeover" to retrofitters and homeowners in the San Diego area. To get the information out a series of media events and "open houses" will be held and a website with the "Extreme Energy Makeover" information will also be developed. The number of participants and "hits" to the website can be easily quantified; however, the number of ratepayers who receive the information through print and broadcast media is much harder to quantify.

8. Program Strategy

This pilot project will utilize a number of program strategies. The following "program strategies" identified in the list provided seem to fit the program design and will be further discussed in Section(s) 8.1.1 and 8.1.2 below.

Program Strategies
Residential Comprehensive Retrofit
Residential Audits
Residential Quality Installation
Residential Appliance Early Retirement
Residential Comprehensive HVAC
Residential Comprehensive DHW
Residential Direct Install

The methods employed to obtain program outcomes include analyzing energy consumption patterns, building structure, energy utilizing systems, and utilizing state-of-the-art, energy efficient materials and equipment. All of the methods and technologies that will be utilized are proven methods employed in a comprehensive manner to achieve the program's energy-savings goals.

Following the baseline analysis of energy use, the participating family will be encouraged to increase their knowledge and awareness of electric and natural gas efficiency of use, and to become active participants in the design and selection of appropriate high efficiency appliances and materials for their own home.

During their experience, all phases of energy use and renovation will be recorded and posted on the project website. Technical experiences also will be compiled and illustrated through the "Extreme Home Makeover Renovation Guide." The culminating Open House events publicized and provided quarterly further enhance the community education message through a multi-sensory educational experience tailored to multiple learning styles that encourage contractors and homeowners to ask more in-depth questions about their own practices and installation choices.

8.1.1. Program Strategy Description

This pilot project will utilize a number of program strategies. The following "program strategies" identified in the list of strategies seem to fit the program design and will be discussed:

- Residential Audit

  RHA will conduct a thorough energy audit and analysis of the residence picked to be the retrofit house. All aspects of the house will be identified and assessed including: building shell, energy utilizing equipment (HVAC system, water heating, etc.) and appliances (refrigerator, stove, oven, washing machine, dryer, etc.), internal and external building loads, heating and cooling loads, lighting, and plug loads. Building pressure diagnostics will also be conducted to determine shell and duct leakage.

  The building will then be modeled utilizing building energy assessment software and Title-24 compliance software combined with actual energy bill analysis. This will be the base-line case upon which energy efficient retrofits will be developed, assessed, and installed.

- Residential Comprehensive Renovation

  After the residential energy audit is complete and the building modeled, RHA will develop a comprehensive retrofit package seeking to achieve maximum energy savings in an existing residence. The renovation will include: building shell sealing, improving energy utilizing equipment (HVAC system, water heating, etc.) and energy-efficient appliance replacements (refrigerator, stove, oven, washing machine, dryer, etc.), reducing internal and external building loads, minimizing heating and cooling loads, maximizing lighting efficiency, and minimizing unnecessary plug loads.

- Residential Direct Install

  After the audit is conducted and retrofit package is developed, RHA will supervise local contractors in the direct installation of the retrofit measures. All costs associated with the direct install will be recorded and included in the overall analysis of cost-effective measures.

- Residential Quality Installation

  RHA will provide installation standards for this project to ensure a high quality installation. RHA will also oversee the installation of all measures to ensure that all installed measures meet the installation standards. Only measures meeting material requirement and minimum warranty requirements will be installed. The installation standards developed by RHA for this project could then be modified for use in an expanded program in the future in conjunction with the "Extreme Energy Makeover" renovation design manual proposed for this project.

- Residential Appliance Early Retirement

  The age and efficiency of appliances will be assessed during the energy audit and any appliance that is determined not to be a state-of-the-art, energy-efficient appliance will be retired in exchange for an ENERGY STAR®-qualified appliance. Existing appliances' energy use will be monitored prior to installation and then afterward to determine the cost-effectiveness of the early retirement feature of this project.

- Residential Comprehensive HVAC

  As an integral component of the energy audit on this residence, a thorough HVAC analysis will be conducted. All replacement equipment will be state-of-the-art, energy-efficient equipment, exceeding current ENERGY STAR® and Title 24 requirements. Replacement equipment will also be sized after all measures designed to reduce heating and cooling loads are included in the analysis to optimize the sizing required to adequately heat and cool the structure. Pressure diagnostics will be utilized to address duct leakage and all ducts will be upgraded to meet current Title-24 requirements.

- Residential Comprehensive DHW

  RHA will also include domestic hot water analysis in the energy audit and develop a optimized water heating system (that may include solar water heating if feasible) for the residence. All aspects of hot water use (pipe wrap, low-flow shower heads, washing machine optimization, etc.) will be analyzed and modified where cost-effective. Water consumption will also be analyzed before and after the retrofit to determine energy and water consumption savings.

8.1.2. Program Indicators

This pilot project is designed to assess and track achievements of a variety of measures and strategies. In a sense, it is an indicator project.

- Residential Audit

  The indicator for this aspect of the project, because it is confined to only one unit, will be the audit itself. The audit will identify the energy savings potential of the residence.

- Residential Comprehensive Retrofit

  The retrofit will produce energy savings and demand reduction which will be measured by comparing the pre-retrofit energy consumption with the post-retrofit consumption.

- Residential Direct Install

  While not truly a "direct install" program, because it addresses only one residence, the indicator of the state-of-the-art energy efficient equipment installation will be the resultant energy savings and demand reduction.

- Residential Quality Installation

  RHA will produce an initial set of retrofit standards for this program which will be included in the "how-to" design manual proposed as an outcome of this project.

- Residential Appliance Early Retirement

  Indicators for this program strategy will consist of the comparison of the measured consumption of the existing, pre-retrofit, appliances to the measured consumption of ENERGY STAR®, state-of-the-art appliances.

- Residential Comprehensive HVAC

  HVAC energy consumption will be measured and compared between pre- and post-retrofit phases.

- Residential Comprehensive DHW

  Energy and water consumption will be monitored and assessed before and after comprehensive DHW measure are installed.

9. Program Objectives

The primary objectives of RHA's "Extreme Energy Makeover" Advanced Home Renovation Project are to:

- Identify the energy savings and demand reduction potential of energy utilizing equipment in pre-Title 24 single-family homes in the San Diego area.
- Identify cost-effective, state-of-the-art residential appliances, HVAC, and DHW equipment for consumers to install in their own homes.
- Develop an implementation strategy for "whole house" renovation programs.
- Provide information to ratepayers and energy industry on cost-effective, state-of-the-art residential appliances, HVAC, and DHW equipment and conservation tips and techniques.
- Develop an "Extreme Energy Makeover" renovation design guide.

The project involves a number of steps or tasks which can be utilized as programmatic milestones. The project steps are:

1. Identify and secure home for "Extreme Energy Makeover" project.
2. Gather baseline energy consumption information and a comprehensive energy analysis of the residence, including monitoring existing usage patterns.
3. Analyze potential energy measures for feasibility and cost-effectiveness.
4. Develop a package of energy savings and demand reduction measures.
5. Identify and recruit project partners, including print and broadcast media.
6. Install measures.
7. Monitor energy consumption post-renovation.
8. Develop "Extreme Energy Makeover" "Open House" events, web sites, and renovation guide.
9. Report project findings.

10. Program Implementation

To implement this program RHA will conduct a number of tasks, including:

Task 1. Identify and secure home for "Extreme Energy Makeover" project.

- Develop selection criteria for the "Extreme Energy Makeover" house and household.
- Develop marketing and promotional material to get applicants for the project.
- Identify house/family selected.
- Sign agreement with homeowner to renovate their home and allow access to the home by the public at set times.

Task 2. "Extreme Energy Makeover" Advanced Home Renovation Project Analysis and Design

- Conduct thorough energy analysis of house.
- Start monitoring energy consumption.
- Obtain historic utility use data.
- Design retrofit renovation project.
- Analyze retrofit measures.
- Develop scope of retrofit work and send bid packages.
- Solicit potential project partners.

Task 3. Implement Renovation

- Review bids and award sub-contracts.
- Obtain necessary permits.
- Start renovation work.

- Document renovation activities.
- Renovate house.

Task 4. Monitor Energy Use – Post Renovation

- Monitor energy consumption
- Conduct monthly energy usage comparative analysis.

Task 5. Project Marketing and Public Relations

- Develop Advanced Home Renovation web presence.
- Media access to renovation.
  Hold "Open House" events to highlight renovation to public.
- Develop the "Extreme Energy Makeover" web site.

Task 6: Advanced Home Renovation "Extreme Energy Makeover" Guide

- Produce the Advanced Home Renovation "Extreme Energy Makeover" Guide to provide a "how-to" document for developing state-of-the-art energy efficient home renovations.

Task 7: Final Report

- Complete monitoring.
- Produce final report.

11. Customer Description

Customers targeted by this program for the actual renovation project shall be owners of pre-Title 24 (pre-1978) single-family residences in SDG&E service territory. Preferred candidates will be homeowners residing in climate zone(s) 10, 14, or 15. In order to establish a strong baseline for energy consumption, it is preferred that the candidates have lived in the same home for a minimum period of one to two years and have 3-5 members of the household. A summary of the draft selection criteria for acceptable homes is provided below:

SELECTION CRITERIA – EXTREME ENERGY MAKEOVER ADVANCED HOME RENOVATION PROJECT
• Age: pre-1978
• Location: San Diego County areas in Climate Zone 10 (or greater)
• Size: 1600 to 2500 square feet.
• Orientation: long axis of house running east to west
• Occupancy: owner-occupied for at least one year, preferably two years.
• Household Size: 3 - 5 occupants

SELECTION CRITERIA – EXTREME ENERGY MAKEOVER ADVANCED HOME RENOVATION PROJECT
• HVAC: central heating and air conditioning
• Home Condition: good aesthetic condition – paint inside and out, curb appearance
• Windows: single-paned windows
• Miscellaneous Requirements: willingness to participate in entire program for the duration of the project; program will include four post-retrofit open house events; adequate on-street parking to accommodate home tour

Customers targeted for the information dissemination portion of the project include any and all SDG&E ratepayers (and other utility users in the State who access the proposed web site) as well as the energy conservation industry in the San Diego area.

12. Customer Interface

The "Extreme Energy Makeover" Advanced Home Renovation Project will be a strong collaboration project with the homeowner to ensure the participant's current energy use, not lifestyle, is affected through the implementation of this program. Through this project, RHA hopes educate SDG&E's ratepayers of home efficiency improvement opportunities by:

1. Developing a website for interested homeowners and contractors to access real-time energy usages during the life of the project, to see what measures were installed, and the final results of the renovation.
2. Providing mediated (print and broadcast) "open house" events to show ratepayers the "Extreme Energy Makeover" Advanced Home Renovation Project house and demonstrate how to replicate similar energy savings practices in their homes. RHA employees will staff the events and be available to answer questions and provide information to interested parties.
3. Developing promotional educational brochures and an "Extreme Energy Makeover Renovation Guide" in a form and format that people can use to make their own appliance and technology updates for energy savings in their homes. These brochures would be made available at other events and/or projects administered by SDG&E for additional exposure and greater attendance at the "open house" events.

Throughout the development and creative processes, RHA's in-house graphic designers will ensure that the artwork and text enhance the message to be delivered in a consumer-friendly way. Based upon our experience, we believe that the "Extreme Home Makeover Renovation Guide" will be a cohesive and useful final product for homeowners and contractors alike.

13. Energy Measures and Program Activities

13.1 Prescriptive Measures

N/A

13.2 kWh Level Data

N/A

13.3 Non-energy Activities

The non-energy activities for this project will include some marketing activities to promote the effort, the development of project brochures, an "Extreme Home Makeover Renovation Guide", and mediated events (the Extreme Home Makeover Open House, newspaper articles, etc.).

13.3.1 Activity Description

a. Marketing: RHA will market and promote the "Extreme Energy Makeover" project to customers in the San Diego area. Promotion activities and materials will include a description of the project, goals and objectives, and projected outcomes and information on how customers can participate in the project by coming to the "open house" events and/or visiting the web site.

b. Renovation Guide: This document will be produced as a "how-to" guide for customers and interested contractors to conduct their own "Extreme Energy Makeover" to their homes.

c. Open House Events: RHA will hold a number of open house events to model the house to customers and answer questions on how they can save energy through similar efforts.

13.1.1. Quantitative Activity Goals

RHA's primary goal is the renovation of the selected home. Non-energy activity goals were not developed as they are incidental to the project.

13.1.2. Assigned attributes of the activity (market sector, end use)

The market sector is identical to the sector targeted for the home renovation, and includes: the mass market sector and residential end users.

14. Subcontractor Activities

RHA is a licensed contractor in the State of California, holding a General Contractors "B," an HVAC "C-20," a Plumbing "C-36" and a Home Improvement Certification (HIC), we will hold a high standard for the installation subcontractors that may be utilized in the renovation component of this program.

Depending on the outcome of the energy analysis and the design of the "Extreme Energy Makeover" renovation, RHA will subcontract with local building contractors specializing in weatherization activities, window installation, HVAC installation, plumbing, electrical, and photovoltaic installation (as appropriate).

- Sub-Contractor: Unidentified weatherization installation company
  Type of Work: Weatherization
  Percentage of Work: All weatherization activities

- Sub-Contractor: Unidentified window installation company

- Type of Work: Install high performance windows.

- Percentage of Work: All window installation

- Sub-Contractor: Unidentified roofing company

- Type of Work: Install cool roof coating

- Percentage of Work: All cool roof installation

- Sub-Contractor: Unidentified electrical company

- Type of Work: Install energy efficient fixtures

- Percentage of Work: All lighting installation

- Sub-Contractor: Unidentified Photovoltaic (PV) system installer

- Type of Work: Install PV system

- Percentage of Work: All PV installation

- Sub-Contractor: Unidentified plumbing contractor

- Type of Work: Install DHW measures and solar water heating system

- Percentage of Work: All water related installations

15. Quality Assurance and Evaluation Activities

Quality assurance is woven throughout every facet of RHA's program administration. To effectively track the status of the Advanced Home Renovation Project production and quality assurance goals, and to increase the potential for early identification of problems, RHA has placed all activities under the direct supervision of RHA Vice President, Tom Barrett and Senior Manager, John Jensen. RHA has demonstrated the ability to produce high quality work and the ability to monitor subcontractors as it does for SDG&E's Energy Team Program. RHA will use its weatherization installation standards, developed for SDG&E, with subcontractors conducting weatherization measures. To ensure a quality installation, RHA will:

- Inspect all work of all subcontractors for quality assurance and will have a representative on site during the installation of measures by subcontractors.
- Require the window installer to install windows per ASTM guidelines for window and door.
- Hold its subcontractors to the highest standards of good workmanship.
- Inspect and test each installed measure prior to final acceptance of the measure.
- Apply for all required project building permits, a process though which the local building department will also provide a level of quality assurance by conducting building code inspections.

Additionally, RHA has inspectors specializing weatherization quality assurance who are well versed in the California Utilities' Weatherization Installation Standards, written by RHA technical experts, and used in the SDG&E Direct Assistance Program. These inspectors will ensure that all code requirements are followed during the installation process. As a final safeguard, the homeowner's approval of each component will be required prior to payment of any subcontractor.

16. Marketing Activities

The primary purpose of this activity is an energy efficiency demonstration renovation project of a pre-Title 24, single-family home. Marketing activities will be limited to procuring the house to be renovated and then to promote this project to SDG&E customers and the public in general. Marketing activities include, but are not limited to the following:

- Marketing and outreach for the project to obtain a pool of applicants for the project house.
- Development of informational brochures for the project, co-sponsors, partners, and project events (Open House events, the website, and possible media events).

- Development of a web page to provide real time energy use monitoring, installation updates, project information, and event calendars for the project.
- Production of the Extreme Energy Makeover Renovation Guide.

It is the goal of RHA to demonstrate how new and emerging technology may be brought into real-world families through similar projects, and determine the average energy savings that would result. It is not our intent to endorse specific brand names or the services of specific contractors through our project marketing. Instead, we hope to provide support for efficient technologies that have been proven to provide energy savings and have tested to maintain high durability and performance. Any marketing efforts will be provided to the SDG&E Program Manager for review prior to their release to the public.

17. CPUC Objectives

The Advanced Home Renovation Project (AHRP) responds to a majority of the concerns expressed by the California Public Utilities Commission in Interim Opinion of Decision 05-09-043 dated September 22, 2005. In describing the Objectives for preferred projects, the qualities sought after by the CPUC were (pp. 16 - 17; paraphrased):

1. Cost-effectiveness
2. Feasible for meeting/exceeding energy-savings goals
3. Short-term and long-term savings
4. Reduction of critical peak load
5. Allocation of funds among market sectors
6. Minimization of lost opportunities
7. Adequate statewide coordination
8. Consistency of bid criteria
9. Fund-shifting; Program flexibility
10. Reasonable funding

Objective 1- Cost-effectiveness: In order to meet this objective, RHA will provide these renovation services in a cost effective and reasonable manner by leveraging resources to the greatest extent possible, including marketing and promotion opportunities, energy efficiency equipment, products, and materials.

Objective 2- Feasible for meeting/exceeding energy-savings goals: There are no specific energy savings goals for this project as it is a demonstration project designed to identify energy saving and demand reduction potential of extensive retrofitting of pre-Title 24 homes. It is expected that through a comprehensive approach to single-family energy retrofits, that energy savings potential could result in a 30 – 40 percent savings or more with today's energy efficient technologies and methodologies.

Objective 3- Short-term and long-term savings: As discussed in Objective 2 above there are no short-term energy savings goals identified for this project. The potential for long-

term savings is great if the expectations of the results of this project can be applied to a significant number of SDG&E ratepayers.

Objective 4- Reduction of critical peak load: By replacing old air conditioning systems and appliances and addressing plug loads, RHA hopes to significantly reduce the peak load consumption of the retrofit house. The design of the project is to assess the peak load reduction potential of a comprehensive retrofit.

Objective 5- Allocation of funds among market sectors: The market sector being addressed by this project is the moderate income sector of the single-family homeowners. Programs for this sector have been limited to informational and rebate programs. The AHRP addresses the mass market segment, specifically the unmet needs of middle-income owners and occupants of pre-Title 24 residences. Currently, this group not targeted by IOU energy efficiency programs and is underserved. Through this program, PGC funds will not only be spent in the service area collected (SDG&E) but also on a target market that has mostly been untouched by other programs.

Objective 6- Minimization of lost opportunities: Due to the age and pre-Title 24 characteristics of these homes, many of them are due for appliance upgrades. Without customer education, it is highly likely that homeowners will use cost as the strongest criterion for selecting replacement measures. Education through this program will guide contractors and customers through the selection process and consider the overall energy savings goals of these users, and maximizing savings.

Objective **7-** Adequate statewide coordination: While this project is a local program project, and is not designed to address statewide coordination, it has potential to be implemented for the entire state. The upstream and midstream relationships forged during this pilot project would be highly beneficial during a future statewide implementation of this program. With some additional tailoring of the program to take into account: service needs and savings potential; geographic limitations; and home assessment and design requirements set by the different utilities, the Advanced Home Renovation Project "Extreme Energy Makeover" could be implemented statewide without difficulty.

Objectives 8 – 10: As a limited pilot project, these objectives are not addressed by this project.

	SDGE3031 3P Advanced Home Renovations Program
BUDGET	
Administrative Costs	**$ 38,880**
Overhead and G&A	$ -
Other Administrative Costs	$ 38,880
Marketing/Outreach	**$ 126,793**
Direct Implementation	**$ 291,132**
Total Incentives and Rebates	$ -
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 181,532
Installation	$ -
Hardware & Materials	$ 109,600
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 456,805**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 456,805**
PROGRAM IMPACTS	
User Entered kW (kW)	-
Net Jul-Sept Peak (kW)	-
Net Dec-Feb Peak (kW)	-
Net NCP (kW)	-
Net CEC (kW)	-
Annual Net kWh	-
Lifecycle Net kWh	-
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 456,805
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (456,805)
BC Ratio	-
PAC	
Costs	$ 456,805
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (456,805)
BC Ratio	-
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

2006-2008 Energy Efficiency Programs
EnVinta: Business Energy Assessment
Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ -	$ -	$ -
	Administrative Other	$ 17,286	$ 10,571	$ -
Marketing & Outreach		$ 100,500	$ 59,130	$ -
Direct Implementation				
	Activity	$ 242,786	$ 169,074	$ -
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ -	$ -	$ -
	Procurement	$ -	$ -	$ -
	Incentives	$ -	$ -	$ -
EM&V		$ -	$ -	$ -
Total		*$ 360,572*	*$ 238,775*	*$ -*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
-	-	-	-	-	-	-	-	-

3. Program Cost Effectiveness

N//A

4. Program Descriptors

Market sector: BEA will target small and medium commercial and industrial customers of SDG&E with an average energy demand from 20 kW up to 500 kW. The program will be specifically tailored to address the needs of small customers (20-100 kW) and medium customers (101 – 500 kW).

Program Classification: Local

Program Status: New

Geographic Area Targeted by Program: All SDG&E service territory

Percentage of market expected to be impacted by this program:

- The program goal is for 2,000 Commercial and Industrial Customers to be impacted by the program. The program allows for up to 3,000 business participants to use the Energy Challenger application.

Based on the 2001 "Statewide Small/Medium Nonresidential Customer Needs and Wants Study" by Quantum, SDG&E has 115,827 Nonresidential customers with less than 500 kW peak demand consuming 4,636 GWh annually. The program targets customers in this segment with an energy demand from 20kW to 500kW.

A recent BEA EnVinta program achieved 12 % use by target customers in the first 2 months after launch.

5. Program Statement

Experience shows that typical technical 'audit' tools, which attempt to measure energy usage through the counting of motors, lights and other loads are not popular with customers. They are frequently seen as time consuming and are viewed as 'audit-processes' rather than 'outcome orientated processes'. The end result is that customers rarely implement the recommended solutions.

This was highlighted in the 2005 report on the current statewide non-residential audit commissioned by the 4 CA IOU's "2003 Statewide Nonresidential audit program evaluation" which identified that less than 20% of medium businesses and less than 30% of small businesses found the current audit 'very influential' on equipment adoptions (with the exception of lighting);

To address this market failure EnVinta's proposal addresses the following specific needs:

1. The need to provide businesses with an easy-to-use business assessment/audit solution that delivers practical outcomes for businesses and facilitates increased uptake of recommendations;
2. The need to improve the market penetration and customer uptake of energy efficiency programs within small and medium Nonresidential customers. A 2001 CA report "Statewide small/medium Nonresidential customer needs and wants study" by Quantum/Xenergy found that "*Small/medium customers are primarily adopting no cost conservation measures such as reduced lighting levels and thermostat adjustment*". The study also highlighted that "*Unfortunately, lighting retrofits are the only significant investment-type actions customers are taking*". Furthermore "*Customers emphasized a need for customized information – in particular, they want better information on energy savings and audits*".
3. The need to provide businesses with a detailed business-orientated improvement plan. A 2003 CA study "Statewide small industrial customer wants and needs study" conducted by Quantum for PG&E identified that "Medium customers have shown themselves to be willing and able to implement energy efficiency measures when provided with detailed, actionable recommendations for cost-effective process improvements";
4. The need to engage business owners and managers and provide them with a business assessment tool that addresses energy management as a business management issue. The same 2003 study identified that in the small/medium industrial market "*the owner is the most important player in selecting equipment for retrofit projects*";
5. The need to provide a business assessment tool covering a broad range of businesses that addresses both technical and management outcomes. The

traditional approach to non-residential remote energy audits has typically involved an audit focusing on energy-efficient hardware-based improvements for buildings (e.g. lights, hot water and air conditioning). There are many limitations associated with this type of audit, including:

- A tendency to be technically focused and therefore conducted by engineers, who often have limited budget and/or influence. Energy savings projects have to be sold by the engineers to senior management who have little understanding of energy management. The frequent result is that energy savings opportunities are rarely implemented;
- Audits are not utilized or understood by decision makers (such as the site manager or the finance manager) and therefore limited actions from the audit are implemented;
- The focus of the audit is narrow and therefore many energy savings opportunities are missed;
- Often, businesses that start these technically based audits find it difficult to complete the process. Some of the challenges include the requirement to enter vast amounts of technical information (e.g. size and number of motors). In this situation, the audit is paused in order to collect information, resulting in frustration and the business never finds the time to complete the effort;
- The user cannot complete the audit within a reasonable timeframe (10 to 15 minutes);
- Audits do not cover low cost measures to reduce energy use, such as changes in control set points, operating procedures and maintenance practices. Without these "quick-wins" organizations lose interest in the audit outcomes;
- Audits don't drive sustainable improvements in management practices. The business practices required to insure the sustainability of the solution were never even considered.
- The need to provide an audit solution relevant to a broad cross section of commercial and industrial sectors including, but not limited to, Food, Textiles, Apparel, Furniture, Paper, Printing, Chemicals, Rubber/Plastics, Stone/Clay/Glass, Metals, Industrial Machinery, Electronics, Transport Equipment and Instruments;

6. The need to address energy efficiency opportunities in the most energy intensive areas, such as refrigeration, heating systems, boilers, grinders, compressed air systems, steam systems, pumping and motor systems;

6. Program Rationale

EnVinta is offering an innovative and well proven process to achieve increased implementation of energy efficiency amongst small and medium sized businesses much more effectively than traditional 'audit' tools.

EnVinta proposes Energy Challenger to address the needs and shortcomings outlined above in a way that:

- Provides an easy-to-use business assessment/audit tool for customers that can be conducted by a manager/owner without requiring a high degree of technical competency;
- Enables decision makers to affect change in the business by providing business assessment/audit outcomes as business directives (i.e. top down vs bottom up approach);
- Shifts energy efficiency decision making to a top down commitment approach. Addressing energy from a business systems perspective greatly increases the uptake as well as the sustainability of energy efficient measures. In a recent utility rollout of Energy Challenger to small/mid-sized C&I customers, more than 12% of the targeted customers completed an Energy Challenger session in the first 2 months;
- Provides a business focused solution that can be understood and completed by decision makers (site and finance managers) as well as engineers. In-fact, 35% of the current Energy Challenger users are General Managers or Finance Managers and approximately 90% of current Energy Challenger users are non-engineering, non-technical management staff;
- Offers an energy efficiency business assessment that can be completed in 10-15 minutes and, more importantly, provides meaningful output, which is of immediate value to the customer. Results from recent programs include:
    - The current Energy Challenger application has a very high completion rate. Of the customers that started an Energy Challenger session, 82% completed the online business assessment/audit;
    - The average time to complete an Energy Challenger session is 9 minutes.
- Supplies an energy efficiency business assessment solution that educates and empowers business decision makers. Energy Challenger provides businesses with practical actions to improve both energy efficiency technology as well as the critical management practices required to insure these projects achieve sustainable savings. Energy Challenger users have reduced energy costs by as much as 23%;

- Immediately presents the customer with a detailed business-orientated action plan that includes:
    - An estimate of annual savings;
    - Prioritized low cost energy efficiency measures (e.g. changes in set points, locations of air conditioning sensors) These low cost measures are designed to provide the business with a number of "quick-wins" that generate immediate savings for the customer and drive continued enthusiasm to reduce energy costs;
    - Augments Energy-Efficient hardware retrofit-type analysis by providing a broader business-wide analysis that incorporates longer term strategies for improving energy management practices. The resulting analysis is relevant not only to buildings, but also a broad spectrum of industry sectors (e.g. manufacturing, process industries etc).
    - Rates and benchmarks the business in each of 6 key energy management areas;
    - Provides the ability for the customer to assign responsibilities and timeframes for each recommendation, reducing the need for the customer to develop a separate action plan;
    - Provides a direct link to SDG&E products/services for each priority recommendation providing support for the customer to implement the measure. For example, details on how to apply for the SDG&E rebate, implementation instructions, a list of suppliers, guidelines or a workbook;
    - Provides detailed on-line benchmarking of customer outcomes against others in their sector and region.

This program is being advanced ahead of other programs due to its effectiveness and very low cost to engage decision makers of small/medium sized businesses. It is an easy-to-use business based tool that will be used by decision makers and engineers alike, to evaluate their current practices, prepare a plan for improvement and implement energy savings.

The program will drive rapid implementation of energy efficiency implementation through automated links to SDG&E products and services. Furthermore the offering will be tailored to SDG&E so customers can identify solutions relevant to their business and available in their area.

The program incorporates customer follow through driven by a combination of automated email communications and outbound phone support to drive implementation.

The program has the potential to significantly increase the success rate of SDG&E products and services among small and mid sized nonresidential customers. In a recent utility rollout of Energy Challenger there was 12% take-up of Energy Challenger within the target customer audience in the first 2 months.

Energy Challenger will engage with decision makers in SDG&E business customers, provide them with practical solutions to reduce energy use and direct them to support in implementing the outcomes. Thirty-five percent of the current Energy Challenger users are General Managers or Finance Managers

Energy Challenger represents a very low cost opportunity for SDG&E to deliver a solution to customers that will help them to reduce energy use in a way that increases value and customer satisfaction.

The program has close linkages with SDG&E's portfolio of energy efficiency products/services for small and medium sized business customers including; Customer Energy Savings Bid, Standard Performance Contact, Express Efficiency, Small Business Super Saver, Savings By Design, and On Bill Financing Program .

The program is based around integrating all of the elements required for a successful energy management program into a single coordinated program for the customer. The application will lead the customer through a short series of structured questions. Based on their answers, the application will deliver a tailor-made roadmap of SDG&E resources and programs to respond to the identified opportunities. In addition, the customer will receive a strategy and action plan that addresses both the traditional technical programs as well as identified areas for action in management practices.

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Energy Challenger is an on-line product that can be completed by users in 10-15 minutes. The product:

- Allows users to quickly assess how well they manage energy;
- Identifies the potential scope of energy savings available;
- Maps user needs to applicable SDG&E's products/services;

Specifically EnVinta will customize Energy Challenger for SDG&E by linking recommended actions to applicable SDG&E products/services. The program is designed to:

- Help the customer self-assess the effectiveness of their energy management practices and technologies to identify strengths and weaknesses;
- Educate the customer on ways to improve energy management and take advantage of SDG&E services;
- Provide an immediate action plan with 'quick wins' and longer terms strategies for reducing energy cost;

- Direct business (via web-links) to appropriate SDG&E rebates, products and services to address identified priorities;
- Provide strategies and support in marketing the Energy Challenger program;
- Enable C&I customers to compare and benchmark energy management practices across their sites;

EnVinta will also provide password protected on-line market research reporting that enables SDG&E to:

- Gather market intelligence to better target future services
- Develop targeted account management strategies
- Improve understanding of individual business needs;
- Provide an opportunity to demonstrate commitment to energy management in the small and medium business segment;

The program will add value to SDG&E customers by helping them to:

- Understand their energy management related business risk issues;
- Identify opportunities to reduce energy waste and associated costs;
- Assess their level of development/sophistication with respect to energy management practices and provide an automatically generated output report that includes:
    - An overall energy management rating;
    - A simple short-term action plan addressing the top priority items;
    - Links to appropriate SDG&E rebates, products and services;
    - A benchmark of outcomes.

Additional SDG&E benefits of the program include:

- Applying EnVinta's experience as energy management experts and suppliers of world-class energy software products;
- Delivering the required functional capabilities within a short time-frame;
- Building on and enhancing SDG&E's existing product offerings;
- Providing the flexibility to grow and change the application in response to market feedback and new needs.

7. Program Outcomes

The specific actions and milestones for the program are included in Section 9.

In summary, the goal of the Energy Challenger program is to exceed 2,000 small/medium C&I customer sessions during 2006 and 2007. This is based on:

- 1,500+ businesses through self administered sessions ;
- 500+ businesses through EnVinta outbound calling campaigns;

We expect usage rates of the on-line business assessment/audit to be higher than our stated goal. The program allows for up to 3,000 business participants.

8. Program Strategy

The program will utilize the following strategies to achieve the outcomes and objectives detailed in sections 7 and 9:

- Nonresidential Targeted Marketing;
- Nonresidential Energy Management Services;
- Nonresidential Audits;
- Nonresidential Benchmarking;
- Nonresidential Downstream Training;

As discussed in Section 6, the BEA program will substantially increase penetration rates of existing and new SDG&E DSM programs among small and medium sized commercial and industrial businesses.

- Nonresidential Downstream Deemed Rebates;
- Nonresidential Building Calculated Rebates;
- Nonresidential Process Calculated Rebates;
- Nonresidential Appliance Early Retirement;
- Nonresidential Financing;
- Nonresidential New Construction;
- Nonresidential Building Design Assistance;
- Nonresidential Building Commissioning;
- Nonresidential Direct Install.

8.1.1. Program Strategy Description

EnVinta's program will provide SDG&E with a proven and fundamentally innovative solution. Key elements of the solution include:

- A proven method of engaging senior managers and small business owners to gain commitment and buy-in to improving energy efficiency;

- Transforms the "selling" process with the customer from the traditional, low success rate, "bottom-up" approach (begins with facility managers and engineers and ends with management acceptance) to a highly successful, "top-down" approach that begins with senior management commitment;
- An easy-to-use energy management business assessment tool that does not require a high degree of technical knowledge;
- Helps business managers to understand, identify, and move forward with energy management savings opportunities;
- Includes follow through with businesses to drive implementation;
- Delivers decision makers with a solution that educates and empowers them to make changes in energy management practices as well as technology improvements. Energy Challenger users have reduced energy costs by as much as 23%;
- Immediately presents the customer with a detailed business-orientated action plan that includes:
    - An estimate of annual savings;
    - Short term, quick wins and long term, continuous improvement actions for reducing energy costs;
    - Rates the business in each of 6 key energy management areas;
    - Assistance in assigning responsibilities and timeframes for each recommendation;
    - Direct links to SDG&E products/services for each priority action, providing support for the customer to implement the measure;
    - Benchmarking of customer outcomes against others in their sector and region.

Nonresidential Targeted Marketing

EnVinta will use a comprehensive marketing and retention strategy to engage businesses, identify practical opportunities to reduce energy cost, automatically link them with appropriate SDG&E services, and follow through with customers to drive energy savings outcomes. Key strategies include:

1. Recruitment - Implementing an active marketing program that will target businesses through multiple channels such as

- 6 monthly direct mail pieces incorporating 'Creative Objects' to stimulate interest in Energy Challenger;
- Direct marketing emails (Animated and Static) with embedded automated links to Energy Challenger;

- Outbound calls to conduct over-the-phone Energy Challenger sessions;
- Outbound calls to market Energy Challenger.;
- Marketing through industry associations;
- Preparation of 5 case studies per year;

2. Customer Follow Through / Retention - In parallel to marketing, the BEA program includes a retention program to follow through with customers that have completed an Energy Challenger session. Customers targeted for follow through activities will be prioritized based on the value of the opportunities identified by Energy Challenger. The retention program will include a combination of:

- Outbound phone follow up (by an EnVinta team representative) to review Energy Challenger session results and discuss next steps;
- Automated emails reminding participants of their session and offering the opportunity to repeat the session;

Nonresidential Energy Management Services

The energy management services strategy includes:

- A methodology for engaging executive level decision makers in small and medium sized commercial and industrial businesses;
- Providing out-bound over-the-phone assessments, in addition to self completed assessments;
- Providing reports in electronic format incorporating embedded live links to websites with guidance and implementation support;
- Using a business-based decision making tool to enable business managers to self evaluate their current business practices, highlight current strengths and weaknesses and identify opportunities for improvement;
- A holistic program which addresses and integrates the elements of SDG&E's DSM programs including energy efficiency, and demand response to allow a customized offering to be generated based on identified customer needs;
- A continuous improvement methodology which encourages on-going improvement in energy management.

Nonresidential Audits

The BEA program incorporates a review of opportunities to improve energy efficiency within small and medium sized businesses. The review will be tailored for the size of business and type of business (i.e. different for industrial and commercial businesses).

The opportunity assessment will not only review opportunities to improve technologies, but also operating procedures, maintenance practices as well as contracts with suppliers and energy service providers.

Identified opportunities will be prioritized based on cost effectiveness and provided to the business in an action plan that will incorporate links to appropriate SDG&E's DSM products and services.

Nonresidential Benchmarking

The BEA program will provide each participant with a benchmarking report comparing their energy management practices and technologies against their industry peers through a confidential database to drive competitive improvement.

The comprehensive report will include benchmarking both at an overall business level and for individual energy management practices and technologies.

Nonresidential Downstream Training

The BEA program includes downstream awareness training in:

- The value proposition for improving energy efficiency and the BEA program to businesses;
- Specific energy management measures:
    - The program is based around an easy to use application that inherently includes training and awareness for the user in opportunities to improve energy efficiency;
    - The program is based around empowering the participant to make decisions and improvements in energy efficiency within their organization;
    - Each participant in provided with a roadmap to improvement which incorporates embedded links to support and implementation resources;

8.1.2. Program Indicators

The program will utilize a mixture of indicators to internally track the success of each program strategy. Proposed indicators include:

Nonresidential Targeted Marketing

- Number of marketing pieces distributed;
- Number of outbound calls made to businesses;
- Number of retention activities completed;

Nonresidential Energy Management Services

- Number of Energy Challenger assessments conducted;
- Feedback from businesses /customer satisfaction of energy management services to be incorporated with the Energy Challenger application and stored with participant's data;
- Energy savings opportunities identified with each participant;
- Linkages between the program and SDG&E programs;

Nonresidential Audits

- Number of Energy Challenger assessments conducted;
- Feedback from businesses /customer satisfaction of energy management services within the "Customer Feedback Form", with feedback to be stored with the participant's assessment data;
- Energy savings opportunities identified with each participant;

Nonresidential Benchmarking

- Number of energy management benchmarking reports prepared for businesses;
- Customer feedback with benchmarking reports provided by participants within the "Customer Feedback Form";

Nonresidential Downstream Training

- Customer feedback provided by participants within the "Customer Feedback Form";

9. Program Objectives

Program Milestones will include:

- Confirmation of Energy Challenger content including a mapping of SDG&E products and services, links from Energy Challenger to SDG&E products/services;

- Preparation and sign off marketing strategy and campaigns;
- Deployment of live version of Energy Challenger;
- Launch of marketing campaigns;
- Launch of over-the-phone Energy Challenger service;
- Monthly progress reports of completed Energy Challenger sessions (both on-line and over-the-phone). Report to include customer details and all customer data/responses;
- Commence follow up activities with customers who have completed Energy Challenger sessions (customers to be contacted roughly 6 months after completion of their first session);
- Prepare program progress reports and customer feedback surveys for SDG&E at end of Year 1;
    - Scope enhancements program as requested with SDG&E;
    - Make refinements to marketing and Energy Challenger content based on customer feedback;
- Continue monthly reporting as above;
- Program ramp-down and completion at end of year 2 (with option to extend program if desired);
- Prepare program feedback report at end of Year 2 including:
    - Customer uptake and outcomes;
    - Customer feedback;
    - Recommendations for future (marketing, modifications, expansion etc);

10. Program Implementation

On receipt of order, EnVinta will prepare a detailed implementation plan for approval by SDG&E. Program implementation is expected to include:

- Confirming SDG&E's objectives to add value to business customers and confirm program deliverables;
- Planning the logistics of the customization and delivery;
- Confirming existing value-added products and services from SDG&E;
- Customization and set up of Energy Challenger using the existing Energy Challenger format, including the modification of the existing question sets, actions and links as appropriate;
- Questions will be tailored to:

- Best stimulate interest in SDG&E's products and services;
- Separately address the needs of small customers (20-100 kW) and medium customers (101 – 500 kW);
- Assess market relevance of future services being considered by SDG&E;
- Incorporate a "Customer Feedback Form" at the end of Energy Challenger, where a customer can submit a satisfaction report;
- Inclusion of web-links to applicable SDG&E products/services and other appropriate websites. This proposal includes for the mapping and linking of SDG&E's products and services to Energy Challenger.

The structure of Energy Challenger is provided in Figure 1.

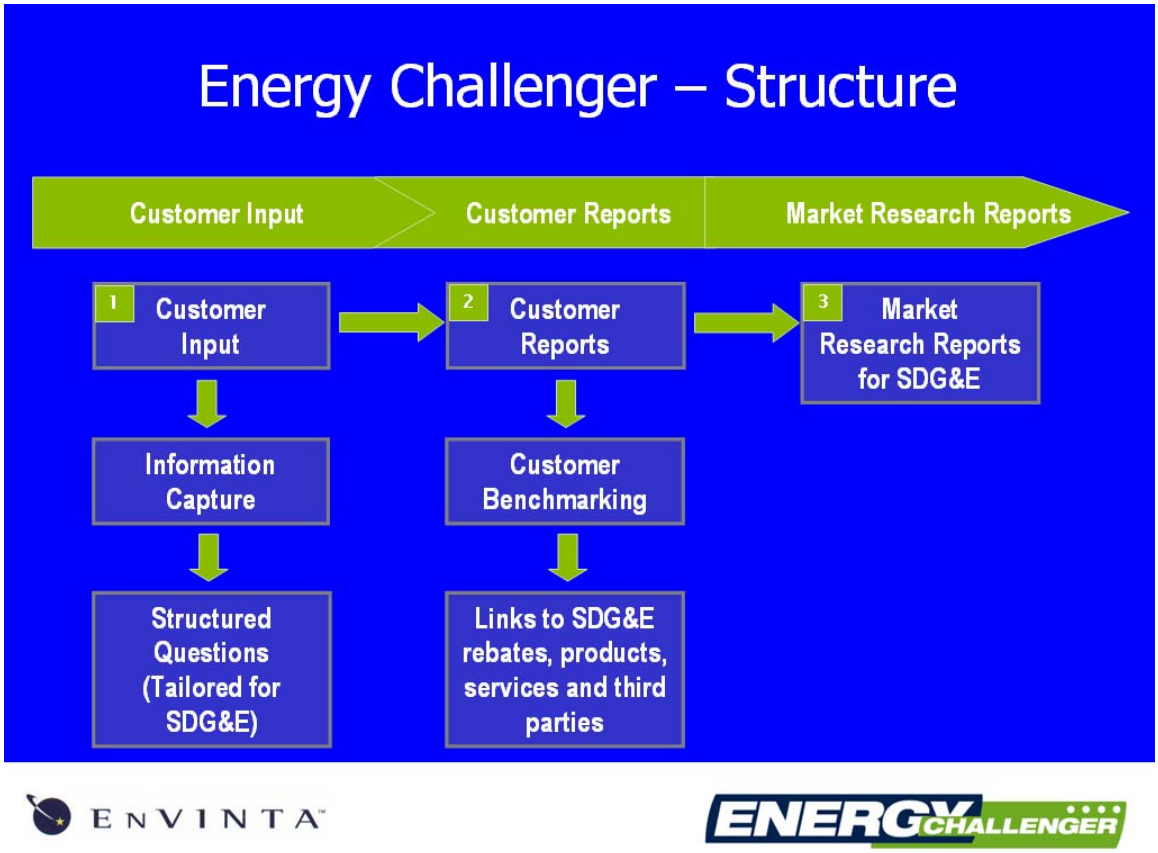


Figure 1 Energy Challenger Structure

Business Output Report

Participants will be provided with a printable management report on completion of the Energy Challenger assessment that:

- Provides a rating and identifies the potential scope of energy savings available based on the rating;
- Summarizes strengths and weaknesses in current energy management practices;
- Summarizes strengths and weaknesses in current technologies;
- Highlights the critical management and technical opportunities for immediate attention;
- Links participants directly to implementation support and programs:
    - Energy Challenger will be deployed as a web based application. It will automatically generate a prioritized action plan for each customer, incorporating links for the customer to gain implementation support for priority actions. Links will include;
        - SDG&E services;
        - Self-help information on priority actions;
        - 3rd party providers;
    - A draft map of links between Energy Challenger and SDG&E products and services .

Business Benchmarking Report

Participants will also be provided with a report benchmarking energy management practices and technologies against similar organizations.

The value of benchmarking to participants includes:

- Understanding their energy management performance relative to other organizations to drive competitive improvement;
- Highlights their strengths and weaknesses relative to other organizations;

Collection of market intelligence data and other features

Energy Challenger will also provide:

- Tracking of business progress and market intelligence reports for SDG&E;
- An education component to help teach the business about sustainable energy management practices;
- An introduction and explanation of the Energy Challenger process and expected outcomes;

Marketing

The program marketing plan is detailed in Section 16. It includes:

Phone Marketing and Over-the-phone Energy Challenger sessions

In addition to providing a self serve Energy Challenger application, EnVinta will conduct over-the-phone marketing and over-the-phone facilitated Energy Challenger sessions through EnVinta's program partner, CustomerLink.

- Over-the-phone marketing will be scripted to stimulate customer interest in Energy Challenger and outline the value proposition of the process. Following marketing, most customer are expected to complete the sessions on their own without the need for over-the-phone support;
- Over-the-phone Energy Challenger sessions will be conducted for businesses who need step-by-step guidance. It will cover the same questions and content as outlined above for the on-line sessions.

EnVinta will:

- Establish call centre services that are trained on the SDG&E application and establish a dedicated phone line to take inbound customer calls;
- For outbound marketing, contact the customer, introduce the process to the customer and outline the value proposition;
- For outbound over-the-phone Energy Challenger sessions, customers contact the customer and talk the customer through the business assessment/audit, entering the customer responses directly into Energy Challenger. In this way the results from the customer session will be stored centrally;
    - Provide the customer with a summary of outcomes and recommendations over-the-phone on completion of the business assessment/audit;
    - E-mail or mail the final Energy Challenger report to the customer.

Follow Through / Retention Program

EnVinta will follow through with customers that have completed Energy Challenger sessions to encourage implementation of the identified priority energy efficiency measures. Customers will receive either email or phone follow up based on the value of the opportunities identified by Energy Challenger.

- Automated email follow-up to Energy Challenger sessions will offer support in implementing recommendations. The email will include a link to the application and their password to retrieve their Energy Challenger session and report;
- Outbound calls to customers that have completed sessions, providing support on Energy Challenger recommendations and offering them of the opportunity to repeat the session.

11. Customer Description

The program will target SDG&E's small to medium commercial/industrial customers with an average energy demand from 20 kW up to 500 kW. The application will be specifically tailored to address the needs of small customers (20-100 kW) and medium customers (101 – 500 kW).

12. Customer Interface

Energy Challenger is an easy to use web application, that will be provided to small and medium sized business customers. It will lead the customer through a short series of structured questions. Based on their answers, the application will deliver a tailor-made roadmap of SDG&E resources and programs to respond to the identified priority needs. The current Energy Challenger application has a very high completion rate. Of the customers that start a Challenger session, 82% complete the online business assessment/audit.

The application prioritizes energy efficiency measures for each business based on their data and provides the customer with direct links to further support energy efficiency (e.g. SDG&E rebate, product, service or SDG&E third party provider).

It is a "top-down", business focused solution that can easily be completed by decision makers (e.g. site and finance managers) and engineers alike. Approximately 90% of current Energy Challenger users are non engineering, non-technical management staff.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

N/A

13.2. kWh Level Data

N/A

13.3. Non-energy Activities

Energy Challenger is an energy business assessment/audit tool that covers a much broader range of energy efficiencies that covered in traditional on-line energy audits as outlined below:

- Energy Challenger covers a wide range of end use loads. The program will be targeted at businesses with an average energy load of 20 kW up to 500 kW;
- For commercial customers, in addition to reviewing opportunities for SDG&E technology rebates, the business assessment/audit will include

broader opportunities (such as building envelope, load management, location of control sensors, operation of current control systems);

- For industrial customers Energy Challenger will target applicable technical areas such as refrigeration, heating systems, boilers, grinding, milling, compressed air systems, steam systems, pumping, motor systems, etc.

13.3.1. Activity Description

Energy Challenger is a remote energy business assessment/audit tool, generating an immediate action plan that contains links to implementation services as outlined in Section 6 and 10. The implementation and retention strategies are provided in Section 8.

13.3.2. Quantitative Activity Goals

Provided in Sections 7 and milestones in Section 9.

13.3.3. Assigned attributes of the activity (market sector, end use)

The program is targeted at small/medium sized businesses that have traditionally been 'hard-to-reach' and have historically had low participation rates in energy efficiency programs. Further details are provided in Section 4.

Energy Challenger is relevant to a broad cross section of commercial and industrial sectors including, but not limited to, Food, Textiles, Apparel, Furniture, Paper, Printing, Chemicals, Rubber/Plastics, Stone/Clay/Glass, Metals, Industrial Machinery, Electronics, Transport Equipment and Instruments.

14. Subcontractor Activities

Our subcontractor, CustomerLink, will conduct outbound over-the-phone Energy Challenger sessions, outbound marketing and follow-up phone sessions to review results and discuss next steps.

EnVinta will provide Energy Challenger training to CustomerLink representatives and develop SDG&E customized scripts for customer engagement activities.

CustomerLink Overview

For 16 years, CustomerLink has outperformed internal and external call centers within the energy industry by providing first-rate, customer-focused service and sales support exclusively to energy customers nationwide. Their success with over 90 utilities and retail energy providers has established their position as the most experienced and respected call center in the industry. Armed with the most up-to-

date information in both regulated and deregulated energy markets, their staff is highly experienced, educated, and professional. They know what it takes to acquire, serve, and retain high-quality energy customers. CustomerLink operates 160 stations and employs over 152 representatives.

CustomerLink has 16 years of experience in selling energy related products and services to residential, commercial, and industrial customers including energy audits, energy management and energy efficiency products;

15. Quality Assurance and Evaluation Activities

EnVinta has an internal quality assurance policy that demonstrates our commitment to delivering superior products for our clients. We will apply these processes rigorously to this project. We also have significant internal capacity in data management and verification. We will apply these talents judiciously to achieve an appropriate balance of data integrity and robustness while maintaining ease-of-use and pragmatism of delivery. All work developed by EnVinta is subjected to stringent internal review/assessment prior to being released.

All of our software products are developed using a rapid development process, which is controlled by a rigorous QA system. The features of the QA system include:

- Separate test and development teams;
- Extensive use of test cases;
- Early review by the product design team;
- External review of our development processes.

Several of our products, including Energy Challenger, are hosted web-delivered applications. These products are extremely scalable and are hosted by Hewlett-Packard (HP) Global Hosting at one of their Tier One data centers. HP is responsible for all operational aspects of database management and data security. Physically, our server farm uses web facing application servers with secure database servers behind a second firewall with no direct exposure to the Internet. Application security manages the user access and a separate Oracle security process manages the connectivity between the web/applications servers and the database servers.

Finally, our quality policy commits EnVinta to continuous improvement in everything we do. Every employee recognizes the necessity to deliver error free services on schedule while striving to exceed our customer's expectations.

We will provide SDG&E with an SDG&E-approved quality control and verification plan for the project.

i. Expected number/percent of inspections (planned percent of projects)

As outlined in Section 8, EnVinta will conduct a retention program to follow up with all (100%) of customers that have completed an Energy Challenger session (4 to 6 months from the initial session). The timeframe is designed

to allow the customer adequate time to implement solution(s). The retention program will include a combination of:

- Automated emails to customers reminding them of their session, offering support in implementing recommendations and offering the opportunity to repeat the session;
- Outbound phone follow up by an EnVinta team representative to review Energy Challenger session results and discuss next steps;

Follow up activities will invite customers to take advantage of Energy Challenger's continuous improvement approach to energy management by going through another session to measure improvements with a progress report and identify new opportunities.

No on-site inspections are planned.

16. Marketing Activities

EnVinta will use a comprehensive marketing and retention strategy to engage businesses, identify practical opportunities to reduce energy cost, automatically link them with appropriate SDG&E services, and follow through with customers to drive energy savings outcomes.

Recruitment

We will implement an active marketing program that will target businesses through multiple channels. All marketing activities will be approved with SDG&E prior to implementation. Customers will be recruited through:

- 6 monthly direct mail pieces to target SDG&E customers incorporating 'Creative Objects' to stimulate interest in Energy Challenger. Details will be agreed upon with SDG&E. Examples of 'Creative Objects' include:
    - Puzzles where the solution to the puzzle is located within Energy Challenger;
    - Computer mouse pads with Energy Challenger website and value proposition printed;
    - Energy related object;
- Direct marketing emails (Animated and Static) with embedded automated links to Energy Challenger;
- Outbound customer calls to conduct over-the-phone Energy Challenger sessions;
- Outbound customer calls to market Energy Challenger;
- Marketing through industry associations;
- Preparation of 5 case studies per year;

Customer Follow Through / Retention

In parallel to marketing, EnVinta will run a retention program to follow through with customers that have completed an Energy Challenger session. Customers targeted for follow through activities will be prioritized based on the value of the opportunities identified by Energy Challenger.

The retention program will include a combination of:

- Outbound phone follow up (by an EnVinta team representative) to review Energy Challenger session results and discuss next steps;
- Automated emails to customers reminding them of their session and offering the opportunity to repeat the session;

17. CPUC Objective
Does the program meet the CPUC objectives? List the objectives met.

Yes. The program meets the following CPUC objectives:

Objective #1 "Cost effective energy efficiency should be first in the "loading order" of resources"

The program will achieve this objective by enabling small and medium sized businesses to identify and prioritize the energy efficiency measures that are the most cost effective to their business. As detailed in Section 5, these customers are not well serviced by existing remote energy audits and take up of energy efficiency measures by businesses in this category has been limited. The Energy Challenger program will provide an easy-to-use solution for businesses to identify immediate cost effective savings opportunities and be linked to rebates and applicable products/services that can help them implement the recommendations.

Objective #2 "Pursue all cost effective energy efficiency opportunities over both the short and long term"

The program will achieve this objective by providing the business with prioritized and cost effective recommendations to improve energy efficiency both in the short term and the long term.

In comparison with the traditional energy audit, Energy Challenger provides recommendations for improvements in technology, operating and maintenance procedures as well as business practices to drive on-going improvements in energy management. Examples of changes in business practices include:

- Effective management of energy data analysis and reporting;
- Regular tracking of energy use;

- Developing energy performance indicators and targets;

The program includes processes for both continuous improvement and follow through with businesses to drive implementation, as detailed in Section 16. The follow through will be either by phone or email to offer support in the implementation of recommended actions and review progress.

Objective #3 " Energy efficiency activities funded by ratepayers should focus on programs that serve as alternatives to more costly supply side resource options"

The program will achieve this objective by providing a very low cost process for engaging decision makers and identifying for them cost-effective opportunities to reduce energy costs. The target customers have limited time to identify energy efficiency opportunities and need immediate answers as provided by the 10-15 minute Energy Challenger session. Further details on the methodology are provided in above Sections 6, 8 and 10

.

Objective #4and #5 Minimizing Lost opportunities

The program will minimize lost opportunities by:

- By addressing opportunities to improve business practices and promoting a "top-down" commitment approach, Energy Challenger will remove barriers to the implementation of longer term energy efficiency measures;
- Providing businesses with a solution than empowers them to complete a holistic assessment of their business (not limited to a few technologies);
- Providing a business focused tool that can be easily completed by decision makers and engineers alike. In this way decision makers are able to evaluate and understand total energy efficiency opportunities.
    - Traditionally this sort of assessment has been limited to engineers who generally have limited funds and/or authority to implement solutions;

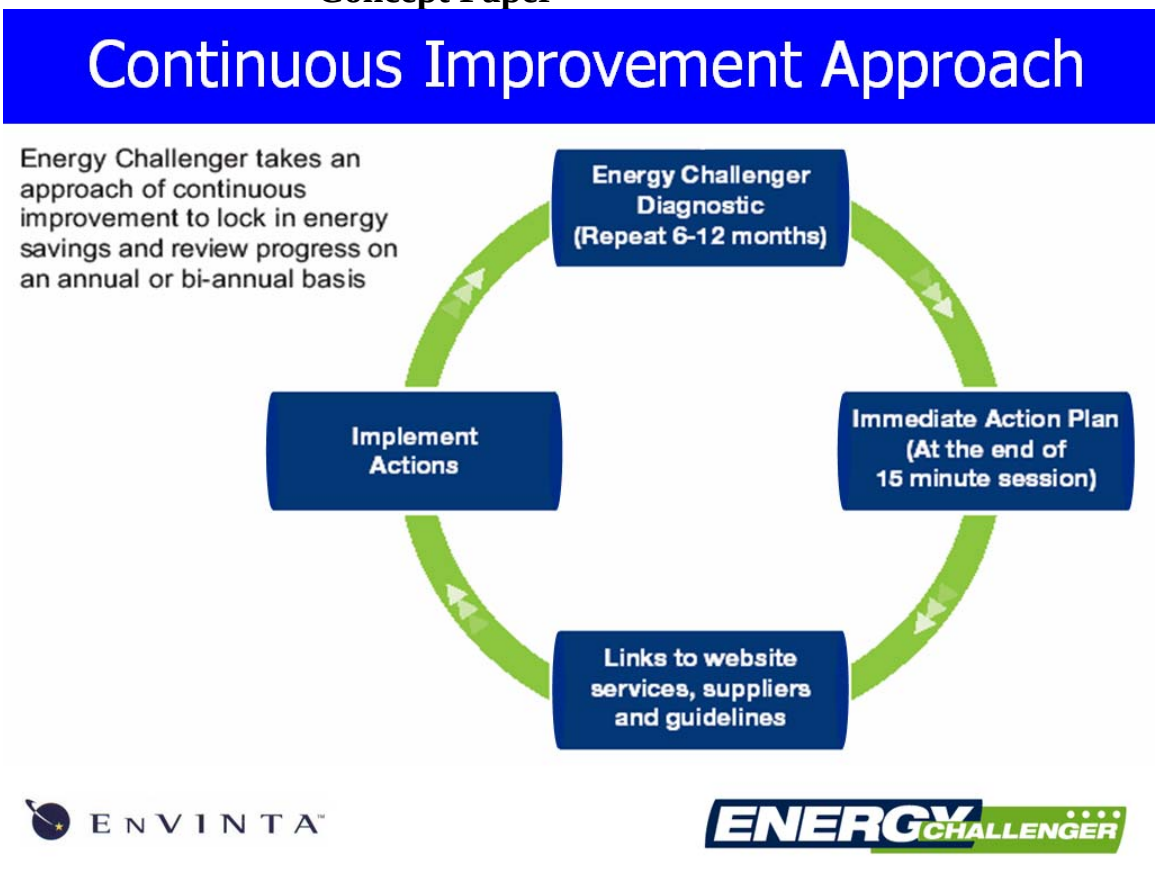


Figure 2 Energy Challenger Process of Continuous Improvement

- Providing businesses with a report that includes a dollar estimate of total savings available to the business. In this way the business sees the big picture and is not limited to investigation of simple 'cream skimming' opportunities;
- Providing businesses with the opportunity to repeat their Energy Challenger session which will present an updated action plan, thereby providing a roadmap to continuous improvement (see Figure 2);
- Providing follow up to businesses who have completed Energy Challenger sessions to drive implementation of actions;
- Providing automated reminders to businesses on implementation of energy efficiency measures;
- Providing recommendations on improving business practices to ensure the sustainability of energy efficiency measures ;

Objective #5 Lower peak loads

In addition to identifying opportunities to reduce base load, Energy Challenger includes assessment of and recommendations for opportunities for demand management/peak load reduction. In particular it includes assessment of opportunities for peak /maximum demand control and process optimization;

Energy Challenger is a flexible application that will be tailored to meet the needs of SDG&E during customization and establishment of the program. The customization could, if desired, include a more detailed demand response assessment as well as an assessment of renewable energy opportunities.

Additionally there is a section in Energy Challenger where SDG&E can include market research questions to evaluate opportunities for emerging technologies or new SDG&E programs. The market research questions will be developed in close consultation with SDG&E.

Appendix 1: Bidders Skills and Qualifications

EnVinta Corporation is a global leader in the development and deployment of energy and environmental products and services for commercial, institutional, industrial and utility users.

The EnVinta Group was founded in 1984 as Energetics Pty Limited, a privately owned Australian company. EnVinta was first incorporated in the State of California in 1999, and is now registered in the State of Delaware. We are headquartered in Exton, PA with additional offices in San Francisco and Sacramento, CA and Austin, TX.

EnVinta has taken the intellectual assets amassed by Energetics (the predominant supplier of energy and utility management solutions in Australia) and converted this knowledge and expertise into software tools that can be used by organizations to adopt strategic, enterprise-wide energy and environmental management programs. Products include our range of on-line and CD based Energy, Water and Waste Conservation tools, including ChallengerTM, AchieverTM and One-2-Five®. We have also developed EnTERPRIZE.EM™, an on-line energy tracking system.

EnVinta took its first steps to transform the traditional, technically focused approach generally used in energy audits/savings programs for businesses and government in 1997. This methodology looks at both energy savings technologies and, importantly, the business practices in place to support change. EnVinta has assisted, and continues to support, organizations and utilities globally to prioritize, plan and continuously improve key aspects of their energy supply and usage by utilizing this methodology.

Bidders Experience and Delivery Track Record

Summaries of key EnVinta representative project experience are outlined below. Further details and specific client contact details are available on request.

EnVinta has been providing similar services for the better part of the last decade and is currently engaged with numerous utilities across the world using our various product lines. The list below includes some of the customers that are using our diagnostic products.

Northwest Energy Efficiency Alliance (Oregon, Utah, Washington, Idaho, Montana), Ohio Department of Development (Ohio), Illinois DCEO (Illinois), Alliant Energy (Wisconsin & Iowa), MidAmerican Energy (Iowa), Xcel Energy (Wisconsin & Minnesota), Wisconsin Focus on Energy Program (Wisconsin), Wisconsin Public Service (Wisconsin), Nicor Gas (Illinois), WE Energies (Wisconsin), Northeast Utilities (Connecticut), United Illuminating (Connecticut), Western Mass (Massachusetts), Maine PUC, Efficiency Maine Program (Maine), Bonneville Power Authority (Washington, Oregon, Montana), Siemens (Europe & So America), BP (Global), BC Hydro (British Columbia, Canada), Texas Industries of the Future (Texas), Madison Gas & Electric (Wisconsin), Sydney Water (Australia), Contact Energy (New Zealand), Mercury Energy (New Zealand), and Meridian Energy (New Zealand).

Specific client references include:

WPS Strategic Energy Management

Wisconsin Public Service Corporation and EnVINTA formed a partnership to develop and populate the database of customers that have participated in EnVINTA's Energy Challenger web-based energy management tool. Commercial customers use Challenger to assess their energy practices, beyond those just associated with the technical elements of energy management.

The program provides value to WPSC by improving the level of customer service as well as being an account management tool and market research vehicle. Links back to WPSC services benefit WPSC though sales of additional services. Participating customers gain useful information in the area of managing energy. To date, over 250 WPS customers have completed a diagnostic session.

NICOR Navigator

NICOR identified a requirement to provide a web-based application for their small to mid-sized energy customers. The application was to quickly lead the customer through a series of questions about their energy management practices to identify strengths and weaknesses in their practices and priorities for action. It was then to direct customers (via appropriate linkages) to appropriate NICOR products and services to address priorities identified. NICOR elected to use Energy Challenger, branded especially for Nicor as Navigator. The tool helps their customers to better understand business risk issues related to energy management, diagnose their level of improvement for energy management practices and implement better management systems for energy by recommending actions and linking to information sources/examples.

NICOR sees benefits as Challenger helps NICOR to match service offerings to customers and helps account managers or telemarketers to structure their meetings/dialogue with customers. Challenger is deployed within the NICOR website, and the diagnostic session takes only a few minutes to complete.

Energy Efficiency and Conservation Authority New Zealand (EECA)

Energy Challenger was jointly released in New Zealand in June 2005 by EnVINTA, EECA and three energy utilities (Contact Energy, Mercury Energy and Meridian Energy). The three utilities are already seeing positive results from their rollout to mid-sized accounts they serve. Within 2 months of launching Energy Challenger, 78 of Contact Energy's mid-sized C&I customers from 20 sectors (or 12% of the 700 companies in the first mailer) had already completed the self-assessment. Their current combined electricity spend is upwards of US$5,000,000 (a consumption of 82,000MWh).

	SDGE3040 3P Business Energy Assesment Program	
BUDGET		
Administrative Costs	**$**	**187,487**
Overhead and G&A	$	27,857
Other Administrative Costs	$	159,630
Marketing/Outreach	**$**	**-**
Direct Implementation	**$**	**411,860**
Total Incentives and Rebates	$	-
User Input Incentive	$	-
Direct Install Rebate	$	-
Direct Install Labor	$	-
Direct Install Materials	$	411,860
Activity	$	-
Installation	$	-
Hardware & Materials	$	-
Rebate Processing & Inspection		
EM&V Costs	**$**	**-**
Budget	**$**	**599,347**
Costs recovered from other sources	**$**	**-**
Budget (plus other costs)	**$**	**599,347**
PROGRAM IMPACTS		
User Entered kW (kW)		-
Net Jul-Sept Peak (kW)		-
Net Dec-Feb Peak (kW)		-
Net NCP (kW)		-
Net CEC (kW)		-
Annual Net kWh		-
Lifecycle Net kWh		-
Annual Net Therms		-
Lifecycle Net Therms		-
Cost Effectiveness		
TRC		
Costs	$	187,487
Electric Benefits	$	-
Gas Benefits	$	-
Net Benefits (NPV)	$	(187,487)
BC Ratio		-
PAC		
Costs	$	599,347
Electric Benefits	$	-
Gas Benefits	$	-
Net Benefits (NPV)	$	(599,347)
BC Ratio		-
Levelized Cost		
Levelized Cost TRC ($/kWh)		
Discounted kWh		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-
Levelized Cost PAC ($/kWh)		
Discounted kWh		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-
Levelized Cost TRC ($/therm)		
Discounted Therms		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-
Levelized Cost PAC ($/therm)		
Discounted Therms		-
Cost	$	-
Benefits	$	-
Benefit-Cost	$	-

2006-2008 Energy Efficiency Programs
CHEERS New Construction Advanced Rating Program Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ -	$ -	$ -
	Administrative Other	$ 30,000	$ 15,000	$ 20,000
Marketing & Outreach		$ 12,000	$ 12,000	$ -
Direct Implementation				
	Activity	$ 60,000	$ 10,000	$ -
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ 10,000	$ -	$ -
	Procurement	$ -	$ 10,000	$ -
	Incentives	$ -	$ -	$ -
EM&V		$ -	$ -	$ -
Total		*$ 112,000*	*$ 47,000*	*$ 20,000*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
-	-	-	-	-	-	-	-	-

3. Program Cost Effectiveness

N/A

4. Program Descriptors

Our approach "increases current savings yields from program dollars" by capturing additional energy savings from the New Homes Program without increasing its administrative or marketing costs. Instituting a "two-way" communication link between the CHEERS Registry and EnergyPro compliance software helps SDG&E capture incremental energy savings whenever homebuilders build homes that are more energy efficient than what is currently reported. Accumulated over time, these "missed" energy savings can help IOUs meet ever-increasing energy savings goals mandated by the CPUC – even as Title 24 and ENERGY STAR standards become more stringent.

This proposal impacts all homebuilders that participate in SDG&E's new construction program and use the EnergyPro software program for Title 24 compliance. The target market includes both residential and non-residential new construction throughout the entire SDG&E service territory. About 30% of residential building projects and more than 70% of multi-family and commercial projects use Energy Pro. We are not targeting MICROPAS users at this time, because this DOS-based compliance software is too labor-intensive and costly to reprogram.

5. Program Statement

SDG&E underreports its energy savings from ENERGY STAR homes because of the way these savings are calculated. Oftentimes, a completed ENERGY STAR home is *more* efficient than its original plan. For example, the plan may specify a SEER 10 appliance, while a SEER 13 is actually installed. Such a home might actually produce 19 percent more energy savings than Title 24 compliance, but it will be counted as a mere 15 percent. That's because:

- EM&V contractors make their calculations based on original-plan data that's stored in Title 24 compliance software.
- The New Homes Program sets incentive thresholds at 15% and 20% above Title 24. Homebuilders emphasize these program-participation thresholds, because these thresholds determine the homebuilders' eligibility for incentive money. The homes' precise energy savings matter only to the IOU.

CHEERS, the largest HERS provider in the nation, verified more than 25,000 homes across the state in 2005. Our data analysis and experience in the field reveals that IOUs are not counting significant energy savings.

6. Program Rationale

It's impractical to verify every home and report actuals, which is why today's calculations are based on plan data that's already stored in Title 24 compliance software. When it comes to ENERGY STAR homes, however, CHEERS raters already go onsite to collect data. CHEERS proposes adding new functionality to Title 24 compliance software so that better use can be made of the data we collect.

Currently, Title 24 and HERS-provider software interact in a "one-way" fashion: The EnergyPro compliance software exports a file to the CHEERS Registry HERS software. This export file, based on the builder's plan, spells out all the measures raters must verify in the field. CHEERS raters then collect test data onsite and input information on actual energy factors into the CHEERS Registry.

The CHEERS Registry generates reports for the IOUs, but never shares its field data directly with the EnergyPro compliance software. Theoretically, the IOUs could input this field data into the plan files internally – but doing so for each home that participates in the New Homes Program would be cost-prohibitive and error-prone.

CHEERS proposes creating a "two-way" information flow, whereby the CHEERS Registry outputs the latest field data back to the EnergyPro compliance software. This would enable the IOUs and EM&V contractors to capture the "missed" savings that occur when builders install better equipment than the original design calls for.

As Title 24 standards become more stringent and require homebuilders to implement a greater variety of products and services, these little savings can quickly add up.

7. Program Outcomes

The desired results of the program are capturing additional energy savings from the New Homes Program, so that IOUs have a better chance of meeting their energy-savings goals. Our electronic solution will improve data accuracy and support EM&V activities, without causing major changes in current workflows.

Action/Milestone	Purpose
Achieve consensus on what field data to transfer	Work with SDG&E to identify which specific measures, such as water heating, insulation and duct testing, will likely generate the most energy savings
Create project pipeline	Work with plan-check agencies to identify current and future building projects that would make good candidates for the program
Reevaluate current export file	Make sure the current export file from EnergyPro to CHEERS Registry contains all the necessary fields. Also redefine, if necessary, how original-plan data and field data coincide within the CHEERS Registry.
Define data format for import file	Define the format for the new import file from the CHEERS Registry to Energy Pro. Ensure that the import file contains all the field data required for energy-savings calculations.
Define process for uploading field data	Establish how the actual field data will be uploaded to EnergyPro and how it will interact with the original-plan data within EnergyPro.
Beta test the data-transfer process	Coordinate efforts between SDG&E, CHEERS, specified plan-check firms and specified EM&V contractors to make sure CHEERS field data is imported to EnergyPro and that energy-savings calculations work.
Implement new data-transfer process	Provide instructions on the new process to all stakeholders: SDG&E personnel, plan-check firms and EM&V contractors.
Evaluate the program's success	After a time period specified by SDG&E, compare the energy savings generated by our program with that generated by the prior method. Determine how much "missed" energy savings the program recaptures.

8. Program Strategy

Identify the various strategies that will be used for program success. *See the attached list.*

Residential New Construction
Non-Residential New Construction

8.1.1. Program Strategy Description

Our overall strategy is to capture "missed" energy savings in a way that is cost-effective and almost invisible. We want to do most of the work "under the hood," without causing stakeholders to invest great amounts of time and energy into changing their workflows.

The primary method we are using to accomplish this is focusing solely on EnergyPro software – and not extending the program to also cover MICROPAS. For five years, CHEERS has worked with MICROPAS to produce an export file that tells the CHEERS Registry what raters must verify. Because MICROPAS is DOS-based, it's labor-intensive to upgrade the output file whenever changes are made to energy-efficiency standards. Therefore, the labor costs involved in creating a bidirectional data flow between the CHEERS Registry and MICROPAS would negate any energy savings.

On the other hand, EnergyPro compliance software and the CHEERS Registry both use Microsoft as their underlying programming platforms. This will make developing an import file from the CHEERS Registry to EnergyPro relatively seamless and inexpensive.

8.1.2. Program Indicators

A clear indicator of the program working is the ability of SDG&E to determine energy savings for their new homes program based upon actual installations and verifications as reported by CHEERS raters using HERS Mobile.

9. Program Implementation

Implementing the program will require four major steps:

1. **Identifying the project pipeline:** CHEERS will work with SDG&E plan-check agencies to identify current and future projects that participate in ENERGY STAR, use EnergyPro for compliance and rely on CHEERS raters for HERS verification.
2. **Achieving consensus on what to measure:** Based on the project pipeline, CHEERS and SDG&E will define the measures that are most likely to result in energy savings, such as water heating, insulation and duct testing.
3. **Making software changes to EnergyPro and CHEERS Registry:** Computer programmers, with input from EM&V contractors and plan-check agencies, will make changes to EnergyPro and the CHEERS Registry. These changes will allow EM&V contractors to calculate energy savings for specific measures based on what's installed in the field.
4. **Adopting new processes as appropriate**: SDG&E, with help from CHEERS, will establish new data-analysis processes with its plan-check agencies and EM&V contractors, so that they calculate energy savings based on field data.

The <u>technical mechanics</u> of the data-transfer process are as follows:

1. EnergyPro exports a "plan file" to the CHEERS Registry that specifies what raters must verify for that particular building project.

2. Raters verify the structures according to plan requirements and enter actual field data back into the CHEERS Registry.
3. Plan-check and EM&V personnel use the CHEERS Registry to import raters' field data back into Energy Pro.
4. Plan-check and EM&V personnel generate a new plan file based on the raters' field data and upload it back to the CHEERS Registry.
5. The CHEERS Registry outputs a proposed-to-actual comparison for specified projects in the program pipeline.

10. Customer Description

The targets of this program are homebuilders that participate in SDG&E's New Homes Program. However, homebuilders will not be directly involved, since all of the work takes place under the hood as data reporting. Rather, the actual stakeholders involved in designing and implementing the program include SDG&E New Homes program managers, staff from affiliated plan-check agencies and specific EM&V contractors.

11. Customer Interface

Due to the nature of the program, no outreach to homebuilders or consumers is necessary. However, some combination of written, electronic and verbal communication will be necessary to communicate workflow and process changes to plan-check agencies, EM&V contractors and internal SDG&E personnel. Additionally, training for the affected stakeholders will occur for a better understanding of the process.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

N/A

12.2. kWh Level Data

N/A

12.3. Non-energy Activities

CHEERS will hold sessions with SDG&E designated personnel for training on this process. The trainings can include; face to face, Group sessions, or web casting.

12.3.1. Activity Description

Web cast training on the new process. This will also include meetings with SDG&E personnel

12.3.2. Quantitative Activity Goals

We anticipate at least quarterly meetings (3) during 2006
Web cast sessions either recorded or live quarterly

12.3.3. Assigned attributes of the activity (market sector, end use)

N/A

13. Subcontractor Activities

EnergySoft, LLC is the creator of the EnergyPro compliance software. EnergySoft's software developers will work closely with CHEERS to communicate guiding principles for the new data points that need to be collected. EnergySoft will also program EnergyPro so that it can create and accept the new import and export files.

Glyphix is the firm that develops the CHEERS Registry HERS software. Glyphix will program the CHEERS Registry so that it can accept the revised EnergyPro export file and create the new import file that transfers field data to EnergyPro.

Doug Beaman Associates is a Title 24 consultant that helps CHEERS develop and test upgrades to the CHEERS Registry. Doug Beaman Associates will help CHEERS, plan-check agencies and EM&V contractors define the new import file and coordinate testing.

14. Quality Assurance and Evaluation Activities

As part of the beta test and initial implementation phase, CHEERS will analyze reports to make sure that EnergyPro is correctly importing CHEERS field data and that EM&V contractors are correctly calculating resulting energy savings.

CHEERS will inspect the primary CHEERS Registry to Energy Pro import files during the beta-test and initial implementation phases to make sure software programming is correct. We will work with SDG&E, plan-check agencies and EM&V contractors to define an appropriate inspection process for the live data that's used to calculate energy savings.

15. Marketing Activities

We will not market directly to homebuilders or consumers. CHEERS will, however, engage in "no cost" or "low cost" communications activities, such as e-mail, conference calls or webcasts, to inform SDG&E staff, plan-check agencies and EM&V contractors of new data-upload and analysis procedures.

16. CPUC Objective

Our program meets Objective # 8, "The deployment of new and improved energy efficiency products and applications can help sustain or increase current savings yields from program dollars." The program improves existing software to produce higher – and more accurate – energy savings numbers.

	SDGE3041 3P CHEERS New Construction Advanced Rating Prog
BUDGET	
Administrative Costs	**$ 65,000**
Overhead and G&A	$ -
Other Administrative Costs	$ 65,000
Marketing/Outreach	**$ 24,000**
Direct Implementation	**$ 90,000**
Total Incentives and Rebates	$ -
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 70,000
Installation	$ -
Hardware & Materials	$ 10,000
Rebate Processing & Inspection	$ 10,000
EM&V Costs	
Budget	**$ 179,000**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 179,000**
PROGRAM IMPACTS	
User Entered kW (kW)	-
Net Jul-Sept Peak (kW)	-
Net Dec-Feb Peak (kW)	-
Net NCP (kW)	-
Net CEC (kW)	-
Annual Net kWh	-
Lifecycle Net kWh	-
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 179,000
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (179,000)
BC Ratio	-
PAC	
Costs	$ 179,000
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (179,000)
BC Ratio	-
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

2006-2008 Energy Efficiency Programs
EnVinta: Industrial Energy Efficiency Acceleration Program
Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ -	$ -	$ -
	Administrative Other	$ 15,850	$ 11,250	$ 10,350
Marketing & Outreach		$ 45,600	$ 12,820	$ 7,200
Direct Implementation				
	Activity	$ 253,945	$ 232,575	$ 135,396
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ -	$ -	$ -
	Procurement	$ -	$ -	$ -
	Incentives	$ -	$ -	$ -
EM&V		$ -	$ -	$ -
Total		*$ 315,395*	*$ 256,645*	*$ 152,946*

2. Projected Program Impacts (New Savings Each Year)

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
-	-	-	-	-	-	-	-	-

3. Program Cost Effectiveness

N/A

4. Program Descriptors

Market sector: IEEA will target large industrial customers of SDG&E with an energy spend > $400,000 per year

Program Classification: Local

Program Status: New

Geographic Area Targeted by Program: All SDG&E service territory

Percentage of market expected to be impacted by this program:

- The program will provide services to 40 Industrial customers;
- Based on the SDG&E 2004 annual report SDG&E has 458 Industrial customers consuming 2,084 million kWh that could potentially be impacted if the program was rolled out beyond this program.

5. Program Statement

To substantially increase market penetration and savings rates in the industrial sector, industrial customers need a business-orientated program that provides energy

management guidance from the executive level down, and support to implement a continuous improvement methodology to drive on-going energy savings. This was highlighted in the 2001 study "Large Customer needs and Wants" by Quantum for SDG&E, where study participants indicated that "*utilities are perceived as failing to understand industry needs, and fault utilities for a lack of long-term commitment to their large industrial and commercial sector customers*". Recommendations include that "*Strategic guidance should be provided in executive-level interactions, facilitated by experienced industry consultants and associations, and supported by solid background research and analysis"*. Furthermore the report recommends that tactical guidance on specific energy efficiency opportunities be made by account managers.

Energy use in the Californian industrial sector is dominated by large sites (greater than 500kW demand) that consume 74 % of kWh of electricity in the industrial sector, but represent only 6% of the number of accounts. Similarly large sites consume 94% of natural gas consumed in the industrial sector but have only 4% of accounts (Californian Industrial energy efficiency market characterization study, prepared for PG&E by Xenergy, Dec 2001). The same study concludes:

- *Utility programs have focused mainly on the purchase and installation of new, energy efficient equipment, mostly through the use of rebate programs.*

While,

- *Review of the literature on energy savings potential reveals that considerable savings can be obtained by making "systems" more efficient, often through the use of improved operation and maintenance practices, improved system design, and the installation of control measures. The types of measures discussed in the literature are not easily promoted through traditional rebates-for-equipment programs;*
- *In many cases, industrial customers are not aware of the types of measures that can be instituted to achieve energy savings or the magnitude of savings that can be achieved through the implementation of systems solutions;*

Thus,

- *Programs that seek to inform customers on their energy-efficiency potentials, options, and associated benefits/costs and connect them to contractors and financing, providing turnkey projects, are likely to garner significant cost-effective energy savings that are missed by traditional incentive-only programs".*

EnVinta strongly endorses these comments and has designed a program which is well proven to directly and effectively address these barriers.

EnVinta's database of more than 1300 businesses shows that less than 15% of large industrial sites have developed business practices that can effectively drive energy savings. Supporting this data is a recent CA study (Aspen Corp) that reports **only**

15% of major Californian companies have standard energy efficient motor purchasing procedures that consider or take advantage of the local utility rebate programs. This is staggering after 30 years of utility rebate programs – and shows that different types of programs are needed to entrench energy savings behavior, not just more audits and rebates.

The other 85% of companies, without formal management practices in place, primarily treat energy as a technical issue that is owned by engineers/facility managers who have limited authority over operations. The engineers and facility managers have to "sell" energy efficiency projects up to senior management who, in many cases, have little understanding of energy management and no specific commitment to outcomes in this area. This approach frequently results in indefinitely deferred projects.

Furthermore, since line operational managers are not engaged in energy management, major potential energy saving measures in core process (where most of the energy is used) are not identified. Savings made in traditional utility programs tend to address symptoms, rather than causes, and mainly relate to ancillary equipment, not the savings in energy intensive processes core to the success of the business.

EnVinta's proposal therefore addresses the following specific needs:

1. Strategic guidance at executive level by industry consultants and supported by tactical advice on specific energy efficiency opportunities by utility account managers;
2. Gaining senior management buy-in on energy efficiency. This needs to include operations managers, business managers, finance managers and other key decision makers;
3. Once we have assisted business managers to prioritize their energy efficiency options to link them with SDG&E support services and downstream service providers to assist with implementation;
4. A whole business, continuous improvement program (rather than being based entirely on one-off technical projects), which incorporates:
    - Improvements in operating and maintenance procedures;
    - Improvements in system design;
    - Improvements in control measures (and incorporating effective measurement, reporting and tracking measures). This includes electrical load control measures;
    - Capital improvements in energy plant including core process, with senior management commitment greatly accelerating the approval process.
5. Coaching / facilitation support to help companies overcome their initial inertia and establish on-going programs,

6. Promote successes of the pilot companies amongst their industry peers, working in close affiliation with industry associations and other trade allies.

6. Program Rationale

EnVinta's proposed Industrial Energy Efficiency Acceleration (IEEA) program will address the above detailed market failure by:

- Gaining senior management commitment to change and supporting the change using industry consultants.
- Utilizing a proven methodology has consistently achieved great results in improved energy management policies, practices, procedures and implementation of savings technologies;
- Utilizing a proven continuous improvement methodology that delivers ongoing savings through enhanced business practices and the application of energy efficient and load response technologies;
- Linking identified customer needs to other SDG&E programs and services to support implementation of outcomes.
- EnVinta's program entails five key steps (also detailed in figure 1):

Step 1: Customer Recruitment

- Market and engage businesses in the program gaining an initial executive level commitment to management availability for a 2 hour energy management diagnostic to develop an energy management strategy and benchmark the business against industry best practice;

Step 2: Initial Management Diagnostic and a Technical Site Audit

- Begin with a management diagnostic session with business executives covering a detailed investigation into current business management practices (including operating and maintenance procedures, reporting, metering, accountabilities, key performance indicators etc) system design;
- Then roll into a high level technical walkthrough audit to highlight specific technical solutions with corresponding management practice solutions. This will also aid in the "sale" of the business' ongoing participation in the program;
- Outcomes will be linked to SDG&E DSM programs, products and services and coordinated with SDG&E account managers / representatives to provide tactical guidance on individual DSM programs;
- Provide a benchmarking report of current management practices for energy compared with other businesses in their sector worldwide;

Step 3: Detailed Implementation Support

- This step will be offered on a competitive basis to a select group of businesses that will be required to sign a Memorandum of Understanding, including a formal commitment to action. Implementation support will be tailored for

individual businesses and based around improving business management systems and/or direct implementation of energy savings. Support will also be provided to link businesses to relevant SDG&E support programs.

Step 4: Repeat Diagnostic

- With the management team present, review business progress and generate an updated business energy management action plan using the same management diagnostic from step 2. This step facilitates a process of continuous improvement.

Step 5: Documentation, Reporting and Success Story Dissemination

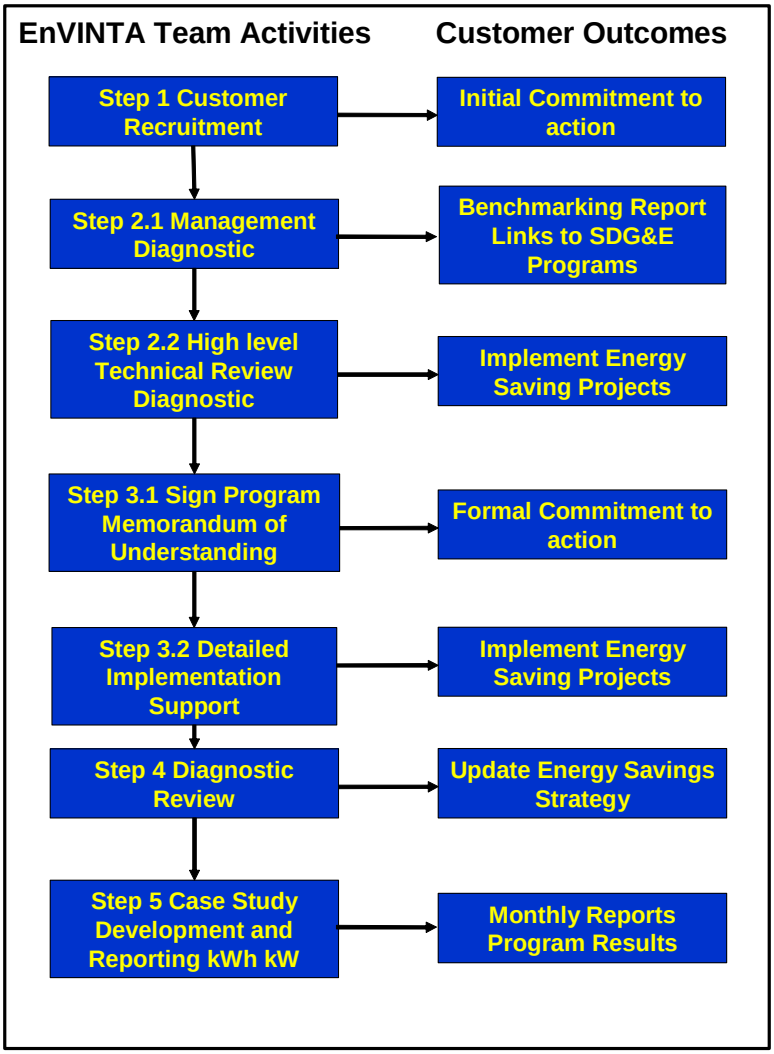


Figure 1 Program Overview

EnVinta's program is being advanced ahead of others because we believe that SDG&E is looking for a better way to drive energy savings in its service territory.

The EnVinta IEEA Program will substantially increase penetration rates of existing and new SDG&E DSM programs among large industrial businesses through the use of an innovative, yet proven, business-based decision making process that translates energy management into business terms for decision makers. The process employs the same broad business based approach recommended in the Xenergy 2001 report detailed in Section 5 to enable business managers to self evaluate their current business practices, highlight current strengths and weaknesses and identify opportunities for improvement.

The traditional approach to energy management has been to conduct technical evaluations of opportunities and then to provide financial incentives to encourage savings projects. It has always been assumed that the customer is not committed to energy savings, and rebates have been used to try to overcome that barrier on each occasion. Traditional rebate-focused programs have not been particularly effective at driving sustained savings in the industrial market and the approach must be augmented by a new and complementary approach. EnVinta has been at the forefront of this innovation. For the last 7 years, EnVinta has developed and continued to refine the application of a continuous improvement methodology in the area of energy management.

The EnVinta program methodology provides a holistic framework that augments technical energy management solutions with the management practices that are required to insure that energy management is continuously improved and that savings are sustainable over time. The methodology creates a unifying, continuous improvement energy management program; an energy management program that is **completely consistent** with other standard and widely accepted continuous improvement programs. For example, similar program methodologies are commonly used to address quality (ISO 900, TQM), health and safety (OSHA programs), the environment (ISO 14000), and process improvement (LEAN Manufacturing).

Key areas of the EnVinta program include:

- The program will **substantially increase penetration rates of existing and new SDG&E DSM programs** among large industrial businesses;
- A comprehensive program that addresses and integrates all the elements of SDG&E's DSM programs including energy efficiency, demand response, rates, etc to create a targeted solution based on identified customer needs;
- The program utilizes a proven methodology to engage executive level decision makers and influence positive change in energy management performance;

- A benchmarking process that drives competitive improvement by comparing business energy performance against peer performance using a 1300 organization database;
- The program insures that savings are sustainable over time by integrating business practices and a change management process with traditional technical/engineering energy management solutions.
- The program identifies barriers to implementation and overcomes those barriers by involving senior management decision makers in the process;
- Involves companies in an on-going commitment to continuous improvement, rather than just selling a series of one-off projects.
- All of these innovations and benefits support the creation of a permanent and successful market for energy efficiency;

The program represents an opportunity for SDG&E to significantly increase awareness and update of energy efficiency programs among industrial customers using a proven methodology for engaging executive level decision makers. Savings estimates are included in Section 7.

As recommended in the 'Large Customer Needs and Wants Study', it combines executive level interactions by industry consultants, supported by tactical support on technical energy efficient projects.

Without this program approach, energy efficiency program activities are likely to remain technically focused and fail to engage more than the traditional 20-30% of industrial customers in any on-going energy management activity. We expect to increase the percentage of industrial companies that regularly participate in DSM programs in your service territory to over 50% of program participants over the 3 year program period, and this could be extended across all industrial customers to drive far higher levels of savings. In addition, because we are capturing a greater range of types of savings opportunities, you can ultimately expect a further doubling of savings.

The program has close linkages with SDG&E's portfolio of energy efficiency and demand management products/services and is based around integrating all of the elements required for a successful energy management program into a single coordinated program for the customer. The program seeks to identify the customer's priority needs and then provides the customer with solutions to meet these needs. This will be achieved through application of EnVinta's proven management diagnostic process that will engage executive level decision makers, help them to evaluate their current management practices for energy management (diagnostic elements are provided in figure 5), and provide them with a strategic energy management plan containing links to solutions that meet their needs. Solutions will include:

- Improving management understanding and commitment to energy management;
- Establishing key performance indications, targets and reporting;
- Assigning accountabilities and resourcing for energy management;
- Improvements in operating and maintenance procedures;
- Standardizing energy efficient procurement procedures;
- SDG&E energy efficiency rebates, products and services. A map of the management diagnostic to SDG&E Products & Services is provided in figure 2;
- SDG&E demand response solutions (also mapped in figure 2);

	Customer Energy Savings Bid	Standard Performance Contact	Savings by Design	Statewide Business Efficency Resources	Energy Efficiency Business Seminars	Energy Waves	DR Technical Assistance	Demand Bidding program	Critical Peak Pricing	Base Interruptible Program	Scheduled Load Reduction program
EnVinta Management Diagnostic Element	San Diego Gas and Electric Large Business programs										
1.1 Leadership & Commitment			X								
2.1 Understanding Performance	X	X	X	X	X		X	X	X	X	X
3.1 Targets & Performance Indicators											
3.2 Plans / Risk Management	X	X	X					X	X	X	X
4.1 Accountabilities											
4.2 Awareness & Training				X	X						
4.3 Resourcing											
5.1 Capital Allocation / Financial RM	X	X	X								
5.2 Operating Budget Process											
6.1 Supply Purchase Options	X						X	X	X	X	X
6.2 Supply Quality & Reliability											
6.3 Supply Agreement Optimization							X	X	X	X	X
7.1 Operating Procedures	X	X	X				X	X	X	X	X
7.2 Maintenance Procedures	X	X									
8.1 Plant Design & Procurement	X	X	X								
8.2 Equipment Retrofit/Repair/Replace	X	X	X	X							
8.3 Innovation	X	X	X	X	X						
9.1 Metering & Measuring	X	X				X		X	X	X	X
9.2 Reporting		X				X		X	X	X	X
9.3 Documentation		X				X		X	X	X	X
10.1 Achievement											
10.2 Auditing & Feedback											

Figure 2 - Map of EnVinta Management Diagnostic to SDG&E Products & Services

7. Program Outcomes

The specific actions and milestones for the program are included in Section 9.

In summary, the IEEA program will target 80 companies and will aim to engage 40 large (e.g. >$400,000 p.a. energy spend) industrial businesses for participation. EnVinta will work with industry associations and SDG&E account managers to help recruit customers to the program. All participants will be engaged in a management diagnostic, resulting in a 180-day savings plan and practices benchmarking report comparing business practice against peers. Customers will be provided with consulting follow-up, linked to SDG&E's DSM programs that best address their identified needs, and to self-help tools to support management system improvements.

Based on past programs, EnVinta expects 65-75% of participants at this stage to implement energy efficiency improvements as a direct result of the program. On a competitive basis, 10 participants would be offered the opportunity to participate in a more intensive support phase (Steps 3 and 4) of the program moving them towards achievement of greater energy savings. These companies will be 'coached' through consulting support for the client team to define and implement energy savings activities and practice changes that can be implemented in their first 180-day plan.

Participating companies will contribute 50% of the cost of coaching. These companies are expected to identify savings of at least 3-5% of their existing electricity use and often significant load management opportunities (experience shows that some of these companies ultimately achieve up to 10-15% energy savings). The cycle will then continue with a repeat diagnostic and updated savings plan for the next 180-days. This implementation process is illustrated in Figure 1 above.

A discussion of the demonstrated success and impacts of the proposed program approach in other utility service territories is presented in Appendix 1.

The program will generate savings in the following ways:

- By engaging senior industry decision makers in energy management, helping businesses to define their key energy management needs, and establishing processes to support achievement of on-going improvements;
- By opening up communication within businesses around energy management to identify current barriers to implementation, the development of implementation strategies will overcome the barriers;
- By providing coaching support to facilitate implementation of energy efficiency within organizations;
- By increasing the range of savings targeted by DSM programs through effectively targeting and achieving operations and maintenance savings in core process. This allows for further substantial enhancement in sector savings;

- By driving on-going demand for DSM through a continuous improvement approach. The program supports implementation of critical changes in management policies and practices, creating a much larger pool of committed companies conducting repeat energy projects on their own merit. These improvements include establishment of formal savings policies/commitments, targets and key performance indicators/metrics, enhanced management reporting, equipment procurement procedures, personnel accountabilities, operations and maintenance procedures (focused on energy intensive processes), and enhanced procedures relating to quality of supply and load management;
- Through increased program participation in the full range of SDG&E's DSM programs. IEEA exposes senior managers to SDG&E's programs, and effectively links customer needs to the programs to greatly increase the uptake of the DSM programs;
- By substantially enhancing the marketing of SDG&E's DSM programs to industrial customers by providing a customer-focused and integrated view of energy and SDG&E's DSM offerings to customers. IEEA assists companies to review all aspects of energy management (energy efficiency, purchasing and rates, load response, and quality of supply/distributed generation) to prioritize their needs. These are used to define DSM programs that best meet these needs. Most customers do not understand their business energy needs until they conduct this process.

A key saving effect from this program will come from substantially increasing participation rates in SDG&E's programs. This increased participation is expected to be realized through one of the following general outcomes:

- Participants completing Steps 1 and 2 only. These participants will conduct direct implementation of energy efficiency projects/measures identified in both the management diagnostic process and the high level technical audit and implemented with the support of other SDG&E program offerings.
- Participants completing Steps 3 and 4. Outcomes will be achieved by identification, analysis, and implementation of energy efficiency projects/measures through the continued implementation support and coaching aspects of the program. These customers are expected to achieve average energy/demand savings of 3% of initial usage during the program period, with on-going and increasing savings being generated over time.

8. Program Strategy

The program will utilize the following strategies to achieve the outcomes and objectives detailed in sections 7 and 9:

- Nonresidential Targeted Marketing;
- Nonresidential Energy Management Services;

- Nonresidential Audits;
- Nonresidential Benchmarking;
- Nonresidential Downstream Training;

As discussed in Section 6, the IEEA program will substantially increase penetration rates of existing and new SDG&E DSM programs among large industrial businesses. The program will achieve this by incorporating linkages to new and existing SDG&E programs as detailed in Section 6 including:

- Nonresidential Downstream Deemed Rebates;
- Nonresidential Building Calculated Rebates;
- Nonresidential Process Calculated Rebates;
- Nonresidential Appliance Early Retirement;
- Nonresidential Financing;
- Nonresidential New Construction;
- Nonresidential Building Design Assistance;
- Nonresidential Building Commissioning;
- Nonresidential Direct Install.

A draft map of links between SDG&E programs and EnVinta's management diagnostic proposed for the program is provided in figure 2.

8.1.1. Program Strategy Description

The EnVinta IEEA program is a fundamentally innovative approach to energy management, utilizing a business based methodology that is well accepted and commonly used within business, and adapted to address energy management. The program is based on building top management commitment and staff competency to substantially reduce barriers to success and to initiate and support an on-going savings process.

Nonresidential Targeted Marketing

The program's marketing strategy is to qualify and then engage with potential program participants, both through a direct marketing approach and through industry associations;

- To minimize SDG&E investments in marketing and to improve program success rates, potential participants will be qualified based on proven success factors;

- To confirm business commitment to implementing outcomes from the program, the program will utilize a 2 stage process for gaining executive level commitment;
- Case study materials from the results of early participants will be utilized to further promote the program;
- Further details on marketing are included in section 16. Proposed marketing and customer targeting deliverables and due dates for the program are outlined in Section 9;

Nonresidential Energy Management Services

The energy management services strategy includes:

- A methodology for engaging executive level decision makers in large industrial businesses to influence change in business practices;
- Using a business-based decision making tool to enable business managers to self evaluate their current business practices, highlight current strengths and weaknesses and identify opportunities for improvement;
- A holistic program which addresses and integrates all the elements of SDG&E's DSM programs including energy efficiency, demand response, rates, etc to allow a customized offering to be generated based on identified customer needs;
- A continuous improvement methodology which encourages the integration of energy management into existing company systems, such as quality and environmental, so it becomes a core part of business;
- Involving companies in an on-going commitment to continuous improvement, rather than just selling a series of one-off projects.
- Supporting the creation of a permanent and successful market for energy efficiency;
- Specific activities are detailed in Section 10 including:
  - Step 2.1 detailing the energy management diagnostic session;
  - Step 2.2 detailing the energy data review and identification of opportunities;
  - Step 3.2 outlines the detailed planning, coaching and facilitation support provided;
  - Step 4 outlines the process for repeating the energy management diagnostic process to drive continuous improvement;
- Proposed energy management services deliverables and due dates for the program are outlined in Section 9;

Nonresidential Audits

The strategy for the high level technical review is to work with participants to facilitate the identification of initial technical opportunities for improvement, and inclusion in the business's strategic action plan. Furthermore identified opportunities will be linked to appropriate SDG&E's DSM products and services for incorporation into the plan.

- Details are included in Section 10, Step 2.2. Proposed deliverables for the high level technical review and due dates are outlined in Section 9;

Nonresidential Benchmarking

The benchmarking process will compare business' energy performance against peers in a 1300 organization user database to drive competitive improvement. Each business will be provided with a comprehensive benchmarking report summarizing the level of development of energy management practices against other businesses in their sector and other organizations worldwide.

- Further details are included in Section 10, Step 2.2.1. Proposed deliverables and due dates for the benchmarking report are included in section 9;

Nonresidential Downstream Training

The program includes downstream training in the form of coaching, providing consulting assistance to work with the company team as a coach to overcome obstacles to progress and support on-going achievement of savings.

- To improve business buy-in and energy saving outcomes, participants will be required to contribute 50% towards the coaching support;
- Support in implementing priority changes in management policies and practices in three key categories will be provided:
  - Guidance on management system improvements;
  - Assisting with reviews of existing operations and maintenance procedures;
  - Providing advice to improve participant's capability to deliver outcomes;
- Further details are included in Section 10, Step 3.2. Proposed deliverables and due dates for the training are included in section 9;

8.1.2. Program Indicators

The program will utilize a mixture of indicators to internally track the success of each program strategy. Proposed indicators include:

Nonresidential Targeted Marketing

- Number of customer contacts made;
- Number of new participant businesses recruited into the program;

Nonresidential Energy Management Services

- Number of energy management diagnostics conducted;
- Number of final reports presented to business management;
- Customer satisfaction of energy management services measured through surveys to be conducted with each participant as detailed in Section 15;
- Energy savings opportunities identified with each participant;
- Energy savings as a percentage savings of total energy consumption;
- Linkages between the program and SDG&E programs;

Nonresidential Audits

- Number of high level technical reviews conducted;
- Customer satisfaction with high level technical reviews measured through customer surveys to be conducted with each participant as detailed in Section 15;
- Energy savings opportunities identified with each participant;
- Energy savings as a percentage savings of total energy consumption;

Nonresidential Benchmarking

- Number of energy management benchmarking reports delivered to businesses;
- Customer satisfaction with benchmarking reports measured through customer surveys to be conducted with each participant as detailed in Section 15;

Nonresidential Downstream Training

- Number of businesses signing the program Memorandum of Understanding;
- Number of second energy management diagnostic sessions conducted;
- Progress in implementing energy management practices and systems as measured in the second energy management diagnostic session progress report;
- Percentage of identified energy savings implemented.
- Customer satisfaction with training delivered measured through customer surveys to be conducted with each participant as detailed in Section 15;

9. Program Objectives

Proposed deliverables and due dates for the program are outlined below.

Marketing

Preparation of marketing materials within 3 weeks of contact award for SDG&E review/approval including:

- Program brochure including flow diagrams, program description and value proposition;
- Program Introductory Presentation for use in meetings with target businesses, conferences and industry association meetings;
- Industry association sign off;
- Memorandum of Understanding for engaging businesses from Stage 3.1 of the program;
- All materials shall be developed in close consultation with SDG&E and approved by SDG&E prior to use;

Customer Targeting

- Prioritizing target customers based on business characteristics (such and ISO 9000 certification, participation in earlier voluntary programs) and industry association recommendation/response to e-mailer, within 5 weeks of contract award;
- Commence customer marketing and marketing through industry associations from 5 weeks of contract award;
- Develop a feedback survey question set. This will be done within one month of receiving approval to proceed;

Energy Efficiency program activities

- Conduct energy management diagnostic with each program participant within 3 months of business enrolling in program (based on business availability);
- Conduct high level technical review with each program participant within 3 months of business enrolling in program (based on business availability);
- Provide energy management diagnostic, high level technical review and energy management benchmarking reports within 2 weeks of conducting energy management diagnostics;
- For the 10 businesses entering Step 3 and 4, provide detailed implementation support and conduct second energy management diagnostic review (progress report) within 12 months of business signing MoU.

Energy Saving objectives are included in Section 7.

Program Results Marketing:

During the course of the program we will prepare 6 case studies on business success stories including outcomes for the business and energy savings. These will be reviewed and approved by both the business and SDG&E prior to release.

Case studies will be distributed through industry associations for publication, with an option for SDG&E to include them on the SDG&E website as appropriate. Additionally, case study participants will be encouraged to provide presentations on their experiences and outcomes,

Overall outcomes of the program will also be summarized in program completion report as discussed below. Program results will be distributed through appropriate channels as approved by SDG&E.

Following a successful program, a broader program can very readily be adapted to the university sector, hospitals and owner occupied commercial buildings (where the methodology has also been successfully applied).

Program Completion

On completion of the project and prior to December 31, 2007, EnVinta will prepare a final written report on the program outcomes. The report will include:

- Program achievements including customer details, numbers of participants in each step, quantitative energy consumption and savings details;
- Customer feedback will be collated in both quantitative and qualitative formats;
- Identified barriers to implementation and how these barriers were overcome;
- Benchmarking of customer energy management practices, strengths and weaknesses of businesses and strategies for overcoming weaknesses;

The final program report will also include:

- Program Challenges;
- Goal Attainment;
- Lessons Learned;
- Program Improvement Recommendations;
- Program next steps proposed / Continued development;

10. Program Implementation

The methodology for program marketing is included in Section 16. The following methodology provides a summary of the services delivered to the customer.

Step 1 - Enrolment of Customers

We will start by working with regional groups such as industry associations, and SDG&E account managers, together with direct approaches to businesses to define the initial target of 80 businesses. In 20 current and previous EnVinta programs that

utilized the same methodology as proposed for IEEA, we have achieved on average 50% participation rate of targeted companies.

Once the customer has confirmed interest in the program, and prior to the initial management diagnostic session, EnVinta will seek a written commitment from business participants. The business will commit to making both senior management and site personnel available to attend the diagnostic and review process and to participate in developing the initial Action Plan.

During this initial diagnostic session we introduce all the key SDG&E programs to the business. The immediate follow up session from the diagnostic will specifically link all the identified customer priorities with the SDG&E programs most appropriate to assist the business. For all customers, EnVinta will provide follow-up calls to the individual business to ensure that the customer was linked with the appropriate programs.

In this way, we not only make each customer aware of and integrate other SDG&E programs, but we also customize the marketing campaign to line up the most appropriate programs for the customer's identified needs. This process will ensure that the account management process is working to its full potential to increase the success of action implementation.

Step 2.1 - Energy Management Diagnostic Session

Following customer enrolment in the program, EnVinta will commence by facilitating an energy management diagnostic session with the business management team of each business. The diagnostic session will be followed by:

- Validation of the diagnostic results;
- A high level technical site audit;
- Preparation of an energy management benchmarking report; and,
- A comprehensive review with the management team.

This allows for a broad identification of opportunities for improvement. The results will be mapped out in an initial 90-180 day action plan that will fully integrate energy management practices benchmarking outcomes and technical recommendations.

Typical participants will include 4-6 of the following; business/plant manager, accountant/finance manager, operations manager, engineering manager, human resource manager, purchasing manager and environmental manager. Early commitment to action is gained and identification of possible barriers to implementation is achieved by having a good cross section of senior decision makers present in this session. The process is summarized in Figure 4.

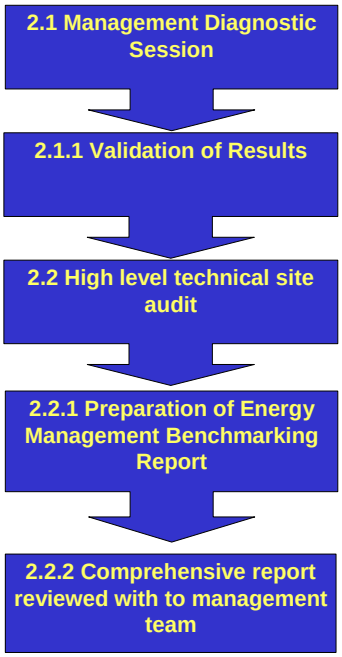


Figure 4 - Step 2 Overview

The EnVinta Team will facilitate a management diagnostic session to assess the ten key areas of importance for driving sustainable energy cost reductions, as shown in Figure 5.

Focus Areas	Description
Leadership	Demonstrating commitment from the senior management team
Understanding	Understanding the opportunities that exist within operation for energy savings
Planning	Developing plans for improvement backed up by key performance indicators to track progress
People	Making the people that utilize energy accountable for its use, as well as investing in people (training) and resource availability
Financial Management	Reviewing capital and operating budgets in relation to energy management
Supply Management	Assessing competitive market energy purchases, as well as reviewing mechanisms employed to ensure a high level of quality and reliability
Operations and Maintenance	Ensuring energy management issues are incorporated into operating and maintenance procedures
Plant and Equipment	Establishing guidelines and evaluations of new designs and innovations to enable energy efficiency to be optimized

Focus Areas	Description
Monitoring and Reporting	Ensuring the right energy flows are metered and that usable reports are developed to track and proactively manage energy
Achievement	Assessing how the operations are performing against established targets and reviewing projects to ensure the right outcomes are achieved

Figure 5 - Energy Management Diagnostic Key Areas

The diagnostic process typically takes less than two hours to complete and establishes the current level of development. It also identifies actions to be incorporated into improvement processes. In particular, the diagnostic session will:

- Identify the opportunities for improvement in business management systems and processes;
- Improve the management team's understanding of SDG&E's DSM products and services;
- Enhance the understanding of senior managers and facility staff regarding the impact of energy on their business and how effectively they manage it;
- Gain buy-in from senior management by demonstrating the benefits of a structured approach to managing energy and provide the company with an appreciation of the gap between desired performance and current achievement;
- Define critical action items (changes in management policies and practices) and the priority order in which they should be implemented to gain the greatest impact at the lowest cost;
- Link critical actions to existing SDG&E DSM services and,
- Provide an indication of potential savings.

The outputs from the session will include clear actions for improvement of business practices for energy management. Businesses will receive a benchmark report showing their management practices relative to other organizations in their sector. A preliminary mapping of EnVinta's IEEA Program elements and SDG&E's current DSM services is provided in Figure 2.

The process includes an essential validation step immediately after the diagnostic session. The participating business management team provides consensus answers to the questions during the session. The validation process after the session will involve structured discussions with the management team independently, as well as discussions with other staff members using a standard template. The aim is to confirm the management team's answers during the assessment to ensure that their stated systems and processes are actually in place and that they have been fully implemented. For example, if a participant has a policy/procedure for the use of high efficiency motors, then the check will be to ensure the policy/procedure is up to date and that it is consistently implemented in practice (e.g., by reviewing the process for the last ten motor purchases).

During the participant discussions to validate results, the level of acceptance of the results of the management diagnostic session will be determined and any concerns addressed. In addition, the identified priority actions will be discussed and confirmed. The results will be incorporated in reports developed by the EnVinta team, including diagnostic outcomes customized to incorporate issues raised, site findings, links to SDG&E's DSM products and services, and benchmarking. This information will be used as a basis for the company to develop business action plans.

Step **2.2 - Energy Data Review and Identification of Opportunities**

The EnVinta Team will work with participants to conduct an initial opportunities review to review existing energy data and historical energy management actions and inspect the site. The focus of this part of the exercise is to facilitate the identification of initial technical opportunities for improvement to include in their strategic action plan. We will also identify which of SDG&E's existing DSM products and services should be incorporated into the plan.

Our continuous improvement process involves change implementation through a series of short-term (90-180 day) action plans that are implemented, reviewed for results, and then updated to reflect new priority action items.

The EnVinta team will work with the business management team to draft an initial set of actions (see '7.4 Detailed Critical Action Item Report' below) to be implemented in the first 180-day implementation period. Engaging site personnel enables the program to use the initial action planning process (typically conducted in one week) to begin coaching personnel in developing specific performance metrics and energy data monitoring requirements. Areas requiring continued coaching assistance will be highlighted in the action plan. There are two components to Step 2.2

2.2.1 Preparation of Energy Management Benchmarking Report

Results are confidentially benchmarked against peer firms with similar usage and annual expenditures. At present, EnVinta's management diagnostic database holds energy and management benchmark data from more than 1,300 sites. The database provides robust detail to allow participating firms to make comparisons to their worldwide competitors and peers. Participating firms use these benchmark rankings not only in comparing their performance with industry peers, but also in measuring their own progress over time.

2.2.2 Preparation of Detailed Critical Action Item Report and Review with Management Team

The EnVinta team will work with participants to draft a detailed critical Action Item Report, including key business practice and technical savings action items and a timetable assigning responsibility for implementation. Throughout this process, we will transfer full ownership of the process to

the company by coaching the participants, providing technical expertise, and giving external encouragement to implement improvements.

The EnVinta project team will work to gain management team commitment and proceed with detailed action planning and implementation. Typical Action Item Reports include both management and facility-oriented recommendations, each of which is prioritized for action. Example recommendations may include:

- Generate monthly reports depicting overall energy use per unit of activity (e.g. kWh per ton) and examine results where large cost or usage variance from target is shown;
- Design and implement performance metrics for maintenance staff relating to speed and effectiveness of response to eliminating energy waste and responding to any efficiency deterioration of energy-intensive equipment;
- Arrange for an executive-level officer to sign an energy policy or directive containing specific goals and objectives for improving energy efficiency and reducing energy costs;
- Establish protocols to ensure energy efficiency guidelines are routinely applied in the replacement of energy using equipment;
- Identify facility and process-specific technical recommendations for energy-saving operational and capital projects including actions to drive savings in core processes.

Each of the facilities committed to proceeding further will be eligible for assistance with the development of more comprehensive action plans for the priority actions, including a full map of the steps necessary to complete each action and the identification of timelines and required personnel. The EnVinta team will support the site team through this process to ensure consistency with elements of the broad action plan, thoroughly addressing both technical opportunities and identified management policy changes.

At this stage we will coordinate as appropriate with SDG&E account representatives to investigate past experience, if any, in other programmatic activities and link to external programs that may deliver supporting services (e.g. energy audits, rebates, technical operator training, etc). The EnVinta team will actively market suitable DSM programs to participants to encourage them to fully utilize these programs to better define technical opportunities, implement their plans, and achieve their objectives.

Step 3.1 - Sign Program Memorandum of Understanding

At this point in the EnVinta IEEA program, 10 companies will compete to gain access to an additional level of program assistance, commencing with a

Memorandum of Understanding (MoU) agreement. The MoU will document a company's commitment to implementing identified critical action items and to provide in-kind contribution of time and materials equal to 50 percent of the program's ongoing assistance. Not all of the customers who complete the management diagnostic will need to proceed further within the program (some will integrate findings into their business process without further assistance; others may decide to defer consideration of management changes to a future date).

Step 3.2 - Detailed Planning and Implementation

The management diagnostic, benchmarking and action plan described above provide senior management and facility staff with a foundation for changing management policies and practices to improve the energy performance of their companies.

EnVinta's program differs from traditional approaches in its ability to focus on management policies and procedures leading to the identification of opportunities for longer-term process improvements, as well as short-term operational savings. The program will establish linkages with SDG&E's DSM program services to complement the EnVinta team's industrial expertise, which, in combination with the program's focus on continuous improvement in corporate management, ensures the ability to tap into the reservoir of the industrial sector's energy savings potential.

The EnVinta team will support participants in the implementation of the identified priority changes in management policies and practices. In particular, this task includes provision of support as required in three broad areas (support to be tailored to meet the needs of individual businesses):

- Provide guidance on management system improvements, including establishment of key performance indicators and control metrics, opportunities for improvements to management reporting and data handling, establishment of policies and procedures, etc. In addition to guidance and coaching, we will provide templates and assistance on policies such as overall savings targets, equipment procurement, personnel accountabilities, operations and maintenance procedures;
- Assist with reviews of existing operations and maintenance procedures focused on energy-intensive processes and equipment, including establishing parameters for improvement, updating existing procedures, with particular emphasis on changes that improve production capacity or quality;
- Provide advice to improve participant's capability to deliver outcomes, including advice and support on all operations and capital investment issues to improve energy performance and control.

These elements of technical assistance (support and coaching) are unique to the IEEA program and help leverage the technical capabilities of facility personnel to achieve the right outcomes.

Step 4 - Repeat Diagnostic

Within six months of a participant's initial diagnostic, the EnVinta Team will conduct a progress review with each of the 10 companies that participate in the "Coaching phase" of the program, and repeat the management diagnostic sessions described above in Step 2. This marks the beginning of the continual improvement process and documents the implementation of changes in management policies and practices and of improvements in energy performance.

The repeat diagnostic will provide participants with an updated 180-day plan with a new set of critical action items to further improve business practices, as some or all of the previous critical action items will have been implemented. This updated plan of action, focused on a new set of priorities, is a key part of the ongoing continuous improvement process.

Step 5 - Documentation and Case Studies

An important component of the program design is to disseminate program outcomes to participants and non-participants. The team will develop case studies that will document successes and "lessons learned". The case studies will be distributed to industry associations, for broad dissemination to members of other targeted industry sectors, and to utility account representatives.

11. Customer Description

The program will be open to all Industrial businesses consuming more than $400,000 per year in energy. The program has proven track record in a broad cross section of industrial sectors including, but not limited to, Food, Paper, Printing, Chemicals, Rubber/Plastics, Stone/Clay/Glass, Metals, Industrial Machinery, Electronics, Transport Equipment and Instruments.

12. Customer Interface

The program will be presented to customers as a business-based program and one that is very similar to other internal management practices based programs, such as programs for quality or environmental management. So when the program is described for example as equivalent to a 'quality program for energy', businesses have a great deal of familiarity and a high level of acceptance.

The program will be made easy to use by:

- Utilizing proven energy management diagnostic tools to quickly and effectively work with businesses in a structured environment, to identify barriers, strategies for overcoming barriers, and critical actions for improvement;
- Conducting diagnostic sessions with accredited expert facilitators;
- Utilizing a proven program methodology that has been refined and streamlined through extensive application internationally;

- Proving coaching support and hand holding to guide businesses through the program on a step by step basis through the program;
- Proving businesses with a transparent program structure with clearly defined milestones, responsibilities and timeframes;

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

N/A

13.2. kWh Level Data

N/A

13.3. Non-energy Activities

The program is built around delivery of a suite of energy management services. Details of the services are provided in Section 10. The services include energy management diagnostics, technical reviews, implementation advice and coaching.

13.3.1. Activity Description

Provided in Section 10.

13.3.2. Quantitative Activity Goals

Provided in Sections 7 and 9.

13.3.3. Assigned attributes of the activity (market sector, end use)

The program is targeted at all industrial businesses consuming greater than $400,000 per year in energy. The program covers all forms of energy and end use within industrial businesses, including process optimization, motor and drive systems, pumping systems, heating and refrigeration, materials handing, operating and maintenance procedures, technology upgrades, re-commissioning, purchase of new equipment, new site developments, etc. Details of the activities are provided in Section 10 (Program Implementation).

14. Subcontractor Activities

EnVinta is exceptionally well-qualified and experienced to provide the proposed program. We have unique expertise in engaging senior decision-makers in the energy management process as well as instituting the required business practices to

insure savings from technical solutions are sustainable over time (See Appendix 1 - Experience and Demonstrated Success Section).

We plan to utilize Nexant and Hatch Energy Consulting as local subcontractors to supplement EnVinta resources to support aspects of steps 2 through 4 with some customers. Specifically, the subcontractors will provide support in the following areas:

- Management diagnostic support,
- Technical site reviews and,
- Implementation coaching

EnVinta will retain all responsibility for program management, marketing, recruitment, implementation, and most importantly - insuring program success.

We would be pleased to provide full details of team members, program organizational chart, responsibilities and resumes on request.

15. Quality Assurance and Evaluation Activities

EnVinta will utilize its standard structured quality assurance process as detailed in EnVinta RFI for this program. This will be applied throughout the program to control customer interactions, outputs and documentation.

Customer Satisfaction

EnVinta applies a continuous improvement methodology to all of our programs. We will therefore seek to measure the value of the program to customers, and to use this feedback to improve the process. The repeat diagnostic (Step 4) will provide us with the perfect opportunity to seek feedback from customers.

We will seek feedback from customers both formally and informally during the program. Formal feedback will be gathered via a customer satisfaction survey for every customer to assess:

- Value received by the customer;
- Linkages between the program and SDG&E programs;
- Customer desire to continue the program;
- Opportunities for the customer to refer the program to industry peers;
- Relevance of the program to the customer;
- How the program can be improved;

Addressing Customer Satisfaction Issues

Overall program success will hinge not only on EnVinta's performance during program implementation, but also on the quality and responsiveness of our customer service should any problems arise. We will therefore have in place customer dispute resolution capabilities with office-based customer service representatives who will communicate any issues immediately to the program manager or other appropriate personnel.

While our entire quality assurance philosophy is centered on doing the job right the first time every time, we also have a methodology for dealing with customer complaints. Part of the success in complaint resolution is to quickly address and begin to resolve the problem. Therefore any complaints received regarding the program will be answered in no more than three days. Every endeavor will be made to resolve complaint issues and reach a satisfactory outcome in no more than ten days.

The program will maintain a tracking register of all customer complaints regarding the program. The program team will contact each individual submitting a complaint, and document the complaint and the resolution method in the program database. The conversation will be followed up with a confirmation letter. The register will be updated in real time allowing the program team to review inputs to see if any trends are evident, allowing us to proactively adjust services (if required) to better meet customer expectations.

Expected number/percent of inspections (planned percent of projects)
All customers will be asked to provide formal feedback on the program.
A key principle of the program is to drive a process of continuous improvement. Our program includes feedback stages as an integral component of the process. EnVinta will seek feedback at set points in the program:

- Step 4 of the process, the repeat energy management diagnostic, immediately provides feedback on the effectiveness of the program. We typically expect to see an improvement in the 'Star Rating' for the site, and a failure to improve the rating means that management has not bought into the improvement process. In this case we would seek to address the problem by identifying an appropriate set of 'quick wins' that will demonstrate the value of the program;
- Throughout the duration of the program we will continually seek feedback on the effectiveness, strengths and weaknesses of our continuous improvement methodology;
- The final step (Documentation and Case Studies) will further identify strengths and weaknesses of our program.

16. Marketing Activities

The foundation of EnVinta's marketing plan is to qualify and then engage with potential program participants, both through a direct marketing approach and

through industry associations. Working with the industry associations will help to market the program as associations are in a unique position to identify and pre-qualify candidate program participants. Additionally the EnVinta team will develop case study materials from the results of early participants and work with highly visible industry leaders to further promote the program.

During the initial steps of the program's marketing approach to recruit businesses, EnVinta will work from industry association's customer lists, and EnVinta's own business contacts. By using this approach, we will be able to identify the firms within targeted industries that are most likely to benefit from the program offerings.

Program marketing and implementation activities will be conducted in close coordination with SDG&E's Account and Project Managers. Optional attendance of SDG&E representatives during diagnostic sessions and other downstream activities conducted with site personnel is available. Attendance by SDG&E at these sessions will enhance SDG&E's already strong business customer relationships by demonstrating customer programs that add value and assist businesses with other energy management programs. As appropriate, the program's marketing efforts will also include development of supplement materials for use by SDG&E representatives to support customer outreach efforts.

We will target 80 customers with the aim to engage 40 large industrial businesses in stages 1 and 2 of the program. Based on experience, we are confident of these outcomes. Even in pilot programs where EnVinta has cold called businesses on behalf of utilities, with no utility or association support, we have achieved 50% acceptance of the program. This penetration rate reflects the high degree of business acceptance of the methodology. During the course of stages 1 and 2, the offering of stages 3 and 4 will be promoted to business and offered on a competitive basis.

16.1 Effective Business Targeting

To minimize SDG&E investments in marketing and to improve program success rates, in qualifying early potential participants, priority will be given to targeting those businesses that:

- Are seeking solutions to improve business efficiency;
- Are not struggling for survival;
- Have already adopted recognized management standards (e.g., ISO 9000, ISO 14000, Six Sigma etc.);
- Are recommended by industry associations and other allies.

16.2 Business Commitment Agreement

To confirm business commitment to implementing outcomes from the program we will utilize a 2 stage process for gaining executive level commitment. The commitment agreement will be based on proven EnVinta

experience in engaging senior executives, increasing the transparency of the program structure and in doing so, reducing barriers to businesses joining the program. The commitment process also helps to screen out business that have no intention of taking action at this time, thereby avoiding wasted time and effort.

Enrolment in EnVinta's IEEA program will take the form of a two-stage process.

Stage 1

Prior to the initial management diagnostic session, EnVinta will seek a written commitment from business participants. The business will commit to making both senior management and site personnel available to attend the diagnostic and review process and to participate in developing the initial Action Plan.

During this initial diagnostic session we introduce all the key SDG&E programs to the business. The immediate follow up session from the diagnostic will specifically link all the identified customer priorities with the SDG&E programs most appropriate to assist the business.

In this way, we not only make each customer aware of, and integrate with, other SDG&E programs, but we also customize the marketing campaign to line up the most appropriate programs for the customer's identified needs. This process will ensure that the account management process is working to its full potential to increase the success of action implementation.

Stage 2

The second stage of the enrolment process occurs after a participant has received its Management Benchmarking Report and Action Plan. Participants will be given the opportunity to enroll in the more intensive implementation phase of the program (Steps 3 and 4). This will be offered on a competitive basis with limited entry.

Participants will be required to sign a Memorandum of Understanding (example available on request). The document will be a voluntary agreement confirming that the business will implement cost-effective action items and contribute time and materials to match the support provided through the program.

Participants enrolling in the intensive implementation phase (Steps 3 and 4) will be eligible to receive technical assistance associated with the detailed planning and implementation support for their energy savings program. This support will lead to greater realized savings and will include savings not commonly captured by traditional DSM programs, as it includes changes to core processes, operating procedures and maintenance programs. Additionally, as the program progresses, EnVinta will run information sessions through industry association meetings to

highlight savings achieved and promote industry leaders in energy savings.

16.3 Marketing Materials

EnVinta will prepare professional marketing materials in hard copy, PDF and PowerPoint format for mailing and presenting to prospective businesses. The marketing materials will clearly convey the value proposition to the business of program participation. Materials will be supported by case studies detailing business achievements from programs using the program principals. Materials will include

- Program brochure to include flow diagrams, program description and value proposition;
- Program introductory presentation for use in meetings with target businesses, conferences and industry association meetings;
- All materials shall be developed in close consultation with SDG&E and approved by SDG&E prior to use;

17. CPUC Objective

The program meets the following CPUC objectives:

Objective #1 "Cost effective energy efficiency should be first in the "loading order" of resources"

The program will achieve this objective by engaging executive level decision makers of large industrial sized businesses in energy management and helping to develop implementation strategies that link closely with SDG&E existing products and services.

As detailed in Section 5, large industrial businesses are seeking strategic advice on energy management supported by tactical support on the implementation of specific energy efficiency measures.

The program will provide decision makers with immediate outcomes, practical strategies, and coaching support to implement cost effective energy savings opportunities.

Objective #2 "Pursue all cost effective energy efficiency opportunities over both the short and long term"

The program will achieve this objective by providing each business with both long term strategies for reducing energy costs and short term cost effective recommendations.

The management diagnostic process is one that is based around changing business practices and driving a process of continuous improvement so businesses build sustainable business practices for managing energy and sustain savings.

Example of outcomes from a diagnostic are provided in Step 2.2.2 (in Section 10).

Objective #3 " Energy efficiency activities funded by ratepayers should focus on programs that serve as alternatives to more costly supply side resource options"

The program will achieve this objective by providing a proven process for engaging executive level decision makers and identifying for them both strategic long term, cost-effective, opportunities to reduce energy costs.

The program will provide coaching and support to businesses in implementing energy savings that are more cost effective alternatives to supply side resource options. Furthermore the program will drive rapid and increased up-take of SDG&E's DSM products and services within Industrial customers.

Objective #4and #5 Minimizing Lost opportunities

EnVinta's program uses a novel but proven approach that takes a holistic approach to energy management. Integral to the approach are strategies to minimize Lost Opportunities including:

- Gaining early Senior Management commitment and support to implement continuous improvement practices for energy management
- Building management practices and business systems to ensure businesses have formal systems in place for tracking energy use and actively managing energy costs;
- The program is based around a process for continuous improvement that drives on-going improvement in energy management;
- Enabling business decision makers to see the 'big-picture and develop long term strategies in parallel with shorter term plans;
- Providing businesses with implementation coaching to assist in the development of formal systems and long term strategies.

Objective #5 Lower peak loads

In addition to identifying opportunities to reduce base load, the program includes identification and implementation support on opportunities for demand management/peak load reduction. In particular it assesses opportunities for:

- Maximum demand control;
- Load shedding;
- Utilizing time-of-use charging and utility tariff incentives;
- Cogeneration and on site generation;

Linkages between the management diagnostic process and SDG&E's existing demand response programs are shown in figure 2. The management diagnostic also includes evaluation of on-site generation, renewable and co-generation options. Initial business practices evaluations will be conducted with the executive team and

as appropriate the high level technical assessments will be conducted with line-level personnel.

Appendix 1: EnVinta's Experience and Demonstrated Success of Proposed Program

EnVinta's Experience

EnVinta Corporation is a global leader in the development and deployment of energy and environmental products and services for commercial, institutional, industrial and utility users.

The EnVinta Group was founded in 1984 as Energetics Pty Limited, a privately owned Australian company. EnVinta was first incorporated in the State of California in 1999, and is now registered in the State of Delaware. We are headquartered in Exton, PA with additional offices in San Francisco and Sacramento, California and Austin, Texas.

EnVinta has taken the intellectual assets amassed by Energetics (the predominant supplier of energy and utility management solutions in Australia) and converted this knowledge and expertise into software tools that can be used by organizations to adopt strategic, enterprise-wide energy and environmental management programs. Products include our range of on-line and CD based Energy, Water and Waste Conservation tools, including Challenger™, Achiever™ and One-2-Five®. We have also developed EnTERPRIZE.EM™, an on-line energy tracking system.

EnVinta took its first steps to transform the traditional, technically focused approach generally used in energy audits/savings programs for businesses and government in 1997. This methodology looks at both energy savings technologies and importantly, the business practices in place to support change. EnVinta has assisted, and continues to support, organizations and utilities globally to prioritize, plan and continuously improve key aspects of their energy supply and usage by utilizing this methodology.

Demonstrated Success of Proposed Program

Summaries of key EnVinta representative project experience are outlined below. Further details and specific client contact details are available on request.

EnVinta has been providing similar services for the better part of the last decade and is currently engaged with numerous utilities across the world using our various product lines. The list below includes some of the customers that are using our diagnostic products.

Northwest Energy Efficiency Alliance (Oregon, Utah, Washington, Idaho, Montana), Ohio Department of Development (Ohio), Illinois DCEO (Illinois), Alliant Energy (Wisconsin & Iowa), MidAmerican Energy (Iowa), Xcel Energy (Wisconsin & Minnesota), Wisconsin Focus on Energy Program (Wisconsin), Wisconsin Public Service (Wisconsin), Nicor Gas (Illinois), WE Energies (Wisconsin), Northeast Utilities (Connecticut), United Illuminating (Connecticut), Western Mass (Massachusetts), Maine PUC, Efficiency Maine Program (Maine), Bonneville Power Authority (Washington, Oregon, Montana), Siemens (Europe & So America), BP (Global), BC Hydro (British Columbia, Canada), Texas

Industries of the Future (Texas), Madison Gas & Electric (Wisconsin), Sydney Water (Australia), Contact Energy (New Zealand), Mercury Energy (New Zealand), and Meridian Energy (New Zealand).

Specific client references include:

Xcel Energy - EnVinta's One-2-Five and Achiever to Boost Energy Efficiency Programs

Xcel Energy is taking energy efficiency to new levels by delivering highly effective energy efficiency programs to its' business customers. To quote Oscar Brandser, Xcel Energy account manager in Eau Claire, "We want our customers to be profitable and energy is a big part of the cost of doing business. As long as Wisconsin businesses thrive, we will too."[1]

Xcel Energy has put its money where its mouth is. To reduce the energy consumption of its customers, Xcel Energy integrated a package of energy management tools consisting of EnVinta's One-2-Five and Energy Achiever programs, customer training, interactive software, collaborative account management planning and coordination with the State of Wisconsin's "Focus on Energy" program. Xcel Energy has successfully launched and implemented this new and innovative approach to partner with business customers and help them boost their profitability by improving energy efficiency.

One-2-Five is the global standard process for larger energy using companies to evaluate existing business practices for energy, and implementing effective continuous improvement management programs. It is the quality system for energy. Energy business practices for 1300 sites are benchmarked on the One-2-Five information base. Energy Achiever is a "lighter" version of the One-2-Five Energy tool that has been used by over 1,000 corporations globally.

Over the first 18 months, account managers within Xcel Energy have achieved a high rate of implementation and significantly boosted customer satisfaction ratings within a relatively small utility service territory. By October 2004, 16 EnVinta One-2-Five evaluations (plus repeat sessions) and 11 EnVinta Energy Achiever diagnostic sessions had been conducted.

Xcel Energy's customers have also achieved some impressive measures through the program. As at October 2004, 18 customers had implemented the following: Total kWh savings (to May 2004): 4.1 million kWh, Total kWh savings (identified): 12.9 million kWh, Total therm savings (to date): 903,998 therms, Total therm savings (identified): 924,000 therms.

Bob Schultz, the Xcel Energy account manager for the WI region area talks about past programs run by Xcel WI, "The problem was, due to other priorities, organizations would pick out a couple of suggestions and then move on to other priority issues. Today, we engage the customer more effectively and involve more of their staff. We don't want an individual to shoulder the burden. And we

provide diagnostic tools, from software to equipment for people. We call this a 'teach-to-fish' approach."[2]

The program has clearly demonstrated the success of a radically different model of energy efficiency/DSM programs when compared to those currently used across the country. Most energy efficiency programs currently conduct an energy audit and then provide incentives to encourage energy savings. Xcel Energy's new and innovative model is a continuous improvement approach. Using EnVinta's One-2-Five and Energy Achiever programs with support from the utility team, the program raises the commitment and competency of customers to generate ongoing savings. With a strong focus on energy and customer satisfaction levels, the program has demonstrated a true partnership between utility staff and their customers, and has had an extraordinary impact to date.

MidAmerican Energy Using EnVinta's Methodology for Business Energy Efficiency Programs

MidAmerican Energy, the highest ranked utility in the nation for business customer satisfaction according to the J.D. Power and Associates 2005 Electric Utility Business Customer Satisfaction Study, has an excellent reputation for customer service, and delivers highly effective energy efficiency programs. MidAmerican, seeking new ways to ensure a high level of participation in its energy efficiency programs by their business customers, uses EnVinta's One-2-Five Energy process.

In 2004, MidAmerican conducted a pilot program to evaluate EnVinta's One-2-Five Energy process with 15 large customers and Energy Achiever with 10 mid-sized businesses. One-2-Five is the global standard process for larger energy-using companies to evaluate existing business practices for energy and to drive on-going energy management programs. Customers have the opportunity to have their energy business practices benchmarked against 1,300 other sites. In addition to achieving high levels of customer satisfaction, the pilot led to implementation of follow-up services for 65 percent of the pilot participants, identification of energy-saving project opportunities, and development of relationships with higher level decision-makers.

Following the pilot, MidAmerican committed to license One-2-Five Energy and Energy Achiever for its 2005 programs, and will use the process to partner with business customers to help them boost their profitability by improving energy efficiency.

Rick Leuthauser, MidAmerican's manager of energy efficiency, stated the One-2-Five process will help MidAmerican promote its energy efficiency programs in a long-term partnership to help its customers achieve their energy-related goals. "It provides the missing element to fully engage companies at the senior management level," Leuthauser said, "and helps our customers continuously improve management of energy resources".

2006-2008 Energy Efficiency Programs
EnVinta: Industrial Energy Efficiency Acceleration Program
Concept Paper

State of Ohio, Department of Development Extends Use of One-2-Five Energy for Third Year

As part of their manufacturing economic development and retention program, the State of Ohio has funded activities to improve the competitiveness of local industries through improved energy efficiency and business management practices. Initially the program focused on energy audits and technical support but had limited success. DOD was therefore looking for a complementary approach to help them engage companies from top management down in order to achieve sustained energy savings.

In 2002, following a successful pilot, DOD contracted EnVinta to license its One-2-Five Energy process and software as the centerpiece of their customer contact program.

One-2-Five is the global standard process for larger energy using companies to evaluate their existing business practices for energy. The process engages implement effective continuous improvement management programs. It is the quality system for energy. Energy business practices for 1300 sites are benchmarked on the One-2-Five information base.

The current DOD program includes the One-2-Five diagnostic, and a 50% subsidy for energy management planning, savings plan development and on-going technical opportunities review. DOD is adding low interest loans for implementing savings projects as an additional incentive in 2005.

Program Manager, Tony Sutor, has been involved with the One-2-Five Program from the beginning of its use at DOD. ‘Previously the Department had run purely technical programs based around energy audits and we found that these identified savings were largely never implemented. We were looking for a process to convince the management teams for Ohio’s manufacturers to engage in an on-going sustainable approach to managing energy, which would deliver sustained results. We are confident that with the One-2-Five approach, we are on the right path. Our experience with One-2-Five program is that the customers engaging in the diagnostic and follow-up services actually implement the energy management strategies and technical projects. It’s no longer just another report on the shelf.’

BP has been using EnVinta's One-2-Five for the last 4-5 years to two main areas

- To assist in assessing the relative energy management culture of it's operating assets
- As a tool for assisting gas marketing business development with external customers

	SDGE3033 3P Industrial Energy Efficiency Acceleration Prg
BUDGET	
Administrative Costs	**$ 37,450**
Overhead and G&A	$ -
Other Administrative Costs	$ 37,450
Marketing/Outreach	**$ 65,620**
Direct Implementation	**$ 621,916**
Total Incentives and Rebates	$ -
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 621,916
Installation	$ -
Hardware & Materials	$ -
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 724,986**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 724,986**
PROGRAM IMPACTS	
User Entered kW (kW)	-
Net Jul-Sept Peak (kW)	-
Net Dec-Feb Peak (kW)	-
Net NCP (kW)	-
Net CEC (kW)	-
Annual Net kWh	-
Lifecycle Net kWh	-
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 724,986
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (724,986)
BC Ratio	-
PAC	
Costs	$ 724,986
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (724,986)
BC Ratio	-
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ 36,000	$ 36,000	$ 36,000
	Administrative Other	$ 27,000	$ 27,000	$ 27,000
Marketing & Outreach		$ 23,000	$ 23,000	$ 23,000
Direct Implementation				
	Activity	$ 523,619	$ 363,042	$ 363,042
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ 142,960	$ 142,960	$ 142,960
	Procurement	$ -	$ -	$ -
	Incentives	$ -	$ -	$ -
EM&V		$ -	$ -	$ -
Total		*$ 752,579*	*$ 592,002*	*$ 592,002*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
-	-	-	-	-	-	-	-	-

3. Program Cost Effectiveness

N/A

4. Program Descriptors

Table 1 summarizes the standard program descriptors for the E3 Program.

Table 1: Program Descriptor Summary	
Market Sector	Residential market sector, specifically, K-12 school students.
Program Classification (SW, local)	Local
Program Status	New
Geographic Area Targeted by Program	All of SDG&E's Service Territory (with an initial emphasis on San Diego County).
Percentage of the Market Expected to be Impacted by Program	Program anticipates working with 100% of School Districts in San Diego County, and will be promoted to 100% of School Districts outside San Diego County, but still within SDG&E's Service Territory (i.e. Southern Orange County).

The program will be made available to and reach a very high percentage of the students in SDG&E's service territory. Table 2 lists the total K-12 student population by grade level. Although the program will not be offered in every grade

level (only those that have a relevant content standard that is aligned with energy efficiency, see Appendix A), as students progress through the grades during the 3-year program, we anticipate the E3 program will have been made available (in one form or another) to classes that can reach 100% of students (actual students reached by some element of the E3 program would be anticipated to be between 60% and 80% of the total population).

Table 2: K-12 Student Population by Grade Level

	San Diego County	Orange County Districts (Note 1)	Total Target Students by Grade Note 1)
Kindergarten	37,617	5,734	43,351
Grade 1	37,617	6206	43,823
Grade 2	37,163	6325	43,488
Grade 3	37,994	6474	44,468
Grade 4	38,480	6574	45,054
Grade 5	38,746	6684	45,430
Grade 6	38,799	7015	45,814
Grade 7	39,160	6927	46,087
Grade 8	39,239	6975	46,214
Grade 9	43,459	7309	50,768
Grade 10	40,004	6811	46,815
Grade 11	36,575	6357	42,932
Grade 12	33,292	5840	39,132
TOTAL	**498,145**	**85,231**	**583,376**

Note 1: The Orange County student populations are somewhat larger than actual since some schools considered for this Table may be served by SCE. This issue would be resolved prior to program implementation.

5. Program Statement

Most people lack a good understanding of the potential for energy and cost savings by their actions. The energy market lacks price signals that are clear enough to influence behavior. Other energy markets have better price signals to influence behavior. For example, when you pull up to the gas pump (usually more than once a month), you see the price of gas and when you are done pumping, you see the total bill. With rising gas prices, most people then get in your car and begin to think about how you can reduce your consumption by combining errands, possibly walking instead of driving, perhaps not go on a trip that weekend. That is price elasticity. For electricity and natural gas use, when you pay your bill, you are generally separated from the activities that are associated with using the product. This lack of price elasticity leads to a significant higher amount of energy use that

would otherwise occur (and is necessary). The energy crisis of 2000 showed us that Table of Contents

implementation of no-cost behavioral changes alone can save 10% to 30% of the energy use in a typical home. Incorporating education and awareness about energy efficiency into the K-12 curriculum not only influences young people who are the students, but has a very good chance to influence the adults at home.

6. Program Rationale

The program rationale is to not new- teach young people about energy efficiency so they change their current and future behaviors and take that message home to their parents and influence their behavior. However, the programs' approach is new. We propose to use local teachers to influence and motivate local teachers to teach about energy efficiency. It is not uncommon for efficiency programs to be run by firms that were not local. Access to the program staff for these programs was limited. This may work for some type programs, however, when it comes to working with teachers and students, it is our experience that locally developed and managed programs are most successful. This program seeks to significantly improve communications, interaction and access between teachers and the program implementers. Teachers design the program and are a key part of the program implementation team to make it happen.

7. Program Outcomes

The program outcomes are a significantly heightened awareness about the impacts of energy efficiency, the costs of wasting energy, and specific actions that can be take to reduce energy use at home. The program will measure not only knowledge outcomes, but also energy savings outcomes as well by surveying before and after conditions at students homes (to the extent that it is possible).

The program has established a set of program milestones that will be closely managed to ensure success. The major milestones are listed in Table 3.

Table 3: Program Major Milestones (originally assumed program start date of January 1, 2006. Modified since Stage 2 filing to accommodate anticipated later start date)

Activity Description	Target Completion Date
Curriculum development	2nd Qtr 2006
Curriculum Focus Groups	2nd Qtr 2006
Procure ME3U Unit and Commence Modifications	2nd Qtr 2006
ME3U Unit available for school visits	3rd Qtr 2006

Table 3: Program Major Milestones (originally assumed program start date of January 1, 2006. Modified since Stage 2 filing to accommodate anticipated later start date)	
Program workshops	2nd Qtr 2006
Commence program activities	2nd Qtr 2006
Activity Description	Target Completion Date
Program Year One Review	1st Qtr 2007
Year Two Program workshops	1st Qtr 2007
Commence Year Two program activities	2nd Qtr 2007
Program Year Two Review	4th Qtr 2007
Year Three Program Workshops	1st Qtr 2008
Commence Year Three Program Activities	2nd Qtr 2008
Program Year Three Review	4th Qtr 2008

8. Program Strategy

The primary strategy to be employed in this program is Residential Downstream Training.

8.1.1. Program Strategy Description

The primary strategy that is being employed in this program is the direct active involvement of local teachers and educational staff in program development and implementation activities. The E3 Team believes it is best positioned to promote the most meaningful energy efficiency education program with its "Built By Teachers, Managed by Teachers, for Teachers" approach.

Class curriculum will be developed for up to five grade levels (See outline of the student curriculum in Appendix A). Curriculum will be available in a "Just-in-Time" format that allows teachers to easily incorporate its elements into regularly planned lessons.

The curriculum will be developed with the active participation of science teachers. This is important to ensure that the curriculum supplements and correlates well with the various city and county core science programs.

This will ensure the broadest use by teachers in the classroom. Prior to finalizing the curriculum, focus groups will be conducted with teachers and select students to get feedback on the curriculum and to improve it. Similar groups will also be held after year one to improve the program in years two and three.

Curriculum will be supplemented by a Mobile Energy Efficiency Education Unit (ME3U)- The ME3U will be similar to the highly successful "Splash Zone" Mobile Unit (see Appendix C). The ME3U will travel to schools throughout the service territory to be a highly interactive "Field Trip on Wheels." The ME3U will be design to supplement the curriculum materials, such that a certain number of teachers/classrooms need to teach the materials just prior to the ME3U being scheduled for the school. This approach will ensure the content in class is appropriately reinforced by the ME3U and vice versa. Based on experience with Splash Zone, we anticipate the ME3U will visit over 130 schools and be experience by more that 15,000 students per year (>360 schools and >46,000 students over the three years).

All curriculum materials will be made available on the program web site as well as be distributed to all targeted teachers on an interactive program CD.

Materials that are sent home to connect the lessons to parents will be made available in all of the major languages of the county, including (but not limited to) Spanish, Tagalog and Vietnamese.

The program will have several take home components that emphasize analytic learning skills and experimentation (in support of state content standards). For example, a simple take home audit will be developed that allows students to look at common energy components in their home (e.g. lighting, water heating, air-conditioning, etc.). Using online calculators, students will be able to estimate the energy consumption, how much they can reduce their consumption taking certain actions and what emissions reductions are possible.

Students will then be able to make changes in their use (reducing hours certain lights are on, reducing time hot water faucets are on, replacing lamps with CFLs, changing thermostat set-points, etc.) and will have the ability to see the impact of these changes on their individual homes. As students input this information, the savings will be tracked countywide and communicated in a manner to emphasize the concept of "Act Locally, Think Globally," or "replacing a power plant, one home at a time."

Feedback will be delivered to program manager and information compiled and reported back to classes in the next Program newsletter. Competitions

and school/class recognition can be designed into the program to motivate students and encourage maximizing energy savings.

The Program will integrate individual energy efficiency measures to lesson plans for students to take home and install at their homes. For example, compact fluorescent light bulbs when discussing lighting energy efficiency. In addition, the program will evaluate the LivingWise Program as a possible comprehensive take-home savings delivery tool (offered by Resource Action Programs, Modesto, CA. http://www.getwise.org/). If the LivingWise program is not used, a similar approach will be taken that ensures the appropriate integration of energy measures and resulting energy savings.

The Program will also evaluate the use of school/ classroom energy consumption to illustrate the impacts of energy efficiency. An exercise may be developed that will enable a classroom to benchmark its individual classroom's expected energy use over one year. The class will be challenged to see if it can reduce energy consumption by a certain target level (e.g. 10%). Actual activities will be recorded and a report will be sent back to the class on how it did. Once again, the actions of all classrooms that participate in this exercise will be communicated as well to emphasize the magnitude of possibilities when conservation is implemented on a large-scale basis.

Professional development (workshops) will be planned and offered to all teachers. Incentives will be designed to encourage attendance (see Section 5). Workshops will be held at the three SDCOE Regional Centers to encourage and facilitate the broadest participation as possible. The workshops will provide teachers with all of the activities and materials necessary to fully integrate the E3 program into their classroom as they walk through various lesson plans and multimedia tools that are made available to them. The workshop will be professionally captured on video such that highlights of the workshop can be made available on the program web site for teachers that are not able to attend the scheduled workshops.

8.1.2. Program Indicators

Program indicators will include (but not necessarily be limited to):

- Number of students (by grade level) participating in curriculum.
- Number of students that experience the ME3U.
- Energy savings (kWh, kW, therms) as a result of take-home measures and conservation activities.

9. Program Implementation

Program roll-out would be accomplished through geographically-dispersed workshops held at the SDCOE Regional Offices throughout the County, targeting teachers in the appropriate teaching areas (e.g. science, math). In addition, the Program will build on the successful teacher-focused energy education web site of SDCS (See Appendix A), expanding and improving its capabilities and expanding its use for SDCOE Districts.

Appropriate school contacts will be developed by district. For SDCS, Kerry Dill, (Teacher on Special Assignment to Energy and Utility Management Section) will be the primary point of contact. For SDCOE Districts, Nancy Taylor, (Science Coordinator Science Coordinator to all 42 districts in K-12 Science) and her staff will provide assistance with coordination with appropriate school contacts and program roll-out.

Class curriculum will be developed for up to five grade levels (See outline of the student curriculum in Appendix A). Curriculum will be available in a "Just-in-Time" format that allows teachers to easily incorporate its elements into regularly planned lessons.

The curriculum will be developed with the active participation of science teachers. This is important to ensure that the curriculum supplements and correlates well with the various city and county core science programs. This will ensure the broadest use by teachers in the classroom. Prior to finalizing the curriculum, focus groups will be conducted with teachers and select students to get feedback on the curriculum and to improve it. Similar groups will also be held after year one to improve the program in years two and three.

The teachers and consultants that will be developing the curriculum have a very high level of knowledge of state standard content guidelines. The curriculum will be very closely aligned with the Science Content Standards for California Public Schools (Kindergarten through Grade Twelve) as well as the Science Framework for California Public Schools (Kindergarten through Grade Twelve). Appendix A outlines the programs' alignment with the Science Content Standards.

Curriculum materials will include (but not be limited to):

1. Teaching materials (including teacher guides, posters, models, multimedia and other resources) by grade level.
2. Mobile Energy Efficiency Education Unit (ME3U)- The ME3U will be similar to the highly successful "Splash Zone" Mobile Unit (see Appendix C). The ME3U will travel to schools throughout the service territory to be a highly interactive "Field Trip on Wheels." The ME3U will be design to supplement the curriculum materials, such that a certain number of teachers/classrooms need to teach the materials just prior to the ME3U being scheduled for the school. This approach will ensure the content in class is appropriately reinforced by the ME3U and vice versa. Based on experience with Splash Zone, we anticipate the

ME3U will visit over 130 schools and be experience by more that 15,000 students per year (>360 schools and >46,000 students over the three years).

All curriculum materials will be made available on the program web site as well as be distributed to all targeted teachers on an interactive program CD.

Performance incentives will be available for teachers who use of the in-class curriculum such that they get priority use of the ME3U. For example, school with the highest completion rate of take home surveys and home install devices (e.g. Compact Fluorescents (CFLs)).

Teachers will be able to attend workshops that will have incentives tied to attendance. For example, the program will seek to achieve certification for the workshops to be a Discover course that, if attended, will provide teachers with continuing education units that count for salary advancement. In addition, the program will solicit other incentives to encourage attendance, like donations of gift certificates (e.g. Staples, Office Depot, etc) or door prize giveaways donated and/or purchased by the program (e.g. gift baskets, Nordstrom gift certificates).

Surveys will be distributed to students, teachers, and parents to monitor program impacts and effectiveness, in particular, to monitor behavioral changes that may produce energy savings as a result of the program. In addition, focus groups will help in conjunction with Parent Teacher Organizations (PTO).

Also, pre-test will be given prior to the start of the curriculum being offered in a class. Upon completion, a post-test will be given to evaluate the effectiveness of the program's message. These tests will be evaluated statistically across the entire County to look for issues associated with the curriculum, rather than an issue that might be isolated to one or a few classrooms.

Professional development (workshops) will be planned and offered to all teachers. Incentives will be designed to encourage attendance (see Section 5). Workshops will be held at the three SDCOE Regional Centers to encourage and facilitate the broadest participation as possible. The workshops will provide teachers with all of the activities and materials necessary to fully integrate the E3 program into their classroom as they walk through various lesson plans and multimedia tools that are made available to them. The workshop will be professionally captured on video such that highlights of the workshop can be made available on the program web site for teachers that are not able to attend the scheduled workshops.

Materials that are sent home to connect the lessons to parents will be made available in all of the major languages of the county, including (but not limited to) Spanish, Tagalog and Vietnamese.

The program will have several take home components that emphasize analytic learning skills and experimentation (in support of specific state content standards). For example, a simple take home audit will be developed that allows students to look at common energy components in their home (e.g. lighting, water heating, air-conditioning, etc.). Using online calculators, students will be able to estimate the energy consumption, how much they can reduce their consumption taking certain actions and what emissions reductions are possible.

Students will then be able to make changes in their use (reducing hours certain lights are on, reducing time hot water faucets are on, hot water heater setback, replacing lamps with CFLs, changing thermostat set-points, etc.) and will have the ability to see the potential impact of these changes on their individual home energy use. As students input this information, the savings will be aggregated and tracked countywide and communicated in a manner to emphasize the concept of "Act Locally, Think Globally," or "building energy reliability, one home at a time."

Feedback from classroom activities will be delivered to the program manager and information compiled and reported back to classes via email communications. Competitions and school/class recognition can be designed into the program to motivate students and encourage maximizing energy savings.

The Program will integrate individual energy efficiency measures to lesson plans for students to take home and install at their homes. For example, compact fluorescent light bulbs when discussing lighting energy efficiency. In addition, the program will evaluate the LivingWise Program as a possible comprehensive take-home savings delivery tool (offered by Resource Action Programs, Modesto, CA. http://www.getwise.org/). If the LivingWise program is not used, a like program will be used to ensure appropriate integration of energy measures and resulting energy savings.

The Program will also evaluate the use of school/ classroom energy consumption to illustrate the impacts of energy efficiency. An exercise may be developed that will enable a classroom to benchmark its individual classroom's expected energy use over one year. The class will be challenged to see if it can reduce energy consumption by a certain target level (e.g. 10%). Actual activities will be recorded and a report will be sent back to the class on how it did. Once again, the actions of all classrooms that participate in this exercise will be communicated as well to emphasize the magnitude of possibilities when conservation is implemented on a large-scale basis.

Students and teachers will work first to understand EE conceptually and will then engage in several extension activities that will apply these concepts to "real-world" settings. One example will be a home energy audit and evaluation to increase energy savings at their residences. The take home exercises will be designed to engage the parents to give them the opportunity to learn about energy efficiency in the home.

10. Customer Description

The customer segment targeted is the residential market sector, specifically, K-12 school students and the adults that reside in their homes (e.g. siblings, parents, guardians, etc).

11. Customer Interface

The curriculum will be developed with the active participation of science teachers who are extremely familiar with what works and what does not work in the classroom. This is a major strength of the E3 program approach. Not only is this

important to ensure that the curriculum supplements and correlates well with the appropriate city and county core science programs and state content standards, but most importantly, is engaging and relevant for the students as well as the teachers. This will ensure the broadest use by teachers in the classroom and the highest level of enthusiasm for the program by the students.

Prior to finalizing the curriculum, focus groups will be conducted with teachers and select students to get feedback on the curriculum and to improve it. These focus groups will be conducted in conjunction with Parent Teacher Organizations (PTOs). Similar focus groups will also be held after year one to improve the program in years two and three, with and emphasis on ease of use, knowledge retention and energy impacts in the home.

12. Energy Measures and Program Activities

12.1. Prescriptive Measures.

N/A

12.2. kWh Level Data

N/A

12.3. Non-energy Activities

Most activities are non-energy in nature. See previous section for description.

12.3.1. Activity Description

See description in previous section.

12.3.2. Quantitative Activity Goals

Quantitative activity goals are shown in Table 4.

Table 4: Program Specific Milestones (Targets)

	2006	2007	2008
Students Reached (cumulative)	61,254	196,014	408,363

12.3.3. Assigned attributes of the activity (market sector, end use)

See description in previous section.

13. Subcontractor Activities

The E3 Team (led by San Diego City Schools (SDCS) Energy Utilities and Management Section in a close and strategic partnership with the San Diego County Office of Education's (SDCOE) Learning Resources & Technology Division) has a

great deal of skills and experience necessary to make this program successful. This strong team will ensure that the E3 program reaches the maximum number of students in the most schools possible in SDG&E's service territory.

The E3 Team has retained K. J. Kammerer & Associates, Inc. who has significant experience in development and implementation of information and education programs (including start-up of the San Diego Regional Energy Office, and similar programs in Ventura County, Humboldt County, Los Angeles County). KJK&A is very familiar with the K-12 energy efficiency education programs that have been employed in the SDG&E region in the past five years. In addition, KJK&A is very familiar with the energy efficiency programs that are anticipated to be part of SDG&E's 2006-2008 program portfolio. These programs will be incorporated as appropriate into the program content. In particular, the take home pieces that are shared with adults at home. For example, the take home collaterals will identify certain measures that can be accomplished at home. For each of those measures, the materials will identify specific actions that can take (what programs apply, contact information, web site links, phone numbers, etc. as this information becomes available). This is possible since the E3 Team will be intimately knowledgeable of all elements of the SDG&E Program Portfolio and will make close links between all E3 activities and the relevant SDG&E programs.

14. Quality Assurance and Evaluation Activities

Surveys will be distributed to students, teachers, and parents to monitor program impacts and effectiveness, in particular, to monitor behavioral changes that may produce energy savings as a result of the program. In addition, focus groups will help in conjunction with Parent Teacher Organizations (PTO).

Also, pre-test will be given prior to the start of the curriculum being offered in a class. Upon completion, a post-test will be given to evaluate the effectiveness of the program's message. These tests will be evaluated statistically across the entire County to look for issues associated with the curriculum, rather than an issue that might be isolated to one or a few classrooms.

Quality control of student activities will be an emphasis of the training of teachers. For example, accuracy of take home audits will be important to ensure results are relevant and meaningful.

15. Marketing Activities

Promotion and marketing of the program will be conducted through many activities, including:

1. Program Workshops.
2. SDCOE Monthly Curriculum and Instruction Meetings.
3. Quarterly K-12 Science Leadership Network for Standards and Curriculum Advisory Meetings.

4. SDCS and SDCOE relevant web sites targeted to teachers for supplemental education resources (See Appendix A).
5. San Diego Science Alliance events and announcement board.
6. Other events, including the Greater San Diego Science and Engineering Fair.

The primary means of promotion will be several geographically-dispersed workshops held at the SDCOE Regional Offices, targeting teachers in the appropriate teaching areas (e.g. science, math).

16. CPUC Objective

The Program meets the CPUC Objectives as outlined in the following Table.

CPUC Objective	How Program Meets This Objective
"Cost-effective energy efficiency should be first in the "loading order" of resources used by the utilities to meet their customers' energy service needs."	Program targets energy efficiency first.
"Pursue all cost-effective energy efficiency opportunities over both the short- and long-term."	The Program implements education of K-12 students on primarily very cost-effective energy efficiency measures. A heavy emphasis will be placed on the cost-effectiveness of energy efficiency.
"Energy efficiency activities funded by ratepayers should focus on programs that serve as alternatives to more costly supply-side resource options ("resource programs")"	Program targets energy efficiency first.
"Program Administrators should also include a selection of statewide marketing and outreach programs, upstream market transformation programs, information and education programs,…"	Program fills the CPUC policy to support energy efficiency education programs.

2006-2008 Energy Efficiency Programs
San Diego Energy Efficiency Education Program (E3) Concept Paper

APPENDIX A: SUPPLEMENTAL CURRICULUM MATRIX

Grade	Grade Specific: California State Content Standard Addressed	Grade Specific: Sample pieces	Programs available to all grade levels			
K	Earth Sciences: 3(c) Students know how to identify resources…and how they can be conserved.	Students learn about energy as a resource and are introduced to the concept of conservation and efficiency of the resource.	Websites for teacher and student information and Professional Development for teachers will be available for all grade levels involved.	Multimedia curriculum created for grade-level appropriate energy efficiency topics.	Energy Efficiency Education Mobile Classroom	CAPE Schools Program available. A multi-unit program to help students "Care and Protect the Environment." Focus is on school-wide campaigns to become more efficient consumers of resources.
1						
2						
3	Physical Sciences: 1(b) Students know sources of stored energy - fuel and batteries. 1(d) Students know energy can be carried from one place to another - electric current.	Basic Classroom Energy Activity Kit that explores the electrical currents and batteries.				
4	Physical Sciences: 1(a-g) Electricity and magnetism are related effects that have many useful applications in everyday life. Including: circuits, electric currents, electromagnets, and electrical energy.	Classroom Energy Activity Kit that builds on what was learned in grade 3, but also includes experiments and activities such as: building circuits and converting electrical energy to light and heat.				
5						
6	Earth Sciences: 3 (a-d) Heat/Thermal Energy. Including: heat flow, fuel consumption, conduction/convection, and radiation. 4(a-e) Energy in the Earth System. Including: solar energy. 6 (a-b) Resources. Including: Sources of energy, utility of energy sources, natural energy and material resources, renewables and nonrenewables.	Classroom Thermal/Solar Energy Kit demonstrating heat flow, light waves, fuel consumption, heat flow/transfer, and Solar energy.				
7						
8						
9	Physics: 5(a-i) Electric and magnetic phenomena are related and have many practical applications. Including: voltage and current, Ohm's law, DC current calculations, electrical circuits, fields, currents, conductors, and electricity.	Advanced Classroom Activity Kit includes opportunity for student to team up and invent an appliance of their choice.				
10						
11						
12	Economics: 12.1 Students understand common economic terms and concepts and economic reasoning. Including: supply and demand, opportunity cost, private property as an incentive in conserving and improving scarce resources. 12.2 Students analyze the elements of America's market economy in a global setting. Including: effects of changes in supply and/ or demand on the relative scarcity, price, and quantity of particular products, and how prices reflect the relative scarcity of goods and services.	Problem Based Learning Unit: Students trace the energy supply and demand, charting prices, consumer trends, and future outlooks. Students develop a comprehensive energy plan to help nations reduce consumption and increase production.				

APPENDIX B: SDCS ENERGY EDUCATION WEB SITE

San Diego City Schools

Energy Utility Management Section **Maintenance Planning Program**

Site Based Utilities | Students/Teachers | Electrical/Lighting | Recycling | Irrigation/Water | About Us
Communications | Photovoltaics | Indoor Air Quality | HVAC | Links | Site Map

Energy Home
Students Home
Student Art Contest
Energy/Water Olympics
Cool Links
Patriotism
Student Links
Teachers Home
Energy Awarness Workshop
Energy Lessons and Resources
An Apple a Day...
Energy/Water Olympics
Teachers Links

ENERGY/WATER OLYMPICS

The Energy/Water Olympics will be held on Saturday, February 26, 2005!

Congratulations to all of the participants and winners of the First Annual Energy/Water Olympics!!! All of the projects were wonderful, and we can't wait to see what our talented students come up with next year.

Here are the 2005 Medal Winners:

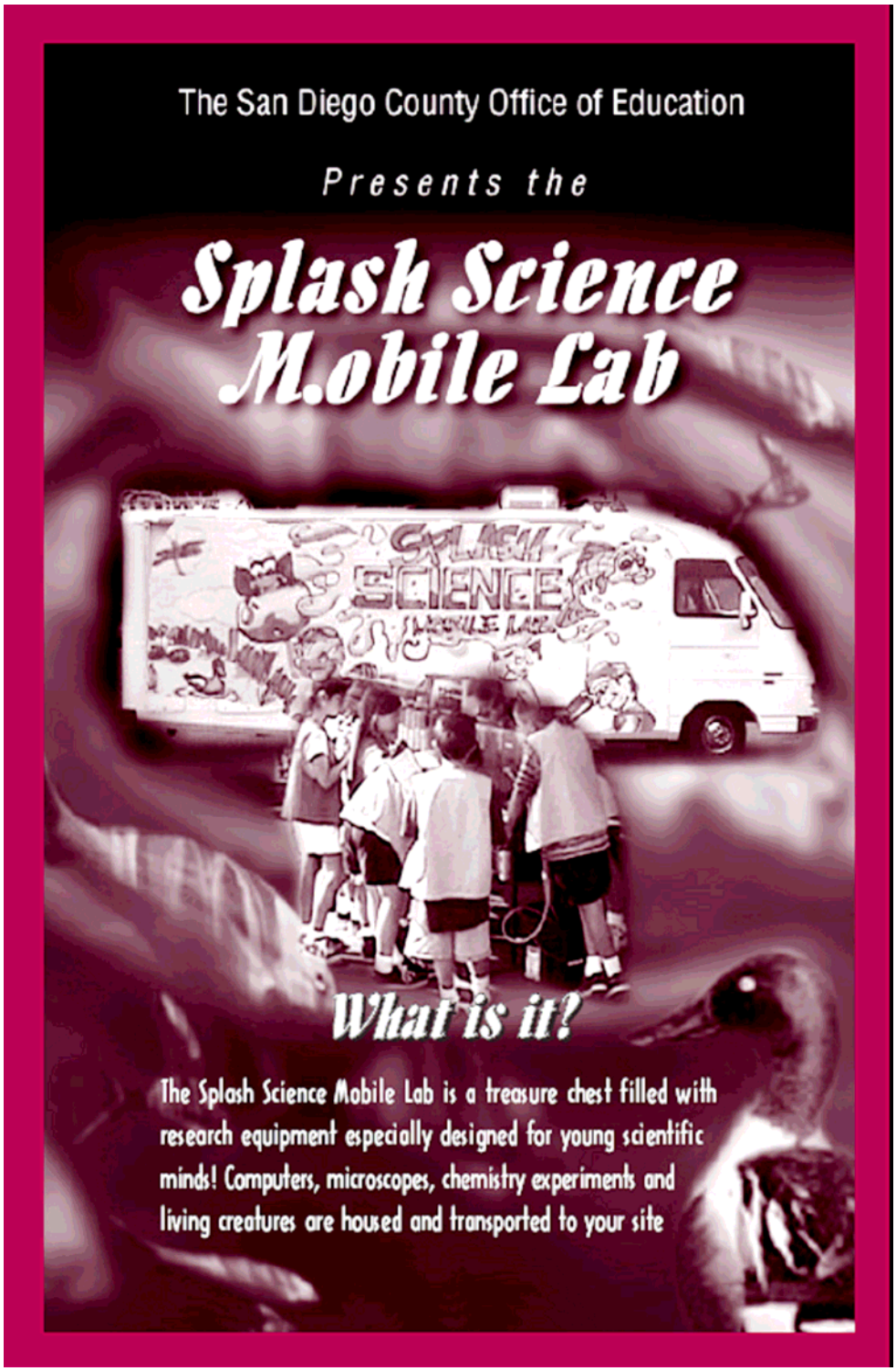
ENERGY GOLD MEDAL ENERGY

Philip Weber
Jerabek Elementary
"Energy Savings Blinds"
Window blinds that are reflective on one side to keep heat out and black on the other side to absorb heat for warmth.

ENERGY SILVER MEDAL ENERGY

Arahi Murillo
Paradise Hills Elementary
"How Each Person in Everyone's House can Conserve Energy"
A family-plan to conserve energy and complete with penalties for those that do not follow the plan.

APPENDIX C: SDCOE SPLASH ZONE MOBILE EDUCATION UNIT



The Mission

Your students, working with the Splash Science Team, will investigate why the Gambusia fish are disappearing. Through scientific experimentation they will explore many factors that contribute to water quality.

Details

What: The Splash Science Mobile Lab is a completely self contained vehicle brought to your school for the purpose of providing hands-on laboratory experiences for your students.

Why: We can't very easily take all the students to the pond, BUT we can bring the pond to your students! This creates an economical, efficient, and meaningful activity without the logistical problems of a typical field trip.

Who: Classrooms of 4th, 5th & 6th graders. There will be 4 separate 1 hour classes per day for 4 different groups of students. The program is taught by science instructors, the teacher(s) of the participating class and volunteers.

Where: The Splash Science Mobile Lab comes right to your school.

When: Throughout the school year.

How does it work?

Classrooms of students will be divided into 6 research teams. The student scientist stations are: Microscopes, Technology, Weather, Water Quality, Ground Water, and Life Around the Pond.

Students will be involved in a fun hands-on science experience.

Students will be working at self contained stations inside and outside of the lab.

Splash Lab curriculum is aligned with the California State Science Framework for grade levels 4-6.

	SDGE3032 3P K-12 Energy Efficiency Education Program
BUDGET	
Administrative Costs	**$ 189,000**
Overhead and G&A	$ 108,000
Other Administrative Costs	$ 81,000
Marketing/Outreach	**$ 69,000**
Direct Implementation	**$ 1,678,583**
Total Incentives and Rebates	$ -
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 1,249,703
Installation	$ -
Hardware & Materials	$ 428,880
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 1,936,583**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 1,936,583**
PROGRAM IMPACTS	
User Entered kW (kW)	-
Net Jul-Sept Peak (kW)	-
Net Dec-Feb Peak (kW)	-
Net NCP (kW)	-
Net CEC (kW)	-
Annual Net kWh	-
Lifecycle Net kWh	-
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 1,936,583
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (1,936,583)
BC Ratio	-
PAC	
Costs	$ 1,936,583
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (1,936,583)
BC Ratio	-
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

2006-2008 Energy Efficiency Programs
Sweetwater School District Demonstration Program Concept Paper

Program Snapshot	
Sweetwater School District Demonstration Program (SSDDP)	
Primary Team Members	Sweetwater Union High School District Intergy Corporation
Subcontractors	EnergySolve Davis Energy Group Aloha Systems
Program Description	• Demonstration of an innovative HVAC indirect/direct evaporative cooling system - OASys • Demonstration of an integrated energy efficiency and demand response technology - dimmable and DR capable T5 lighting system • The primary goals of the Program are to showcase and demonstrate these two technologies through easily accessible real-life installations and to document and develop case studies of the energy impacts and financial metrics. Both these technologies will be demonstrated at the Sweetwater Union High School District, one of the energy efficiency leaders in the educational segment. The ultimate objective of this program will be to mainstream these technologies with SDG&E core energy efficiency programs.
Market Segments	Cooling—retrofit Lighting—retrofit
Demonstration Site	Sweetwater Union High School District facilities
Program Goals	Installation of 15 OASys cooling systems Installation of 250 2-lamp RetroLux T5 systems
Timing	January 2006-December 2008
Funding	$249,800

…in addition to demonstrating the technologies mentioned above, I believe this program will result in energy efficiency savings for SUHSD, and will contribute to the energy efficiency goals established by the California Public Utility Commission. I look forward to working with SDG&E and Intergy on its successful implementation.

Jim Clark, Energy Manager, Sweetwater Union High School District

(Complete support letter included in Appendix)

2006-2008 Energy Efficiency Programs
Sweetwater School District Demonstration Program Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ 3,300	$ 3,600	$ 2,250
	Administrative Other	$ 18,700	$ 20,400	$ 12,750
Marketing & Outreach		$ 42,000	$ 36,000	$ 12,450
Direct Implementation				
	Activity	$ 12,550	$ -	$ -
	Installation	$ -	$ -	$ -
	Hardware & Materials	$ 85,800	$ -	$ -
	Procurement	$ -	$ -	$ -
	Incentives	$ -	$ -	$ -
EM&V		$ -	$ -	$ -
Total		*$ 162,350*	*$ 60,000*	*$ 27,450*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
-	-	-	-	-	-	-	-	-

3. Program Cost Effectiveness

N/A

4. Program Descriptors

SEDRP Program Descriptors	
Market Sectors	Secondary educational facilities Cooling—retrofits Lighting—retrofits
Program Classifications	Local
Program Status	New
Geographic Target Area	Southern boundary of San Diego to USA/Mexico border including cities such as San Diego, Chula Vista, National City, Imperial City, and San Ysidro

As a demonstration program, the market impact percentage is insignificant. However, the purpose of the demonstration is to impact the greater market of school districts and businesses in the SDG&E service territory.

5. Program Statement

Intergy Corporation (Intergy) and Sweetwater Union High School District (SUHSD) propose to demonstrate two technologies in the District's facilities – OASys Indirect/Direct Evaporative Cooler and RetroLux dimmable T5 lighting. SUHSD has historically participated in various SDG&E energy efficiency programs and enjoys a reputation of being a leader in energy efficiency within the educational segment. To continue achieving the Districts energy reduction goals and demonstrate new technologies, SUHSD and Intergy are proposing to demonstrate these two technologies. The primary purpose of this program is to demonstrate the energy efficiency capabilities of these two technologies and ultimately mainstream the technologies with SDG&E's core programs.

The OASys indirect/direct evaporative cooler, a recent Flex Your Power Innovative Products & Services Award Winner, offers a dramatic EE improvement over compressor based cooing and was designed specifically for portable classrooms. Portable classrooms are being currently widely used in SUHSD, small offices, and other educational institutions. SUHSD also recognizes the importance of an integrated approach to demand reduction that combines energy efficiency and demand response strategies. The RetroLux dimmable T5 lighting offers solid EE improvements over older lighting systems and has significant demand response capabilities. Dimmable T5 lighting is currently being currently installed in the SCE territory on a limited scale under the IDEEA program.

The OASys systems are a perfect fit for the Districts multitude of portable classrooms. As a result of the increased number of students in schools, portable classrooms are popular in educational segments. This program demonstrates the ability of the OASys units to significantly reduce cooling loads in these portable classrooms. Utilizing energy efficiency and demand in an integrated fashion is an increasingly important goal of SDG&E and the school districts. The Demand Response capable T5 lighting is a perfect fit for the Districts and offices with daylighting. The combination of the proactive District and these innovative HVAC and lighting technologies provides a win-win-win opportunity for the Utility, the District, and potential customers influenced by this demonstration program.

> *…in addition to demonstrating the technologies mentioned above, I believe this program will result in energy efficiency savings for SUHSD, and will contribute to the energy efficiency goals established by the California Public Utility Commission. I look forward to working with SDG&E and Intergy on its successful implementation.*
>
> Jim Clark, Energy Manager, Sweetwater Union High School District

These two technologies address two distinct problems:

1) Traditional evaporative cooling efficiency cools interior spaces in dry climate zones as found throughout much of California, but the resultant increase in humidity led to the "swamp cooler" moniker. Although technology such as the

OASys indirect evaporative cooling system has addressed and solved the humidity issue, general market perception remains focused on the 'swamp cooler" image. This market perception is currently impeding full commercialization of innovative new systems such as OASys and the potential energy savings associated with this technology.

The potential energy savings are substantial, especially in the warm climates of Southern California where mechanical cooling is considered a necessity and HVAC equipment is installed and in use for almost 100% of non-residential customers and for a very high percentage of residential customers. This high usage of air conditioning is a large part of the peak demand during the warm summer months due to the concurrent usage for all customers during warm afternoons. The OASys indirect/direct evaporative cooing offers great energy and peak demand reduction potential for both the non-residential and residential customers.

2) Dimming of lighting levels, especially for incandescent sources, has been used primarily for creating ambiance in a space. Traditionally, the cost of dimming fluorescent lighting in commercial applications has limited its implementation to high end architectural projects. Thus, typical commercial sites have only one or two (bi-level switching, less common in older facilities) set lighting levels that are often less than ideal for the space. Further, these set levels do not allow full use of the natural daylight available in many spaces and the lights must remain at full power even with significant natural ambient light. Unfortunately, customer perception of dimming is that it is complicated and expensive to implement, and this barrier has kept dimming, and the potential energy savings and enhanced occupant comfort, out of the mainstream.

   Integration of demand response and energy efficiency is one of the key areas of focus identified by SDG&E for 2006-2008 programs. The potential energy savings and demand reduction capabilities are substantial in Southern California where there is high availability of natural lighting and the benefits of daylighting are beginning to influence more projects. The dimmable T5 technology is a perfect fit for these applications.

6. Program Rationale

Intergy and Sweetwater Union High School District intend to demonstrate two innovative technologies that address the problems stated above:

- OASys advanced indirect evaporative cooling system
- RetroLux dimmable T5 lighting systems (energy efficiency and demand response integration)

The primary objective of this demonstration program is to further commercialize, utilizing SUHSD as a respectable and highly visible demonstration site, and ultimately mainstream these technologies with SDG&E's core set of energy efficiency program offerings.

Brief description of each technology

OASys Advanced Indirect Evaporative Cooling System

In the warm climates of Southern California, mechanical cooling is considered a necessity, and HVAC equipment is installed and in use for almost 100% of non-residential customers and for a very high percentage of residential customers. This high usage of air conditioning is a large part of the peak demand during the warm summer months due to the concurrent usage for all customers during warm afternoons. The OASys indirect/direct evaporative cooing described below offers great energy and peak demand reduction potential for both the non-residential and residential customers.

Two-stage evaporative cooling units can provide necessary cooling capacity and comfort with a fraction of the energy required for traditional vapor compression cooling. Widespread use of two-stage evaporative cooling technology could significantly reduce California's peak electricity demand, thereby improving the quality and reliability of our electricity system. This program will demonstrate a technologically superior air conditioning system that provides facility cooling with 89 to 95 percent less energy use and 80 to 90 percent less demand use than vapor compression systems (PIER Technical Brief, California Energy Commission). Developed by the Davis Energy Group and being manufactured by Speakman CRS, OASys uses a uniquely designed indirect/direct evaporating process to achieve a SEER 40+ rating.

The primary purpose of this program would be to install OASys units at SUHSD in the targeted educational portable classroom segment, monitor their performance and demonstrate the technology to potential customers, work with the SDG&E Engineering department to complete the technical analysis and document the savings, complete case studies, and finally mainstream the technology by integrating it into SDG&E's reliable set of programs.

One of the primary strengths of this demonstration program is the choice of Sweetwater Union High School District as the demonstration site. Not only are their modular classrooms ideal applications for the OASys technology, but they also have a large inventory (over 100) of modular classrooms that could be potentially retrofit as the ultimate fruit of this program.

Demonstrating the performance and energy benefits of the OASys cooling system to potential customers and the utility is expected to lead to increased market penetration and commercialization. Direct customer exposure to the conditioned space is expected to fracture the "swamp cooler" moniker from this high performance technology.

RetroLux T5 Dimmable Lighting System

Integrating energy efficiency and demand response programs has been identified by SDG&E and the CPUC as one of the strengths of future IOU portfolios. Most customers incorrectly understand demand response as not being consistent with comfort and it is often viewed as a binary on/off function. This program will

demonstrate a technology that allows energy efficiency and demand response to be integrated.

Integrating demand response with energy efficiency, the T5 dimmable lighting systems are direct retrofits of T12 (or T8) lighting systems. The T5 lamp and ballasts provide energy savings similar to T8 lighting with the advantage of integrated dimming capabilities. The dimming capabilities are cost effectively incorporated using wireless technology. This eliminates the wiring changes normally required to implement dimming for fluorescent lighting. Further, the wireless dimming is augmented by wireless feedback from the fixtures that allows the utility and/or customer to monitor the real time status of the lighting levels and related energy demand. It is these wireless innovations that allow easy and effective utility and/or customer control of the potential demand reductions.

As with OASys, one of the primary strengths of this demonstration program is the choice of Sweetwater Union High School District as the demonstration site. Not only are their classrooms (many of which have significant daylighting) ideal applications for the RetroLux T5 technology, but they also have a large inventory of existing inefficient lighting such as T12s that could be potentially retrofit as the ultimate fruit of this program.

Demonstrating the convenient and cost effective dimming of the RetroLux T5 dimming lighting systems to potential customers and the utility is expected to lead to increased market penetration and customer specification of dimming systems. Demonstrating the advantages and benefits of utilizing an integrated approach to demand reduction – that utilizes energy efficiency and demand response.

Brief description of demonstration site

This is the key strength of this program. Sweetwater Union High School District (SUHSD) has been active with energy projects and is well respected in the community as one of the leaders in energy efficiency. This program leverages that respect and reputation to demonstrate two technologies that have significant potential in the SDG&E territory. Both technologies have reached commercialization but have not reached their full market potential, primarily due to lack of customer awareness. Sweetwater Union High School District was chosen for this demonstration for two primary reasons:

- Their commitment to implementing energy saving measures that reduce the district's operating expenses as evidenced by their participation in SDG&E's BID program and
- The fit between their facilities and these two technologies.

Specifically, the OASys advanced indirect evaporative cooling system was designed and sized for the portable classrooms found at numerous educational sites including SUHSD, and has demonstrated successful energy savings for these applications in CEC funded tests. The T5 dimmable lighting systems are likewise a very good fit for classrooms and other educational spaces that have daylighting such as numerous

sites within SUHSD. When adequate daylighting is available, the powered lighting can be dimmed while maintaining the appropriate lighting levels in the space.

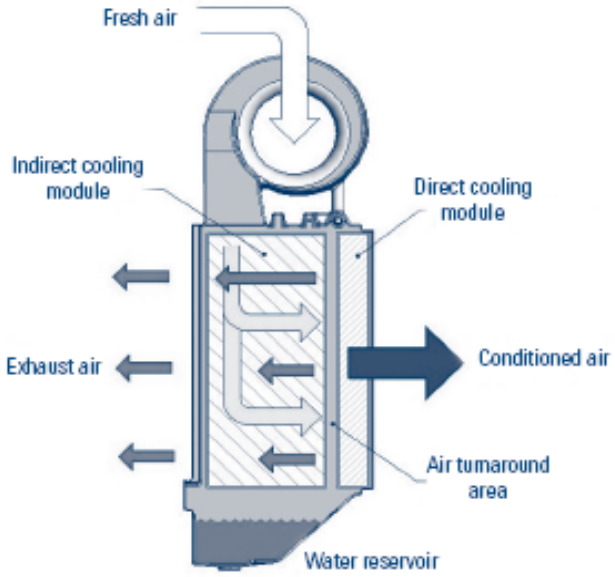
Detailed Descriptions of the Technologies

OASys Advanced Indirect Evaporative Cooling System

Funded by the California Energy Commission's Public Interest Energy Research (PIER) program, Davis Energy Group started the development of this technology in September, 1999 and was completed in November, 2003. Complete PIER report is included in the Appendix. After the successful completion of the development under the PIER program, OASys was successfully manufactured by the Speakman Group. This technology, having gone through the R&D, development, and testing stages, is now ready to be introduced and commercialized in the market. The OASys/IDEC Program utilizes an innovative marketing strategy to introduce and commercialize this technology.

A unique heat exchanger combined with a single pump/blower configuration, allows OASys to first cool incoming fresh air without adding moisture. The air then passes through the Direct Cooling Module, is cleaned and the humidity is optimized. The cool air enters the space directly or through conventional duct configurations and exits by roof vents. Unlike conventional systems that circulate indoor air, OASys continuously conditions and delivers fresh outdoor air. The basic model operates as a 2.5 to 3 ton air conditioner and produces 2,000 CFM of fresh conditioned air for residential, commercial or institutional spaces. Multiple units can be used in larger configuration. Additional information about OASys, including initial test results completed, is included in the Appendix.

Figure 2: OASys airflow patterns
The OASys uses both direct and indirect evaporative cooling.



OASys is ideal for small to medium businesses and the educational segment in the warm dry climates of Southern California Edison's service area, and this program will help facilitate the product's entry into this vast market. OASys can effectively operate from a variety of power sources. It can use 110 VAC grid power, photovoltaic DC power, or uniquely, OASys can operate off a combination of AC or DC power.

> *In summary, the data indicates that total IDEC effectiveness for a ducted system is in excess of 115%. Ducted installation is preferred for many applications including relocatable classrooms and small businesses. The capacity, energy efficiency, and 100% outdoor air feature of this unit should be quite attractive to school districts and businesses. The ductless operation was observed to have total effectiveness above 109%. Overall, the new IDEC design exceeds the project performance goal, and appears to be ready to proceed to the next stage towards production.*
>
> Mike Apte, Staff Scientist, Indoor Environment Department, LBNL

The newest OASys/IDEC system features the following improvements:

1) A low pressure drop counterflow indirect heat exchanger that pre-cools secondary air and is capable of effectiveness values greater than 70%.
2) Advanced heat exchanger plates that are modular and manufactured cost-effectively on an inline thermoformer.
3) A leak-proof rotationally molded cabinet with integral top-mount blower and underside water reservoir.
4) A reliable, low-energy spray-less water distribution system.

Laboratory testing, supervised by Lawrence Berkeley National Laboratory, demonstrates that this new IDEC unit performs with total effectiveness ranging from 109% and 116%, varying inversely with blower speed. The test unit outperformed both prior generations, thereby exceeding project performance goals. Measured energy efficiency ratios (EER) ranged from 40 to 136, again varying inversely with blower speed. Full year performance simulations based on the test data indicate 89 to 95% IDEC annual energy savings and 80 to 89% peak demand reduction for typical California applications.

These features results in per unit savings of 2.4 kW and 2,580 kWh for the OASys cooling systems installed in modular classrooms in climate zone 10.

<u>RetroLux T5 Dimmable Lighting System</u>

Integrating energy efficiency and demand response programs and breaking the myth that lighting demand response is limited to on/off or bi-level switching, the RetroLux T5 dimmable lighting systems are direct retrofits of T12 (or T8) lighting systems. The T5 lamp and ballasts provide energy savings similar to T8 lighting with the advantage of integrated dimming capabilities. The dimming capabilities are cost effectively incorporated using wireless technology. This eliminates the wiring changes normally required to implement dimming for fluorescent lighting. Further,

the wireless dimming is augmented by wireless feedback from the fixtures that allows the utility and/or customer to monitor the real time status of the lighting levels and related energy demand. It is these wireless innovations that allow easy and effective utility and/or customer control of the potential demand reductions.

These features result in per luminaire savings of 0.084 kW and 181 kWh for the dimmable T5 lighting systems with an additional 0.052 in additional demand reduction if dimming is actively controlled.

Lost Opportunities that are addresses by this Program

By increasing awareness and interest in the performance and energy saving benefits of the OASys advanced indirect cooling and RetroLux T5 dimmable lighting systems, this demonstration program is designed to preempt potential lost opportunities such as:

1) Customers replacing failing compressor based AC equipment with conventional compressor based AC equipment.

   Air cooling retrofits offers a limited opportunity for energy efficiency, usually at the time of unit failure. However, OASys is ideal for the small-medium business segment as well as the school portable market in the warm, dry Southern California climate. School portables are particularly well-suited and are currently at the beginning of a major construction cycle.

2) Customers replacing T12 lighting with non-dimmable lighting thereby losing the demand response capabilities.

   Currently, many lighting retrofits are driven by the short payback periods based on their significant energy savings. However, once a customer installs energy efficient lighting, it becomes less cost effective to add dimming and demand response capabilities due to the incremental cost. By integrating the dimming and demand response capability into the system at the initial time of retrofit, the incremental cost is decreased and has a much lower impact on the payback. Thus, this technology is most cost effective when retrofit as both an energy and demand saving project.

This program avoids these lost opportunities by leveraging the “hands on” demonstrations to increase product awareness with end customers such as schools, colleges, cities, and other businesses as well as contractors and other equipment specifiers.

Demand Response potential

This demonstration has a demand response component: the RetroLux T5 dimmable lighting systems have the potential for utility dispatched demand response via utility dispatched dimming of the lighting levels. Briefly, the idea is that gradual dimming of the lighting to a customer accepted level would have little effect on many end users but would have a positive aggregate effect on the instantaneous demand on the

grid. This would involve an agreement between the utility and the utility customer regarding acceptable dimming levels and their timing.

IOU Portfolio Fit for Program

This program fits the IOU portfolio by:

1) Integrating demand response with energy efficiency, specifically with the RetroLux T5 lighting systems which are demand response capable. Further, the OASys cooling systems contribute heavily to reducing the baseline peak demand compared to compressor based cooling.
2) Preempting lost opportunities by ensuring that current equipment replacements maximize potential energy saving benefits through the installation of technologies that offer benefits beyond the standard retrofit or replacement measures. For example, the OASys systems with 40+ SEER will be installed in lieu of typical 14 SEER equipment and the RetroLux dimmable T5 lighting systems will be installed in lieu of typical T8 equipment without dimming capability. It is much more cost effective to make these technology improvements and the gain the resulting energy savings in a single step; a process with a standard interim technology would likely prohibit the implementation of these technologies as it would reduce the cost effectiveness.
3) Seeking to mainstream new technologies into the IOU's core energy efficiency offerings within the timeline of this program. Based on the financial analysis above, these technologies would be a very cost effective addition to the IOU's core portfolio.

7. Program Outcomes

The program has three primary objectives:

1) Demonstrate, measure, and document the energy and demand savings of the OASys and dimmable T5 lighting systems for SUHSD as a precursor to district wide implementation;
2) Demonstrate, measure, and document the energy and demand savings of the OASys and dimmable T5 lighting systems for the IOU to validate these technologies as part of the SDG&E's EE portfolio; and
3) Demonstrate, measure, and document the energy and demand savings of the OASys and dimmable T5 lighting systems for SDG&E customers to promote broad scale implementation of the technologies.

8. Program Strategy

Nonresidential Benchmarking

This program will benchmark the performance, energy savings, and cost effectiveness of the OASys indirect/direct evaporative cooling and RetroLux dimmable T5 lighting technologies.

Nonresidential Technology Commercialization
This program will demonstrate the performance, energy savings, and cost effectiveness of the OASys indirect/direct evaporative cooling and RetroLux dimmable T5 lighting technologies to utility customers for the purpose of commercialization.

8.1.1. Program Strategy Description

Nonresidential Benchmarking

This program will benchmark the performance, energy savings, and cost effectiveness of the OASys indirect/direct evaporative cooling and RetroLux dimmable T5 lighting technologies.

Nonresidential Technology Commercialization

This program will demonstrate the performance, energy savings, and cost effectiveness of the OASys indirect/direct evaporative cooling and RetroLux dimmable T5 lighting technologies to utility customers for the purpose of commercialization.

Both of the above strategies are integrated in the program methodology described below:

Activity 1 Identify sites where both technologies can be demonstrated concurrently to maximize demonstration accessibility. This involves cursory audits of the HVAC units and lighting systems.

Activity 2 Rank potential sites based upon factors such as retrofit and replacement potential, location, climate, accessibility, and occupant inclinations. This involves selecting sites with identified retrofit candidates, locations near major freeways, inland climates with significant cooling needs, lower sensitivity to the demonstration traffic, and occupant approval.

Activity 3 Choose 2 primary demonstration sites and 2 alternate sites from the ranked list. This involves working with SUHSD, Davis Energy Group, and EnergySolve to ensure that the sites meet all program criteria.

Activity 4 Audit 2 primary sites to build equipment work order. This involves HVAC and lighting audits of the portable classrooms and lighting audits of the permanent classrooms and offices.

Activity 5 Conduct pre-installation inspection. This involves an approved utility inspection of the site to verify pre-installation conditions.

Activity 6 Initiate baseline energy usage measurements and conditions for the 2 primary sites. This will involve utility bill analysis and equipment monitoring. This activity will begin immediately once the sites are selected to maximize pre-installation data collection.

Activity 7 Issue work orders for OASys and T5 equipment. This will involve compiling equipment orders based on the audit data and tentative installation schedules. The ship-to address will be the District offices.

Activity 8 Schedule installations and issue work orders for installations. This will involve scheduling the subcontractors. Preliminary installation schedules will be provided to subcontractors upon project commencement for rough planning purposes and they will be updated regularly.

Activity 9 Receive equipment. The equipment will be received and temporarily stored at the District offices.

Activity 10 Install equipment. This will involve HVAC subcontractors for the OASys and lighting subcontractors for the RetroLux T5 lighting. Subcontractors will be responsible for transporting materials to the installation sites, providing necessary installation hardware not included with the equipment, removing the equipment, installation the new equipment, performing initial operational tests, cleaning up the job sites, and properly disposing of all materials removed including fluorescent lamps.

Activity 11 Install monitoring apparatus and initiate data collection. For OASys, this will involve Davis Energy Group installing appropriate apparatus to measure the energy savings using a similar methodology to that used for the CEC funded testing. For RetroLux T5 lighting, this will involve EnergySolve setting up their data collection system providing real-time analysis of energy and demand consumption.

Activity 12 Conduct post-installation inspection. This involves an approved utility inspection of the site to verify post-installation conditions.

Activity 13 Conduct post-installation customer/user/occupant surveys. This involves written and verbal surveys to gather feedback on occupant comfort including temperature, noise, and lighting levels. Further, site maintenance

personnel will be surveyed to identify any maintenance concerns.

Activity 14 Schedule demonstration visits with utility and other customers. This will involve a highly coordinated effort between SUHSD, SDG&E, and potential customers. The schedule will be created to maximize site access for potential customers.

Activity 15 Collect and analyze monitored data. For OASys, this will involve Davis Energy Group's analysis of the data from the ongoing data collection. For RetroLux T5 lighting, this will involve EnergySolve's analysis of the data from the ongoing data collection.

Activity 16 Document case study of technologies and energy savings. For OASys, this will involve documenting Davis Energy Group's analysis of the data from the ongoing data collection. For RetroLux T5 lighting, this will involve documenting EnergySolve's analysis of the data from the ongoing data collection

Activity 17 Close out project. This will involve SUHSD and SDG&E and will include final reports and transfer of program materials to the utility if desired.

8.1.2. Program Indicators

1) Published (print and internet) case study of the OASys cooling technology, broken down for the 2 sites and for any portable classrooms that exhibit vastly different conditions and results.

   Deliverable: 2,500 printed case studies delivered.

2) Published (print and internet) case study of the dimmable T5 lighting technology, broken down for the 2 sites and for any classrooms that exhibits vastly different conditions and results.

   Deliverable: 2,500 printed case studies delivered.

3) Published (print and internet) specification and information sheets for the OASys cooling system. The printed material is detailed below:

   Deliverables: 2,500 printed specification sheets and 2,500 printed marketing brochures delivered.

4) Published (print and internet) specification and information sheets for the dimmable T5 lighting system.

   Deliverables: 2,500 printed specification sheets and 2,500 printed marketing brochures delivered.

5) Website with program overview including weekly updates on key metrics and links to all program documents including case studies, specification sheets, and product brochures. Website will include contact information for program representatives such as telephone numbers and email addresses. Site will be linked with SUHSD, SDG&E, Intergy's, and other appropriate sites.
6) 12 "open house" events to demonstrate the technology to the utility and other utility customers. Program representative will be in attendance. Events will be coordinated and jointly advertised with entities such as SDREO.
7) Demonstration appointments will be coordinated for customers unable to attend scheduled "open house" events.
8) Pre- and post-construction meetings with SUHSD as necessary to coordinate installations and close out project.
9) Ongoing gross savings of 93,520 kWh and 62 kW from demonstration equipment.

9. Program Objectives

The program has three primary objectives:

1) Demonstrate, measure, and document the energy and demand savings of the OASys and dimmable T5 lighting systems for SUHSD as a precursor to district wide implementation;
2) Demonstrate, measure, and document the energy and demand savings of the OASys and dimmable T5 lighting systems for the IOU to validate these technologies as part of the IOU's EE portfolio; and
3) Demonstrate, measure, and document the energy and demand savings of the OASys and dimmable T5 lighting systems for IOU customers to promote broad scale implementation of the technologies.

All three of these objectives are tied to ultimately mainstreaming these technologies by offering them with SDG&E's core energy efficiency programs.

10. Program Implementation

Included below is a brief description of the various steps that are involved during the implementation process:

- Identify sites where both technologies can be demonstrated concurrently to maximize demonstration accessibility. This involves cursory audits of the HVAC units and lighting systems.
- Rank potential sites based upon factors such as retrofit and replacement potential, location, climate, accessibility, and occupant inclinations. This involves selecting sites with identified retrofit candidates, locations near major freeways, inland

climates with significant cooling needs, lower sensitivity to the demonstration traffic, and occupant approval.

- Choose 2 primary demonstration sites and 2 alternate sites from the ranked list. This involves working with SUHSD, Davis Energy Group, and EnergySolve to ensure that the sites meet all program criteria.
- Audit 2 primary sites to build equipment work order. This involves HVAC and lighting audits of the portable classrooms and lighting audits of the permanent classrooms and offices.
- Conduct pre-installation inspection. This involves an approved utility inspection of the site to verify pre-installation conditions.
- Initiate baseline energy usage measurements and conditions for the 2 primary sites. This will involve utility bill analysis and equipment monitoring. This activity will begin immediately once the sites are selected to maximize pre-installation data collection.
- Issue work orders for OASys and T5 equipment. This will involve compiling equipment orders based on the audit data and tentative installation schedules. The ship-to address will be the District offices.
- Schedule installations and issue work orders for installations. This will involve scheduling the subcontractors. Preliminary installation schedules will be provided to subcontractors upon project commencement for rough planning purposes and they will be updated regularly.
- Receive equipment. The equipment will be received and temporarily stored at the District offices.
- Install equipment. This will involve HVAC subcontractors for the OASys and lighting subcontractors for the RetroLux T5 lighting. Subcontractors will be responsible for transporting materials to the installation sites, providing necessary installation hardware not included with the equipment, removing the equipment, installation the new equipment, performing initial operational tests, cleaning up the job sites, and properly disposing of all materials removed including fluorescent lamps.
- Install monitoring apparatus and initiate data collection. For OASys, this will involve Davis Energy Group installing appropriate apparatus to measure the energy savings using a similar methodology to that used for the CEC funded testing. For RetroLux T5 lighting, this will involve EnergySolve setting up their data collection system providing real-time analysis of energy and demand consumption.
- Conduct post-installation inspection. This involves an approved utility inspection of the site to verify post-installation conditions.
- Conduct post-installation customer/user/occupant surveys. This involves written and verbal surveys to gather feedback on occupant comfort including

temperature, noise, and lighting levels. Further, site maintenance personnel will be surveyed to identify any maintenance concerns.

- Schedule demonstration visits with utility and other customers. This will involve a highly coordinated effort between SUHSD, SDG&E, and potential customers. The schedule will be created to maximize site access for potential customers.
- Collect and analyze monitored data. For OASys, this will involve Davis Energy Group's analysis of the data from the ongoing data collection. For RetroLux T5 lighting, this will involve EnergySolve's analysis of the data from the ongoing data collection.
- Document case study of technologies and energy savings. For OASys, this will involve documenting Davis Energy Group's analysis of the data from the ongoing data collection. For RetroLux T5 lighting, this will involve documenting EnergySolve's analysis of the data from the ongoing data collection
- Close out project. This will involve SUHSD and SDG&E and will include final reports and transfer of program materials to the utility if desired.

Key Team Personnel

The key personnel for the OASys cooling and dimmable T5 lighting demonstration program are listed below:

Intergy Team

Richard Fox, P.E.—project lead, senior mechanical engineer

Gary Don Lupo—project consultant

Bart Wallace, CLEP, CEM—project consultant

SUHSD Team

Jim Clark, SUHSD—District Energy/Utility Manager

Evaluation and Measure Team

Davis Energy Group led by Mark Berman

EnergySolve led by Lynn Sutcliff

Detailed resumes are attached in the Appendix.

Team Qualifications

For the technical evaluations of this program, Intergy will team with the Davis Energy Group to monitor and evaluate the OASys technology and EnergySolve to monitor and evaluate the RetroLux T5 dimmable lighting. Independent oversight of the evaluation process will be provided by Aloha Systems.

The Davis Energy Group has evaluated previous OASys installations as part of a CEC funded study. The results of this evaluation have been published in March 2004 as the Development of an Improved Two –Stage Evaporative

Cooling System prepared for the California Energy Commission Public Interest Energy Research (PIER) Program. The evaluation involved testing the OASys units in modular classrooms. Given that the installation in this proposed program is in modular classrooms, Davis Energy Group has the tools, techniques, and experience required to assess this technology.

EnergySolve has assembled Internet based monitoring for the RetroLux T5 dimmable lighting systems for existing customers, and has used this monitoring for customer installations under SCE's 2004-2005 IDEEA program. Using both measured and calculated baselines, their Internet based monitoring captures the key parameters required to asses the energy and demand savings of this technology and thus they have the tools, techniques, and experience required to assess this technology.

Aloha Systems has experience evaluating various energy efficiency programs including similar third party programs such as this demonstration program. They have the tools, techniques, and experience required to oversee, measure, and evaluate the processes involved in this demonstration project.

Product Manufacturers

The OASys advanced indirect evaporative cooling system is manufactured by Speakman CRS.

The RetroLux dimmable T5 lighting system is manufactured by Westinghouse.

Intergy has no financial relationship with either Speakman CRS or Westinghouse. Intergy's sole relationship with Speakman CRS and Westinghouse is limited to encouraging and verifying equipment availability for the pursuit of various energy saving efforts.

For the purpose of the demonstration project, Speakman CRS (OASys manufacturer) and Westinghouse (Dimmable T5 manufacturer) will:

1) Provide the demonstration equipment and
2) Honor the equipment warrantees and guarantees.

The next table below outlines the primary actions and milestones of the SEDRP. Program milestones are shown in **bold**.

2006-2008 Energy Efficiency Programs
Sweetwater School District Demonstration Program Concept Paper

Materials/Actions	Start	End	Timeline											
			2006				2007				2008			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Project start	Jan 2006		**X**											
Submit demonstration plan proposal to SDGE		Jan 2006	**X**											
Select demonstration sites		Feb 2006	**X**											
Access and usage agreement		Feb 2006	**X**											
Install equipment	Apr 2006	Oct 2006		X	X	X								
Monitoring	May 2006	Sep 2008	-	X	X	X	X	X	X	X	X	X	X	
Data Collection	May 2006	Sep 2008	-	X	X	X	X	X	X	X	X	X	X	
Evaluation	Jun 2006	Nov 2007	-	X	X	X	X	X	X	X				
Deliverables			-											
Develop customer database	Mar 2006	Nov 2008	-	X	X	X	X	X	X	X	X	X	X	X
Develop marketing collateral	Mar 2006	Nov 2007	-	X	X	X	X	X	X	X				
Specification sheets and product brochures-OASys cooling systems 2,500 pieces	Mar 2006	Jun 2006	-	X										
Specification sheets and product brochures-T5 lighting systems 2,500 pieces	Mar 2006	Jun 2006	-	X										
Case studies-OASys cooling systems 2,500 pieces	Jul 2006	Nov 2007	-		X	X	X	X	X	X				
Case studies-T5 lighting systems 2,500 pieces	Jul 2006	Nov 2007	-		X	X	X	X	X	X				
Develop website with links to all program materials	Mar 2006	Nov 2007	-	X	X	X	X	X	X	X				
Contact potential customers	May 2006	Sep 2008		X	X	X	X	X	X	X	X	X	X	
Distribute marketing collateral	Jul 2006	Sep 2008			X	X	X	X	X	X	X	X	X	
Develop "open house" events	May 2006	May 2006	-	X										
Schedule events	May 2006	May 2006	-	X										
Coordinate "open house" events	Jul 2006	Sep 2008	-		X	X	X	X	X	X	X	X	X	
Program monthly reports	Mar 2006	Dec 2008		X	X	X	X	X	X	X	X	X	X	X
Program M & V	Jul 2006	Dec 2008			X	X	X	X	X	X	X	X	X	X
Program final reports	Nov 2008	Dec 2008												**X**
Project close out		Dec 2008												**X**

Host Site

One of the primary strengths of this demonstration program is the choice of Sweetwater Union High School District as the demonstration site. Not only is the District proactive in pursuing energy efficiency upgrades as evidenced by their participation in SDG&E's BID program, including completing a retrofit project with Intergy, they also have a large inventory of the type of facilities this demonstration program targets: modular classrooms, the ideal application for the OASys technology, and classrooms with existing T12 lighting, the ideal application for the RetroLux T5 dimmable lighting.

At the SUHSD demonstration sites, the OASys cooling systems will be installed on portable classrooms to replace the current compressor based cooling systems. As mentioned above, the OASys units were specifically designed for and tested in this environment and will meet and exceed recommended comfort levels while improving indoor air quality since they pull in fresh intake air versus recirculation.

At the SUHSD demonstration sites, the dimmable T5 lighting systems will be installed in classrooms, offices, and other spaces that either benefit from variable light levels or have adequate access to daylight to maintain full light levels with reduced lighting power densities.

As the program host, SUHSD will:

1) Provide access to the mutually selected sites,
2) Attend pre- and post-construction meetings as required, and
3) Accept the demonstration equipment, installation, program results, and resultant energy savings as sole compensation.

SUHSD is not expecting any payments under this program but does except to keep the installed retrofit equipment.

The host site requirements are:

1) Adequate potential to achieve retrofit and replacement equipment program goals,
2) Appropriate climate (climate zone 10) to fully demonstrate OASys cooling system performance and energy savings,
3) Convenient location for utility and utility customer access for demonstration purposes,
4) Accessibility for utility and utility customer access for demonstration purposes, and
5) Appropriate occupant inclinations.

11. Customer Description

Sweetwater Union High School District—SUHSD is a secondary educational district with facilities located in the general geographic area around Chula Vista.

The ultimate objective of this program is to mainstream the targeted two technologies with SDG&E's mainstream energy efficiency programs – thus expanding the utilization of the technologies throughout SDG&E's service territory

As a demonstration program, the market impact percentage is insignificant. However, the purpose of the demonstration is to impact the greater market of school districts and businesses in SDG&E territory.

12. Customer Interface

The primary customer, SUHSD, is already aligned with the program. As a demonstration program, the general customer interface will be direct demonstration of the technologies and distribution of case studies via print and Internet.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

N/A

13.2. kWh Level Data

N/A

13.3. Non-energy Activities

All activities in this demonstration program are directly related to installations with SUHSD and the demonstration of the installations to the utility and utility customers to encourage broad scale implementation and the resulting energy savings. The non-energy activities of this program are documented below.

Additionally, the direct energy savings and potential broad scale energy savings would have related non-energy benefits such as green house gas reductions.

13.3.1. Activity Description

1) Published (print and internet) case study of the OASys cooling technology, broken down for the 2 sites and for any portable classrooms that exhibit vastly different conditions and results.

   Deliverable: 2,500 printed case studies delivered.

2) Published (print and internet) case study of the dimmable T5 lighting technology, broken down for the 2 sites and for any classrooms that exhibits vastly different conditions and results.

   Deliverable: 2,500 printed case studies delivered.

3) Published (print and internet) specification and information sheets for the OASys cooling system. The printed material is detailed below:

   Deliverables: 2,500 printed specification sheets and 2,500 printed marketing brochures delivered.

4) Published (print and internet) specification and information sheets for the dimmable T5 lighting system.

   Deliverables: 2,500 printed specification sheets and 2,500 printed marketing brochures delivered.

5) Website with program overview including weekly updates on key metrics and links to all program documents including case studies, specification sheets, and product brochures. Website will include contact information for program representatives such as telephone numbers and email addresses. Site will be linked with SUHSD, SDG&E, Intergy's, and other appropriate sites.

6) 12 "open house" events to demonstrate the technology to the utility and other utility customers. Program representative will be in attendance. Events will be coordinated and jointly advertised with entities such as SDREO.

7) Demonstration appointments will be coordinated for customers unable to attend scheduled "open house" events.

13.3.2. Quantitative Activity Goals

1) Published (print and internet) case study of the OASys cooling technology, broken down for the 2 sites and for any portable classrooms that exhibit vastly different conditions and results.

   Deliverable: 2,500 printed case studies delivered.

2) Published (print and internet) case study of the dimmable T5 lighting technology, broken down for the 2 sites and for any classrooms that exhibits vastly different conditions and results.

   Deliverable: 2,500 printed case studies delivered.

3) Published (print and internet) specification and information sheets for the OASys cooling system. The printed material is detailed below:

   Deliverables: 2,500 printed specification sheets and 2,500 printed marketing brochures delivered.

4) Published (print and internet) specification and information sheets for the dimmable T5 lighting system.

   Deliverables: 2,500 printed specification sheets and 2,500 printed marketing brochures delivered.

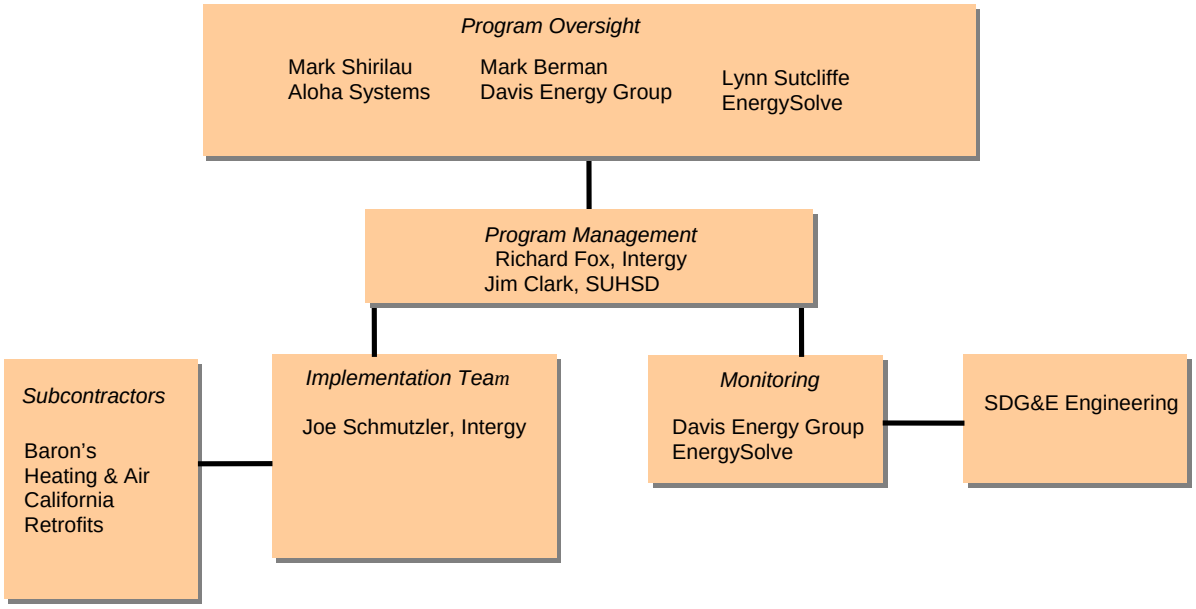
13.3.3. Assigned attributes of the activity (market sector, end use)

OASys activities—all educational and all commercial cooling

RetroLux T5 activities—all educational and all commercial lighting

14. Subcontractor Activities

The program organizational chart is shown below and followed by the subcontractor activities:



The subcontractor activities are:

1) OASys cooling system installations will be performed by a licensed HVAC subcontractor.
2) RetroLux dimmable T5 lighting installations will be performed by a subcontractor.

The next table summarizes the roles for each of the participating entities.

2006-2008 Energy Efficiency Programs
Sweetwater School District Demonstration Program Concept Paper

	Description of Role/Entity	Intergy	SUHSD	Davis Energy Group & EnergySolve	Aloha Systems	Sub-contractors
1.0	**Administrative Activities**					
1.1	Completion of CPUC filing documents	Lead	Support			
1.2	Coordination/communication among partners	Support	Lead			
1.3	Preparing overall schedule & role definitions	Support	Lead			
1.4	Submission of reports to CPUC	Lead	Support			
1.5	Overall tracking of project and expenses	Lead	Support			
1.6	Making payments to subcontractors	Lead				
1.7	Overall preparation of reports	Lead	Support			
1.8	Development of online application for tracking	Lead				
1.9	M&E coordination	Support	Support	Support	Lead	
2.0	**Installation Activities**					
2.1	Development of guidelines for projects	Lead	Support	Support		
2.2	Development of monitoring guidelines	Support	Support	Lead		
2.3	Development of quality control guidelines	Support	Lead			
2.4	Initial identification of project sites	Support	Lead			
2.5	Development of detailed project calculations	Lead	Support	Support	Support	
2.6	Development of final project proposal	Support	Lead			
2.7	Finalize projects sites	Support	Lead			
2.8	Project scope finalization	Lead	Support			
2.9	Contracts with subcontractors	Lead	Support			
2.10	Coordination of overall implementation	Lead	Support			
2.11	Implementation of retrofits	Support	Support			Lead
2.12	Post implementation checks	Support	Lead	Support		Support
2.13	Reporting of project details to utilities	Lead	Support	Support		Support
2.14	Monitoring and Measurement	Support	Support	Lead		
3.0	**Marketing and Outreach Activities**					
3.1	Development of customer database	Lead	Support			
3.2	Development of marketing collateral	Lead	Support	Support		
3.3	Development of program website	Lead	Support	Support		
3.4	Scheduling of "open house" events	Support	Lead			
3.5	Contact potential customers	Lead	Support			
3.6	Distribution of marketing collateral	Lead	Support			
3.7	Coordination of "open house" events	Support	Lead			

15. Quality Assurance and Evaluation Activities

As a demonstration program, all installed equipment will not only be 100% inspected but will also be monitored to collect data for the case studies. Quality assurance activities will be:

1) Complete verification of all installations.
2) Complete verification of proper operation of all installations as judged by measured energy savings and occupant feedback.

16. Marketing Activities

The primary program level marketing will involve distributing project documentation including case studies, specification sheets, and product brochures and advertising the open demonstration forum to appropriate customers. The tasks involved are:

1) Develop database of target customers, primarily other school districts but also including additional customers with modular or other similarly sized spaces cooled with traditional packaged units.
2) Contact target customers via phone, email, and mail.
3) Distribute program information including case studies, specification sheets, and product brochures to target customers.
4) Create website with program overview including weekly updates on key metrics and links to all program documents including case studies, specification sheets, and product brochures. Website will include contact information for program representatives such as telephone numbers and email addresses. Site will be linked with SUHSD, SDG&E, Intergy's, and other appropriate sites.
5) Advertise "open house" days at the demonstration sites when potential customers can experience the technologies first hand and speak with program representatives.
6) Host "open house" days including coordinating, advertising, and staffing.

17. CPUC Objective

The SUHSD demonstration program meets a number of the CPUC policy objectives as listed below. The paragraph numbering below corresponds to the policy objectives listed in Attachment 3 of the Energy Efficiency Policy Manual, Version 3.

1) It meets the objective of promoting cost-effective energy efficiency (based on the mainstreaming of the OASys cooling and RetroLux lighting technologies) as the number one priority in the loading order.
3) The mainstreaming of the OASys cooling and RetroLux lighting technologies will lead to greater energy efficiency and offset resource procurement costs, thus benefiting all ratepayers.

4) This demonstration program preempts lost opportunities as listed below:

Customers replacing failing compressor based AC equipment with conventional compressor based AC equipment.

Air cooling retrofits offers a limited opportunity for energy efficiency, usually at the time of unit failure. However, OASys is ideal for the small-medium business segment as well as the school portable market in the warm, dry Southern California climate. School portables are particularly well-suited and are currently at the beginning of a major construction cycle.

Customers replacing T12 lighting with non-dimmable lighting and thereby loosing the demand response capabilities.

Currently, many lighting retrofits are driven by the short payback periods based on their significant energy savings. However, once a customer installs energy efficient lighting, it becomes less cost effective to add dimming and demand response capabilities due to the incremental cost. By integrating the dimming and demand response capability into the system at the initial time of retrofit, the incremental cost is decreased and has a much lower impact on the payback. Thus, this technology is most cost effective when retrofit as both an energy and demand saving project.

6) The SEDRP helps in the creation of a balanced program because the OASys cooling technology is applicable to small commercial spaces as well as residential housing and the RetroLux T5 lighting is applicable across all commercial sectors.

7) Due to the monitoring and documentation process of the SEDRP, this program will clearly quantify the avoided green house gas emissions.

8) The SEDRP program deploys new technologies and helps to further their commercialization.

10) The SEDRP funds will be spent in the SDG&E territory for electrical energy efficiency gains.

Selecting this program would promote the policy objectives of the CPUC as demonstrated above.

SWEETWATER UNION HIGH SCHOOL DISTRICT
Energy/Utilities Department
1130 Fifth Avenue
Chula Vista, California 91911
Tel (619) 585-4440 Fax (619) 407-4979

November 7, 2005

Athena Besa
San Diego Gas & Electric
8326 Century Park Court
San Diego, CA 92123-4150

Subject: ***Letter in support of 2006-2007 SDG&E New Technology Demonstration Project***

Dear Ms. Besa:

On behalf of the Sweetwater Union High School District, this is letter is to indicate our interest in exploring Intergy's New Technology Demonstration Project re implementing Advanced Indirect Evaporative Cooling (IDEC) and high efficiency dimmable T5 lighting in our facilities. Both technologies appear to offer increased energy efficiency and potential demand reductions. This letter is to seek your support for the program.

The IDEC system replaces a typical compressor based cooling system and cuts demand during peak times. The dimmable T5 lighting offers offer utility dispatchable demand reduction. This demonstration project will not only demonstrate and measure these savings, but will also be used to determine if a broader implementation would be beneficial to the District.

Over the last two years, SUHSD has worked with SDG&E to implement various energy saving measures including equipment retrofits and vending machine controls funded under the BID program. SDG&E funding helped break down the traditional barriers to energy efficient upgrades, including limited funding. Once again, we look to SDG&E, in this case to support this demonstration project which may ultimately lead to a large scale implementation.

Lastly, in addition to demonstrating the technologies mentioned above, I believe this program will result in energy efficiency savings for SUHSD, and will contribute to the energy efficiency goals established by the California Public Utility Commission. I look forward to working with SDG&E and Intergy on its successful implementation.

Regards,

Jim Clark
Energy/Utilities Manager
Sweetwater Union High School District

Cc: Commissioner Kennedy, California Public Utilities Commission
Brian Prusnek, California Public Utilities Commission

Energy Savings for OASys Units and Retrolux Dimming System

Energy savings for the OASys cooling technology is based on the CEC PIER report *DEVELOPMENT OF AN IMPROVED TWO-STAGE EVAPORATIVE COOLING SYSTEM*, Document Number P500-04-016, Prepared by Davis Energy Group, March 2004. Refer to Table 4 Modular Classroom Energy Performance Projections on Page 30 for savings data specific to this proposal.

2006-2008 Energy Efficiency Programs
Sweetwater School District Demonstration Program Concept Paper

RICHARD FOX, P.E.
Senior Engineer

SUMMARY
Richard Fox is a mechanical engineer licensed in California. He has over 7 years of project management experience, a core background in lighting, and extensive experience with a range of energy efficient technologies.

EXPERIENCE

Intergy, Dublin, CA **2004 – Present**
Senior Engineer and Program Manager

- Program manager and chief engineer for the SCE 2004-2005 IDEEA Community College Program, a $1.2 million dollar program focused on achieving higher energy efficiency in the community college sector and saving over 6 million kWh. Responsible for all program aspects including marketing, project identification and quantification, incentive calculations, project implementation, project inspections, project closures, and regulatory reporting.
- Managing the 2004-2005 San Joaquin Energy IQ Program, a $600,000 third party program focused on energy audits and educational outreach in San Joaquin County. Responsible for all program aspects including marketing and marketing collateral, outreach activities, project implementation, and regulatory reporting. Managing the program's transition into the San Joaquin Energy Watch Partnership, a 2006-2008 PG&E Partnership Program.
- Managing the SCE 2004-2005 Pomona Energy Efficiency Program outreach and retrofit components with a budget of $300,000. Responsible for marketing and marketing collateral, outreach activities, and retrofit implementation and reporting. To date, the program has saved the City of Pomona over 260,000 kWh. Successfully implemented a comprehensive retrofit project for the City of Pomona.
- Managed the Sweetwater Union High School District and City of San Diego vending controls installation project funded through the SDG&E BID Program. Program savings of over 500,000 kWh have been independently verified.

Hubbell, Inc., Prescolite Division, San Leandro, CA **1997 – 2003**
Project Engineer; Controls Technical Product Coordinator

- Designed new lighting products. Responsible for all aspects of project management including planning, budgeting, design, transfer to manufacturing, and initial marketing support. Extensive lighting experience.

EDUCATION AND PROFESSIONAL DEVELOPMENT

Professional Engineer (P.E.), California license number 32740

Project Management Certification, 2005 (UC Berkeley Extension)

BS Mechanical Engineering, 1997 (University of California, Davis)

2006-2008 Energy Efficiency Programs
Sweetwater School District Demonstration Program Concept Paper

JIM CLARK (PROFILE)

Energy / Utilities Manager
Sweetwater Union High School District

Summary

Mr. Clark is in his 7th year at SUHSD as Energy Manager and has expanded responsibilities that include management of major utility concerns within the district. He has a BS from UC Irvine and a JD from University of SD, and has 30 years of business experience at all levels of business, from ownership to management to employee.

GARY DON LUPO

Project Engineer

SUMMARY

He has a wide experience in the energy and energy reduction field dating back to the early 1980's. He has been involved with building shell, HVAC, controls, even to building co-generation plants. His specialty is the engineering, design, and application of the latest technologies in lighting in retrofit applications. He has a history of large successful projects and working with utility companies to include any and all incentives. This experience covers working with retail, commercial, industrial, Government (including local, state, and Federal GSA, and US Military.

PAST EXPERIENCE

Lupo Electric, Murrieta, CA

Owner

Worked with various manufacturers, end users, and contractors to arrive at best engineered design for their project. Worked with various public agencies, manufacturers, and companies to engineer solutions to their lighting and energy projects. In some cases, worked as general contractor to allow them to utilize their own manpower under proper supervision to complete their own projects.

World Institute of Lighting and Development Corp
Western Regional Sales Manger

Built a distributor network for the product, established a network of specifiers, established a contractor network, established the project as the standard for the US Navy, US Marine Corp, and Federal GSA for the Homeland Security Areas. Established "case studies" of successful projects for the manufacturer with high profile projects than he had accomplished in 35 years, established a distributor network for the company in the Philippines, which has established links to international contractors.

American Lighting Specialists, Santee, CA
President and Sales Manager
Ran complete operations and sales for engineering and construction for lighting retrofit company.

Lupo & Associates, Lake Arrowhead, CA & Austin, TX
Sales, Engineering, Project Manager
Ran complete operations for engineering and construction for lighting retrofit company. Client base consisted of many Fortune 100 and 500 companies.

EDUCATION AND PROFESSIONAL DEVELOPMENT

Bachelor of Science, 1969 Louisiana Polytechnic Institute of Technology Ruston,LA

Licenses
"Certified Lighting Efficiency Professional" by Association of Energy Engineers.
"Certified Lighting Management and Energy Company" by Federal EPA
"Certified Green Lights Surveyor" by Federal EPA.
Licensed General Electrical C-10 Contractor by State of California.

2006-2008 Energy Efficiency Programs
Sweetwater School District Demonstration Program Concept Paper

Bart Wallace, CLEP, CEM
Project Manager

Summary
Highly motivated engineer with an in-depth knowledge of energy efficiency, renewable energy, energy auditing, financial analysis, and program management. Over 27 years experience in successfully executing and managing energy efficiency programs. He has overseen more than $10,000,000 in energy efficiency retrofit projects, managed energy conservation programs for PG&E that have saved millions of kWhs, and has trained 100s of energy professionals for various utilities in California.

Previous Experience:

Richard Heath & Associates
Program Manager

Jump started a $9M HTR "direct install" program in Los Angeles. Hired and trained 12 auditors and selected the installation contractor. Co-wrote the materials and installations standards and developed auditing and inspections procedures. Field tested and made recommendation for a PDA audit software. Established a baseline of 6 signed work orders per auditor per day with a 98% "extremely satisfied" rating buy participants.

Marin Energy Management Team

Energy Auditor
Tasks include providing full service audits to include payback analysis, financing, energy accounting, project management, green building and other conservation services to Marin County Schools and County Offices

Geo-Marine/Tetra Tech
Resource Efficiency Manager (REM)
In Misawa duties included: revived the energy plan to include demand-side projects, BM training, energy awareness, and specification review. In four weeks, developed over $2,000,000 in demand-side projects that qualified for ECIP, PIF, and FASCAP funding (with a cost saving ratio of 20/1). At Anderson, in addition to developing demand-side projects, proposed a supply-side solution for Andersen's expensive and unreliable power.

Daystar Energy
President
Duties included: site surveys, financial analysis, product specification, project management, bid walks, third party audits, Green Lights surveys. Awarded contract (7 consecutive years) to train new PG&E account representatives in energy efficient lighting. Taught over 100 lighting workshops funded by CEES, PG&E, SMUD, Sierra Pacific Power, Modesto Irrigation District. Auditor for San Francisco Commercial Retrofit Program (energy standards required when building ownership changed). Performed IGA lighting audits (including analysis, fixture and controls specifications and bid documents) as a subcontractor for a various clients including Bentley Engineering, KW Energy Engineering, Philips Engineering, & PG&E.

Pacific Gas & Electric
Conservation Supervisor, Program Coordinator
Supervisor implemented and developed audit procedures systemwide. Implemented Insulation Incentives Program, developed and managed contractor inspection and standards systemwide. Managed Conservation Financing Program with a staff of 20 and processed over $35,000,000 in loans.

Education and Training
B.A. Business Finance, San Francisco State University
- FEMP Implementing Renewable Energy Projects, Operations & Maintenance Certificate
- Member IESNA
- Investment Grade Audit Certificate, AEE
- Energy Accounting Certificate, AEE
- Certified Energy Manager (CEM), Association of Energy Engineers
- Certified Demand Side Management Professional, AEE

	SDGE3037 3P Sweetwater Schools Demonstration Program
BUDGET	
Administrative Costs	**$ 61,000**
Overhead and G&A	$ 9,150
Other Administrative Costs	$ 51,850
Marketing/Outreach	**$ 90,450**
Direct Implementation	**$ 98,350**
Total Incentives and Rebates	$ -
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 12,550
Installation	$ -
Hardware & Materials	$ 85,800
Rebate Processing & Inspection	$ -
EM&V Costs	**$ -**
Budget	**$ 249,800**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 249,800**
PROGRAM IMPACTS	
User Entered kW (kW)	-
Net Jul-Sept Peak (kW)	-
Net Dec-Feb Peak (kW)	-
Net NCP (kW)	-
Net CEC (kW)	-
Annual Net kWh	-
Lifecycle Net kWh	-
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 249,800
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (249,800)
BC Ratio	-
PAC	
Costs	$ 249,800
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (249,800)
BC Ratio	-
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

2006-2008 Energy Efficiency Programs
Time of Sale Energy Checkup (TOSEC) Concept Paper

1. Projected Program Budget

		2006	2007	2008
Administration				
	Administrative Overheads	$ 24,623	$ 24,623	$ 12,312
	Administrative Other	$ 40,584	$ 40,584	$ 20,292
Marketing & Outreach		$ 148,965	$ 148,965	$ 74,483
Direct Implementation				
	Activity	$ 95,741	$ 239,351	$ -
	Installation	$ -	$ -	$ 382,962
	Hardware & Materials	$ 24,527	$ 61,317	$ 98,107
	Procurement	$ 4,607	$ 11,517	$ 18,428
	Incentives	$ -	$ -	$ -
EM&V		$ -	$ -	$ -
Total		*$ 339,046*	*$ 526,358*	*$ 606,583*

2. Projected Program Impacts

2006			2007			2008		
Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms	Net kWh	Net kW	Net Therms
-	-	-	-	-	-	-	-	-

3. Program Cost Effectiveness

N/A

4. Program Descriptors

- Residential Retrofit
- Non-resource program (with significant resource tie-ins to be verified by EM&V study)
- Modified program
- SDG&E area
- Market Share Estimate: 7.5% (7,500 / 100,000 SDG&E area sales over 2 years)

Under the market-tested label **EnergyWise REALTOR®**[1], the Time of Sale Energy Checkup Program will work with California's largest and most respected residential real estate trade associations and the CA Department of Real Estate (DRE) to target licensed sales agents/brokers and qualified home inspectors active in the SDG&E territory. Qualified agents/brokers and home inspectors will receive energy efficiency training and incentives enabling agents to recommend and inspectors to provide time-of-sale energy checkup ratings.

[1] REALTOR is a registered trademark of the National Association of REALTORS. All Rights Reserved.

The program targets the core participants in the existing home "time-of-sale" market event: homebuyers and sellers (of single-family units, multifamily condominiums, and mobile homes), and most importantly the home inspectors and real estate professionals who serve them. Specifically, the program:

- Educates all three targeted groups about the financial, comfort, safety, and environmental benefits of an energy efficient home and motivates consumers to retro-commission and/or replace inefficient end-use equipment[2];
- Trains inspectors to provide, and gives real estate professionals incentives to recommend that their clients get an energy audit at the time-of-sale; and
- Provides consumers with direct-installed "free" measures and critical time-of-sale and follow-up tie-ins to the integrated demand-side management programs of the Investor Owned Utilities (IOUs), third-party program providers and other organizations (e.g., Flex Your Power, EPA ENERGY STAR®; California Building Performance Contractor program; local government residential initiatives, etc).

The program has been redesigned for SDG&E's 2006 – 2008 portfolio to produce verifiable short-term resources while preparing the market for the long-term savings potential of CASE initiatives at the time-of-sale. The underlying program delivery model has been documented to achieve verifiable short-term kWh and Therm savings and peak demand impacts within one year of each home sale in two independent EM&V studies (Ridge 2002; Mowris 2004). By leveraging REALTORS' natural desire to follow up with their prior and prospective clients, the program will continue to improve the average "audit measure adoption ratios", 31% and 46%, respectively, that were observed in those two studies.

5. Program Statement

The TOSEC program uses a proven direct incentive strategy (paid to cross-trained home inspectors) to overcome current market barriers to reliable and impartial information on the energy efficiency of an existing home at the time it is sold. In addition the program will mitigate organizational practices market barriers and achieve long-term market effects. It will do this by demonstrating via published testimonials from prominent industry representatives that time-of-sale HERS information – delivered on a voluntary basis by REALTORS and inspectors – does not impede real estate transactions. Most importantly for SDG&E's portfolio of the future, the program sets the stage for an ongoing partnership with EnergyWise REALTORS® at the time-of-sale comparable to what is now in place with ENERGY STAR® homebuilders at the time-of-construction.

Previous efforts to enlist REALTORS to promote energy efficiency have failed to fully understand and directly address their primary motivations, which are simply to

[2] Studies have shown that home improvements now average over $9000 in the first year of home ownership.

facilitate the closing of a purchase transaction and mutually meet the interests of both their clients and their businesses. Successful REALTORS are gifted sales persons, skilled at identifying the value point in any promotion. The TOSEC program communicates in REALTOR language through REALTOR channels. It gives them tangible sales aides and training on how to use energy efficiency, including the ENERGY STAR and Flex Your Power brands, to stand out from the competition, close deals more quickly, and show their clients they care about saving them money on their utility bills.

The theoretical justification for the TOSEC programmatic market intervention is based on well documented evidence (Mowris 2004; CALMAC GEO-01.1) that California homebuyers experience numerous market failures that undermine their ability to make informed economic decisions regarding the purchase, sale, and maintenance of residential properties.

Specific market barriers experienced include:

- Asymmetric information (real estate agent/seller vs. buyer)
- Transaction costs (search/hassle costs associated with finding an impartial energy assessment, qualified contractors, and/or payback information for cost effective home improvements)
- Product/service unavailability (unavailability of active home energy inspectors in many areas, unavailability of contractors, unavailability of training seminars designed specifically for time-of-sale home inspectors and REALTORS), and
- Performance uncertainties (regarding the relative professional qualifications of different inspectors, regarding the relative performance-related return on investment for various home energy efficiency improvements).

6. Program Rationale

Time-of-Sale: The "Golden Hour" for Making Existing Homes Energy Efficient

In the vast existing home sector, the time-of-sale period is the "Golden Hour," a time when influencing the homebuyer (or seller) can result in significant energy efficiency home improvements and upgrades that reduce consumer energy consumption and peak demand. Within the first 12 months following a sale, new homeowners frequently replace and upgrade systems and components that directly affect the home's energy bills and load profile. For higher income buyers, 90% of home improvements are made in this time period. Overall, 25% of spending in the first 2 years is for replacements – appliances, windows, HVAC and water heating systems, etc. Another 25% is spent on interior changes and additions. Clearly, if these homeowners can be influenced to make wiser choices and purchases in these areas, major energy savings and demand reductions can be achieved.

When a prospective California homebuyer decides on a particular home, over 80% pay for a professional home inspection, primarily to uncover any possible defects in the home prior to closing the transaction. The inspector, who generally has considerable experience in home systems and construction, physically inspects the major components of the home – roofing, structural, HVAC, etc. – and supplies the buyer with a written report detailing the condition of the components and identifying items in need of maintenance, repair, or replacement. This process typically takes 2 to 3 hours, depending on the size of the home.

By investing a small incremental amount of time while they are already on-site, an EnergyCheckup trained and certified inspector is able to gather the additional information required to complete an energy audit. As impartial third parties — the most trusted professionals in the real estate transaction process — home inspectors are the ideal market actors to deliver energy efficiency recommendations to California's electric and gas ratepayers at the time-of-sale.

With interest rates rising and California's real estate boom finally appearing to have run its course, the timing for a major new energy efficiency program initiative targeting the real estate sector couldn't be better.

7. Program Outcomes

The short term outcomes[3] resulting from the program activities will be:

- Establishment of a mutually beneficial working partnership between real estate professionals and energy efficiency policy makers that will provide a foundation for many years of successful market-oriented programs, business development, and culture change (for both market actors and policy makers)

- Increased awareness of, favorability toward, and satisfaction with time of sale energy ratings among consumers, inspectors, and REALTORS

- Significant consumer measure adoptions and energy-related behavioral practice changes resulting in verifiable first year energy efficiency and demand response impacts (both with and without utility rebates)

The intermediate term outcomes resulting from the program activities will be:

- Reduction in widespread transaction cost and organizational practices market barriers to the disclosure of energy efficiency ratings at the time of sale

- Increased interest and awareness among trained inspectors and REALTORS (and by diffusion among their peers) leading them to pursue additional or future year energy/resource continuing education opportunities on their own

- Development of local networks of "EnergyWise" professionals who are recognized by their peers and repeat clients to have above-average expertise in

[3] Baselines to be based on previous or updated independent EM&V studies.

energy and building performance related issues and are thus able to refer their clients to superior vendors of high performance products and more highly skilled service providers.

- Future year consumer measure adoptions and energy-related behavioral practice changes resulting in verifiable energy efficiency and demand response impacts (both with and without utility rebates; both directly and indirectly as a result of the original EnergyCheckup report)

The long term outcomes resulting from the program activities will be:

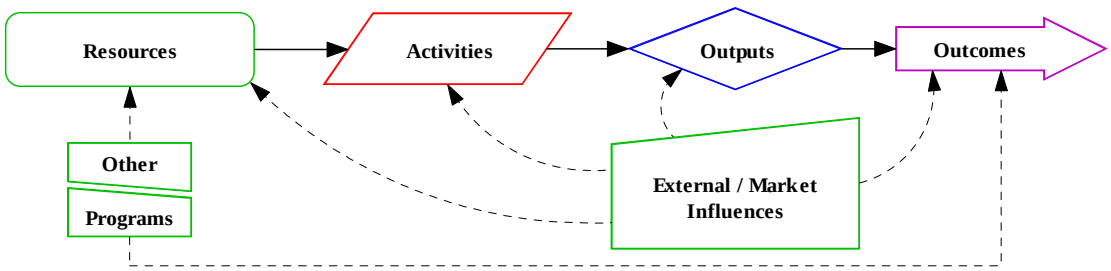
- Improved perception among consumers that EnergyWise partners (and by diffusion REALTORS in general) are more actively interested in ensuring that their clients benefit from a full and complete disclosure of all material conditions of a property at the time of sale

- A recognition by the CAR/NAR leadership that a time-of-sale energy rating system designed with extensive industry-input and delivered by traditional home inspectors is far less burdensome to REALTORS and less costly to their clients than other types of regulations that may be proposed for implementation at the time-of-sale

The individual Program Element logic model diagrams described below present a more systematic treatment of program activities and outcomes.

The program model (adapted from McLaughlin & Jordan, 1999 and other studies) assumes the use of Resources to provide Activities, which generate Outputs (for targeted program "customers") resulting in Outcomes (over the short, intermediate or long term). In addition, the normative program model is affected by External Influences as well as by Other Interventions.

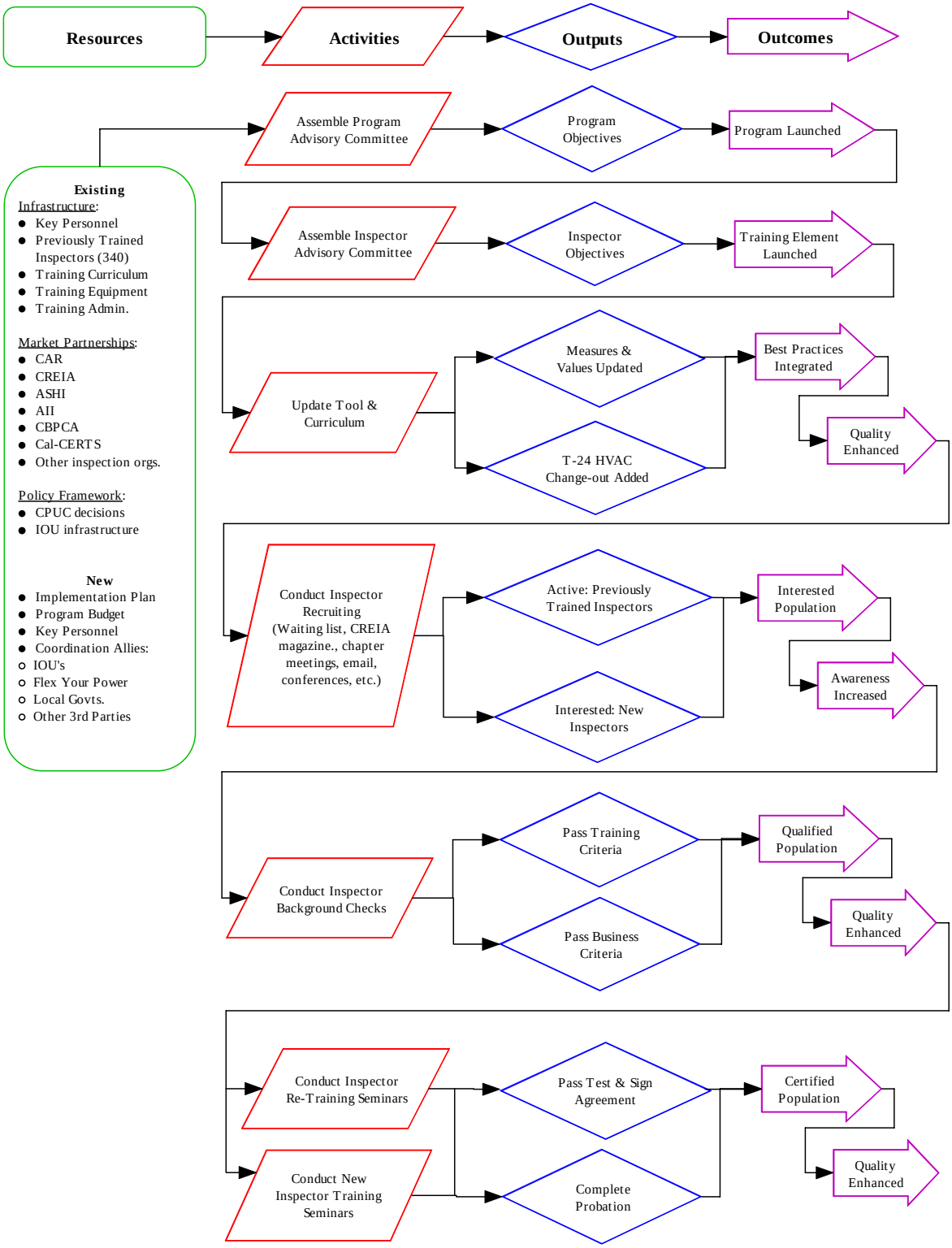
Logic Model: Outputs for the "Customers" Served



The figures on the following pages summarize the logic models for the Inspector and Realtor Outreach and Training Elements of the TOSEC program.

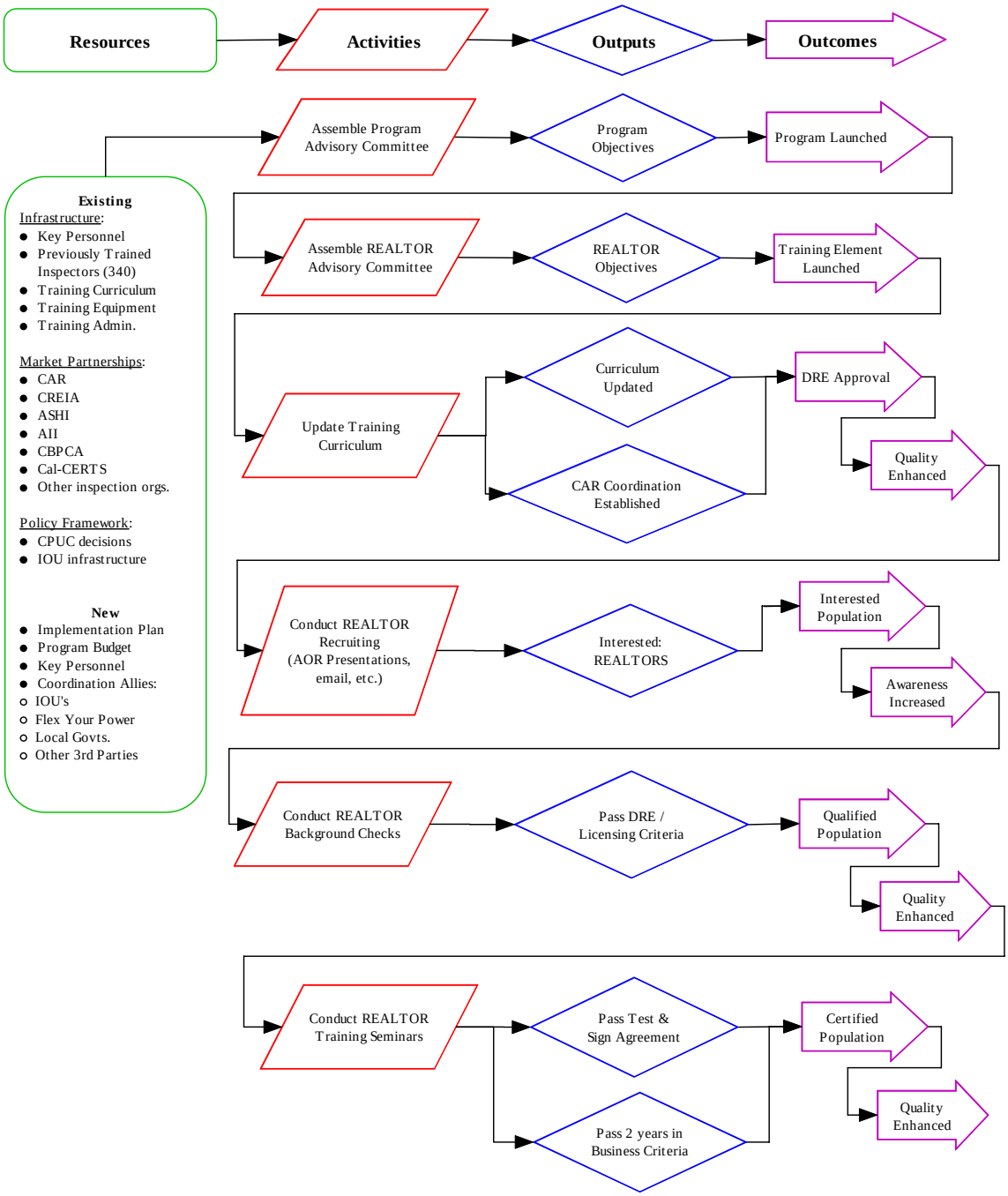
2006-2008 Energy Efficiency Programs
Time of Sale Energy Checkup (TOSEC) Concept Paper

Detailed Logic Model: Inspector Outreach & Training Element (Customers = Home Inspectors)



2006-2008 Energy Efficiency Programs
Time of Sale Energy Checkup (TOSEC) Concept Paper

Detailed Logic Model: REALTOR Outreach & Training Element (Customers = Agents/Brokers)



8. Program Strategy

Targeting Incentives to Real Estate Professionals to Avoid Lost Opportunities

The TOSEC program works with the residential real estate service industry's most respected trade organizations to target licensed sales agents/brokers and home inspectors with training and incentives. These program activities will directly increase the diffusion rate for time-of-sale energy-efficiency disclosure best practices.

The TOSEC program will employ the following program strategies:

- Residential Upstream Training
- Residential Audits
- Residential Direct Install
- Codes and Standards Advocacy, Training, and Enforcement

Each of these is briefly described below.

8.1.1. Program Strategy Description

Residential Upstream Training

The TOSEC program will use an upstream training strategy to:

- Establish a program advisory committee to set shared stakeholder objectives and overall program strategy
- Establish an inspector advisory committee to set inspector objectives and inspector outreach tactics
- Establish a REALTOR advisory committee to set REALTOR objectives and REALTOR outreach tactics
- Recruit inspectors and real estate agents to attend the training seminars
- Train professional home inspectors to provide comprehensive home energy audits at the time of sale
- Train REALTORS on the benefits (to themselves and their clients) of home energy audits at the time of sale
- Distribute Flex Your Power branded consumer information messages by means of EnergyWise REALTORS to educate SDG&E's most

recently moved customers on the benefits of making energy efficient home improvements and taking demand response actions.

Inspector targeted benefits will include:

- Subsidized training and equipment
- Continuing education credits (selected trade associations)
- Free software and sales and marketing aides
- A $35/home inspection fee payable to the inspector
- Ongoing technical support

REALTOR targeted incentives will include:

- Subsidized training
- Continuing education credits (DRE)
- Free sales and marketing aides and access to special promotions
- A free gift for each client that receives an EnergyCheckup (>$50 value)

The REALTOR training course will be based on an expanded (SDG&E and CAR approved) version of the one-hour curriculum, "Energy – Another Negotiating Tool", approved by the Division of Real Estate (DRE). Each licensed real estate agent in good standing with the DRE who signs an "*EnergyWise Partnership Agreement*" and completes the course will receive the following program benefits for at least one year:

- One+ hours of continuing education credit (per DRE guidelines)
- A local list of EnergyCheckup-trained and other qualified energy inspectors (e.g., CHEERS)
- Pre-printed presentation folders (5), to which the real estate agent can add his/her business card, and use to present to their clients the Home Energy Rating Report, rebate flyers, etc.
- A free "thank you gift" (for direct installation by the REALTOR in their own home), including:
    - Compact fluorescent lamps (average of 4/home, depending on audit[4])
    - LED holiday light string (1)

4 Special emphasis will be placed on replacing lamps in high use areas (e.g., R-30 & R-40 Kitchen recessed cans);

  - LED nightlight (1)
  - Low flow showerhead (1)
  - Faucet aerator (2)

- A similar free "thank you" gift, with the message "Compliments of _____, your EnergyWise REALTOR" (to be directly installed by the REALTOR at each property)
- Energy-efficiency themed "farming tools" for generating client referrals:
  - An e-newsletter (personalized with the REALTOR's name, picture, and contact info)
  - REALTOR-customized email alerts of "Flex Your Power Now" demand response events
  - Pre-printed customizable direct mail flyers (250 each; templates also available).
- "Homeowner Energy Alert" consumer brochures (100)

Residential Audits

The TOSEC program will use an audit strategy to:

- Provide residential customers with reliable and impartial information on the energy efficiency of an existing home at the time it is sold.
- Educate consumers about the financial, comfort, safety, and environmental benefits of an energy efficient home
- Identify specific cost effective opportunities to improve a particular home
- Motivate consumers to retro-commission and/or replace inefficient end-use equipment in their homes
- Leverage REALTORS' natural desire to follow up with their prior and prospective clients to improve the average "audit measure adoption ratio"
- Provide follow-up tie-ins to the integrated demand-side management programs of the Investor Owned Utilities (IOUs), third-party program providers and other organizations (e.g., Flex Your Power, EPA ENERGY STAR®; California Building Performance Contractor program; local government residential initiatives, etc).

Residential Direct Install

The TOSEC program will use a direct install strategy to:

- Identify specific cost effective opportunities to acquire utility demand-side resources by means of direct installation of energy efficiency measures
- Provide consumers with "free" low cost measures delivered and direct-installed as a "gift" from their EnergyWise real estate agent
- Demonstrate the improved aesthetics, performance, and value of current generation CFL and LED lighting products and low flow fixtures.

Codes and Standards Advocacy, Training, and Enforcement (CASE)

The TOSEC program will use a codes and standards training strategy to:

- Develop an ongoing partnership with EnergyCheckup home inspectors and EnergyWise REALTORS® at the time-of-sale comparable to what is now in place with Energy Star® homebuilders at the time-of-construction
- Cultivate real estate industry "champions" who will provide testimonials that voluntary time-of-sale energy audits are neither overly burdensome nor inflationary and actually significantly benefit REALTORS and clients.

8.1.2. Program Indicators

Upstream Training Indicators

- Recruit and train 500 local real estate agents and/or brokers on the benefits of including a home energy rating in time-of-sale home inspections
- Recruit, train, and equip at least 50 SDG&E-area home inspectors to provide incentivized time-of-sale home energy rating audits

Audit Indicators

- Generate 7,500 time-of-sale energy rating audits in SDG&E area

Direct Install Indicators

- Direct install 8,000 free energy saving close-of-escrow "thank you" gift kits via participating agents, and

- Publish press release documenting real estate agent support for TOSEC

9. Program Objectives

Key SDG&E-area objectives will be to:

- Recruit and train 500 local real estate agents and/or brokers on the benefits of including a home energy rating in time-of-sale home inspections
- Recruit, train, and equip at least 50 SDG&E-area home inspectors to provide incentivized time-of-sale home energy rating audits
- Generate 7,500 time-of-sale energy rating audits in SDG&E area
- Direct install 8,000 free energy saving close-of-escrow "thank you" gift kits via participating agents, and

10. Program Implementation

The program will begin as soon as a contract is in force (e.g., January 2006) and extend through December 2008:

- Program Set-up: 1/06 – 05/06
- Marketing & Outreach: 1/06 – 09/08
- Implementation: Home Inspector Training 5/06 – 8/06 and 1/07-3/07; REALTOR Trainings 5/06 – 10/08; Incentives: 5/06 – 12/08
- Administration/Coordination/Tracking/Reporting: Continuous (Final Report: 12/08)
- EM&V: Process Evaluation 05/06 – 07/06; Impact Evaluation 06/07 – 10/08 (1 year post audit)

To assemble the sales and implementation force in time for a rapid ramp up in Q1 2006, The GeoPraxis Team has already begun to coordinate with the California Real Estate Inspectors Association (CREIA; see attached letter of support) and the statewide leadership of the California Association of REALTORS[5]. We will network with selected local Associations of REALTORS® (Regions 24, 29, 30)[6] and Chapters of the Women's Council of REALTORS® (San Diego and North San Diego) to recruit and train at least 500 licensed EnergyWise REALTORS®, sales

5 The program has received support of influential members including at least one past-President of the organization.
6 San Diego, North San Diego, Coronado, East San Diego, Pacific Southwest, and Imperial Valley associations.

agents and brokers. Once they have completed the course, the program will provide each designated EnergyWise REALTOR with free lighting and DHW measures for their own home, plus credibility-enhancing publicity and promotional "farming" tools they can use to differentiate themselves and enhance their professional reputations.

Through CREIA and ASHI chapters and media, at least 50 SDG&E-area inspectors will be trained enhancing the state's existing infrastructure of over 340 EnergyCheckup™ inspectors and 500+ CHEERS® and CAL-Certs™ raters[7]. To be eligible for a $35 incentive on each home they inspect, participating inspectors must meet all of these minimum criteria:

1) Be certified by CREIA and/or the American Society of Home Inspectors[8]
2) Pass minimum background check and liability insurance requirements, and
3) Complete a 2-day building science fundamentals & energy-inspection training course[9]
4) Pass a proctored exam.

Local "EnergyWise Networking Events" will invite REALTORS, home inspectors, energy mortgage brokers, and specially trained home performance contractors together to establish and nurture awareness of their respective services.

REALTORS will also be offered the opportunity to participate in other special energy efficiency themed promotional events such as:

- Incandescent night light, holiday light and torchiere10 turn-in parties (LED and Energy Star fixture exchanges hosted and promoted by local real estate offices)
- Special advertising promotions (e.g., Flex Your Power awards, etc.)
- Home Staging seminars, featuring Energy Star products

A five-month start up period will ensure that the program will be well integrated into SDG&E's portfolio, and that a solid foundation for true statewide coordination can be set in place. The schedule anticipates EM&V of early participants.

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7 Source: Public Hearing testimony, CEC AB549 proceeding (June 2005).
8 Other inspector trade associations that can demonstrate equivalent or superior minimum professional standards will be considered as well.
9 Certified CHEERS and CAL-Certs existing home raters in good standing will be offered a streamlined training focusing on the TOS data collection procedures and the use of the EnergyCheckup software
10 Option – torchieres not included in savings calculations or budget.

11. Customer Description

The program targets the core participants in the existing home "time-of-sale" market event: homebuyers and sellers (of single-family units, multifamily condominiums, and mobile homes), and most importantly the home inspectors and real estate professionals who serve them. In the SDG&E territory, the program will be targeted to active real estate services professionals practicing in the counties served by SDG&E (53,455 home sales in 2004)[11].

Outreach will be accomplished by means of our tight coordination with the committees responsible for continuing education within the California Association of REALTORS (CAR – statewide), the San Diego Association of REALTORS (SDAR – locally), the California Real Estate Inspection Association (CREIA), and the American Society of Home Inspectors (ASHI). Other smaller but nevertheless active trade associations (Women's Council of REALTORS, American Institute of Inspectors, National Association of Home Inspectors, etc.) will also be approached for program design input and probable coordination.

12. Customer Interface

Consumers are most likely to first encounter the program by means of a recommendation from either their REALTOR or home inspector. A pre-existing consumer brochure ("Homeowner Energy Alert") describing the benefits of a time-of-sale EnergyCheckup is available in English or Spanish. Sample reports (Complete and "At-a-Glance") are also available in both languages. All pre-existing marketing materials will be reviewed (and updated if needed) to ensure SDG&E approval.

Consumers may also visit the website (www.EnergyCheckup.com) which has been featured on CNN and other national news outlets and where consumer learn how they too can benefit from an EnergyCheckup: "Because you deserve the comfort, safety, and cost-efficiency of an energy-wise home".

The EnergyCheckup HERS reporting system is much easier for customers to understand than traditional HERS reports. The program's most recent EM&V study reported that 96% (+/- 1%) of participating homebuyers surveyed found that the EnergyCheckup report was "Easy to Understand", with a mean "Overall Satisfaction with the Report" score of 3.5 on a scale of 4.0).

The report's unique online version is especially valuable because it is constantly updated with fresh information on locally available rebates and other valuable information. Within one-hour of data input by the home inspector, the consumer receives an email (in both English and Spanish) to alert them that their custom EnergyCheckup Report is available online. They may immediately download and print either the English or Spanish version of the report. However most often it is printed and provided to them directly by their inspector or real estate agent.

11 http://www.dqnews.com/ZIPCAR2004.shtm

The existing version of the EnergyCheckup report was developed in 2003. During the 2006 - 2008 program cycle, the report will be updated to integrate feedback from our last EM&V study, as well as continuous improvement recommendations provided over the past two years by consumer end users, utility executives, REALTORS, and home inspectors. SDG&E input will of course also be valued.

13. Energy Measures and Program Activities

13.1. Prescriptive Measures.

N/A

13.2. kWh Level Data

N/A

14. Non-energy Activities

14.1.1. Activity Description

- Recruit and train 500 local real estate agents and/or brokers on the benefits of including a home energy rating in time-of-sale home inspections
- Recruit, train, and equip at least 50 SDG&E-area home inspectors to provide incentivized time-of-sale home energy rating audits

14.1.2. Quantitative Activity Goals

- The program will generate 7,500 time-of-sale energy rating audits in SDG&E area.
- In addition, 8,000 low-cost ("free" to consumers) measure kits will be direct installed in the 7,500 rated homes and in the 500 homes of trained REALTORS

14.1.3. Assigned attributes of the activity (market sector, end use)

- Residential market sector attributes will be based on 2005 RASS study (QC; PG&E) and SDG&E-specific data.
- End uses: Lighting; HVAC; Refrigeration

15. Subcontractor Activities

Subcontractor Lois Kadosh, GRI, a practicing real estate broker, expert witness/litigation consultant and UC Berkeley Extension real estate instructor will be the primary liaison to CAR. A member of CAR's 2005 statewide Education, Cultural Diversity and Housing Affordability Committees, she is also 2005 President of the Berkeley Association of REALTORS®. Information Technology will be coordinated by Intergy Corporation, with specialized expertise (and

institutional memory) provided as needed by Green Building Studio and IQura (original developers of the website and EnergyCheckup tool). Engineering support will be provided for the review and update of the website, EnergyCheckup tool, and inspector training curricula by Bevilaqua and Knight and Proctor Engineering Group. CAL-Certs and the California Building Performance Contractors association will provide inspector training services.

16. Quality Assurance and Evaluation Activities

With input from our Program Advisory Committees and SDG&E, GeoPraxis shall revise our existing Certified Energy Inspector Quality Assurance program to conform to the CEC HERS Phase 2 standards that are expected to come into force during the course of the program. Our updated plan will certainly continue to involve monitoring of newly trained inspectors as well as annual follow up monitoring (per CEC, minimum 1 QA event per inspector per year). In addition, GeoPraxis will coordinate with a CPUC-approved EM&V contractor to inspect a sample of participant sites to verify hardware installations and measure adoptions (per EM&V protocols). A sample size sufficient to achieve 90% confidence (+/-10%) is anticipated. Customer, REALTOR, and Inspector satisfaction surveys will also be performed. This document shall also include our plan for addressing customer complaints (despite over 27,000 inspections, no EnergyCheckup complaints have been registered with CPUC to date). Senior level managers will be responsible for designing and implementing effective data accuracy, security and quality control processes and procedures to ensure that a satisfactory customer experience is achieved at the same time that all the various program tasks are accomplished.

17. Marketing Activities

The outreach techniques detailed above (including discounted training seminars and continuing education credits) have already been proven to be effective in recruiting Inspectors and REALTORS to training events. Awareness of inspector incentives has also been proven to drive audit activity. Major innovations will occur with the REALTOR targeted incentives (Realtor farming tools, Realtor FYP co-marketing, Realtor post-escrow gifts, etc.). EnergyWise REALTORS will also distribute at least 125,000 Flex Your Power branded consumer information messages to educate SDG&E's most recently moved customers on the benefits of making energy efficient home improvements and taking demand response actions.

18. CPUC Objectives

The program meets the most important CPUC Policy Manual Objectives by providing:

1. Cost-effective energy efficiency resources over the short and long term
2. Comprehensive "whole house" recommendations that encourage consumers to invest in efficiency beyond just "cream-skimming"

3. Minimizes lost opportunities by taking advantage of the low incremental cost of providing energy ratings at the Time of sale through coordination and training of market actor (home inspectors and realtors), and
4. Enable integrated DSM by encouraging demand response and renewal energy investments.

	SDGE3036 3P Tosec
BUDGET	
Administrative Costs	**$ 163,017**
Overhead and G&A	$ 61,558
Other Administrative Costs	$ 101,459
Marketing/Outreach	**$ 372,414**
Direct Implementation	**$ 936,556**
Total Incentives and Rebates	$ -
User Input Incentive	$ -
Direct Install Rebate	$ -
Direct Install Labor	$ -
Direct Install Materials	$ -
Activity	$ 335,092
Installation	$ 382,962
Hardware & Materials	$ 183,950
Rebate Processing & Inspection	$ 34,552
EM&V Costs	**$ -**
Budget	**$ 1,471,987**
Costs recovered from other sources	**$ -**
Budget (plus other costs)	**$ 1,471,987**
PROGRAM IMPACTS	
User Entered kW (kW)	-
Net Jul-Sept Peak (kW)	-
Net Dec-Feb Peak (kW)	-
Net NCP (kW)	-
Net CEC (kW)	-
Annual Net kWh	-
Lifecycle Net kWh	-
Annual Net Therms	-
Lifecycle Net Therms	-
Cost Effectiveness	
TRC	
Costs	$ 1,471,987
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (1,471,987)
BC Ratio	-
PAC	
Costs	$ 1,471,987
Electric Benefits	$ -
Gas Benefits	$ -
Net Benefits (NPV)	$ (1,471,987)
BC Ratio	-
Levelized Cost	
Levelized Cost TRC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/kWh)	
Discounted kWh	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost TRC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -
Levelized Cost PAC ($/therm)	
Discounted Therms	-
Cost	$ -
Benefits	$ -
Benefit-Cost	$ -

Attachment 6

San Diego Gas & Electric Company

Peer Review Group Report

Peer Review Group Assessment of San Diego Gas and Electric's Proposed Compliance Filing

Submitted to the California Public Utilities Commission

Prepared by
The San Diego Gas and Electric Peer Review Group:
Sylvia Bender, California Energy Commission
Michael Shames, Utility Consumers Action Network
Christine Tam, Office of Ratepayer Advocates, CPUC
Mark Thayer, San Diego State University
Devra Wang, Natural Resources Defense Council
Rachel McMahon, Energy Division, CPUC

Other PRG Members:
Rachel Harcharik, Itron, Inc.
Ariana Merlino, Energy Division, CPUC

February 1, 2006

Table of Contents

Executive Summary

As directed in Commission Decisions (D.) 05-01-055 and 05-09-043, this Peer Review Group (PRG) respectfully submits its assessment of San Diego Gas and Electric's (SDG&E) bid solicitation process and final program plans.

Ordering Paragraph No. 9 in D. 05-01-055 states that:

> *"For 2006 and beyond the IOUs shall submit compliance filings for Commission approval of final programs and make public all winning bids, as described in this decision. Written assessments of the PRGs shall be appended to these filings. If the PRG and IOU reach consensus in support of the proposed compliance plans, the IOU may file an advice letter. If consensus is not reached, the IOUs shall file supplemental compliance applications in the same docket that they filed their program planning applications. The IOUs shall file these compliance filings as soon as practicable after the Commission issues its approval of program plans and after completion of the peer review process described in this decision."*

This PRG has reached consensus with SDG&E in its proposed compliance filing, and supports SDG&E's in submitting this filing to the Commission via an advice letter.

This assessment covers the following four topics:

1. Review and assessment of the third party bid process, including consideration and treatment of statewide bids.
2. Review of statewide marketing and outreach.
3. Review of statewide coordination plans.
4. Review of changes made to utility programs since the June 1st filing and resulting changes in demand and energy savings and cost effectiveness of portfolio.

While the PRG provides recommendations for how the solicitation process could be improved in the future, we conclude that this competitive solicitation process was fair, open and transparent overall, and that SDG&E should file an advice letter for Commission approval of its program selections, consistent with D.05-01-055.

The PRG came to the following overall conclusions regarding the bid process:

- The competitive solicitation process was fair and generally open to potential bidders. SDG&E distributed the RFPs widely, accepted and considered any completed proposals, and provided the CPUC-approved criteria for evaluating bids in the RFPs. While SDG&E did accept and consider any completed proposals, the PRG believes that improvements should be made to SDG&E's bid submission process, and that expanded outreach to new potential bidders should be explored in the future.
- The PRG asked questions about SDG&E's application of the CPUC-approved scoring criteria and sub-criteria, discussed SDG&E's scores and proposed selections. By the time of filing, the PRG reached consensus that CPUC-approved selection criteria were applied appropriately and had no remaining questions or concerns about SDG&E's application of the criteria. However, reaching this point took more time and effort than anticipated, due in large part to the provision of criteria, sub-criteria and scoring protocols to the PRG late in the process. The PRG recommends that, in the future, the criteria, sub-criteria and scoring protocols should be provided and discussed much earlier in the process, before they are used to score bids.
- The competitive solicitation process has made the overall portfolio somewhat more innovative.

The PRG finds that only relatively minor changes have been made to local government partnership programs from the June application, and that there is no resultant significant effect on the programs themselves or the overall portfolio.

The SDG&E PRG concurs with the assessment in the Southern California Edison (SCE) PRG's report that marketing is a critical component to successful penetration of positive energy efficiency behavior statewide. We agree that statewide marketing and outreach programs must determine goals and strategies for their campaigns. The SDG&E PRG recognizes that measuring marketing impacts is a challenge, but that we must be able to measure outcomes and leading indicators, and match EM&V efforts with marketing plan objectives.

Decision (D.) 05-09-043 directs the utilities to include in their compliance filings additional program detail to reflect statewide coordination efforts that are identified in the joint case management statement (CMS) as incomplete. Attachment 8 to D.05-09-043 provides a planning schedule for the coordination of the following six statewide activities:

1. Marketing and outreach.
2. Manufacture/distribution/and retail programs and customer incentives.
3. Integration of energy efficiency/demand response/self generation-distributed generation (EE/DR/SGDG).
4. Emerging technology program planning.
5. Codes and standards, program participation agreements.
6. Competitive solicitations.

This report addresses competitive solicitations primarily. The SDG&E PRG concurs with, and defers to, the assessment of statewide coordination of marketing and outreach contained in the SCE PRG assessment report. Though the PRG has had only limited discussions with SDG&E and the other utilities on items 3, 4 and 5, we make recommendations in the respective sections for how these matters can be addressed by the IOUs on a coordinated basis in the early part of 2006.

The PRG believes that SDG&E and the other utilities are generally addressing item 2 (statewide coordination of manufacture/distribution/and retail programs and customer incentives), and recommends additional and ongoing coordination and refinement of the statewide programs. There are a number of outstanding statewide coordination issues at this time. The SDG&E PRG recommends that the utilities continue to refine their coordination plans and provide an update as part of a statewide PAG meeting to be held before the end of first quarter 2006, and that the utilities report back to the Commission on progress towards coordination of statewide programs and planning efforts by no later than April 1, 2006.

The PRG compared SDG&E's proposed compliance filing to its June 2005 application to consider whether the compliance filing improves the likelihood that the 2006-2008 proposed portfolio satisfies near-term savings targets and is cost-effective. We also considered the associated environmental benefits and the savings by end-use in this section. The data reflect that SDG&E continues to be generally on track to meet or exceed the CPUC established targets. Moving from the June application to the February compliance filing:

- 2006 -2008 projected energy savings in the June application are 120% of target, and 117% of target in the February compliance filing. There continues to be a sufficient margin of error in energy savings.

- The 2006-2008 projected peak demand savings in the June application are 130% of target, and 134% of target in the February compliance filing. As with energy savings this constitutes a sufficient margin of error relative to the CPUC objectives.

- There is a marked improvement in therm savings of the portfolio. In the June application, SDG&E did not have any margin or cushion, as projected savings were almost identical to the CPUC goals. However, in the February compliance filing, there is now a 23% margin of error. This demonstrates the effectiveness of the third party solicitation process in identifying available therm savings.

- The overall cost-effectiveness decreased a very marginal amount. The TRC ratio from the application to the compliance filing drops from 1.94 to 1.87. However, the PAC ratio improves from 2.18 to 2.51.

- Environmental performance (CO2 and NOx emissions reductions) improved significantly from application to compliance filing.

- The February compliance portfolio is somewhat more balanced across end uses than the June application portfolio, though electricity energy savings are significantly more concentrated in the non-residential sector in the February compliance relative to the June application.

The PRG also addresses the impact of the energy efficiency programs on customer bills and the sensitivity of the projected energy and peak savings and program cost effectiveness to potential changes in important underlying assumptions (net-to-gross ratios and the effectiveness of third party and partnership programs), in recommendations at the end of this assessment report.

Section 1: Review and Assessment of the Third Party Bid Process[1]

In Decision 05-01-055, one of the responsibilities given to the Peer Review Groups (PRG) was to "observe the IOUs' bid selection process to ensure that the criteria are applied properly."[2] The Commission further directed that the utilities discuss the proposed results of their bid review process with the PRGs before finalizing their selections. The Commission required the utilities to make the bids available to the PRGs along with "any other bid evaluation information that the PRGs may request." The Commission further directed that the PRG "have an opportunity to ask questions about how the criteria were applied and provide feedback on the selection process, and otherwise help to ensure that the bid process is fair."[3]

In D.05-09-043, the Commission further clarified its expectations for the PRG review of the bid process, requiring that the utilities "establish a process that allows the PRG members (including Energy Division's consultant, if applicable) to monitor both Stage 1 and Stage 2 selections." The Commission further stated that "[w]hether that involves physically being 'in the same room' or setting up a process whereby the utilities present all the abstracts to PRG members and discuss the proposed selection of those that will go on to Stage 2 (for example), will be left up to the utilities and PRGs to work out to their mutual satisfaction."[4]

In this section, we summarize SDG&E's competitive solicitation process, discuss the process the PRG used to assess the bid process, and present the PRG's conclusions regarding whether SDG&E conducted a fair and open solicitation and properly applied the Commission-approved bid selection criteria.

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[1] Many of the conclusions and recommendations of the SDG&E PRG are similar to those of the SCE PRG. This assessment borrows heavily from a similar assessment conducted by the Southern California Edison (SCE) Peer Review Group (PRG). In particular, the template and much of the narrative are either similar or identical to the work of the SCE PRG. We thank them for allowing us to utilize their analysis.

[2] D.05-01-055, p. 110

[3] Ibid.

[4] D.05-09-043, p. 116

1. Summary of Bid Areas, Funding, and RFP Distribution

In D.05-09-043, the Commission approved the areas for which SDG&E proposed to solicit competitive bids and the overall funding level for the bids. Table 1, which was developed by SDG&E, provides a summary of these bid areas and the funding and savings proposed in the utility's compliance filing.

Table 1: Summary of SDG&E Bid Areas, Funding, and Savings

		Contract Amount	Expected Energy Savings, kWh (Net)	Expected Demand Reduction (Net Summer Peak)	Expected Therm Savings
Targeted Areas	**Multi-Family Housing Retrofit**	N/A			
	Advanced Home Renovations	$456,805	N/A	N/A	N/A
	Appliance Recycling	$8,061,195	36,622,507	5,744	--
	Nonresidential Technology Demonstration	$249,800	N/A	N/A	N/A
	HVAC Training, Sizing, Duct Services	$10,749,248	50,049,164	35,469	74,421
	Upstream HVAC/Motor Distributor	$3,996,813	9,166,580	8,218	(15,407)
	School Education	$1,936,583	N/A	N/A	N/A
	Time of Sale Energy Efficiency Check-up	$1,471,987	N/A	N/A	N/A
	Building Commissioning, Retro-commissioning	$3,141,064	12,191,040	2,496	183,168
Innovative Programs	**Innovative Resource**	$11,131,663	13,074,044	3,740	3,047,003
	Innovative Non-Resource	$1,503,333	--	--	--
TOTAL		$42,698,490	121,103,335	55,667	3,289,185
Expected Totals from June 1 Application		**$51,508,113**	**170,000,000**	**32,560**	**1,900,000**

As is illustrated in Table 1, SDG&E committed to award approximately $51.5 million in third party contracts over the three-year program period. This represents 20 percent of SDG&E's total energy efficiency portfolio budget. In this compliance filing, SDG&E requests approval for approximately $42.7 million of that funding, which will leave $8.8 million to be allocated during the rest of the three-year period.

The Commission also approved SDG&E's proposal to solicit bids using a two stage process, under which bidders would first submit an abstract, and those who were selected based on the Stage 1 review criteria would be invited to submit a full proposal in response to the Stage 2 Request for Proposal (RFP).

SDG&E distributed the Stage 1 RFPs widely through Commission service lists, contact lists from prior competitive solicitations, and featured the RFP prominently on SDG&E's website. SDG&E reports that it distributed the Stage 1 RFPs on 9/1/05 to more than 193 potential bidders, of which 87 submitted proposals through SDG&E's electronic bid management system. Bidders were given 26 days to respond to the Stage 1 RFPs. SDG&E received 182 qualified responses to the Stage 1 RFPs. Of these responses, 112 proposals were resource programs (34 targeted, 78 innovative) and 70 proposals were non-resource programs (40 targeted, 30 innovative). Only those bidders selected through the Stage 1 process were provided the Stage 2 RFPs requesting detailed proposals.

2. Discussion of Stage 1 Selection Process

The PRG convened on October 13, 2005 and reviewed summary information about the bids and SDG&E's scoring, asked questions and discussed SDG&E's scores and proposed selections. SDG&E also provided PRG members with examples of Stage 1 bids upon request, and provided access to a confidential database (matrix format) containing all bidders' proposals. The PRG also had access to the full bidder proposals if the need arose. The full proposals were, however, the only means available to the PRG to access detailed information in the proposals beyond very brief notes on spreadsheets provided to the PRG. More detailed summaries were requested and not available. The PRG was *not* physically 'in the same room' during the scoring nor did the PRG review the details of every bid received.

At the meeting, SDG&E described its scoring process and how its scoring teams had applied the Stage 1 criteria to the bids. In general, bids first went through an engineering review to determine technical feasibility, and then were scored by several interdisciplinary teams using the Stage 1 criteria. The portfolio manager then determined whether each bid would pass Stage 1 based upon the bid's score and additional portfolio-level criteria.

One problem was immediately apparent from the PRG review of the materials provided by SDG&E. Many of the proposals (approximately 30%) failed the responsiveness screening conducted by the review teams, meaning the bidder had not supplied required information, such as the abstract. Further analysis of these "non-responsive" bids indicated that the bidders had not meant to submit a proposal in many of the specific areas and were likely confused by the electronic submission process. After fully exploring for this unexpected result, the PRG continued its review.

SDG&E's portfolio managers discussed the areas of strengths and weakness for the bids. The PRG reviewed each bid's description, score, other pertinent information and SDG&E's decision on whether to approve the bid for Stage 2. The PRG requested clarification from SDG&E on some bid scores, program descriptions, and discussed SDG&E's rationale for approval or disapproval. There was also substantial discussion on (1) key uncertainties associated with the missing details of a proposal (e.g., the abstract sounded interesting but contained insufficient detail), (2) the importance of innovation, and (3) other portfolio needs, such as area-specific savings (e.g. therms) and demand response.

At this time, the PRG suggested two specific procedural changes that were adopted by SDG&E. Each suggested change responded to the extremely short time frame for proposal preparation and review. First, the PRG recognized that the purpose of having a two-stage bid process was to reduce the burden on bidders by eliminating bids that were highly unlikely to be selected early on in the process. The PRG believed that SDG&E's initial proposal would have passed too many bidders on to Stage 2 that were very unlikely to ultimately be selected. Therefore the PRG suggested that the minimum abstract score (i.e., cutoff score) be *increased* from 40 to 50. This change had the impact of eliminating approximately 20 proposals from the Stage 2 process. Second, the PRG strongly recommended extending the time periods allotted for both preparation of proposals by bidders (from 14 days to 28 days, with November 11 being the new due date for Stage II responses) and for internal review of the bids (from 11 days to 28 days, with December 12 being the new date for completing internal review).

SDG&E was receptive to the PRG's feedback throughout the process. At its conclusion, the PRG and SDG&E were in consensus regarding which bids should be approved for Stage 2. In total, 107 proposals were recommended for Stage 2.

3. Discussion of Stage 2 Selection Process

The PRG re-convened on December 15, 2005 to review the Stage 2 results. SDG&E indicated that they had received 94 full proposals (56 resource, 38 non-resource) and that 82 passed the responsiveness review. In addition, SDG&E provided detailed information on the scoring process (characteristics/qualifications of the review teams, the evaluation criteria, and the engineering and program review components). The PRG also had access to the full bidder proposals as the need arose. In general, the PRG did *not* review full bidder proposals or determine whether the PRG would have produced identical scores as SDG&E for individual bids.

Aside from the overview of the Stage 2 responses, the PRG and SDG&E spent much of the meeting going over the sub-criteria for scoring. Unfortunately, the "scoring protocols", which consists of sub-criteria under each bid selection criteria adopted by the Commission, was only provided to the PRG on the morning of the in-person meeting. As a result, much of the meeting was spent clarifying the sub-criteria used by the SDG&E review team and raising questions on the scoring methods within specific sub-criteria. In retrospect, it is apparent that the process would have been much faster and smoother if SDG&E and the PRG had discussed the sub-criteria in advance of SDG&E's scoring process. Much of the discussion pertained to the validity of the bidders' savings or cost-effectiveness claims. Some of the scores initially appeared to be inconsistent because some bidders' claims were likely exaggerated or misestimated. And initially, the PRG did not have enough information to assess how the validity of the bidders' claims had affected the scores.

The remainder of the meeting was spent discussing two items. First, we discussed the scoring sub-criteria and modifications to SDG&E's scoring algorithm. In particular, SDG&E's original sub-criteria seemed to over emphasize energy savings in that proposals judged to be unable to achieve two-thirds of the total energy savings score received a zero score for cost effectiveness. In addition, gas-only or electricity-only programs did not fare well in the scoring system. After an extensive discussion, SDG&E and the PRG agreed on a revised scoring algorithm.

Second, we also discussed the relative value of using an inflexible cutoff score (e.g., 70) or allowing for a more flexible cutoff based on portfolio needs. The advantage of inflexibility is that it minimizes potential complaints about relative fairness. However, this path also skews the process toward only approving selections in the most cost-effective targeted bid areas, thereby necessitating a second targeted solicitation. For example, appliance recycling is expected to be more cost-effective than a building commissioning and retro-commissioning program, so judging bids in both those areas on the same absolute scale might lead to rejecting all bids in the less cost-effective area). The advantage of a more flexible cutoff is that it: (i) recognizes that the targeted bid areas were identified as part of the portfolio planning process to fill an important role in the portfolio, (ii) recognizes that portfolio-level considerations are essential to providing a comprehensive portfolio, (iii) allows for negotiation between SDG&E and potential vendors, and (iv) minimizes the need for re-bidding the solicitations. The PRG strongly recommended a flexible cutoff, the use of contract flexibility (time and dollars), individualized negotiations to reduce overall project cost and improve associated cost-effectiveness, and the use of portfolio-level criteria in selecting the final bids. In particular, it became apparent that SDG&E would need more programs that could deliver therm savings than would be achieved through only the highest-scoring proposals. Because this was essential to meet the Commission's therm savings target, the PRG recommended that SDG&E further consider bids that could provide substantial therm savings.

The PRG and SDG&E met again on January 4, 2006. SDG&E presented the results of its revised scoring at this meeting. In general, the PRG approved of the process and found the results reasonable and consistent across bid types (resource/non-resource, targeted/innovative). However, it was determined that work still needed to be done prior to the PRG submitting a positive assessment of the process. SDG&E proposed splitting the compliance filing into two phases because they were concerned about how long it would take to negotiate final contracts with bidders. SDG&E proposed adding time for negotiating by submitting a first compliance filing with the top ranked bidders, followed by a second filing sometime later with the additional selected bidders. The PRG urged SDG&E to accelerate bidder negotiations, sign MOUs containing the key metrics (contract dollar amounts, savings, etc.) with all selected bidders, make one compliance

filing with the CPUC, and finalize contracts with bidders after receiving CPUC approval. SDG&E requested and received CPUC permission for a modest delay in this compliance filing, and was able to complete its negotiations with bidders in order to present a complete set of proposed bid selections to the Commission in this filing.

The end result of the Stage 2 process is summarized in Table 2 below. As is evident, SDG&E currently plans to award contracts for approximately six million dollars less than the 20 percent requirement. Of that, SDG&E expects to award $2 million to non-resource programs (many of the selected non-resource programs will be awarded a two-year contract with provisions for a third-year contract extension). At this time, the PRG recommends that the unallocated funds be utilized in a future solicitation within the 2006-08 timeframe focused on innovative energy efficiency programs.

The PRG supports the solicitation process and corresponding results in general. However, the process was not without flaws. In particular, the lack of prior discussion regarding the sub-criteria, the widely divergent savings and cost claims of some of the bidders, the apparent multitude of bidder errors, including incomplete bid documentation in both Stages 1 and 2 of the bid process, and the short time frame all contributed to a less-than-ideal PRG review process. The PRG also noted that there were few truly innovative proposals that passed to the Stage 2 review process. In the end, SDG&E was able to satisfactorily clarify all of the issues raised by the PRG. We provide a number of recommendations to improve future bid processes below.

Table 2: Summary of Proposed SDG&E Third Party Programs

		Proposed Budget	**Total kWh Savings**	**Total kW Savings**	**Total Therm Savings**
Resource Programs	Targeted	$25,948,319	108,029,291	51,927	242,182
	Innovative	$11,131,663	12,074,044	3,740	3,047,003
Non-Resource Programs	Targeted	$4,115,175			
	Innovative	1,503,333			
Total		$42,698,490	121,103,335	55,667	3,289,185

Conclusions of the PRG Assessment

1. Was the competitive solicitation process open and transparent to all potential bidders?

The PRG found the competitive solicitation process to be fair and open to potential bidders in general. SDG&E distributed the RFPs widely and accepted and considered any completed proposals. SDG&E provided the CPUC-approved criteria for evaluating bids in the RFPs. However, the electronic submission process was obviously confusing to some of the bidders, as some "bid" in multiple areas and then did not submit the required abstract along with some of the bids. In the next solicitation, the PRG recommends that the electronic submission process be subjected to a quality control process and that there be error messages displayed when bidders fail to comply with directions.

2. Were the selection criteria applied properly?

The PRG did not independently score bids or determine whether it believed that individual scores were appropriate. Instead, the PRG asked questions and discussed SDG&E's scores and proposed selections. It took substantially more time than was initially anticipated for the PRG to assess whether the selection criteria were applied properly, in large part because there had been no advance discussion of the sub-criteria, especially those criteria applicable to energy savings and cost-effectiveness. In addition, there was insufficient prior discussion of the use of inflexible cutoffs (e.g., strictly 70 or above) versus flexible cutoff values, and the relative importance of portfolio level criteria (e.g., obtaining sufficient kWh, kW, and therms savings to meet the portfolio goals) and statewide consistency versus the individual proposal scores. For example, the disposition of a proposal that received a score below the qualifying score (e.g., 70) but was the highest scoring proposal in a targeted area or had other valuable characteristics (e.g., improved statewide coordination or provided a specific type of energy savings) was not addressed prior to the PRG review of the bid results. By the end of the process, the PRG reached consensus that the selection criteria were applied appropriately and had no remaining questions or concerns about SDG&E's application of the CPUC-approved

selection criteria. We expect that this "portfolio integration" step[5] will proceed more smoothly in future program solicitations based on our recommendations below.

3. Did the competitive solicitation encourage program innovation overall?

The competitive solicitation process has made the overall portfolio somewhat more innovative. Of the eleven resource programs selected in the RFP process, five are either new in concept or proposed by a new implementer. Of the seven non-resource programs selected in the RFP process, five are either new in concept or proposed by a new implementer. While many of the program proposals (or components of proposals) have been implemented previously in California, some new ideas also emerged from the process and we believe that the portfolio will benefit as a result. However, innovation would likely be heightened with an extended response time and more outreach. Given that the cost effectiveness for truly innovative programs may be unknown or uncertain at the time of the bid selection, the PRG recommends the use of funding and contract flexibility to bring additional ideas to fruition. We provide recommendations below regarding how SDG&E could reach out to bring in even more bidders and new ideas in future solicitations, but overall we believe this solicitation has met the Commission's goal of providing an avenue for program innovation.

4. Was the competitive solicitation process fair overall?

While the PRG provides recommendations below for how the solicitation process could be improved in the future, we conclude that this competitive solicitation process was fair overall, and that SDG&E should file an advice letter for Commission approval of its program selections, consistent with D.05-01-055.

[5] In D.05-09-043, the portfolio integration approach for SDG&E after the Stage 2 bid selection process is stated as follows: "SDG&E will work with their PRG to ensure that the overall portfolio remains cost effective and will provide long term savings. In addition, the utilities will ensure that all market sectors have programs to serve its customers, avoiding overlaps between programs, address policy rules/needs."

5. Recommendations to Improve Future Bid Processes

The PRG found that SDG&E personnel were extremely diligent, flexible, and responsive to input from the PRG. SDG&E adopted many of the suggestions offered by PRG members. However, the PRG still believes that the process can be improved for future solicitations. In this section, we provide our recommendations for improvement, in no particular order.

1. **The "20% funding" should be for new or innovative programs, not existing program services.** The Commission should clarify whether the 20% minimum funding requirement for third party contracts includes the option of bidding out existing programs that are already contracted out to a non-utility implementer. In particular, the PRG is concerned that SDG&E's Appliance Recycling targeted program solicitation did not ultimately prove to be consistent with the Commission's policy of promoting more innovation in program design through the bidding process. The bids received essentially proposed to deliver SDG&E's program on "spec", without proposing innovative ideas to improve the program.
2. **Discuss sub-criteria with PRG at beginning of process.** The PRG was not aware of the specific sub-criteria that SDG&E was using until after the bids were received and scored. In the future, SDG&E should share and discuss the criteria, sub-criteria, and scoring protocol with the PRG before sending out bidding material. There should be no surprises about process by the time the PRG reviews the bid results. This will also help to ensure fairness and transparency of the bid selection process.
3. **Provide clearer description of portfolio-level criteria.** The Commission approved portfolio-level criteria for use by each utility. These criteria were used after bids had been scored according to the CPUC-approved Stage 2 criteria, in the "portfolio integration" stage of bid selection.[6] SDG&E used its portfolio-level criteria to supplement the results of the quantitative bid scoring process based on

[6] D.05-09-043, Attachment 6, p. 6. SDG&E's approved criteria stated: "SDG&E and SoCalGas will work with their respective PRGs to ensure that the overall portfolio remains cost effective and will provide long term savings. In addition, the utilities will ensure that all market sectors have programs to serve its customers, avoiding overlaps between programs, address policy rules/needs. SDG&E and SoCalGas will present and discuss with their respective PRGs the short list of selected proposals prior to making its final selection to obtain their feedback on the selection."

a desire to round out the portfolio. Applying the portfolio-level criteria is ultimately based on informed judgment, and requires more discussion than applying the quantitative criteria. While the PRG supported these judgment calls, the PRG recommends that SDG&E further improve its process for the next round of bids. This would require that SDG&E develop a more detailed description of how portfolio-level considerations will be used in making the final bid selection and communicate this more effectively to the Commission, bidders, and the PRG.

4. **Improve statewide program bidding process.** Bidders who requested the opportunity to run a statewide program were not given adequate information on what criteria were needed to qualify as a statewide bid and how statewide bids (or bids that operate programs in two or more utility service territories) are evaluated differently. The current process requires that a statewide bidder submit separate bid proposals to each utility administrator; if the bid is simultaneously selected in each utility's process, then the administrators will decide how the program should be run on a statewide basis. Simply aggregating multiple utility-specific bid filings for statewide consideration is not reasonable because it negates possible economies of scale and scope while overburdening the bidders with the multiple bid process. The PRG would like SDG&E and the other administrators to develop a better statewide bid process, with input from potential bidders and all parties.
5. **Conduct process evaluation of bid process.** Many lessons can be learned from this bid process to help improve future competitive solicitations. The PRG understands that Energy Division Consultant, TecMarket Works, will conduct an evaluation of this round of the bid process to systematically identify opportunities for improvement. We recommend ED makes the results of the TecMarket Works analysis and accompanying recommendations available to PRG members to inform PRG assessments in the future.
6. **Expand participation in the competitive solicitation.** Some PRG members and SDG&E program managers were concerned that the bids received in the Stage 2 process were very similar to many bids received in the 2004/2005 process. In addition, while SDG&E received numerous bids, there were few new bidders. PRG members suggest that SDG&E consider using an expanded marketing or

outreach campaign to reach new bidders, particularly in the technology or information areas. We suggest that future bids include longer lead-times to allow SDG&E to better market the upcoming RFP and to build interest and specifically recruit participation from firms with the type of experience necessary to qualify.

7. **Ensure quality of data before holding full PRG meetings.** Much of the information SDG&E initially provided to the PRG required substantial checking before the PRG could conduct its assessment. The PRG recommends that SDG&E schedule additional meetings with the PRG and/or with Energy Division's consultants prior to in-person PRG meetings and that meeting documents be provided well in advance of meetings. These measures should be useful in identifying some of the holes/inconsistencies in the information *prior* to the in-person meeting to discuss the overall selection choices. In the future, SDG&E should ensure that all problems with the data have been identified and corrected before holding an in-person meeting, in order to ensure that everyone's time is used most effectively.
8. **Improve the electronic submission process.** As detailed above, it seemed that SDG&E's electronic submission process was somewhat confusing to potential bidders given that some of the bidders expressed a desire to "bid" in multiple areas and then failed to submit an accompanying abstract. In the next solicitation, the PRG recommends that the electronic submission process be subjected to a quality control process and that there be error messages displayed when bidders fail to comply with directions (e.g. incomplete bid documentation).

Section 2. Statewide Marketing and Outreach

The Statewide Marketing and Outreach program is managed by Southern California Edison, but all investor-owned utilities contribute funding. SDG&E will contribute $8,383,230 to the statewide marketing effort over 2006-2008. The utilities expect to work as active partners with the statewide marketing contractors to collaborate on planning, provide input and feedback, avoid inconsistency or duplication, and fulfill agreed-upon goals. To coordinate its contributions, SDG&E has assigned one primary staff (10 percent) and five additional staff with 1-3 percent oversight and review responsibilities.

The SDG&E PRG concurs with the Southern California Edison (SCE) PRG that marketing is a critical component to the successful penetration of energy efficient behavior statewide. The PRG also agrees that ensuring a successful outcome will require statewide marketing and outreach programs to establish goals and objectives for this end, to logically link marketing actions to expected effects, and to provide accountability that this is being done effectively.

SDG&E PRG members participated in the statewide meetings described in the SCE PRG assessment report's Appendix 1. We agree with the SCE PRG's assessment that it has been difficult to get marketers to go beyond high-level briefings and reviews of past successes. The expectations for the statewide marketing and outreach programs are different than during the 2000-2001 energy crisis. Rather than short-term conservation actions and awareness, the focus should be on influencing behavior change and efficiency investment in close coordination with programmatic efforts.

To that end, the SDG&E PRG supports the four recommendations made by the SCE PRG in their assessment report:

- Form a Statewide Marketing Sub-Committee of the Statewide PAG by the end of January 2006;
- Request marketing plans be submitted at more detailed level by the end of January 2006;
- Require Energy Division to undertake a baseline survey of the FYP brand recognition (underway) and FYP to prepare a white paper on enhancements to the FYP brand by February 2006; and
- Require Energy Division to implement an independent EM&V study to establish measurement metrics appropriate for measuring return on marketing investments and progress toward goals.

The SDG&E PRG recognizes that measuring marketing impacts is a challenge. The need to move beyond what we can measure (activities, efforts) to measuring outcomes and leading indicators is critical to fully realize California's investment in an energy efficient future. One way to improve this situation is to closely match EM&V efforts with the marketing plan objectives.

Section 3: Review of Statewide Coordination Plans

D.05-09-043 directs the utilities to include in their compliance filings additional program details to reflect statewide coordination efforts identified in the joint case management statement (CMS) as incomplete. Attachment 8 of the Decision provides a planning schedule for the coordination of the following seven statewide activities:

1. Statewide marketing and outreach.
2. Manufacture/distribution/retail programs and customer incentives.
3. Integration of energy efficiency/demand response/self generation-distributed generation (EE/DR/SGDG).
4. Statewide emerging technology program planning.
5. Statewide codes and standards program planning.
6. Common program participation agreements.
7. Consistent RFP template for the competitive solicitations

Since the competitive solicitation for SDG&E is largely complete with the requisite issuance of the various RFPs, we will focus the following discussion on the first six items.

1. Statewide marketing and outreach - See discussion in Section 3.

2. Manufacture/distribution/retail programs and customer incentives - The utilities presented at the August 2-3, 2005 Statewide PAG meeting the proposed incentive levels and qualifying criteria for energy efficiency measures common across all utility portfolios. Additionally, program rules for prescriptive and custom rebates for both retrofit and new addition/new construction projects were presented at the meeting. In summary, the following incentive levels and program rules will be adopted uniformly by the utilities during the 2006-2008 program cycle:

a. **Prescriptive rebates** (e.g. Express Efficiency and Single Family Rebate programs) – The incentive levels are largely consistent for all utilities and in most cases remain at the same level as 2004-05. The qualifying criteria for some measures such as clothes washers have changed to reflect the new Energy Star requirements. In the case of appliance recycling, PG&E and SDG&E keep the rebate for freezer recycling at $35/unit, while SCE offers $50/unit.

b. **Upstream HVAC rebates** – Incentives and energy savings will be consistent for all climate zones, although equipment incentives may be limited to certain climate zones. Incentive rates will be on a per ton basis (in 2004-05, incentive rates for HVAC equipment were on a per unit basis.) However, the utilities have not made available the actual incentive levels for HVAC equipment and services. We recommend revisiting the incentive levels for HVAC equipment and services at a future statewide PAG meeting.

c. **Custom rebates (or calculated incentives) for commercial, industrial and agricultural energy efficiency retrofit projects (e.g. Standard Performance Contract programs)** – The incentive levels are consistent across the utilities and will remain at the same level as 2004-05, on a per kWh and per therm basis.

d. **Custom rebates for new construction projects** - The incentive levels are consistent across the utilities for whole building and system approach. The incentives levels and sliding scale in 2006-08, however, are different than those in 2004-05, as they now reflect the more stringent Title 24 code requirements (see Table 3 below).

Table 3: Comparison of incentive levels for new construction projects between PY 2004-05 and PY 2006-2008

Measure Description	PY 2004-2005	PY 2006-2008
HVAC system	$0.12/kWh	$0.14/kWh
Refrigeration system	$0.07/kWh	?
Process system	$0.10/kWh	$0.08/kWh
Lighting system	$0.06/kWh	$0.05/kWh
Daylighting system	$0.04/kWh	$0.04/kWh
Process system (therm saving)	$0.60/therm	$0.60/therm
Water Heating system (therm saving)	$0.34/therm	$0.60/therm
Whole Building (electric saving)	$0.06 scales to $0.18/kWh, based on savings between 10% to 30% above Title 24 requirements	$0.10 scales to $0.25/kWh, based on savings between 10% to 25% above Title 24 requirements
Whole Building (therm saving)	$0.34 scales to $0.80/therm, based on savings between 10% to 30% above Title 24 requirements	$0.34 scales to $1.00/therm, based on savings between 10% to 25% above Title 24 requirements

e. Program rules for the application of custom incentives for nonresidential retrofit projects – consistent across the utilities, the 80-20 rule (i.e. at least 20% of energy savings per customer site should come from non lighting measures) is no longer applicable; per site incentive capped at $350K, up to 50% of project cost; per customer incentive capped at $1.5M across the utilities.

f. Program rules for the application of custom incentives for new construction projects – consistent across the utilities, per project incentive cap is no longer applicable; per building incentive capped at $350K, up to 50% of incremental measure costs.

The utilities have agreed to continue working with the PAGs to refine customer incentives and program rules to minimize free-ridership and encourage comprehensive retrofits based on suggestions received during the August statewide PAG meeting.

Additionally, SDG&E has indicated that the utilities are in negotiations with Lowe's and Home Depot to offer point-of-sale customer incentives for a variety of residential appliances including dishwashers, room air-conditioners, refrigerators and clothes washers throughout the state. Additionally, SDG&E is working with local retailers to offer point-of-sale rebates. The PRG appreciates the progress made to date; we encourage the utilities to continue working with other retailers to push point-of-sale rebates and report the progress during future quarterly PAG meetings.

3. Integration of energy efficiency/demand response/self generation-distributed generation - At the August 2005 statewide PAG meeting, the utilities gave a high level presentation on their Demand Side Management (DSM) Integration strategy. The key activities that are planned include: cross-marketing between EE and other DSM programs, enhancing the traditional outreach/audit functions to identify candidates for demand response and self-generation programs, and integration demand response opportunities into the Emerging Technology Program's CASE studies as appropriate. Since EE programs are launched in 2006 ahead of the other DSM programs, the PRG recommends that the utilities continue to refine their DSM integration plan and provide updates in future statewide PAG meetings.

4. Statewide emerging technology program planning - Based on SDG&E's Emerging Technology program plan, it appears the SDGE is taking a different approach from the past and is independently assessing CEC-funded PIER projects that are in their final development stages[7]. A number of new technology areas have been identified, but no estimated time to commercialize each item or estimated energy savings have been given[8]. We recommend that SDG&E work with the other utilities in detailing the Emerging Technology program plan and provide an update as part of a statewide PAG meeting.

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[7] "SDGE will initiate 20 new technology assessments over the course of the 3-year period from January 2006 through December 2008." SDGE Emerging Technology Program Plan, p.4.

[8] As stated in Attachment 8 "Statewide Coordination Planning Schedule" of D.09-05-043, "The IOUs should jointly develop a detailed plan for the 2006-08 Emerging Technology program. The plan should include a target lists of technologies/software/services to be explored over the next three years, estimated time to commercialize each item on the target list, as well as assessing the energy savings estimates."

5. Statewide codes and standards program planning - SDG&E states in the Codes & Standards Program plan that it will initiate twelve CASE studies over the next three years, in addition to providing training to builders and local code officials. However, no target list of case studies, projected timeline for adoption by the CEC, and rationale for the estimated aggregate savings have been provided[9]. It is unclear whether SDG&E plans to work with the other utilities in undertaking the CASE studies[10]. We recommend that SDG&E work with the other utilities in detailing the Codes & Standards Program plan and provide an update as part of a statewide PAG meeting to be held before the end of the first quarter of 2006.

6. Common program participation agreements - SDG&E, SoCalGas and SCE plans to revise the 2004-2005 Standard Performance Contract and Savings By Design program application template for use in the 2006-08 program cycle. It is unclear what PG&E intends to use for their 2006-08 programs.

Given that there are outstanding statewide coordination issues at this time, the PRG recommends that the utilities continue to refine their coordination plans and provide an update as part of a statewide PAG meeting to be held before the end of the first quarter of 2006. We further recommend that the utilities report back to the Commission on progress towards coordination of these, and any other, statewide programs and planning efforts by no later than April 1, 2006.

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[9] SDG&E's Codes and Standards program plan projects energy savings of 8,880,000 to 12,250,000 net kWh, 2,590 to 3,280 net kW, and 110,000 to 80,000 net therms between the years of 2006 to 2008.

[10] As stated in Attachment 8 "Statewide Coordination Planning Schedule" of D.09-05-043, "The IOUs should jointly develop a detailed plan for the 2006-08 Codes and Standards program. The plan should include a target list of case studies, projected timeline for adoption by the CEC, and the estimated aggregated savings."

Section 4: Review of changes made to utility programs since June 1st application filing and resulting changes in energy savings and cost effectiveness of portfolio

The PRG compared SDG&E's proposed compliance filing to its June 2005 application to consider whether the compliance filing improves the likelihood that the 2006-2008 proposed portfolio will satisfy near-term savings targets and is cost-effective. In addition, we consider the associated environmental benefits and the savings by end-use in this section.

Table 4 shows projected demand and energy savings for the 2006-2008 period.

Table 4
Comparison of SDG&E 2006-2008 EE Portfolio June 2005 Application and February 2006 Compliance Filing

	2006		2007		2008		2006-2008	
June Application	Total	% of 2006 Goal	Total	% of 2007 Goal	Total	% of 2008 Goal	Total	% of 2008 Goal
Energy Savings – Electricity								
Annual Net Electricity Savings (GWh/yr)	307	109%	337	118%	378	133%	1,022	120%
CPUC Electricity Target (GWh/yr)	281		285		284		850	
Annual Net Peak Demand Savings (MW)	63	116%	70	130%	80	147%	213	131%
CPUC Peak Demand Target (MW)	55		54		54		163	
Annual Net Therm Savings (MTh/yr)	2,775	103%	3,069	99%	3,693	100%	9,537	100%
CPUC Therm Target (MTh/yr)	2,700		3,100		3,700		9,500	

	2006		2007		2008		2006-2008	
February Compliance Filing	Total	% of 2006 Goal	Total	% of 2007 Goal	Total	% of 2008 Goal	Total	% of 2008 Goal
Energy Savings – Electricity								
Annual Net Electricity Savings (GWh/yr)	287	102%	329	115%	376	132%	992	117%
CPUC Electricity Target (GWh/yr)	281		285		284		850	
Annual Net Peak Demand Savings (MW)	59	108%	71	132%	88	164%	219	134%
CPUC Peak Demand Target (MW)	55		54		54		163	
Annual Net Therm Savings (MTh/yr)	3,813	141%	4,003	129%	3,846	104%	11,662	123%
CPUC Therm Target (MTh/yr)	2,700		3,100		3,700		9,500	

The data reflect that SDG&E continues to be generally on track to meet or exceed the CPUC established target values. Moving from the June application to the February compliance filing, the following conclusions are apparent:

- 2006 -2008 projected electricity energy savings in the June application is 120% of target, and 117% of target in the February compliance filing. There continues to be a sufficient margin of error in energy savings.

- The 2006-2008 projected peak demand savings in the June application is 130% of target, and 134% of target in the February compliance filing. As with energy savings this constitutes a sufficient margin of error relative to the CPUC objectives.

- There is a marked improvement for therm savings. In the June application SDG&E did not have any margin or cushion since projected savings were almost identical to the CPUC goals. However, in the February compliance filing, there is now a 23% margin of error. This demonstrates the effectiveness of the third party solicitation process in identifying available therm savings.

Table 5 shows projected portfolio cost-effectiveness for both the June application and February compliance filing. The data indicate that the overall cost-effectiveness decreases by a very marginal amount, with the TRC ratio from application to compliance filing dropping from 1.94 to 1.87. However, the PAC ratio improves from 2.18 to 2.51.

Table 5: Portfolio Cost Effectiveness

Costs and Benefits*	APPLICATION (June 2005)	COMPLIANCE (February 2006)
Total costs to bill payers (TRC)	$ 299,443,761	$ 349,108,802
Total savings to bill payers (TRC)	$ 579,619,963	$ 653,881,041
Net benefits to bill payers (TRC)	$ 280,176,202	$ 304,772,239
TRC Ratio	1.94	1.87
PAC Ratio	2.18	2.51
Cost per kWh saved (cents / kWh) (PAC)	$0.0344	$0.0367
Cost per Therm saved ($ / therm) (PAC)	$0.1862	$0.2158

* Note: Does not include costs or benefits associated with low-income energy efficiency programs

The Table 6 shows that projected emission reductions of CO2, and NOx increased significantly from application to compliance filing.

Table 6: Environmental Benefits

Environmental Benefits	APPLICATION (June 2005)	COMPLIANCE (February 2006)
Lifecycle CO2 Emission Reductions (tons)	4,835,860	6,360,591
Lifecycle NOx Emission Reductions (tons)	831	1,802
Lifecycle PM10 Emission Reductions (tons)	N/A	N/A

Finally, consider the projected savings by end-use, which is presented in Table 7. The following conclusions are relevant.

- The February compliance portfolio is somewhat more balanced across end uses than the June application portfolio. This is illustrated by the decreased reliance on lighting (53% to 42% for electricity energy savings) and the increased emphasis on space cooling/heating (8% to 25%) from application to compliance. Note also that the peak and therm savings significantly increase for space cooling/heating from application to compliance.

- Electricity energy savings are significantly more concentrated in the non-residential sector in the February compliance filing relative to the June application (62% of the savings as compared to 51%).

- The relative contribution of "other" diminishes significantly from application to compliance. This demonstrates the identification of potential savings from the third party solicitation process.

- Water heating represents a significant end-use in the SDG&E service territory as illustrated by the 36% contribution to total therm savings.

- The contribution of refrigeration to energy and peak savings does not change from application to compliance filing. However, the relative contribution for the residential sector increases and offsets the decrease in the non-residential sector.

Table 7: Projected Savings by End-Use

	June 2005 Application 2006-8 Projected % of Total			Feburay 2006 Compliance 2006-8 Projected % of Total		
	MW	GWh	MTh	MW	GWh	MTh
Total						
Space Cooling/Heating	8%	8%	17%	25%	16%	33%
Lighting	53%	55%	0%	42%	59%	0%
Refrigeration	4%	8%	0%	4%	8%	1%
Water Heating	0%	0%	20%	0%	0%	36%
Other	35%	29%	63%	28%	16%	30%
Residential	44%	36%	19%	33%	39%	21%
Space Cooling/Heating	0%	0%	5%	1%	0%	3%
Lighting	28%	32%	0%	14%	31%	0%
Refrigeration	0%	1%	0%	3%	4%	0%
Water Heating	0%	0%	14%	0%	0%	18%
Other	15%	3%	0%	15%	3%	0%
Nonresdential	51%	61%	74%	62%	58%	74%
Space Cooling/Heating	2%	6%	6%	19%	13%	25%
Lighting	25%	23%	0%	28%	28%	0%
Refrigeration	3%	7%	0%	1%	3%	1%
Water Heating	0%	0%	6%	0%	0%	18%
Other	20%	25%	62%	14%	13%	30%
Residential New Construction	3%	1%	3%	3%	1%	2%
Space Cooling/Heating	3%	1%	2%	3%	1%	2%
Lighting	0%	0%	0%	0%	0%	0%
Refrigeration	0%	0%	0%	0%	0%	0%
Water Heating	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Nonresdential New Construction	2%	2%	4%	2%	2%	3%
Space Cooling/Heating	2%	2%	4%	2%	2%	3%
Lighting	0%	0%	0%	0%	0%	0%
Refrigeration	0%	0%	0%	0%	0%	0%
Water Heating	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%

Section 5: Remaining Issues – Bill Impacts and Sensitivity Analysis

The PRG reviewed two additional documents submitted by SDG&E: (1) the impact of the energy efficiency programs on customer bills and (2) the sensitivity of the projected energy and peak savings, and program cost effectiveness to potential changes in important underlying assumptions (e.g. net-to-gross ratios and the effectiveness of third party and partnership programs). With regard to the customer bill impacts, the following conclusions were reached:

- The programs require substantial investment in the 2006 –2008 time period but produce savings over a significantly longer period.

- In the first three years of the program there is a negative impact on customer bills (average rates increase). However, there is a much larger positive impact on rates if one considers the period 2006 –2020.

- Even with very large discount rates the long-term benefits on average billing associated with the program far exceed the initial periods when there is a negative impact on average billing rates.

- A complete evaluation would have required the examination of bill impacts distinguished by customer class. The PRG requested that SDG&E provide this information, but was presented hours before the completion and submission of our assessment report. We would like the opportunity to both examine bill impacts analysis broken out by customer class and offer any recommendations following sufficient time for review.

With regard to the sensitivity analysis, the PRG reached the following conclusions:

- Using either the TRC or the PAC, the portfolio remains cost-effective in all scenarios regarding the net-to-gross ratios or the effectiveness of the third party and partnership programs.

- The portfolio could encounter difficulty meeting the CPUC goals for electric energy and peak savings and therm savings if the delivered net-to-gross ratios fall even marginally below the assumed levels.

- If the third party and partnership programs fail to deliver at least 72% of the expected therm savings then the portfolio will not meet CPUC therm goals.

- The portfolio should be monitored closely and SDG&E should employ flexible contracting and fund shifting to offset identified problems with achieving the assumed net-to-gross ratios or savings from the non-core programs.