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Customer Energy Efficiency Program
Measurement and Evaluation Program

**REALIZATION STUDY OF
1996 POWER SAVINGS PARTNERS PROGRAM:
COMMERCIAL SECTOR
INDUSTRIAL SECTOR
RESIDENTIAL SECTOR**

PG&E Study ID number: 396a-f

***Residential Lighting: 396a
Commercial Lighting: 396b
Industrial Process: 396c
Commercial HVAC 396d
Commercial Refrigeration 396e
Residential Gas Boilers 396f
March 1, 1998***

Building Energy Management Section
Pacific Gas and Electric Company
San Francisco, California

Disclaimer of Warranties and Limitation of Liabilities

As part of its Customer Energy Efficiency Programs, Pacific Gas and Electric Company (PG&E) has engaged consultants to conduct a series of studies designed to increase the certainty of and confidence in the energy savings delivered by the programs. This report describes one of those studies. It represents the findings and views of the consultant employed to conduct the study and not of PG&E itself.

Furthermore, the results of the study may be applicable only to the unique geographic, meteorological, cultural, and social circumstances existing within PG&E's service area during the time frame of the study. PG&E and its employees expressly disclaim any responsibility or liability for any use of the report or any information, method, process, results or similar item contained in the report for any circumstances other than the unique circumstances existing in PG&E's service area and any other circumstances described within the parameters of the study.

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**EVALUATION OF
PACIFIC GAS & ELECTRIC COMPANY'S
1996 POWER SAVING PARTNERS PROGRAM
FOR ALL TECHNOLOGIES**

PG&E Study ID number: 396a-f

Purpose of Study

This study was conducted in compliance with the requirements specified in "Protocols and Procedures for the Verification of Costs, Benefits, and Shareholders Earnings from Demand-Side Management Programs", as adopted by California Public Utilities Commission Decision 93-05-063, revised January, 1997, pursuant to Decisions 94-05-063, 94-10-059, 94-12-021, 95-12-054, and 96-12-079.

This study evaluated the gross and net energy savings from each of the following energy efficiency technologies for which rebates were paid in 1996 by Pacific Gas & Electric Company's Power Saving Partners (PSP) program.

- Residential Lighting: 396a
- Commercial Lighting: 396b
- Industrial Process: 396c
- Commercial HVAC: 396d
- Commercial Refrigeration: 396e
- Residential Gas Boilers: 396f

Methodology

The M&V plans are consistent with the Measurement and Evaluation (M&E) protocols adopted by the Commission. The commission emphasized in Decision 93-05-063, p. 75:

Payments to winning bidders do not need to be linked to the completion of specific ex-post measurement studies in the same manner as utility earnings. The utilities are expected to apply the basic concepts....., but to allow reasonable differences between these protocols and bidders' measurement plans and payment schedules.

PG&E has fully complied with the Commission ruling and actually created a rigorous energy verification plan as accurate for site-specific savings measurement as the Protocols used for utility programs.

PG&E developed the PSP DSM Measurement and Verification Procedures Manual (Manual) following the directions in Appendix H of the Measurement Protocols adopted in D. 94-05-063. That is, the 1993 NAESCO protocols were adapted to California conditions (e.g. use of Title 24 baselines where appropriate) and made more rigorous.

The PSP contract specifies that participants submit the results of monitoring data for each site, this data is used to revise savings estimates and corresponding payments yearly and is submitted for review in this report.

Study Results

The results of the analyses are summarized below:

Program	Program Impact		
	kWh	kV	Therms
EX ANTE			
Power Saving Partners	49,231,720	7,090	106,229
EX POST			
Power Saving Partners	53,047,165	7,073	106,229
REALIZATION RATES			
Power Saving Partners	1.08	1.00	1.00

Regulatory Waivers and Filing Variances

The Appendices of this report contain confidential customer information and are submitted as such under CPUC Code Section 583.

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Invoices/Savings Summaries and True Up Reports by Partner

1. Executive Summary

The following evaluation documents savings measured in program year 1996 for Pacific Gas & Electric's PowerSaving Partners (PSP) Program. This study verifies both kWh, kW and therm savings for the end uses installed in 1996 and claimed in the 1996 AEAP Earnings Claim, specifically:

- Commercial Lighting
- Industrial Process
- Residential Lighting
- Commercial HVAC
- Commercial Refrigeration
- Residential Gas Boilers

This study documents the original claim, how it was constructed and the results of a thorough and rigorous monitoring study made by each of the PSP Partners and evaluated by PG&E. PSP Partners are required to sample and meter all sites where measures are installed in order to receive payment for energy savings. This report tabulates the results of their findings and presents the basis for each realization rate claim.

For PSP 1996 program accomplishments, PG&E claimed 7,090 kW and 49,232 mWh of annual energy savings. These accomplishments were included in the industrial, residential and commercial portfolios. Table 1 lists the results of the Measurement and Verification for these contracts by program end use.

**PACIFIC GAS AND ELECTRIC COMPANY
TABLE 1
PSP REALIZATION RATES**

Sector	Claimed kW Savings	Claimed kWh Savings	Claimed Therm Savings	Measured Peak kW	Measured kWh	Measured Therm	kW Realization Rate	kWh Realization Rate	Therm Realization Rate
Residential Lighting/ Boilers	636	4,732,167	106,229	614	4,681,163	106,229	0.96	0.99	1.00
Commercial Lighting	5,069	32,615,160	0	5,121	34,507,382	0	1.01	1.06	N/A
Industrial Process	171	1,351,953	0	164	1,292,573	0	0.96	0.96	N/A
Commercial HVA C	463	4,055,634	0	463	4,048,689	0	1.00	1.00	N/A
Commercial Refrigeration	751	6,476,806	0	712	8,517,359	0	0.95	1.32	N/A
Program	7,090	49,231,720	106,229	7,073	53,047,165	106,229	1.00	1.08	1.00

2. Background

In March 1992, the CPUC mandated that PG&E implement a bidding pilot program of DSM resources (D.92-03-038). In good faith, PG&E conducted an auction and announced a short list of winning bidders April 1993. The CPUC found all contracts to be reasonable in Decisions 93-11-067, 94-04-039 and 95-10-037. Energy savings from the bidding pilot were included in PG&E 1996 AEAP earnings claim and approved in Decision 95-12-054.

All contracts are based on pay-for-performance over a contract life of 10 years. The Powersaving Partners (PSP or Partners) perform the measurement and verification, and savings are verified annually. The implementation period is 36 months with specific reporting requirements. Payments are based on savings projections and then reconciled according to actual verified savings after one year. If savings are not achieved, payments are modified and savings projections are reduced. A method for collecting overpayments, should they occur, is contained in each contract.

The M&V plans are consistent with the Measurement and Evaluation (M&E) protocols adopted by the Commission. The commission emphasized in Decision 93-05-063, p. 75:

Payments to winning bidders do not need to be linked to the completion of specific ex-post measurement studies in the same manner as utility earnings. The utilities are expected to apply the basic concepts....., but to allow reasonable differences between these protocols and bidders' measurement plans and payment schedules.

PG&E has fully complied with the Commission ruling and actually created a rigorous energy verification plan as accurate for site-specific savings measurement as the Protocols used for utility programs.

3. Measurement & Verification Methodology

A short discussion of the existing M&V requirement for each of the PSP partners will assist in explaining the methodology for this realization report.

PG&E developed the PSP DSM Measurement and Verification Procedures Manual (Manual) following the directions in Appendix H of the Measurement Protocols adopted in D. 94-05-063. That is, the 1993 NAESCO protocols were adapted to California conditions (e.g. use of Title 24 baselines where appropriate) and made more rigorous. The Manual was reviewed and in its final form agreed to by all the Partners. It was adopted in its entirety for the PSP contract with the State of California. The Manual covers all aspects of M&V of savings.

For the purpose of simplifying the M&V Procedures Manual the following list outlines the topics covered in detail:

- Common requirements and definitions;
- Submittal requirements for each project;
- M&V procedures for lighting efficiency and controls measures;
- M&V procedures for constant load motors;
- M&V procedures for variable load motors and HVAC measures;
- Maintenance and management plans; and
- Sample forms and report outlines.

Here is a short summary of the measurement strategy based on end use/control group.

a. Lighting Efficiency Measures

Starting with the most basic lighting efficiency retrofits, the verification strategy would be as follows: The Partner surveys the existing (baseline) and new (post-installation) conditions to include exact fixture count, lamps and ballast types and the identification of usage areas. Usage areas must be defined in a way that groups together areas that have similar lighting requirements (i.e., areas of comparable average operating hours as determined by the proportion of lights in operation during each of PG&E five costing periods). PG&E inspects both the existing and the new conditions for accuracy of fixture count and type and identification of usage areas. The measurement techniques employed for this measure after installation would be to use a table of standard wattage's to determine the kW per fixture for the pre- and post-installation conditions, as well as the determination of operating hours. The operating hours are determined by short-term metering of fixture on-time in the various costing periods. The short-term metering length is determined by market segment and ranges from one to four months. The required sample sizes for the metering are for 90 percent confidence and 10 percent precision. The majority of the measure installed by PSP in 1996 were lighting efficiency retrofits and the M&V followed by each and every Partner is as described above.

b. Lighting Controls and Constant Load Motors

The next category of projects are constant load and variable hour projects, such as lighting controls or motor efficiency retrofits. The verification strategies involve the survey of the existing measure for the load served, including a kW or horsepower measurement and a typical operating schedule. This verification survey includes spot-metering to determine actual demand, and possibly short-term metering of a sample to verify constant load and to normalize spot metering. The post-installation verification included spot metering to determine demand. The ongoing measurement activities for these types of measure include short-term metering for demand and run-hours. Again, the short-term metering length is determined by market segment and ranges from one to four months.

c. Variable Load Projects

The last type of projects are those that have variable loads and variable operating hours, including seasonal variation. For both verification and measurement, a comprehensive approach is necessary for variable load measure, multiple measures or measure that interact. In these cases, end-use measurements are difficult to isolate or are cost-prohibitive. A project-specific approach is necessary, including a variety of acceptable approaches from continuous metering to billing analysis. The Manual outlines both a continuous metering approach as well as pre- and post installation billing analysis.

4. Realization Study Methodology

The 1996 PG&E savings claim was comprised of savings from a total of 435 Application Codes or Sites. These Sites were aggregated by end use/sector and reported in the 1996 E tables. The following tables document the claimed and the actual measured savings for each Site.

1996 Realization Rate by End Use/Study

Tables 2-6, "Realization Rate by End Use/Study," lists a tracking code that represents each customer site, kW, kWh and therm savings as reported in the 1996 AEAP claim, and measured kW, kWh and therm savings as determined by analyzing metering and monitoring data. The realization rate is equal to the measured savings divided by the claimed savings. This table is sorted by end use for each required study. As many of the Res sites included both gas boiler measures and lighting measures, Table 2 contains summary information for both end uses.

1996 Realization Rate by Partner

Table 7, "1996 Realization Rate by Partner," lists the same information as Tables 2-6, however, each of the sites are sorted by participating partner corresponding to each section of the Appendix.

Appendix

The Appendix contains two sets of documents for each partner. There are eight partners that installed projects in 1996. The first half of each partner data section contains invoice data. The invoice data sheets incorporate the results of the metered data to produce revised estimates of kw, kwh and therm savings necessary for payment. For two of the partners, savings are listed in the other category. The Noresco contract allows for a 15% interactive savings for lighting due to reduction in HVAC load. The Princeton Development Corporation contract allows for a three percent interactive adder. These savings are as filed and approved in the original PSP contracts.

Each of the partners submitted usage data for their sites as required by the Manual. This information is based on the tabulation of actual monitored data from data loggers installed at each site or representative sample for similar sites. The data was analyzed by PG&E and a third Party, Schiller Associates, and upon approval, the revised hours of operation for each usage group were adopted for payment and incorporated into the invoices for the following year.

Database information has been filed electronically for this report. Database information is as documented in the data dictionary and includes information about the existing equipment and the retrofit equipment at each customer site and for each measure installed. After submittal of this information, at the request of PG&E, a third party inspects each site for accuracy. If the installation is approved, the Site tables are entered into PG&E's data files and a kW savings is recorded for each usage group and reported as maximum kW (connected load reduction). For the purposes of PSP, kW savings are average peak kw savings, that is, the total connected load multiplied by the ratio of hours of operation in the peak period divided by seven hundred seventy four (the maximum hours in a peak period based on the 1993 calendar year). The energy savings reported are the kw savings multiplied by the total hours of operation. Per the manual, the first year savings claim is based on engineering estimates. Each successive year saving claim is based on metered data gathered during the previous year.

5. Summary

PG&E has adhered to or exceeded the basic concepts of ex post measurement protocols by implementing the adjusted NAESCO standards for the first set of DSM bidding contracts. The kW, kWh and therm realization rates in this report link the savings measured at 435 sites to the values reported in the E-tables filed in support of PG&E's 1996 Earnings claim.

**Table 2
Residential Lighting/Boilers**

CODE	End Use	Claimed kW Savings	Claimed kWh Savings	Claimed Therm Savings	Measured Peak kW Savings	Measured kWh Savings	Measured Therm Savings	kW Realization Rate	kWh Realization Rate	Therm Realization Rate
PCCCCC88R	lighting	11.0	94,461	0	10.7	87,728	0	0.97	0.93	N/A
PCCCCCELL	lighting	4.5	39,179	0	4.5	37,610	0	1.00	0.96	N/A
PCCCCCDER	lighting/boilers	12.2	91,310	6,750	12.1	90,780	6,750	0.99	0.99	1.00
PCCCCCNIA	lighting/boilers	6.8	51,476	4,950	6.5	49,980	4,950	0.96	0.97	1.00
PCCCCCIDR	lighting	50.7	417,023	0	44.0	356,242	0	0.87	0.85	N/A
PCCCCCALI	lighting	21.1	136,969	0	19.3	134,347	0	0.91	0.98	N/A
PCCCCCNON	lighting	6.3	46,915	0	5.9	45,800	0	0.94	0.98	N/A
PCCCCCRAL	lighting	20.3	192,758	0	21.9	190,990	0	1.08	0.99	N/A
PCCCCCITY	lighting	9.1	76,011	0	9.1	73,507	0	1.00	0.97	N/A
PCCCCCNTR	lighting	14.2	115,134	0	14.0	113,139	0	0.99	0.98	N/A
PCCCCCMNT	lighting/boilers	12.1	66,604	4,200	8.7	64,415	4,200	0.72	0.97	1.00
PCCCCCDAY	lighting	7.1	69,019	0	7.9	71,058	0	1.12	1.03	N/A
PCCCCCEST	lighting	11.2	80,464	0	10.5	84,030	0	0.94	1.04	N/A
PCCCCCSON	lighting	47.0	242,038	0	46.1	255,590	0	0.98	1.06	N/A
PCCCCCNDO	lighting/boilers	3.2	27,987	3,960	3.5	28,736	3,960	1.08	1.03	1.00
PCCCCCISH	lighting	95.3	657,750	0	87.6	651,517	0	0.92	0.99	N/A
PCCCCCNES	lighting/boilers	10.8	88,532	4,950	10.6	86,375	4,950	0.98	0.98	1.00
PCCCCCPRK	lighting	24.8	188,105	0	25.4	195,534	0	1.02	1.04	N/A
PCCCCCNOL	lighting	7.4	59,834	0	7.4	57,810	0	0.99	0.97	N/A
PCCCCCRIA	lighting/boilers	5.3	38,704	5,550	5.5	40,090	5,550	1.05	1.04	1.00
PCCCCCTON	lighting/boilers	6.7	45,624	4,050	6.0	44,365	4,050	0.90	0.97	1.00
PCCCCCDEL	lighting	7.4	51,050	0	6.5	50,008	0	0.88	0.98	N/A
PCCCCCRAH	lighting	13.4	85,108	0	10.7	84,534	0	0.79	0.99	N/A
PCCCCRCRY	lighting	30.4	218,168	0	31.0	226,947	0	1.02	1.04	N/A
PCCCCCNTY	lighting	4.6	30,908	0	3.9	30,686	0	0.85	0.99	N/A
PCCCCCARK	lighting	10.8	88,328	0	11.3	89,145	0	1.04	1.01	N/A
PCCCCCTEL	lighting/boilers	8.2	77,258	10,488	9.0	79,871	10,488	1.10	1.03	1.00
PCCCCCAKN	lighting	7.4	64,433	0	7.5	62,273	0	1.01	0.97	N/A
PCCCCCAKS	lighting	6.9	59,211	0	7.2	58,815	0	1.04	0.99	N/A
PCCCCCEAN	lighting	3.5	27,569	0	3.5	27,009	0	0.99	0.98	N/A
PCCCCCACO	lighting	4.4	37,631	0	4.4	36,482	0	1.00	0.97	N/A
PCCCCCAZA	lighting	3.5	38,101	0	4.2	39,327	0	1.21	1.03	N/A
PCCCCCMTH	lighting	9.9	60,846	0	9.4	66,465	0	0.94	1.09	N/A
PCCCCCWER	lighting	15.4	131,653	0	15.1	126,133	0	0.99	0.96	N/A
PCCCCCSTA	lighting	4.0	30,905	0	4.0	30,834	0	1.00	1.00	N/A
PCCCCCH-T	lighting	5.1	52,728	0	5.9	54,121	0	1.17	1.03	N/A
PCCCCCMAR	lighting	17.5	120,384	0	15.8	119,044	0	0.90	0.99	N/A
PCCCCCICE	lighting	15.5	81,443	0	14.8	83,925	0	0.95	1.03	N/A
PCCCCCOAT	lighting	5.8	50,225	0	5.9	48,982	0	1.02	0.98	N/A
PCCCCCYVW	lighting	21.0	135,063	0	20.9	148,448	0	1.00	1.10	N/A
PCCCCCSET	lighting	14.3	122,195	0	14.2	117,168	0	0.99	0.96	N/A
PCCCCCCEO	lighting	5.6	49,037	0	6.1	49,930	0	1.08	1.02	N/A
PCCCCCUTH	lighting	4.0	31,832	0	4.2	33,169	0	1.07	1.04	N/A
PCCCCCRK1	lighting/boilers	18.0	154,471	7,158	18.6	152,964	7,158	1.04	0.99	1.00
PCCCCCLFE	lighting	12.9	107,726	0	12.9	105,160	0	1.00	0.98	N/A
PCCCGASEES	boilers	0.0	0	5,914	0.0	0	5,914	N/A	N/A	1.00
PCCCGASNOG	boilers	0.0	0	4,101	0.0	0	4,101	N/A	N/A	1.00
PCCCGASOLG	boilers	0.0	0	6,722	0.0	0	6,722	N/A	N/A	1.00
PCCCGASOOD	boilers	0.0	0	13,930	0.0	0	13,930	N/A	N/A	1.00
PCCCGASREM	boilers	0.0	0	23,506	0.0	0	23,506	N/A	N/A	1.00
Total		636.5	4,732,167	106,229	614.0	4,681,163	106,229	0.96	0.99	1.00

Table 3
Commercial Lighting

CODE	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PALAAAI0N	15.6	56,656	17.3	66,566	1.11	1.17
PALAHOSH01	6.3	26,890	7.3	29,944	1.17	1.11
PALAHOSH08	7.3	53,051	7.5	54,390	1.03	1.03
PALAHOSH09	23.2	175,456	24.0	176,692	1.03	1.01
PALAHOSH10	18.6	109,630	17.9	108,331	0.96	0.99
PALAHOSH11	0.9	11,406	0.9	11,411	1.07	1.00
PALAHOSH12	1.3	11,686	1.3	11,686	1.00	1.00
PALAHOSR01	4.6	27,821	4.9	29,318	1.07	1.05
PALAHOSR02	8.0	59,557	7.2	45,183	0.89	0.76
PALAHOSR03	4.2	23,882	4.5	25,523	1.07	1.07
PALAHOSR07	8.7	35,119	9.6	40,466	1.10	1.15
PALAHOSR09	9.5	34,398	10.9	40,138	1.15	1.17
PALAHOSR21	1.3	4,342	1.7	4,997	1.27	1.15
PALAHOSR22	1.8	5,785	2.2	6,732	1.24	1.16
PALAHOSR23	1.6	4,791	1.7	5,982	1.10	1.25
PALAHOSR25	12.0	52,736	13.2	59,342	1.10	1.13
PALAHOSR26	4.1	26,539	3.4	14,543	0.83	0.55
PALAHOSR28	0.0	13,010	0.2	13,026	-	1.00
PALANORCJ1	5.1	30,888	3.8	27,721	0.75	0.90
PALANORCJ2	5.0	30,708	3.7	27,471	0.74	0.89
PALANORCJ3	5.2	31,726	3.9	28,601	0.75	0.90
PALANORCJ4	4.9	29,969	3.6	26,703	0.74	0.89
PALANORCJ5	5.0	30,328	3.7	27,073	0.74	0.89
PALANORCJ6	5.0	30,355	3.7	27,105	0.74	0.89
PALANORMIN	24.5	184,832	25.0	189,270	1.02	1.02
PALASRIA02	9.1	56,310	8.2	49,235	0.90	0.87
PALASRIEMY	3.0	9,601	3.3	11,747	1.11	1.22
PALASRIORE	39.5	273,469	46.3	254,973	1.17	0.93
PNONO0B04E	18.2	143,204	18.1	145,362	1.00	1.02
PNONO0B07E	41.3	321,021	41.1	325,955	1.00	1.02
PNONO0B10E	26.2	203,391	26.1	206,936	1.00	1.02
PNONO0B11E	33.6	263,218	33.6	267,907	1.00	1.02
PNONO0B12E	27.5	214,737	27.5	218,367	1.00	1.02
PNONO0B15E	39.6	311,187	39.6	316,203	1.00	1.02
PNONO0B17E	25.5	202,175	25.5	205,420	1.00	1.02
PNOSA1109E	73.2	621,468	73.4	622,441	1.00	1.00
PNOSA1125E	66.3	560,187	66.4	560,740	1.00	1.00
PNOSA1205E	28.8	247,569	28.7	246,597	1.00	1.00
PNOSA1206E	31.0	259,246	31.1	258,957	1.00	1.00
PNOSAE111E	29.9	264,861	29.9	265,094	1.00	1.00
PNOSAE171E	30.8	272,336	30.9	273,048	1.00	1.00
PNOSAE189E	34.1	291,144	34.2	291,356	1.00	1.00
PNOSAE256E	25.4	220,361	25.4	220,531	1.00	1.00
PNOSAE262E	31.8	272,682	31.9	273,267	1.00	1.00
PNOSAE269E	32.0	265,617	32.1	265,209	1.00	1.00
PNOSAE273E	48.6	407,684	48.7	406,751	1.00	1.00
PNOSAE278E	55.2	466,580	55.3	467,086	1.00	1.00
PNOSAE279E	46.9	402,828	47.0	403,346	1.00	1.00

Table 3
Commercial Lighting

CODE	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PNOSAE286E	40.3	343,457	40.4	344,214	1.00	1.00
PNOSAE302E	29.3	249,811	29.3	250,059	1.00	1.00
PNOSAE318E	28.1	243,240	28.1	243,526	1.00	1.00
PNOSAE545E	0.0	0	22.7	195,933	-	-
PNOSAE639E	0.0	0	0.0	0	0.00	0.00
PNOSAE640E	30.1	268,097	30.0	267,835	1.00	1.00
PNOSAE654E	0.0	0	0.0	0	0.00	0.00
PNOSAE706E	45.6	400,527	45.6	401,426	1.00	1.00
PNOSAE723E	58.2	495,082	58.4	495,791	1.00	1.00
PNOSAE749E	43.1	364,035	43.2	364,277	1.00	1.00
PNOSAE759E	34.1	290,034	34.2	290,375	1.00	1.00
PNOSAE761E	30.5	265,761	30.5	265,449	1.00	1.00
PNOSAE783E	51.3	448,342	51.2	447,650	1.00	1.00
PNOSAE785E	70.6	592,255	70.8	592,217	1.00	1.00
PNOSAE904E	46.9	404,244	47.1	405,527	1.00	1.00
PNOSAE909E	42.1	359,809	42.2	360,366	1.00	1.00
PNOSAE911E	0.0	0	0.0	0	0.00	0.00
PNOSAE915E	29.7	270,494	29.6	269,698	1.00	1.00
PNOSAE917E	59.9	522,913	59.9	522,965	1.00	1.00
PNOSAE918E	50.4	441,168	50.4	441,566	1.00	1.00
PNOSAE933E	46.7	401,231	46.8	401,602	1.00	1.00
PNOSAE939E	45.4	387,330	45.4	386,500	1.00	1.00
PNOSAE950E	30.5	254,604	30.5	253,804	1.00	1.00
PNOSAE956E	41.5	352,554	41.5	351,401	1.00	1.00
PNOSAE979E	36.2	306,909	36.2	307,241	1.00	1.00
PNOSAE995E	44.5	387,128	44.6	387,056	1.00	1.00
PPDCAUTRAM	31.8	141,813	29.2	143,890	0.92	1.01
PPDCAUTRKE	59.4	292,477	55.3	295,693	0.93	1.01
PPDCAUTTOL	37.4	175,053	34.7	179,437	0.93	1.03
PPDCAUTSON	49.6	233,957	45.8	232,112	0.92	0.99
PPDCAUTCLE	12.0	56,581	11.1	54,456	0.92	0.96
PPDCAUTRED	30.5	150,943	28.1	149,071	0.92	0.99
PPDCAUTONT	89.2	439,347	82.3	426,052	0.92	0.97
PPDCAUTDEN	16.1	68,112	15.0	75,430	0.93	1.11
PPDCAUTIEW	16.5	78,287	15.5	86,382	0.94	1.10
PPDCAUTHRY	21.2	113,676	19.9	111,812	0.94	0.98
PPDCAUTISS	8.9	42,455	8.2	42,578	0.92	1.00
PPDCAUTCHR	22.6	116,233	21.0	115,344	0.93	0.99
PPDCMONREY	86.1	360,339	92.8	475,665	1.08	1.32
PPDCMONTY2	62.6	191,058	64.7	207,405	1.03	1.09
PPDCNAPPA2	21.2	100,169	25.3	117,439	1.19	1.17
PPDCTAFAFT	110.4	393,596	115.3	476,366	1.04	1.21
PPREGGN012	12.2	41,596	19.0	53,960	1.55	1.30
PPREGGN013	9.9	33,669	14.8	39,745	1.50	1.18
PPREGGN014	11.2	38,209	14.1	43,222	1.26	1.13
PPREGGN016	13.4	45,682	17.0	50,288	1.27	1.10
PPROKAIHWD	119.9	719,397	119.1	718,627	0.99	1.00
PPROKAINCH	63.9	413,669	68.3	432,658	1.07	1.05

**Table 3
Commercial Lighting**

CODE	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PPROKAIOSP	143.8	784,076	150.6	825,608	1.05	1.05
PPROKAIRAN	128.0	742,458	128.3	760,286	1.00	1.02
PPROTAR313	36.7	203,408	36.3	204,387	0.99	1.00
PPROTAR314	36.6	212,532	35.9	202,892	0.98	0.95
PPROTAR326	33.4	188,297	33.0	187,559	0.99	1.00
PPROTHR062	24.7	134,370	24.2	151,283	0.98	1.13
PPROTHR079	23.2	126,101	22.9	141,486	0.99	1.12
PPROTHR081	33.8	184,379	33.1	203,835	0.98	1.11
PPROTHR082	41.6	227,264	40.9	254,301	0.98	1.12
PPROTHR084	33.1	180,220	32.8	202,139	0.99	1.12
PPROTHR085	26.5	144,458	25.5	156,346	0.96	1.08
PPROTHR091	27.1	145,999	26.8	167,972	0.99	1.15
PPROTHR218	17.3	94,127	17.1	105,131	0.99	1.12
PPROTHR260	10.9	84,778	13.1	93,501	1.20	1.10
PPROTHR275	42.0	228,572	41.2	253,756	0.98	1.11
PPROTHR311	10.3	55,910	10.2	64,410	0.99	1.15
PPROTHR47X	5.3	27,914	5.1	31,578	0.96	1.13
PPROTHR49X	35.1	194,606	34.7	210,948	0.99	1.08
PPROTHR357	25.7	139,867	25.2	156,244	0.98	1.12
PPROTHR453	7.5	40,886	7.5	45,249	1.00	1.11
PPROTHR459	20.6	112,341	20.4	125,303	0.99	1.12
PPROTHR192	22.4	122,366	22.3	138,476	1.00	1.13
PPROTHR203	28.1	153,870	28.0	171,987	1.00	1.12
PPROTHR230	31.3	174,046	31.5	193,584	1.01	1.11
PPROTHR247	31.1	171,395	31.1	190,252	1.00	1.11
PPROTHR248	32.2	176,608	31.9	195,434	0.99	1.11
PPROTHR310	34.4	187,644	34.3	213,606	1.00	1.14
PPROTHR317	32.1	175,605	32.1	197,691	1.00	1.13
PPROTHR345	25.4	139,314	25.6	156,901	1.01	1.13
PPROTHR347	28.4	155,597	28.4	175,543	1.00	1.13
PPROTHR48Y	27.0	147,097	27.1	166,996	1.01	1.14
PPROTHR349	24.3	133,031	24.2	148,086	1.00	1.11
PPROTHR369	35.7	195,921	35.8	219,169	1.00	1.12
PPROTHR376	35.7	195,356	35.6	218,869	1.00	1.12
PPROTHR395	25.8	140,824	25.7	158,796	0.99	1.13
PPROTHR431	32.0	176,084	32.0	196,182	1.00	1.11
PPROTHR449	21.1	115,121	21.2	130,549	1.01	1.13
PPROTHR456	32.2	177,323	32.2	197,592	1.00	1.11
PPROTHR461	39.0	214,540	38.9	239,180	1.00	1.11
PPROTHR466	34.0	191,276	34.7	215,630	1.02	1.13
PPROTHR470	26.8	149,025	27.3	169,320	1.02	1.14
PPROTHR480	40.5	226,834	41.2	255,849	1.02	1.13
PPROTHR486	36.7	201,849	36.6	225,046	1.00	1.11
PPROTHR491	24.5	134,073	24.8	152,844	1.01	1.14
PPROTHR494	20.5	115,001	20.8	129,059	1.01	1.12
PPROTHR498	32.3	184,465	33.1	206,683	1.02	1.12
PPROTHR526	30.9	169,872	30.8	189,405	1.00	1.11
PPROTHR532	25.8	141,315	26.0	160,369	1.01	1.13

**Table 3
Commercial Lighting**

CODE	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PPROTHR540	28.5	156,733	28.3	173,849	0.99	1.11
PPROTHR541	27.3	150,261	27.3	167,478	1.00	1.11
PPROTHR563	12.9	70,901	12.8	77,997	1.00	1.10
PPROTHR565	12.7	68,963	12.9	78,464	1.01	1.14
PPROTHR566	20.0	109,819	20.1	124,329	1.00	1.13
PPROTHR567	17.4	94,913	17.2	105,741	0.99	1.11
PPROTHR572	4.7	25,554	4.8	29,689	1.02	1.16
PPROTHR582	22.5	123,106	22.5	138,386	1.00	1.12
PPROTHR592	20.9	114,378	20.9	129,670	1.00	1.13
PPROTHR594	16.9	92,185	16.9	104,456	1.00	1.13
PPROTHR597	19.7	107,386	19.8	121,951	1.00	1.14
PPROTHR600	16.8	91,992	16.9	104,279	1.00	1.13
PPROTHR606	7.9	43,226	7.8	48,557	0.98	1.12
PPROTHR613	11.2	60,587	11.1	69,230	1.00	1.14
PPROTHR618	6.2	33,902	6.2	38,397	1.00	1.13
PPROTHR622	11.7	63,867	11.7	72,662	1.00	1.14
PPROTHR625	7.1	38,477	7.1	44,688	1.00	1.16
PPROTHR626	6.8	36,907	6.8	42,645	1.00	1.16
PPROTHR628	6.5	35,312	6.2	38,711	0.96	1.10
PPROTHR630	6.3	37,560	6.6	42,566	1.05	1.13
PPROTHR635	6.6	35,867	6.6	40,577	1.00	1.13
PPROTHR636	6.7	36,438	6.8	42,363	1.01	1.16
PPROTHR646	11.6	63,386	11.7	72,951	1.01	1.15
PPROTHR657	7.0	38,128	6.8	42,468	0.97	1.11
PPROTHR665	11.0	59,855	11.0	68,120	1.00	1.14
PPROTHR682	8.5	51,173	8.9	57,280	1.05	1.12
PPROTHR686	10.4	66,826	11.3	73,942	1.08	1.11
PPROTHR691	10.4	56,413	10.3	64,067	1.00	1.14
PPROTHR719	12.1	68,699	10.0	62,525	0.82	0.91
PPROTHR721	13.1	71,329	13.1	80,466	1.00	1.13
PPROTHR722	12.0	65,597	11.9	73,492	0.99	1.12
PPROTHR723	15.8	86,270	15.8	97,104	1.00	1.13
PPROTHR734	7.5	40,721	7.5	46,512	1.00	1.14
PPROTHR756	7.4	42,722	7.6	48,591	1.03	1.14
PPROTHR765	9.5	51,569	9.4	58,133	0.99	1.13
PPROTHR766	6.6	35,914	6.6	41,268	1.00	1.15
PPROTHR769	7.0	35,809	6.8	41,194	0.97	1.15
PPROTHR775	5.4	29,088	5.4	32,939	1.00	1.13
PPROTHR797	32.7	178,565	32.7	197,528	1.00	1.11
PSANSANCCF	10.5	37,746	11.3	70,225	1.09	1.86
PSANAIRRSE	11.7	102,072	11.7	102,072	1.00	1.00
PSANSANALL	16.7	53,760	31.1	185,606	1.86	3.45
PSANAIRLOB	49.2	431,202	49.2	431,202	1.00	1.00
PSANYARMAS	9.3	28,015	10.0	48,631	1.07	1.74
PSANAIRCES	39.2	227,968	33.6	271,154	0.86	1.19
PSANYARUTH	4.6	14,196	3.4	19,665	0.74	1.39
PSANAIRALK	47.5	384,013	46.5	397,418	0.98	1.03
Total	5,068.8	32,615,160	5,120.6	34,507,382	1.01	1.06

Table 4
Industrial Process

CODE	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PTAMNEWRA	171.2	1,351,953	163.8	1,292,573	0.96	0.96
Total	171.2	1,351,953	163.8	1,292,573	0.96	0.96

**Table 5
Commercial HVAC**

CODE	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PNOSA1108M	7.2	63,258	7.2	63,149	1.00	1.00
PNOSA1125M	7.2	63,363	7.2	63,254	1.00	1.00
PNOSA1192M	6.0	52,116	6.0	52,027	1.00	1.00
PNOSA1195M	5.9	51,871	5.9	51,782	1.00	1.00
PNOSA1196M	1.7	14,496	1.7	14,471	1.00	1.00
PNOSA1204M	6.4	55,585	6.3	55,489	1.00	1.00
PNOSA1211M	6.9	60,148	6.9	60,045	1.00	1.00
PNOSA1232M	0.6	5,299	0.6	5,290	0.99	1.00
PNOSA1234M	3.5	30,683	3.5	30,630	1.00	1.00
PNOSA1245M	10.3	90,183	10.3	90,028	1.00	1.00
PNOSA1258M	3.4	30,087	3.4	30,036	1.00	1.00
PNOSA1259M	14.8	129,633	14.8	129,411	1.00	1.00
PNOSA1265M	0.3	2,461	0.3	2,457	1.00	1.00
PNOSA3128M	8.5	74,119	8.5	73,992	1.00	1.00
PNOSAE111M	0.7	5,755	0.7	5,745	1.00	1.00
PNOSAE159M	1.2	10,099	1.2	10,082	1.00	1.00
PNOSAE171M	1.8	15,889	1.8	15,862	1.00	1.00
PNOSAE189M	4.9	43,103	4.9	43,029	1.00	1.00
PNOSAE256M	3.1	26,776	3.1	26,730	1.00	1.00
PNOSAE262M	4.1	36,271	4.1	36,209	1.00	1.00
PNOSAE273M	3.2	27,670	3.2	27,622	1.00	1.00
PNOSAE278M	9.1	79,286	9.1	79,151	1.00	1.00
PNOSAE279M	2.9	25,077	2.9	25,034	1.00	1.00
PNOSAE286M	3.2	28,335	3.2	28,287	1.00	1.00
PNOSAE300M	7.5	65,377	7.5	65,265	1.00	1.00
PNOSAE302M	2.5	21,565	2.5	21,528	1.00	1.00
PNOSAE304M	14.7	128,871	14.7	128,650	1.00	1.00
PNOSAE308M	7.2	62,679	7.2	62,572	1.00	1.00
PNOSAE309M	7.3	64,160	7.3	64,050	1.00	1.00
PNOSAE313M	8.7	76,343	8.7	76,213	1.00	1.00
PNOSAE315M	5.3	46,221	5.3	46,142	1.00	1.00
PNOSAE316M	8.7	75,800	8.7	75,671	1.00	1.00
PNOSAE318M	4.8	41,999	4.8	41,927	1.00	1.00
PNOSAE568M	5.5	47,814	5.5	47,732	1.00	1.00
PNOSAE618M	1.1	9,460	1.1	9,444	1.00	1.00
PNOSAE636M	9.8	86,092	9.8	85,945	1.00	1.00
PNOSAE638M	2.0	17,098	2.0	17,068	1.00	1.00
PNOSAE640M	5.1	44,715	5.1	44,638	1.00	1.00
PNOSAE641M	1.3	11,579	1.3	11,560	1.00	1.00
PNOSAE654M	2.7	24,008	2.7	23,967	1.00	1.00
PNOSAE669M	12.7	111,248	12.7	111,058	1.00	1.00
PNOSAE676M	3.0	26,461	3.0	26,416	1.00	1.00
PNOSAE694M	2.0	17,597	2.0	17,567	1.00	1.00
PNOSAE706M	2.8	24,420	2.8	24,378	1.00	1.00
PNOSAE712M	2.0	17,895	2.0	17,864	1.00	1.00
PNOSAE715M	0.5	4,169	0.5	4,162	0.99	1.00
PNOSAE732M	1.1	9,179	1.0	9,164	1.00	1.00
PNOSAE739M	1.3	11,536	1.3	11,516	1.00	1.00

Table 5
Commercial HVAC

CODE	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PNOSAE746M	1.6	14,391	1.6	14,366	1.00	1.00
PNOSAE749M	3.9	34,230	3.9	34,172	1.00	1.00
PNOSAE751M	1.7	14,987	1.7	14,961	1.00	1.00
PNOSAE759M	0.5	4,739	0.5	4,731	1.00	1.00
PNOSAE762M	0.8	6,779	0.8	6,768	1.01	1.00
PNOSAE783M	2.6	22,931	2.6	22,892	1.00	1.00
PNOSAE785M	0.9	8,269	0.9	8,254	1.00	1.00
PNOSAE788M	7.9	69,301	7.9	69,182	1.00	1.00
PNOSAE793M	3.7	32,732	3.7	32,676	1.00	1.00
PNOSAE904M	2.6	22,370	2.6	22,332	1.00	1.00
PNOSAE909M	7.8	68,311	7.8	68,194	1.00	1.00
PNOSAE910M	9.8	85,418	9.8	85,271	1.00	1.00
PNOSAE911M	12.6	110,206	12.6	110,017	1.00	1.00
PNOSAE913M	4.8	42,008	4.8	41,936	1.00	1.00
PNOSAE915M	6.4	56,136	6.4	56,040	1.00	1.00
PNOSAE917M	4.7	41,062	4.7	40,992	1.00	1.00
PNOSAE918M	4.3	37,988	4.3	37,923	1.00	1.00
PNOSAE919M	12.8	112,290	12.8	112,098	1.00	1.00
PNOSAE928M	5.3	46,370	5.3	46,291	1.00	1.00
PNOSAE929M	7.0	61,348	7.0	61,243	1.00	1.00
PNOSAE933M	11.7	102,366	11.7	102,191	1.00	1.00
PNOSAE939M	4.3	37,576	4.3	37,512	1.00	1.00
PNOSAE950M	6.3	54,963	6.3	54,869	1.00	1.00
PNOSAE953M	2.9	25,033	2.9	24,990	1.00	1.00
PNOSAE955M	5.4	47,132	5.4	47,051	1.00	1.00
PNOSAE956M	8.4	73,891	8.4	73,764	1.00	1.00
PNOSAE964M	5.7	49,821	5.7	49,736	1.00	1.00
PNOSAE965M	4.6	40,484	4.6	40,415	1.00	1.00
PNOSAE969M	3.4	30,972	3.5	30,919	1.05	1.00
PNOSAE970M	5.1	44,224	5.0	44,148	1.00	1.00
PNOSAE971M	1.8	15,591	1.8	15,564	1.00	1.00
PNOSAE975M	2.1	18,149	2.1	18,118	1.00	1.00
PNOSAE976M	7.2	62,881	7.2	62,773	1.00	1.00
PNOSAE978M	3.5	30,753	3.5	30,700	1.00	1.00
PNOSAE979M	4.7	41,474	4.7	41,403	1.00	1.00
PNOSAE983M	8.8	77,368	8.8	77,236	1.00	1.00
PNOSAE985M	5.0	43,629	5.0	43,554	1.00	1.00
PNOSAE987M	8.1	70,563	8.1	70,442	1.00	1.00
PNOSAE989M	3.2	27,678	3.2	27,631	1.00	1.00
PNOSAE993M	10.8	94,317	10.8	94,155	1.00	1.00
PNOSAE994M	0.6	5,439	0.6	5,430	1.00	1.00
PNOSAE995M	3.5	30,893	3.5	30,840	1.00	1.00
PNOSAE999M	8.1	70,720	8.1	70,599	1.00	1.00
Total	462.9	4,055,634	463.0	4,048,689	1.00	1.00

**Table 6
Commercial Refrigeration**

CODE	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PNOSA1125C	12.8	110,010	12.1	137,484	0.95	1.25
PNOSA1192C	8.6	74,584	8.2	110,111	0.95	1.48
PNOSA1195C	9.4	80,853	8.9	120,221	0.95	1.49
PNOSA1198C	6.9	59,796	6.6	86,309	0.95	1.44
PNOSA1197C	9.4	80,853	8.9	119,864	0.95	1.48
PNOSA1204C	8.2	70,648	7.8	95,950	0.95	1.36
PNOSA1205C	8.6	74,481	8.2	89,786	0.95	1.21
PNOSA1206C	7.3	63,037	6.9	92,778	0.95	1.47
PNOSA1211C	8.8	76,096	8.4	119,448	0.95	1.57
PNOSA1224C	9.7	83,664	9.2	125,863	0.95	1.50
PNOSA1232C	7.0	60,265	6.6	72,665	0.95	1.21
PNOSA1234C	8.5	73,383	8.1	110,229	0.95	1.50
PNOSA1245C	9.2	79,337	8.7	114,782	0.95	1.45
PNOSA1258C	7.3	63,344	7.0	98,634	0.95	1.56
PNOSA1259C	9.3	80,538	8.9	132,366	0.95	1.64
PNOSA1264C	13.3	114,695	12.6	153,949	0.95	1.34
PNOSA1265C	9.5	82,165	9.0	106,638	0.95	1.30
PNOSA1293C	11.8	101,356	11.2	139,270	0.95	1.37
PNOSA3128C	9.7	83,664	9.1	79,322	0.94	0.95
PNOSAE159C	6.8	58,331	6.4	80,720	0.95	1.38
PNOSAE171C	1.7	14,736	1.6	25,374	0.95	1.72
PNOSAE189C	3.3	28,774	3.2	47,943	0.96	1.67
PNOSAE256C	4.5	38,552	4.3	54,303	0.95	1.41
PNOSAE269C	0.0	0	0.0	34,421	0.00	-
PNOSAE273C	8.8	76,253	8.4	95,115	0.95	1.25
PNOSAE279C	7.2	62,373	6.9	80,234	0.95	1.29
PNOSAE286C	11.0	94,873	10.4	127,226	0.95	1.34
PNOSAE300C	10.6	91,402	10.0	108,997	0.95	1.19
PNOSAE302C	7.4	63,987	7.0	79,988	0.95	1.25
PNOSAE308C	6.9	59,417	6.5	74,951	0.95	1.26
PNOSAE309C	2.5	21,397	2.4	42,929	0.96	2.01
PNOSAE313C	7.9	68,527	7.5	93,136	0.95	1.36
PNOSAE315C	5.2	44,979	5.0	70,907	0.95	1.58
PNOSAE316C	7.8	66,879	7.4	92,912	0.95	1.39
PNOSAE318C	8.8	75,904	8.3	93,149	0.95	1.23
PNOSAE465C	5.8	50,056	5.5	68,070	0.95	1.36
PNOSAE568C	7.3	62,974	6.9	80,166	0.95	1.27
PNOSAE592C	3.3	28,097	3.1	46,073	0.95	1.64
PNOSAE618C	8.4	72,769	8.0	99,548	0.95	1.37
PNOSAE636C	8.0	69,000	7.6	88,476	0.95	1.28
PNOSAE638C	4.4	37,654	4.1	49,545	0.95	1.32
PNOSAE639C	2.9	24,975	2.7	23,679	0.94	0.95
PNOSAE640C	7.4	63,604	7.0	70,944	0.95	1.12
PNOSAE654C	4.9	42,594	4.7	40,384	0.94	0.95
PNOSAE661C	7.6	65,802	7.2	62,387	0.94	0.95
PNOSAE667C	8.4	72,769	7.9	68,993	0.94	0.95
PNOSAE668C	2.0	17,164	1.9	42,384	0.96	2.47

**Table 6
Commercial Refrigeration**

CODE	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PNOSAE669C	11.2	96,488	10.6	136,301	0.95	1.41
PNOSAE676C	7.4	63,544	7.0	79,551	0.95	1.25
PNOSAE687C	5.6	48,544	5.3	66,674	0.95	1.37
PNOSAE695C	1.9	16,299	1.8	34,435	0.96	2.11
PNOSAE706C	5.4	46,896	5.1	61,571	0.95	1.31
PNOSAE709C	5.5	47,130	5.2	61,519	0.95	1.31
PNOSAE714C	6.4	55,354	6.1	77,611	0.95	1.40
PNOSAE723C	7.0	60,776	6.7	75,556	0.95	1.24
PNOSAE732C	9.9	85,350	9.4	108,474	0.95	1.27
PNOSAE737C	6.9	59,745	6.5	68,863	0.94	1.15
PNOSAE739C	6.7	57,948	6.4	83,071	0.95	1.43
PNOSAE746C	7.0	60,610	6.7	77,449	0.95	1.28
PNOSAE747C	5.4	46,423	5.1	70,675	0.95	1.52
PNOSAE749C	6.7	57,475	6.3	69,029	0.95	1.20
PNOSAE759C	6.3	54,605	6.0	65,331	0.95	1.20
PNOSAE761C	6.9	59,745	6.6	78,482	0.95	1.31
PNOSAE762C	3.4	29,472	3.2	27,943	0.94	0.95
PNOSAE768C	2.8	23,825	2.6	37,261	0.95	1.56
PNOSAE774C	1.6	14,029	1.5	13,301	0.94	0.95
PNOSAE781C	7.7	66,607	7.3	88,551	0.95	1.33
PNOSAE783C	6.6	56,517	6.2	53,584	0.94	0.95
PNOSAE785C	9.0	77,710	8.5	94,378	0.95	1.21
PNOSAE788C	8.4	72,769	8.0	99,493	0.95	1.37
PNOSAE793C	7.6	65,802	7.3	95,626	0.95	1.45
PNOSAE797C	10.1	87,050	9.6	126,210	0.95	1.45
PNOSAE799C	7.8	67,463	7.4	81,459	0.95	1.21
PNOSAE904C	7.4	63,604	7.0	75,024	0.95	1.18
PNOSAE909C	7.7	66,257	7.3	77,239	0.95	1.17
PNOSAE910C	9.0	77,710	8.5	102,330	0.95	1.32
PNOSAE911C	9.1	78,340	8.6	74,275	0.94	0.95
PNOSAE913C	7.0	60,209	6.6	75,652	0.95	1.26
PNOSAE915C	6.4	55,354	6.1	70,551	0.95	1.27
PNOSAE917C	7.7	66,568	7.3	79,434	0.95	1.19
PNOSAE918C	7.3	62,573	6.8	72,504	0.94	1.16
PNOSAE919C	7.2	61,717	6.8	78,008	0.95	1.26
PNOSAE928C	6.4	55,354	6.1	69,228	0.95	1.25
PNOSAE929C	6.7	57,475	6.3	73,394	0.95	1.28
PNOSAE932C	9.0	77,923	8.5	93,200	0.95	1.20
PNOSAE933C	9.0	78,016	8.6	113,378	0.95	1.45
PNOSAE939C	8.6	73,757	8.1	104,836	0.95	1.42
PNOSAE950C	8.4	72,514	8.0	90,613	0.95	1.25
PNOSAE953C	4.2	35,827	4.0	54,990	0.95	1.53
PNOSAE955C	7.5	64,285	7.1	81,362	0.95	1.27
PNOSAE967C	8.3	71,653	7.9	86,117	0.95	1.20
PNOSAE969C	6.1	52,377	5.8	75,804	0.95	1.45
PNOSAE970C	9.3	80,137	8.8	97,271	0.95	1.21
PNOSAE971C	9.7	83,562	9.2	96,734	0.95	1.16

**Table 6
Commercial Refrigeration**

CODE	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PNOSAE972C	9.3	80,137	8.8	91,238	0.94	1.14
PNOSAE978C	8.3	71,854	7.9	87,610	0.95	1.22
PNOSAE979C	10.3	89,218	9.8	107,180	0.95	1.20
PNOSAE983C	9.7	83,562	9.2	103,696	0.95	1.24
PNOSAE985C	7.6	65,499	7.2	79,088	0.95	1.21
PNOSAE989C	9.1	78,723	8.6	115,199	0.95	1.46
PNOSAE994C	7.9	68,527	7.5	109,200	0.95	1.59
PNOSAE999C	9.2	79,286	8.7	101,185	0.95	1.28
Total	750.6	6,476,806	711.8	8,517,359	0.95	1.32

Table 7
1996 Realization Rates by Partner

CODE	Sector	Claimed kW Savings	Claimed kWh Savings	Claimed Therm Savings	Measured Peak kW Savings	Measured kWh Savings	Measured Therm Savings	kW Realization Rate	kWh Realization Rate	Therm Realization Rate	end use
County of Alameda											
PALAALAION	Commercial	15.6	56,656	0	17.3	66,566	0	1.11	1.17	N/A	lighting
PALAHOSH01	Commercial	6.3	26,890	0	7.3	29,944	0	1.17	1.11	N/A	lighting
PALAHOSH08	Commercial	7.3	53,051	0	7.5	54,390	0	1.03	1.03	N/A	lighting
PALAHOSH09	Commercial	23.2	175,456	0	24.0	176,692	0	1.03	1.01	N/A	lighting
PALAHOSH10	Commercial	18.6	109,830	0	17.9	106,331	0	0.96	0.99	N/A	lighting
PALAHOSH11	Commercial	0.9	11,406	0	0.9	11,411	0	1.07	1.00	N/A	lighting
PALAHOSH12	Commercial	1.3	11,686	0	1.3	11,686	0	1.00	1.00	N/A	lighting
PALAHOSR01	Commercial	4.6	27,821	0	4.9	29,318	0	1.07	1.05	N/A	lighting
PALAHOSR02	Commercial	8.0	59,557	0	7.2	45,183	0	0.89	0.76	N/A	lighting
PALAHOSR03	Commercial	4.2	23,882	0	4.5	25,523	0	1.07	1.07	N/A	lighting
PALAHOSR07	Commercial	8.7	35,119	0	9.6	40,466	0	1.10	1.15	N/A	lighting
PALAHOSR09	Commercial	9.5	34,398	0	10.9	40,138	0	1.15	1.17	N/A	lighting
PALAHOSR21	Commercial	1.3	4,342	0	1.7	4,997	0	1.27	1.15	N/A	lighting
PALAHOSR22	Commercial	1.8	5,785	0	2.2	6,732	0	1.24	1.16	N/A	lighting
PALAHOSR23	Commercial	1.6	4,791	0	1.7	5,982	0	1.10	1.25	N/A	lighting
PALAHOSR25	Commercial	12.0	52,736	0	13.2	59,342	0	1.10	1.13	N/A	lighting
PALAHOSR26	Commercial	4.1	26,539	0	3.4	14,543	0	0.83	0.55	N/A	lighting
PALAHOSR28	Commercial	0.0	13,010	0	0.2	13,026	0	-	1.00	N/A	lighting
PALANORCJ1	Commercial	5.1	30,888	0	3.8	27,721	0	0.75	0.90	N/A	lighting
PALANORCJ2	Commercial	5.0	30,708	0	3.7	27,471	0	0.74	0.89	N/A	lighting
PALANORCJ3	Commercial	5.2	31,726	0	3.9	28,601	0	0.75	0.90	N/A	lighting
PALANORCJ4	Commercial	4.9	29,989	0	3.6	26,703	0	0.74	0.89	N/A	lighting
PALANORCJ5	Commercial	5.0	30,328	0	3.7	27,073	0	0.74	0.89	N/A	lighting
PALANORCJ6	Commercial	5.0	30,355	0	3.7	27,105	0	0.74	0.89	N/A	lighting
PALANORMIN	Commercial	24.5	184,832	0	25.0	189,270	0	1.02	1.02	N/A	lighting
PALASRIA02	Commercial	9.1	56,310	0	8.2	49,235	0	0.90	0.87	N/A	lighting
PALASRIEMY	Commercial	3.0	9,801	0	3.3	11,747	0	1.11	1.22	N/A	lighting
PALASRIORE	Commercial	39.5	273,469	0	46.3	254,973	0	1.17	0.93	N/A	lighting
Citizens Conservation Services/EUA											
PCCCCC88R	Residential	11.0	94,461	0	10.7	87,728	0	0.97	0.93	N/A	lighting
PCCCCCELL	Residential	4.5	39,179	0	4.5	37,610	0	1.00	0.96	N/A	lighting
PCCCCCER	Residential	12.2	91,310	6,750	12.1	90,780	6,750	0.99	0.99	1.00	lighting/boilers
PCCCCCNIA	Residential	6.8	51,476	4,950	6.5	49,960	4,950	0.96	0.97	1.00	lighting/boilers
PCCCCCIDE	Residential	50.7	417,023	0	44.0	356,242	0	0.87	0.85	N/A	lighting
PCCCCCALI	Residential	21.1	136,969	0	19.3	134,347	0	0.91	0.98	N/A	lighting
PCCCCCNON	Residential	6.3	46,915	0	5.9	45,800	0	0.94	0.98	N/A	lighting
PCCCCCRAL	Residential	20.3	192,758	0	21.9	190,990	0	1.08	0.99	N/A	lighting
PCCCCCITY	Residential	9.1	76,011	0	9.1	73,507	0	1.00	0.97	N/A	lighting
PCCCCCNTR	Residential	14.2	115,134	0	14.0	113,139	0	0.99	0.98	N/A	lighting
PCCCCCMNT	Residential	12.1	66,604	4,200	8.7	64,415	4,200	0.72	0.97	1.00	lighting/boilers
PCCCCCDAY	Residential	7.1	69,019	0	7.9	71,058	0	1.12	1.03	N/A	lighting
PCCCCCEST	Residential	11.2	80,484	0	10.5	84,030	0	0.94	1.04	N/A	lighting
PCCCCCSON	Residential	47.0	242,038	0	46.1	255,590	0	0.98	1.06	N/A	lighting
PCCCCCND0	Residential	3.2	27,987	3,960	3.5	28,736	3,960	1.08	1.03	1.00	lighting/boilers
PCCCCCISH	Residential	95.3	657,750	0	87.6	651,517	0	0.92	0.99	N/A	lighting
PCCCCCNES	Residential	10.8	88,532	4,950	10.6	86,375	4,950	0.98	0.98	1.00	lighting/boilers
PCCCCCPRK	Residential	24.8	188,105	0	25.4	195,534	0	1.02	1.04	N/A	lighting
PCCCCCNOL	Residential	7.4	59,834	0	7.4	57,810	0	0.99	0.97	N/A	lighting
PCCCCCRIA	Residential	5.3	38,704	5,550	5.5	40,090	5,550	1.05	1.04	1.00	lighting/boilers
PCCCCCTON	Residential	6.7	45,624	4,050	6.0	44,365	4,050	0.90	0.97	1.00	lighting/boilers
PCCCCCDEL	Residential	7.4	51,050	0	6.5	50,008	0	0.88	0.98	N/A	lighting
PCCCCCRAH	Residential	13.4	85,108	0	10.7	84,534	0	0.79	0.99	N/A	lighting
PCCCCCRCY	Residential	30.4	218,168	0	31.0	226,947	0	1.02	1.04	N/A	lighting
PCCCCCNTY	Residential	4.8	30,908	0	3.9	30,696	0	0.85	0.99	N/A	lighting
PCCCCCARK	Residential	10.8	88,326	0	11.3	89,145	0	1.04	1.01	N/A	lighting
PCCCCCTEL	Residential	8.2	77,258	10,488	9.0	79,871	10,488	1.10	1.03	1.00	lighting/boilers
PCCCCCAKN	Residential	7.4	64,433	0	7.5	62,273	0	1.01	0.97	N/A	lighting
PCCCCCAKS	Residential	6.9	59,211	0	7.2	58,815	0	1.04	0.99	N/A	lighting
PCCCCCEAN	Residential	3.5	27,589	0	3.5	27,009	0	0.99	0.98	N/A	lighting
PCCCCCACO	Residential	4.4	37,631	0	4.4	36,482	0	1.00	0.97	N/A	lighting
PCCCCCAZA	Residential	3.5	38,101	0	4.2	39,327	0	1.21	1.03	N/A	lighting
PCCCCCMTH	Residential	9.9	60,846	0	9.4	66,465	0	0.94	1.09	N/A	lighting
PCCCCCWER	Residential	15.4	131,853	0	15.1	126,133	0	0.99	0.98	N/A	lighting
PCCCCCSTA	Residential	4.0	30,905	0	4.0	30,934	0	1.00	1.00	N/A	lighting

Table 7
1996 Realization Rates by Partner

CODE	Sector	Claimed kW Savings	Claimed kWh Savings	Claimed Therm Savings	Measured Peak kW Savings	Measured kWh Savings	Measured Therm Savings	kW Realization Rate	kWh Realization Rate	Therm Realization Rate	end use
PCCOCCCH-T	Residential	5.1	52,728	0	5.9	54,121	0	1.17	1.03	N/A	lighting
PCCOCCCMAR	Residential	17.5	120,384	0	15.8	119,044	0	0.90	0.99	N/A	lighting
PCCOCCOICE	Residential	15.5	81,443	0	14.8	83,925	0	0.95	1.03	N/A	lighting
PCCOCCCOAT	Residential	5.8	50,225	0	5.9	48,982	0	1.02	0.98	N/A	lighting
PCCOCCCVVW	Residential	21.0	135,063	0	20.9	148,448	0	1.00	1.10	N/A	lighting
PCCOCCSET	Residential	14.3	122,195	0	14.2	117,168	0	0.99	0.96	N/A	lighting
PCCOCCCEO	Residential	5.6	49,037	0	6.1	49,930	0	1.06	1.02	N/A	lighting
PCCOCCCUTH	Residential	4.0	31,832	0	4.2	33,169	0	1.07	1.04	N/A	lighting
PCCOCCCRK1	Residential	18.0	154,471	7,158	18.6	152,964	7,158	1.04	0.99	1.00	lighting/boilers
PCCOCCCLFE	Residential	12.9	107,726	0	12.9	105,160	0	1.00	0.98	N/A	lighting
PCCCGASEES	Residential	0.0	0	5,914	0.0	0	5,914	N/A	N/A	1.00	boilers
PCCCGASNOG	Residential	0.0	0	4,101	0.0	0	4,101	N/A	N/A	1.00	boilers
PCCCGASOLG	Residential	0.0	0	6,722	0.0	0	6,722	N/A	N/A	1.00	boilers
PCCCGASOOD	Residential	0.0	0	13,930	0.0	0	13,930	N/A	N/A	1.00	boilers
PCCCGASREM	Residential	0.0	0	23,506	0.0	0	23,506	N/A	N/A	1.00	boilers
Noresco											
PNONO0B04E	Commercial	18.2	143,204	0	18.1	145,362	0	1.00	1.02	N/A	lighting
PNONO0B07E	Commercial	41.3	321,021	0	41.1	325,955	0	1.00	1.02	N/A	lighting
PNONO0B10E	Commercial	26.2	203,391	0	26.1	206,936	0	1.00	1.02	N/A	lighting
PNONO0B11E	Commercial	33.6	263,218	0	33.6	267,907	0	1.00	1.02	N/A	lighting
PNONO0B12E	Commercial	27.5	214,737	0	27.5	218,367	0	1.00	1.02	N/A	lighting
PNONO0B15E	Commercial	39.6	311,187	0	39.6	316,203	0	1.00	1.02	N/A	lighting
PNONO0B17E	Commercial	25.5	202,175	0	25.5	205,420	0	1.00	1.02	N/A	lighting
PNOSA1108M	Commercial	7.2	63,258	0	7.2	63,149	0	1.00	1.00	N/A	HVAC
PNOSA1109E	Commercial	73.2	621,468	0	73.4	622,441	0	1.00	1.00	N/A	lighting
PNOSA1125C	Commercial	12.8	110,010	0	12.1	137,484	0	0.95	1.25	N/A	refrigeration
PNOSA1125E	Commercial	66.3	560,187	0	66.4	560,740	0	1.00	1.00	N/A	lighting
PNOSA1125M	Commercial	7.2	63,363	0	7.2	63,254	0	1.00	1.00	N/A	HVAC
PNOSA1192C	Commercial	8.6	74,584	0	8.2	110,111	0	0.95	1.48	N/A	refrigeration
PNOSA1192M	Commercial	6.0	52,116	0	6.0	52,027	0	1.00	1.00	N/A	HVAC
PNOSA1195C	Commercial	9.4	80,853	0	8.9	120,221	0	0.95	1.49	N/A	refrigeration
PNOSA1195M	Commercial	5.9	51,871	0	5.9	51,782	0	1.00	1.00	N/A	HVAC
PNOSA1196C	Commercial	6.9	59,796	0	6.6	86,309	0	0.95	1.44	N/A	refrigeration
PNOSA1196M	Commercial	1.7	14,496	0	1.7	14,471	0	1.00	1.00	N/A	HVAC
PNOSA1197C	Commercial	9.4	80,853	0	8.9	119,864	0	0.95	1.48	N/A	refrigeration
PNOSA1204C	Commercial	8.2	70,648	0	7.8	95,950	0	0.95	1.36	N/A	refrigeration
PNOSA1204M	Commercial	6.4	55,585	0	6.3	55,489	0	1.00	1.00	N/A	HVAC
PNOSA1205C	Commercial	8.6	74,481	0	8.2	89,786	0	0.95	1.21	N/A	refrigeration
PNOSA1205E	Commercial	28.8	247,569	0	28.7	246,597	0	1.00	1.00	N/A	lighting
PNOSA1206C	Commercial	7.3	63,037	0	6.9	92,778	0	0.95	1.47	N/A	refrigeration
PNOSA1206E	Commercial	31.0	259,246	0	31.1	258,957	0	1.00	1.00	N/A	lighting
PNOSA1211C	Commercial	8.8	76,096	0	8.4	119,448	0	0.95	1.57	N/A	refrigeration
PNOSA1211M	Commercial	6.9	60,148	0	6.9	60,045	0	1.00	1.00	N/A	HVAC
PNOSA1224C	Commercial	9.7	83,664	0	9.2	125,863	0	0.95	1.50	N/A	refrigeration
PNOSA1232C	Commercial	7.0	60,265	0	6.6	72,865	0	0.95	1.21	N/A	refrigeration
PNOSA1232M	Commercial	0.6	5,299	0	0.6	5,290	0	0.99	1.00	N/A	HVAC
PNOSA1234C	Commercial	8.5	73,383	0	8.1	110,229	0	0.95	1.50	N/A	refrigeration
PNOSA1234M	Commercial	3.5	30,683	0	3.5	30,830	0	1.00	1.00	N/A	HVAC
PNOSA1245C	Commercial	9.2	79,337	0	8.7	114,782	0	0.95	1.45	N/A	refrigeration
PNOSA1245M	Commercial	10.3	90,183	0	10.3	90,028	0	1.00	1.00	N/A	HVAC
PNOSA1258C	Commercial	7.3	63,344	0	7.0	98,634	0	0.95	1.56	N/A	refrigeration
PNOSA1258M	Commercial	3.4	30,067	0	3.4	30,036	0	1.00	1.00	N/A	HVAC
PNOSA1259C	Commercial	9.3	80,538	0	8.9	132,366	0	0.95	1.64	N/A	refrigeration
PNOSA1259M	Commercial	14.8	129,633	0	14.8	129,411	0	1.00	1.00	N/A	HVAC
PNOSA1264C	Commercial	13.3	114,695	0	12.6	153,949	0	0.95	1.34	N/A	refrigeration
PNOSA1265C	Commercial	9.5	82,165	0	9.0	106,638	0	0.95	1.30	N/A	refrigeration
PNOSA1265M	Commercial	0.3	2,461	0	0.3	2,457	0	1.00	1.00	N/A	HVAC
PNOSA1293C	Commercial	11.8	101,356	0	11.2	139,270	0	0.95	1.37	N/A	refrigeration
PNOSA3128C	Commercial	9.7	83,664	0	9.1	79,322	0	0.94	0.95	N/A	refrigeration
PNOSA3128M	Commercial	8.5	74,119	0	8.5	73,992	0	1.00	1.00	N/A	HVAC
PNOSAE111E	Commercial	29.9	264,861	0	29.9	265,094	0	1.00	1.00	N/A	lighting
PNOSAE111M	Commercial	0.7	5,755	0	0.7	5,745	0	1.00	1.00	N/A	HVAC
PNOSAE159C	Commercial	6.8	58,331	0	6.4	80,720	0	0.95	1.38	N/A	refrigeration
PNOSAE159M	Commercial	1.2	10,099	0	1.2	10,082	0	1.00	1.00	N/A	HVAC
PNOSAE171C	Commercial	1.7	14,736	0	1.6	25,374	0	0.95	1.72	N/A	refrigeration

Table 7
1996 Realization Rates by Partner

CODE	Sector	Claimed kW Savings	Claimed kWh Savings	Claimed Therm Savings	Measured Peak kW Savings	Measured kWh Savings	Measured Therm Savings	kW Realization Rate	kWh Realization Rate	Therm Realization Rate	end use
NOSAE171E	Commercial	30.8	272,336	0	30.9	273,048	0	1.00	1.00	N/A	lighting
NOSAE171M	Commercial	1.8	15,889	0	1.8	15,862	0	1.00	1.00	N/A	HVAC
PNOSAE189C	Commercial	3.3	28,774	0	3.2	47,943	0	0.96	1.87	N/A	refrigeration
PNOSAE189E	Commercial	34.1	291,144	0	34.2	291,356	0	1.00	1.00	N/A	lighting
PNOSAE189M	Commercial	4.9	43,103	0	4.9	43,026	0	1.00	1.00	N/A	HVAC
PNOSAE259C	Commercial	4.5	38,552	0	4.3	54,303	0	0.95	1.41	N/A	refrigeration
PNOSAE259E	Commercial	25.4	220,361	0	25.4	220,531	0	1.00	1.00	N/A	lighting
PNOSAE259M	Commercial	3.1	26,776	0	3.1	26,730	0	1.00	1.00	N/A	HVAC
PNOSAE262E	Commercial	31.8	272,682	0	31.9	273,267	0	1.00	1.00	N/A	lighting
PNOSAE262M	Commercial	4.1	36,271	0	4.1	36,209	0	1.00	1.00	N/A	HVAC
PNOSAE269C	Commercial	0.0	0	0	0.0	34,421	0	0.00	-	N/A	refrigeration
PNOSAE269E	Commercial	32.0	265,617	0	32.1	265,209	0	1.00	1.00	N/A	lighting
PNOSAE273C	Commercial	8.8	76,253	0	8.4	95,115	0	0.95	1.25	N/A	refrigeration
PNOSAE273E	Commercial	48.6	407,684	0	48.7	406,751	0	1.00	1.00	N/A	lighting
PNOSAE273M	Commercial	3.2	27,670	0	3.2	27,622	0	1.00	1.00	N/A	HVAC
PNOSAE278E	Commercial	55.2	466,580	0	55.3	467,086	0	1.00	1.00	N/A	lighting
PNOSAE278M	Commercial	9.1	79,286	0	9.1	79,151	0	1.00	1.00	N/A	HVAC
PNOSAE279C	Commercial	7.2	62,373	0	6.9	80,234	0	0.95	1.29	N/A	refrigeration
PNOSAE279E	Commercial	46.9	402,828	0	47.0	403,346	0	1.00	1.00	N/A	lighting
PNOSAE279M	Commercial	2.9	25,077	0	2.9	25,034	0	1.00	1.00	N/A	HVAC
PNOSAE289C	Commercial	11.0	94,873	0	10.4	127,226	0	0.95	1.34	N/A	refrigeration
PNOSAE289E	Commercial	40.3	343,457	0	40.4	344,214	0	1.00	1.00	N/A	lighting
PNOSAE289M	Commercial	3.2	28,335	0	3.2	28,287	0	1.00	1.00	N/A	HVAC
PNOSAE300C	Commercial	10.6	91,402	0	10.0	108,997	0	0.95	1.19	N/A	refrigeration
PNOSAE300M	Commercial	7.5	65,377	0	7.5	65,265	0	1.00	1.00	N/A	HVAC
PNOSAE302C	Commercial	7.4	63,987	0	7.0	79,988	0	0.95	1.25	N/A	refrigeration
PNOSAE302E	Commercial	29.3	249,811	0	29.3	250,059	0	1.00	1.00	N/A	lighting
PNOSAE302M	Commercial	2.5	21,565	0	2.5	21,528	0	1.00	1.00	N/A	HVAC
PNOSAE304M	Commercial	14.7	128,871	0	14.7	128,650	0	1.00	1.00	N/A	HVAC
PNOSAE308C	Commercial	6.9	59,417	0	6.5	74,951	0	0.95	1.26	N/A	refrigeration
PNOSAE308M	Commercial	7.2	62,679	0	7.2	62,572	0	1.00	1.00	N/A	HVAC
PNOSAE309C	Commercial	2.5	21,397	0	2.4	42,929	0	0.96	2.01	N/A	refrigeration
PNOSAE309M	Commercial	7.3	64,180	0	7.3	64,050	0	1.00	1.00	N/A	HVAC
PNOSAE313C	Commercial	7.9	68,527	0	7.5	93,136	0	0.95	1.36	N/A	refrigeration
PNOSAE313M	Commercial	8.7	76,343	0	8.7	76,213	0	1.00	1.00	N/A	HVAC
PNOSAE315C	Commercial	5.2	44,979	0	5.0	70,907	0	0.95	1.58	N/A	refrigeration
PNOSAE315M	Commercial	5.3	46,221	0	5.3	46,142	0	1.00	1.00	N/A	HVAC
PNOSAE316C	Commercial	7.8	66,879	0	7.4	92,912	0	0.95	1.39	N/A	refrigeration
PNOSAE316M	Commercial	8.7	75,800	0	8.7	75,671	0	1.00	1.00	N/A	HVAC
PNOSAE318C	Commercial	8.8	75,904	0	8.3	93,149	0	0.95	1.23	N/A	refrigeration
PNOSAE318E	Commercial	28.1	243,240	0	28.1	243,526	0	1.00	1.00	N/A	lighting
PNOSAE318M	Commercial	4.8	41,999	0	4.8	41,927	0	1.00	1.00	N/A	HVAC
PNOSAE465C	Commercial	5.8	50,056	0	5.5	68,070	0	0.95	1.36	N/A	refrigeration
PNOSAE545E	Commercial	0.0	0	0	22.7	195,933	0	-	-	N/A	lighting
PNOSAE568C	Commercial	7.3	62,974	0	6.9	80,166	0	0.95	1.27	N/A	refrigeration
PNOSAE568M	Commercial	5.5	47,814	0	5.5	47,732	0	1.00	1.00	N/A	HVAC
PNOSAE592C	Commercial	3.3	28,097	0	3.1	48,073	0	0.95	1.64	N/A	refrigeration
PNOSAE618C	Commercial	8.4	72,769	0	8.0	99,548	0	0.95	1.37	N/A	refrigeration
PNOSAE618M	Commercial	1.1	9,460	0	1.1	9,444	0	1.00	1.00	N/A	HVAC
PNOSAE636C	Commercial	8.0	69,000	0	7.6	88,476	0	0.95	1.28	N/A	refrigeration
PNOSAE636M	Commercial	9.8	86,092	0	9.8	85,945	0	1.00	1.00	N/A	HVAC
PNOSAE638C	Commercial	4.4	37,654	0	4.1	49,545	0	0.95	1.32	N/A	refrigeration
PNOSAE638M	Commercial	2.0	17,068	0	2.0	17,068	0	1.00	1.00	N/A	HVAC
PNOSAE639C	Commercial	2.9	24,975	0	2.7	23,679	0	0.94	0.95	N/A	refrigeration
PNOSAE639E	Commercial	0.0	0	0	0.0	0	0	0.00	0.00	N/A	lighting
PNOSAE640C	Commercial	7.4	63,604	0	7.0	70,944	0	0.95	1.12	N/A	refrigeration
PNOSAE640E	Commercial	30.1	268,097	0	30.0	267,835	0	1.00	1.00	N/A	lighting
PNOSAE640M	Commercial	5.1	44,715	0	5.1	44,638	0	1.00	1.00	N/A	HVAC
PNOSAE641M	Commercial	1.3	11,579	0	1.3	11,560	0	1.00	1.00	N/A	HVAC
PNOSAE654C	Commercial	4.9	42,594	0	4.7	40,384	0	0.94	0.95	N/A	refrigeration
PNOSAE654E	Commercial	0.0	0	0	0.0	0	0	0.00	0.00	N/A	lighting
PNOSAE654M	Commercial	2.7	24,008	0	2.7	23,967	0	1.00	1.00	N/A	HVAC
PNOSAE661C	Commercial	7.6	65,802	0	7.2	62,367	0	0.94	0.95	N/A	refrigeration
PNOSAE667C	Commercial	8.4	72,769	0	7.9	68,993	0	0.94	0.95	N/A	refrigeration
PNOSAE668C	Commercial	2.0	17,164	0	1.9	42,384	0	0.96	2.47	N/A	refrigeration

Table 7
1996 Realization Rates by Partner

CODE	Sector	Claimed kW Savings	Claimed kWh Savings	Claimed Therm Savings	Measured Peak kW Savings	Measured kWh Savings	Measured Therm Savings	kW Realization Rate	kWh Realization Rate	Therm Realization Rate	end use
PNOSAE669C	Commercial	11.2	96,488	0	10.6	136,301	0	0.95	1.41	N/A	refrigeration
PNOSAE669M	Commercial	12.7	111,248	0	12.7	111,058	0	1.00	1.00	N/A	HVAC
PNOSAE676C	Commercial	7.4	63,544	0	7.0	79,551	0	0.95	1.25	N/A	refrigeration
PNOSAE676M	Commercial	3.0	26,461	0	3.0	26,416	0	1.00	1.00	N/A	HVAC
PNOSAE687C	Commercial	5.8	48,544	0	5.3	66,674	0	0.95	1.37	N/A	refrigeration
PNOSAE694M	Commercial	2.0	17,997	0	2.0	17,567	0	1.00	1.00	N/A	HVAC
PNOSAE695C	Commercial	1.9	16,299	0	1.8	34,435	0	0.96	2.11	N/A	refrigeration
PNOSAE708C	Commercial	5.4	46,896	0	5.1	61,571	0	0.95	1.31	N/A	refrigeration
PNOSAE706E	Commercial	45.6	400,527	0	45.6	401,426	0	1.00	1.00	N/A	lighting
PNOSAE708M	Commercial	2.8	24,420	0	2.8	24,378	0	1.00	1.00	N/A	HVAC
PNOSAE709C	Commercial	5.5	47,130	0	5.2	61,519	0	0.95	1.31	N/A	refrigeration
PNOSAE712M	Commercial	2.0	17,895	0	2.0	17,864	0	1.00	1.00	N/A	HVAC
PNOSAE714C	Commercial	6.4	55,354	0	6.1	77,611	0	0.95	1.40	N/A	refrigeration
PNOSAE715M	Commercial	0.5	4,169	0	0.5	4,162	0	0.99	1.00	N/A	HVAC
PNOSAE723C	Commercial	7.0	60,776	0	6.7	75,556	0	0.95	1.24	N/A	refrigeration
PNOSAE723E	Commercial	58.2	495,082	0	58.4	495,791	0	1.00	1.00	N/A	lighting
PNOSAE732C	Commercial	9.9	85,350	0	9.4	108,474	0	0.95	1.27	N/A	refrigeration
PNOSAE732M	Commercial	1.1	9,179	0	1.0	9,164	0	1.00	1.00	N/A	HVAC
PNOSAE737C	Commercial	6.9	59,745	0	6.5	68,863	0	0.94	1.15	N/A	refrigeration
PNOSAE739C	Commercial	6.7	57,948	0	6.4	83,071	0	0.95	1.43	N/A	refrigeration
PNOSAE739M	Commercial	1.3	11,536	0	1.3	11,516	0	1.00	1.00	N/A	HVAC
PNOSAE746C	Commercial	7.0	60,610	0	6.7	77,449	0	0.95	1.28	N/A	refrigeration
PNOSAE746M	Commercial	1.6	14,391	0	1.6	14,366	0	1.00	1.00	N/A	HVAC
PNOSAE747C	Commercial	5.4	46,423	0	5.1	70,675	0	0.95	1.52	N/A	refrigeration
PNOSAE749C	Commercial	6.7	57,475	0	6.3	69,029	0	0.95	1.20	N/A	refrigeration
PNOSAE749E	Commercial	43.1	364,035	0	43.2	364,277	0	1.00	1.00	N/A	lighting
PNOSAE749M	Commercial	3.9	34,230	0	3.9	34,172	0	1.00	1.00	N/A	HVAC
PNOSAE751M	Commercial	1.7	14,987	0	1.7	14,961	0	1.00	1.00	N/A	HVAC
PNOSAE759C	Commercial	6.3	54,605	0	6.0	65,331	0	0.95	1.20	N/A	refrigeration
PNOSAE759E	Commercial	34.1	290,034	0	34.2	290,375	0	1.00	1.00	N/A	lighting
PNOSAE759M	Commercial	0.5	4,739	0	0.5	4,731	0	1.00	1.00	N/A	HVAC
PNOSAE761C	Commercial	6.9	59,745	0	6.6	78,482	0	0.95	1.31	N/A	refrigeration
PNOSAE761E	Commercial	30.5	265,761	0	30.5	265,449	0	1.00	1.00	N/A	lighting
PNOSAE762C	Commercial	3.4	29,472	0	3.2	27,943	0	0.94	0.95	N/A	refrigeration
PNOSAE762M	Commercial	0.8	6,779	0	0.8	6,768	0	1.01	1.00	N/A	HVAC
PNOSAE768C	Commercial	2.8	23,825	0	2.6	37,261	0	0.95	1.56	N/A	refrigeration
PNOSAE774C	Commercial	1.6	14,029	0	1.5	13,301	0	0.94	0.95	N/A	refrigeration
PNOSAE781C	Commercial	7.7	66,607	0	7.3	88,551	0	0.95	1.33	N/A	refrigeration
PNOSAE783C	Commercial	6.6	56,517	0	6.2	53,584	0	0.94	0.95	N/A	refrigeration
PNOSAE783E	Commercial	51.3	448,342	0	51.2	447,650	0	1.00	1.00	N/A	lighting
PNOSAE783M	Commercial	2.6	22,931	0	2.6	22,892	0	1.00	1.00	N/A	HVAC
PNOSAE785C	Commercial	9.0	77,710	0	8.5	94,378	0	0.95	1.21	N/A	refrigeration
PNOSAE785E	Commercial	70.6	592,255	0	70.8	592,217	0	1.00	1.00	N/A	lighting
PNOSAE785M	Commercial	0.9	8,269	0	0.9	8,254	0	1.00	1.00	N/A	HVAC
PNOSAE789C	Commercial	8.4	72,769	0	8.0	99,493	0	0.95	1.37	N/A	refrigeration
PNOSAE788M	Commercial	7.9	69,301	0	7.9	69,182	0	1.00	1.00	N/A	HVAC
PNOSAE793C	Commercial	7.6	65,802	0	7.3	95,628	0	0.95	1.45	N/A	refrigeration
PNOSAE793M	Commercial	3.7	32,732	0	3.7	32,676	0	1.00	1.00	N/A	HVAC
PNOSAE797C	Commercial	10.1	87,050	0	9.6	126,210	0	0.95	1.45	N/A	refrigeration
PNOSAE799C	Commercial	7.8	67,463	0	7.4	81,459	0	0.95	1.21	N/A	refrigeration
PNOSAE904C	Commercial	7.4	63,604	0	7.0	75,024	0	0.95	1.18	N/A	refrigeration
PNOSAE904E	Commercial	46.9	404,244	0	47.1	405,527	0	1.00	1.00	N/A	lighting
PNOSAE904M	Commercial	2.6	22,370	0	2.6	22,332	0	1.00	1.00	N/A	HVAC
PNOSAE909C	Commercial	7.7	66,257	0	7.3	77,239	0	0.95	1.17	N/A	refrigeration
PNOSAE909E	Commercial	42.1	350,809	0	42.2	360,366	0	1.00	1.00	N/A	lighting
PNOSAE909M	Commercial	7.8	68,311	0	7.8	68,194	0	1.00	1.00	N/A	HVAC
PNOSAE910C	Commercial	9.0	77,710	0	8.5	102,330	0	0.95	1.32	N/A	refrigeration
PNOSAE910M	Commercial	9.8	85,418	0	9.8	85,271	0	1.00	1.00	N/A	HVAC
PNOSAE911C	Commercial	9.1	78,340	0	8.6	74,275	0	0.94	0.95	N/A	refrigeration
PNOSAE911E	Commercial	0.0	0	0	0.0	0	0	0.00	0.00	N/A	lighting
PNOSAE911M	Commercial	12.6	110,206	0	12.6	110,017	0	1.00	1.00	N/A	HVAC
PNOSAE913C	Commercial	7.0	60,209	0	6.6	75,652	0	0.95	1.26	N/A	refrigeration
PNOSAE913M	Commercial	4.8	42,008	0	4.8	41,936	0	1.00	1.00	N/A	HVAC
PNOSAE915C	Commercial	6.4	55,354	0	6.1	70,551	0	0.95	1.27	N/A	refrigeration
PNOSAE915E	Commercial	29.7	270,494	0	29.6	269,696	0	1.00	1.00	N/A	lighting

Table 7
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ODE	Sector	Claimed kW Savings	Claimed kWh Savings	Claimed Therm Savings	Measured Peak kW Savings	Measured kWh Savings	Measured Therm Savings	kW Realization Rate	kWh Realization Rate	Therm Realization Rate	end use
NOSAE915M	Commercial	6.4	56,136	0	6.4	56,040	0	1.00	1.00	N/A	HVAC
PNOSAE917C	Commercial	7.7	66,568	0	7.3	79,434	0	0.95	1.19	N/A	refrigeration
PNOSAE917E	Commercial	59.9	522,913	0	59.9	522,965	0	1.00	1.00	N/A	lighting
NOSAE917M	Commercial	4.7	41,062	0	4.7	40,992	0	1.00	1.00	N/A	HVAC
NOSAE918C	Commercial	7.3	62,573	0	6.8	72,504	0	0.94	1.16	N/A	refrigeration
PNOSAE918E	Commercial	50.4	441,168	0	50.4	441,586	0	1.00	1.00	N/A	lighting
PNOSAE918M	Commercial	4.3	37,988	0	4.3	37,923	0	1.00	1.00	N/A	HVAC
PNOSAE919C	Commercial	7.2	61,717	0	6.8	78,008	0	0.95	1.26	N/A	refrigeration
NOSAE919M	Commercial	12.8	112,290	0	12.8	112,098	0	1.00	1.00	N/A	HVAC
NOSAE928C	Commercial	6.4	55,354	0	6.1	69,228	0	0.95	1.25	N/A	refrigeration
PNOSAE928M	Commercial	5.3	46,370	0	5.3	46,291	0	1.00	1.00	N/A	HVAC
PNOSAE929C	Commercial	6.7	57,475	0	6.3	73,394	0	0.95	1.28	N/A	refrigeration
NOSAE929M	Commercial	7.0	61,348	0	7.0	61,243	0	1.00	1.00	N/A	HVAC
NOSAE932C	Commercial	9.0	77,923	0	8.5	93,200	0	0.95	1.20	N/A	refrigeration
PNOSAE933C	Commercial	9.0	78,016	0	8.6	113,378	0	0.95	1.45	N/A	refrigeration
PNOSAE933E	Commercial	46.7	401,231	0	46.8	401,602	0	1.00	1.00	N/A	lighting
NOSAE933M	Commercial	11.7	102,366	0	11.7	102,191	0	1.00	1.00	N/A	HVAC
NOSAE939C	Commercial	8.6	73,757	0	8.1	104,836	0	0.95	1.42	N/A	refrigeration
PNOSAE939E	Commercial	45.4	387,330	0	45.4	386,500	0	1.00	1.00	N/A	lighting
PNOSAE939M	Commercial	4.3	37,576	0	4.3	37,512	0	1.00	1.00	N/A	HVAC
NOSAE950C	Commercial	8.4	72,514	0	8.0	90,613	0	0.95	1.25	N/A	refrigeration
NOSAE950E	Commercial	30.5	254,604	0	30.5	253,804	0	1.00	1.00	N/A	lighting
PNOSAE950M	Commercial	6.3	54,963	0	6.3	54,869	0	1.00	1.00	N/A	HVAC
PNOSAE953C	Commercial	4.2	35,827	0	4.0	54,990	0	0.95	1.53	N/A	refrigeration
NOSAE953M	Commercial	2.9	25,033	0	2.9	24,960	0	1.00	1.00	N/A	HVAC
NOSAE955C	Commercial	7.5	64,285	0	7.1	81,362	0	0.95	1.27	N/A	refrigeration
NOSAE955M	Commercial	5.4	47,132	0	5.4	47,051	0	1.00	1.00	N/A	HVAC
PNOSAE956E	Commercial	41.5	352,554	0	41.5	351,401	0	1.00	1.00	N/A	lighting
PNOSAE956M	Commercial	8.4	73,891	0	8.4	73,764	0	1.00	1.00	N/A	HVAC
NOSAE964M	Commercial	5.7	49,821	0	5.7	49,736	0	1.00	1.00	N/A	HVAC
NOSAE965M	Commercial	4.6	40,484	0	4.6	40,415	0	1.00	1.00	N/A	HVAC
PNOSAE967C	Commercial	8.3	71,653	0	7.9	86,117	0	0.95	1.20	N/A	refrigeration
PNOSAE969C	Commercial	6.1	52,377	0	5.8	75,804	0	0.95	1.45	N/A	refrigeration
NOSAE969M	Commercial	3.4	30,972	0	3.5	30,919	0	1.05	1.00	N/A	HVAC
NOSAE970C	Commercial	9.3	80,137	0	8.8	97,271	0	0.95	1.21	N/A	refrigeration
PNOSAE970M	Commercial	5.1	44,224	0	5.0	44,148	0	1.00	1.00	N/A	HVAC
PNOSAE971C	Commercial	9.7	83,562	0	9.2	96,734	0	0.95	1.16	N/A	refrigeration
NOSAE971M	Commercial	1.8	15,591	0	1.8	15,564	0	1.00	1.00	N/A	HVAC
NOSAE972C	Commercial	9.3	80,137	0	8.8	91,238	0	0.94	1.14	N/A	refrigeration
PNOSAE975M	Commercial	2.1	18,149	0	2.1	18,118	0	1.00	1.00	N/A	HVAC
PNOSAE976M	Commercial	7.2	62,881	0	7.2	62,773	0	1.00	1.00	N/A	HVAC
NOSAE978C	Commercial	8.3	71,854	0	7.9	87,610	0	0.95	1.22	N/A	refrigeration
NOSAE978M	Commercial	3.5	30,753	0	3.5	30,700	0	1.00	1.00	N/A	HVAC
NOSAE979C	Commercial	10.3	89,218	0	9.8	107,180	0	0.95	1.20	N/A	refrigeration
PNOSAE979E	Commercial	38.2	306,909	0	38.2	307,241	0	1.00	1.00	N/A	lighting
PNOSAE979M	Commercial	4.7	41,474	0	4.7	41,403	0	1.00	1.00	N/A	HVAC
NOSAE983C	Commercial	9.7	83,562	0	9.2	103,698	0	0.95	1.24	N/A	refrigeration
NOSAE983M	Commercial	8.8	77,368	0	8.8	77,236	0	1.00	1.00	N/A	HVAC
PNOSAE985C	Commercial	7.6	65,499	0	7.2	79,088	0	0.95	1.21	N/A	refrigeration
PNOSAE985M	Commercial	5.0	43,829	0	5.0	43,554	0	1.00	1.00	N/A	HVAC
NOSAE987M	Commercial	8.1	70,563	0	8.1	70,442	0	1.00	1.00	N/A	HVAC
NOSAE989C	Commercial	9.1	78,723	0	8.6	115,199	0	0.95	1.46	N/A	refrigeration
PNOSAE989M	Commercial	3.2	27,878	0	3.2	27,631	0	1.00	1.00	N/A	HVAC
PNOSAE993M	Commercial	10.8	94,317	0	10.8	94,155	0	1.00	1.00	N/A	HVAC
NOSAE994C	Commercial	7.9	68,527	0	7.5	109,200	0	0.95	1.59	N/A	refrigeration
NOSAE994M	Commercial	0.6	5,439	0	0.6	5,430	0	1.00	1.00	N/A	HVAC
PNOSAE995E	Commercial	44.5	387,128	0	44.6	387,056	0	1.00	1.00	N/A	lighting
PNOSAE995M	Commercial	3.5	30,893	0	3.5	30,840	0	1.00	1.00	N/A	HVAC
NOSAE999C	Commercial	9.2	79,286	0	8.7	101,185	0	0.95	1.28	N/A	refrigeration
NOSAE999M	Commercial	8.1	70,720	0	8.1	70,599	0	1.00	1.00	N/A	HVAC
Princeton Development Corp.											
PPDCAUTRAM	Commercial	31.8	141,813	0	29.2	143,890	0	0.92	1.01	N/A	lighting
PPDCAUTRKE	Commercial	59.4	292,477	0	55.3	295,893	0	0.93	1.01	N/A	lighting
PPDCAUTTOL	Commercial	37.4	175,053	0	34.7	179,437	0	0.93	1.03	N/A	lighting
PPDCAUTSON	Commercial	49.6	233,957	0	45.8	232,112	0	0.92	0.99	N/A	lighting

Table 7
1996 Realization Rates by Partner

CODE	Sector	Claimed kW Savings	Claimed kWh Savings	Claimed Therm Savings	Measured Peak kW Savings	Measured kWh Savings	Measured Therm Savings	kW Realization Rate	kWh Realization Rate	Therm Realization Rate	end use
PPDCAUTCLE	Commercial	12.0	56,581	0	11.1	54,456	0	0.92	0.96	N/A	lighting
PPDCAUTRED	Commercial	30.5	150,943	0	28.1	149,071	0	0.92	0.99	N/A	lighting
PPDCAUTONT	Commercial	89.2	439,347	0	82.3	426,052	0	0.92	0.97	N/A	lighting
PPDCAUTDEN	Commercial	16.1	68,112	0	15.0	75,430	0	0.93	1.11	N/A	lighting
PPDCAUTIEW	Commercial	16.5	78,287	0	15.5	86,382	0	0.94	1.10	N/A	lighting
PPDCAUTHRY	Commercial	21.2	113,676	0	19.9	111,812	0	0.94	0.98	N/A	lighting
PPDCAUTISS	Commercial	8.9	42,455	0	8.2	42,578	0	0.92	1.00	N/A	lighting
PPDCAUTCHR	Commercial	22.6	116,233	0	21.0	115,344	0	0.93	0.99	N/A	lighting
PPDCMONREY	Commercial	86.1	360,339	0	82.8	475,885	0	1.08	1.32	N/A	lighting
PPDCMONTY2	Commercial	62.6	191,058	0	64.7	207,405	0	1.03	1.09	N/A	lighting
PPDCNAPPA2	Commercial	21.2	100,169	0	25.3	117,439	0	1.19	1.17	N/A	lighting
PPDCTAFAFT	Commercial	110.4	393,598	0	115.3	476,366	0	1.04	1.21	N/A	lighting
GGNRA/Presidio											
PPREGGN012	Commercial	12.2	41,596	0	19.0	53,980	0	1.55	1.30	N/A	lighting
PPREGGN013	Commercial	9.9	33,669	0	14.8	39,745	0	1.50	1.18	N/A	lighting
PPREGGN014	Commercial	11.2	38,209	0	14.1	43,222	0	1.26	1.13	N/A	lighting
PPREGGN016	Commercial	13.4	45,682	0	17.0	50,288	0	1.27	1.10	N/A	lighting
Proven Alternatives Inc.											
PPROKAIHWD	Commercial	119.9	719,397	0	119.1	718,627	0	0.99	1.00	N/A	lighting
PPROKAINCH	Commercial	63.9	413,669	0	68.3	432,858	0	1.07	1.05	N/A	lighting
PPROKAIOSP	Commercial	143.8	784,076	0	150.6	825,808	0	1.05	1.05	N/A	lighting
PPROKAIRAN	Commercial	128.0	742,458	0	128.3	780,286	0	1.00	1.02	N/A	lighting
PPROTAR313	Commercial	36.7	203,408	0	36.3	204,387	0	0.99	1.00	N/A	lighting
PPROTAR314	Commercial	36.6	212,532	0	35.9	202,892	0	0.98	0.95	N/A	lighting
PPROTAR326	Commercial	33.4	188,297	0	33.0	187,559	0	0.99	1.00	N/A	lighting
PPROTHR062	Commercial	24.7	134,370	0	24.2	151,263	0	0.98	1.13	N/A	lighting
PPROTHR079	Commercial	23.2	126,101	0	22.9	141,486	0	0.99	1.12	N/A	lighting
PPROTHR081	Commercial	33.8	184,379	0	33.1	203,835	0	0.98	1.11	N/A	lighting
PPROTHR082	Commercial	41.6	227,264	0	40.9	254,301	0	0.98	1.12	N/A	lighting
PPROTHR084	Commercial	33.1	180,220	0	32.8	202,139	0	0.99	1.12	N/A	lighting
PPROTHR085	Commercial	26.5	144,458	0	25.5	156,346	0	0.96	1.08	N/A	lighting
PPROTHR091	Commercial	27.1	145,999	0	26.8	167,972	0	0.99	1.15	N/A	lighting
PPROTHR218	Commercial	17.3	94,127	0	17.1	105,131	0	0.99	1.12	N/A	lighting
PPROTHR260	Commercial	10.9	84,778	0	13.1	93,501	0	1.20	1.10	N/A	lighting
PPROTHR275	Commercial	42.0	228,572	0	41.2	253,756	0	0.98	1.11	N/A	lighting
PPROTHR311	Commercial	10.3	55,910	0	10.2	64,410	0	0.99	1.15	N/A	lighting
PPROTHR47X	Commercial	5.3	27,914	0	5.1	31,578	0	0.96	1.13	N/A	lighting
PPROTHR49X	Commercial	35.1	194,606	0	34.7	210,948	0	0.99	1.08	N/A	lighting
PPROTHR357	Commercial	25.7	139,867	0	25.2	156,244	0	0.98	1.12	N/A	lighting
PPROTHR453	Commercial	7.5	40,886	0	7.5	45,249	0	1.00	1.11	N/A	lighting
PPROTHR459	Commercial	20.6	112,341	0	20.4	125,303	0	0.99	1.12	N/A	lighting
PPROTHR192	Commercial	22.4	122,366	0	22.3	138,478	0	1.00	1.13	N/A	lighting
PPROTHR203	Commercial	28.1	153,870	0	28.0	171,987	0	1.00	1.12	N/A	lighting
PPROTHR230	Commercial	31.3	174,046	0	31.5	193,584	0	1.01	1.11	N/A	lighting
PPROTHR247	Commercial	31.1	171,395	0	31.1	190,252	0	1.00	1.11	N/A	lighting
PPROTHR248	Commercial	32.2	176,808	0	31.9	195,434	0	0.99	1.11	N/A	lighting
PPROTHR310	Commercial	34.4	187,644	0	34.3	213,806	0	1.00	1.14	N/A	lighting
PPROTHR317	Commercial	32.1	175,605	0	32.1	197,691	0	1.00	1.13	N/A	lighting
PPROTHR345	Commercial	25.4	139,314	0	25.8	156,901	0	1.01	1.13	N/A	lighting
PPROTHR347	Commercial	28.4	155,597	0	28.4	175,543	0	1.00	1.13	N/A	lighting
PPROTHR46Y	Commercial	27.0	147,097	0	27.1	166,996	0	1.01	1.14	N/A	lighting
PPROTHR349	Commercial	24.3	133,031	0	24.2	148,066	0	1.00	1.11	N/A	lighting
PPROTHR369	Commercial	35.7	195,921	0	35.8	219,169	0	1.00	1.12	N/A	lighting
PPROTHR376	Commercial	35.7	195,356	0	35.8	218,869	0	1.00	1.12	N/A	lighting
PPROTHR395	Commercial	25.8	140,824	0	25.7	158,796	0	0.99	1.13	N/A	lighting
PPROTHR431	Commercial	32.0	176,084	0	32.0	196,182	0	1.00	1.11	N/A	lighting
PPROTHR449	Commercial	21.1	115,121	0	21.2	130,549	0	1.01	1.13	N/A	lighting
PPROTHR456	Commercial	32.2	177,323	0	32.2	197,592	0	1.00	1.11	N/A	lighting
PPROTHR461	Commercial	39.0	214,540	0	38.9	239,180	0	1.00	1.11	N/A	lighting
PPROTHR466	Commercial	34.0	191,276	0	34.7	215,630	0	1.02	1.13	N/A	lighting
PPROTHR470	Commercial	26.8	149,025	0	27.3	169,320	0	1.02	1.14	N/A	lighting
PPROTHR480	Commercial	40.5	226,834	0	41.2	255,849	0	1.02	1.13	N/A	lighting
PPROTHR486	Commercial	36.7	201,849	0	36.6	225,046	0	1.00	1.11	N/A	lighting
PPROTHR491	Commercial	24.5	134,073	0	24.8	152,844	0	1.01	1.14	N/A	lighting
PPROTHR494	Commercial	20.5	115,001	0	20.8	129,059	0	1.01	1.12	N/A	lighting

Table 7
1996 Realization Rates by Partner

CODE	Sector	Claimed kW Savings	Claimed kWh Savings	Claimed Therm Savings	Measured Peak kW Savings	Measured kWh Savings	Measured Therm Savings	kW Realization Rate	kWh Realization Rate	Therm Realization Rate	end use
PROTHR498	Commercial	32.3	184,465	0	33.1	206,683	0	1.02	1.12	N/A	lighting
PPROTHR526	Commercial	30.9	169,872	0	30.8	189,405	0	1.00	1.11	N/A	lighting
PPROTHR532	Commercial	25.8	141,315	0	26.0	160,369	0	1.01	1.13	N/A	lighting
PROTHR540	Commercial	28.5	156,733	0	28.3	173,849	0	0.99	1.11	N/A	lighting
PROTHR541	Commercial	27.3	150,261	0	27.3	167,478	0	1.00	1.11	N/A	lighting
PPROTHR563	Commercial	12.9	70,901	0	12.8	77,997	0	1.00	1.10	N/A	lighting
PPROTHR565	Commercial	12.7	68,963	0	12.9	78,464	0	1.01	1.14	N/A	lighting
PPROTHR566	Commercial	20.0	109,819	0	20.1	124,329	0	1.00	1.13	N/A	lighting
PROTHR567	Commercial	17.4	94,913	0	17.2	105,741	0	0.99	1.11	N/A	lighting
PROTHR572	Commercial	4.7	25,554	0	4.8	29,689	0	1.02	1.16	N/A	lighting
PPROTHR582	Commercial	22.5	123,106	0	22.5	138,386	0	1.00	1.12	N/A	lighting
PPROTHR592	Commercial	20.9	114,378	0	20.9	129,670	0	1.00	1.13	N/A	lighting
PROTHR594	Commercial	16.9	92,185	0	16.9	104,456	0	1.00	1.13	N/A	lighting
PROTHR597	Commercial	19.7	107,386	0	19.8	121,951	0	1.00	1.14	N/A	lighting
PPROTHR600	Commercial	16.8	91,992	0	16.9	104,279	0	1.00	1.13	N/A	lighting
PPROTHR606	Commercial	7.9	43,226	0	7.8	48,557	0	0.98	1.12	N/A	lighting
PROTHR613	Commercial	11.2	60,587	0	11.1	69,230	0	1.00	1.14	N/A	lighting
PROTHR618	Commercial	6.2	33,902	0	6.2	38,397	0	1.00	1.13	N/A	lighting
PPROTHR622	Commercial	11.7	63,867	0	11.7	72,662	0	1.00	1.14	N/A	lighting
PPROTHR625	Commercial	7.1	38,477	0	7.1	44,688	0	1.00	1.16	N/A	lighting
PROTHR626	Commercial	6.8	36,907	0	6.8	42,645	0	1.00	1.16	N/A	lighting
PROTHR628	Commercial	6.5	35,312	0	6.2	38,711	0	0.96	1.10	N/A	lighting
PPROTHR630	Commercial	6.3	37,560	0	6.6	42,566	0	1.05	1.13	N/A	lighting
PPROTHR635	Commercial	6.8	35,867	0	6.6	40,577	0	1.00	1.13	N/A	lighting
PROTHR636	Commercial	6.7	36,438	0	6.8	42,363	0	1.01	1.16	N/A	lighting
PROTHR646	Commercial	11.6	63,386	0	11.7	72,951	0	1.01	1.15	N/A	lighting
PROTHR657	Commercial	7.0	38,128	0	6.8	42,468	0	0.97	1.11	N/A	lighting
PPROTHR665	Commercial	11.0	59,855	0	11.0	68,120	0	1.00	1.14	N/A	lighting
PPROTHR682	Commercial	8.5	51,173	0	8.9	57,280	0	1.05	1.12	N/A	lighting
PROTHR686	Commercial	10.4	66,826	0	11.3	73,942	0	1.08	1.11	N/A	lighting
PPROTHR691	Commercial	10.4	56,413	0	10.3	64,067	0	1.00	1.14	N/A	lighting
PPROTHR719	Commercial	12.1	68,699	0	10.0	62,525	0	0.82	0.91	N/A	lighting
PPROTHR721	Commercial	13.1	71,329	0	13.1	80,468	0	1.00	1.13	N/A	lighting
PROTHR722	Commercial	12.0	65,597	0	11.9	73,492	0	0.99	1.12	N/A	lighting
PROTHR723	Commercial	15.8	86,270	0	15.8	97,104	0	1.00	1.13	N/A	lighting
PPROTHR734	Commercial	7.5	40,721	0	7.5	46,512	0	1.00	1.14	N/A	lighting
PPROTHR756	Commercial	7.4	42,722	0	7.6	48,591	0	1.03	1.14	N/A	lighting
PROTHR765	Commercial	9.5	51,569	0	9.4	58,133	0	0.99	1.13	N/A	lighting
PROTHR766	Commercial	6.6	35,914	0	6.6	41,268	0	1.00	1.15	N/A	lighting
PPROTHR769	Commercial	7.0	35,809	0	6.8	41,194	0	0.97	1.15	N/A	lighting
PPROTHR775	Commercial	5.4	29,088	0	5.4	32,939	0	1.00	1.13	N/A	lighting
PROTHR797	Commercial	32.7	178,565	0	32.7	197,528	0	1.00	1.11	N/A	lighting
City of San Jose											
PSANSANCCF	Commercial	10.5	37,746	0	11.3	70,225	0	1.09	1.86	N/A	lighting
PSANAI RRSE	Commercial	11.7	102,072	0	11.7	102,072	0	1.00	1.00	N/A	lighting
PSANSANALL	Commercial	16.7	53,760	0	31.1	185,606	0	1.86	3.45	N/A	lighting
PSANAI RLOB	Commercial	49.2	431,202	0	49.2	431,202	0	1.00	1.00	N/A	lighting
PSANYARMAS	Commercial	9.3	28,015	0	10.0	48,631	0	1.07	1.74	N/A	lighting
PSANAI RCES	Commercial	39.2	227,968	0	33.6	271,154	0	0.86	1.19	N/A	lighting
PSANYARUTH	Commercial	4.6	14,196	0	3.4	19,665	0	0.74	1.39	N/A	lighting
PSANAI RALK	Commercial	47.5	384,013	0	46.5	397,418	0	0.98	1.03	N/A	lighting
Manergy (formerly Tamal)											
PTAMNEW RRA	Industrial	171.2	1,351,953	0	163.8	1,292,573	0	0.96	0.96	N/A	process
Totals		7,089.9	49,231,720	106,229	7,073.2	63,047,165	106,229	1.00	1.08	1.00	

PROTOCOL TABLES 6 AND 7

1996 POWER SAVING PARTNERS PROGRAM: COMMERCIAL SECTOR, INDUSTRIAL SECTOR, RESIDENTIAL SECTOR

PG&E STUDY ID #395a, 395b, 395c, 395d, 395e, 395f

This section includes Tables 6 and 7 for the above referenced study as required under the "Protocols and Procedures for the Verification of Cost, Benefits, and Shareholder Earnings from Demand Side Management Programs" (the Protocols), as adopted by the California Public Utility Commission (CPUC) Decision 93-05-063, Revised January 1996 Pursuant to Decisions 94-05-063, 94-10-059, 94-12-021, and 95-12-054.

Table 6 Assumptions

The Power Saving Partners (PSP) program sample consists solely of participants. Consequently, there is no comparison group. Since there is no comparison group, unit intermediate and market segment data is not necessary.

In D. 92-03-038, the Commission determined that for PG&E's DSM bidding pilot, the net-to-gross ratio would be 1.0 for programs with greater than two-year payback. The default net-to-gross should be used for programs with less than a two-year payback.

The measurement standards used in PSP meet or exceed NAESCO standards which uphold the 90/10 requirement mandated by CPUC protocols. Hence, all load impact estimates are at or above the 90% precision, 10% confidence interval.

Protocol Table 6
Items 1-5

PG&E Realization Study of 1996 PowerSavings Partners Program, Study I.D. 396a - Residential Lighting

Table Item		Relative Precision		
Item Number	Description	Estimate	90% Confidence *	80% Confidence
1.A	Pre-installation usage, Base usage, and Base usage per designated unit of measurement.	N/A	N/A	N/A
1.B	Impact Year usage, Impact year usage per designated unit of measurement.	N/A	N/A	N/A
2.A	Gross Peak kW (Demand) Impacts	636	100%	N/A
	Gross kWh (Energy) Impacts	4,732,167	100%	N/A
	Gross thm (Therm) Impacts	N/A	100%	N/A
	Net Peak kW (Demand) Impacts	614	100%	N/A
	Net kWh (Energy) Impacts	4,681,163	100%	N/A
	Net thm (Therm) Impacts	N/A	100%	N/A
2.B	Per designated unit* Gross Demand Impacts	N/A	N/A	N/A
	Per designated unit* Gross Energy Impacts	N/A	N/A	N/A
	Per designated unit Gross Therm Impacts	N/A	N/A	N/A
	Per designated unit* Net Demand Impacts	N/A	N/A	N/A
	Per designated unit* Net Energy Impacts	N/A	N/A	N/A
	Per designated unit Net Therm Impacts	N/A	N/A	N/A
2.C	Percent change in usage (relative to base usage) of the participant group and comparison group.	N/A	N/A	N/A
2.D	Gross Demand Realization Rate	0.97	N/A	N/A
	Gross Energy Realization Rate	0.99	N/A	N/A
	Gross Therm Realization Rate §	N/A	N/A	N/A
	Net Demand Realization Rate	0.97	N/A	N/A
	Net Energy Realization Rate	0.99	N/A	N/A
	Net Therm Realization Rate §	N/A	N/A	N/A
3.A	Net-to-Gross ratio based on Avg. Load Impacts	1.00	N/A	N/A
3.B	Net-to-Gross ratio based on Avg. Load Impacts per designated unit* of measurement.	1.00	N/A	N/A
3.C	Net-to-Gross ratio based on Avg. Load Impacts as a percent change from base usage	N/A	N/A	N/A
4.A	Pre-installation Avg. (mean) Sq. Foot (participant group)	N/A	N/A	N/A
	Pre-installation Avg. (mean) Sq. Foot (comparison group)	N/A	N/A	N/A
	Pre-installation Avg. Hours of Operation \bar{Y} (participant group)	N/A	N/A	N/A
	Pre-installation Avg. Hours of Operation \bar{Y} (comparison group)	N/A	N/A	N/A
4.B	Post-installation Avg. (mean) Sq. Foot (participant group)	N/A	N/A	N/A
	Post-installation Avg. (mean) Sq. Foot (comparison group)	N/A	N/A	N/A
	Post-installation Avg. Hours of Operation \bar{Y} (participant group)	N/A	N/A	N/A
	Post-installation Avg. Hours of Operation \bar{Y} (comparison group)	N/A	N/A	N/A

* The measurement standards used in PSP meet or exceed NAESCO standards which uphold the 90/10 requirement mandated by CPUC Protocols. Hence, all load impact estimates are at or above the 90% precision, 10% confidence interval.

Protocol Table 6
Items 1-5

PG&E Realization Study of 1996 PowerSavings Partners Program, Study I.D. 396b - Commercial Lighting

Table Item		Relative Precision		
Item Number	Description	Estimate	90% Confidence *	80% Confidence
1.A	Pre-installation usage, Base usage, and Base usage per designated unit of measurement.	N/A	N/A	N/A
1.B	Impact Year usage, Impact year usage per designated unit of measurement.	N/A	N/A	N/A
2.A	Gross Peak kW (Demand) Impacts	5,039	100%	N/A
	Gross kWh (Energy) Impacts	34,306,685	100%	N/A
	Gross thm (Therm) Impacts	N/A	100%	N/A
	Net Peak kW (Demand) Impacts	4,453	100%	N/A
	Net kWh (Energy) Impacts	33,697,749	100%	N/A
	Net thm (Therm) Impacts	N/A	100%	N/A
2.B	Per designated unit* Gross Demand Impacts	N/A	N/A	N/A
	Per designated unit* Gross Energy Impacts	N/A	N/A	N/A
	Per designated unit Gross Therm Impacts	N/A	N/A	N/A
	Per designated unit* Net Demand Impacts	N/A	N/A	N/A
	Per designated unit* Net Energy Impacts	N/A	N/A	N/A
	Per designated unit Net Therm Impacts	N/A	N/A	N/A
2.C	Percent change in usage (relative to base usage) of the participant group and comparison group.	N/A	N/A	N/A
2.D	Gross Demand Realization Rate	0.88	N/A	N/A
	Gross Energy Realization Rate	0.98	N/A	N/A
	Gross Therm Realization Rate §	N/A	N/A	N/A
	Net Demand Realization Rate	0.89	N/A	N/A
	Net Energy Realization Rate	0.98	N/A	N/A
	Net Therm Realization Rate §	N/A	N/A	N/A
3.A	Net-to-Gross ratio based on Avg. Load Impacts	1.00	N/A	1%
3.B	Net-to-Gross ratio based on Avg. Load Impacts per designated unit* of measurement.	1.00	N/A	1%
3.C	Net-to-Gross ratio based on Avg. Load Impacts as a percent change from base usage	N/A	N/A	N/A
4.A	Pre-installation Avg. (mean) Sq. Foot (participant group)	N/A	N/A	N/A
	Pre-installation Avg. (mean) Sq. Foot (comparison group)	N/A	N/A	N/A
	Pre-installation Avg. Hours of Operation \bar{Y} (participant group)	N/A	N/A	N/A
	Pre-installation Avg. Hours of Operation \bar{Y} (comparison group)	N/A	N/A	N/A
	Post-installation Avg. (mean) Sq. Foot (participant group)	N/A	N/A	N/A
4.B	Post-installation Avg. (mean) Sq. Foot (comparison group)	N/A	N/A	N/A
	Post-installation Avg. Hours of Operation \bar{Y} (participant group)	N/A	N/A	N/A
	Post-installation Avg. Hours of Operation \bar{Y} (comparison group)	N/A	N/A	N/A
	Post-installation Avg. Hours of Operation \bar{Y} (comparison group)	N/A	N/A	N/A

* The measurement standards used in PSP meet or exceed NAESCO standards which uphold the 90/10 requirement mandated by CPUC Protocols. Hence, all load impact estimates are at or above the 90% precision, 10% confidence interval.

Protocol Table 6
Items 1-5

PG&E Realization Study of 1996 PowerSavings Partners Program, Study I.D. 396c - Industrial Process

Table Item		Relative Precision		
Item Number	Description	Estimate	90% Confidence *	80% Confidence
1.A	Pre-installation usage, Base usage, and Base usage per designated unit of measurement.	N/A	N/A	N/A
1.B	Impact Year usage, Impact year usage per designated unit of measurement.	N/A	N/A	N/A
2.A	Gross Peak kW (Demand) Impacts	171	100%	N/A
	Gross kWh (Energy) Impacts	1,351,953	100%	N/A
	Gross thm (Therm) Impacts	N/A	100%	N/A
	Net Peak kW (Demand) Impacts	164	100%	N/A
	Net kWh (Energy) Impacts	1,292,573	100%	N/A
	Net thm (Therm) Impacts	N/A	100%	N/A
2.B	Per designated unit* Gross Demand Impacts	N/A	N/A	N/A
	Per designated unit* Gross Energy Impacts	N/A	N/A	N/A
	Per designated unit Gross Therm Impacts	N/A	N/A	N/A
	Per designated unit* Net Demand Impacts	N/A	N/A	N/A
	Per designated unit* Net Energy Impacts	N/A	N/A	N/A
	Per designated unit Net Therm Impacts	N/A	N/A	N/A
2.C	Percent change in usage (relative to base usage) of the participant group and comparison group.	N/A	N/A	N/A
2.D	Gross Demand Realization Rate	0.96	N/A	N/A
	Gross Energy Realization Rate	0.96	N/A	N/A
	Gross Therm Realization Rate §	N/A	N/A	N/A
	Net Demand Realization Rate	0.96	N/A	N/A
	Net Energy Realization Rate	0.96	N/A	N/A
	Net Therm Realization Rate §	N/A	N/A	N/A
3.A	Net-to-Gross ratio based on Avg. Load Impacts	1.00	N/A	N/A
3.B	Net-to-Gross ratio based on Avg. Load Impacts per designated unit* of measurement.	1.00	N/A	N/A
3.C	Net-to-Gross ratio based on Avg. Load Impacts as a percent change from base usage	N/A	N/A	N/A
4.A	Pre-installation Avg. (mean) Sq. Foot (participant group)	N/A	N/A	N/A
	Pre-installation Avg. (mean) Sq. Foot (comparison group)	N/A	N/A	N/A
	Pre-installation Avg. Hours of Operation (participant group)	N/A	N/A	N/A
	Pre-installation Avg. Hours of Operation (comparison group)	N/A	N/A	N/A
4.B	Post-installation Avg. (mean) Sq. Foot (participant group)	N/A	N/A	N/A
	Post-installation Avg. (mean) Sq. Foot (comparison group)	N/A	N/A	N/A
	Post-installation Avg. Hours of Operation (participant group)	N/A	N/A	N/A
	Post-installation Avg. Hours of Operation (comparison group)	N/A	N/A	N/A

* The measurement standards used in PSP meet or exceed NAESCO standards which uphold the 90/10 requirement mandated by CPUC Protocols. Hence, all load impact estimates are at or above the 90% precision, 10% confidence interval.

Protocol Table 6

Items 1-5

PG&E Realization Study of 1996 PowerSavings Partners Program, Study I.D. 396d - Commercial HVAC

Item Number	Description	Estimate	Relative Precision	
			90% Confidence *	80% Confidence
1.A	Pre-installation usage, Base usage, and Base usage per designated unit of measurement.	N/A	N/A	N/A
1.B	Impact Year usage, Impact year usage per designated unit of measurement.	N/A	N/A	N/A
2.A	Gross Peak kW (Demand) Impacts	463	100%	N/A
	Gross kWh (Energy) Impacts	4,055,634	100%	N/A
	Gross thm (Therm) Impacts	N/A	100%	N/A
	Net Peak kW (Demand) Impacts	463	100%	N/A
	Net kWh (Energy) Impacts	4,048,689	100%	N/A
	Net thm (Therm) Impacts	N/A	100%	N/A
2.B	Per designated unit* Gross Demand Impacts	N/A	N/A	N/A
	Per designated unit* Gross Energy Impacts	N/A	N/A	N/A
	Per designated unit Gross Therm Impacts	N/A	N/A	N/A
	Per designated unit* Net Demand Impacts	N/A	N/A	N/A
	Per designated unit* Net Energy Impacts	N/A	N/A	N/A
	Per designated unit Net Therm Impacts	N/A	N/A	N/A
2.C	Percent change in usage (relative to base usage) of the participant group and comparison group.	N/A	N/A	N/A
2.D	Gross Demand Realization Rate	1.00	N/A	N/A
	Gross Energy Realization Rate	1.00	N/A	N/A
	Gross Therm Realization Rate §	N/A	N/A	N/A
	Net Demand Realization Rate	1.00	N/A	N/A
	Net Energy Realization Rate	1.00	N/A	N/A
	Net Therm Realization Rate §	N/A	N/A	N/A
3.A	Net-to-Gross ratio based on Avg. Load Impacts	1.00	N/A	N/A
3.B	Net-to-Gross ratio based on Avg. Load Impacts per designated unit* of measurement.	1.00	N/A	N/A
3.C	Net-to-Gross ratio based on Avg. Load Impacts as a percent change from base usage	N/A	N/A	N/A
4.A	Pre-installation Avg. (mean) Sq. Foot (participant group)	N/A	N/A	N/A
	Pre-installation Avg. (mean) Sq. Foot (comparison group)	N/A	N/A	N/A
	Pre-installation Avg. Hours of Operation \bar{Y} (participant group)	N/A	N/A	N/A
	Pre-installation Avg. Hours of Operation \bar{Y} (comparison group)	N/A	N/A	N/A
	Post-installation Avg. (mean) Sq. Foot (participant group)	N/A	N/A	N/A
4.B	Post-installation Avg. (mean) Sq. Foot (comparison group)	N/A	N/A	N/A
	Post-installation Avg. Hours of Operation \bar{Y} (participant group)	N/A	N/A	N/A
	Post-installation Avg. Hours of Operation \bar{Y} (comparison group)	N/A	N/A	N/A
	Post-installation Avg. Hours of Operation \bar{Y} (comparison group)	N/A	N/A	N/A

* The measurement standards used in PSP meet or exceed NAESCO standards which uphold the 90/10 requirement mandated by CPUC Protocols. Hence, all load impact estimates are at or above the 90% precision, 10% confidence interval.

Protocol Table 6
Items 1-5

PG&E Realization Study of 1996 PowerSavings Partners Program, Study I.D. 396e - Commercial Refrigeration

Table Item		Relative Precision		
Item Number	Description	Estimate	90% Confidence *	80% Confidence
1.A	Pre-installation usage, Base usage, and Base usage per designated unit of measurement.	N/A	N/A	N/A
1.B	Impact Year usage, Impact year usage per designated unit of measurement.	N/A	N/A	N/A
2.A	Gross Peak kW (Demand) Impacts	751	100%	N/A
	Gross kWh (Energy) Impacts	6,476,806	100%	N/A
	Gross thm (Therm) Impacts	N/A	100%	N/A
	Net Peak kW (Demand) Impacts	712	100%	N/A
	Net kWh (Energy) Impacts	8,517,359	100%	N/A
	Net thm (Therm) Impacts	N/A	100%	N/A
2.B	Per designated unit* Gross Demand Impacts	N/A	N/A	N/A
	Per designated unit* Gross Energy Impacts	N/A	N/A	N/A
	Per designated unit Gross Therm Impacts	N/A	N/A	N/A
	Per designated unit* Net Demand Impacts	N/A	N/A	N/A
	Per designated unit* Net Energy Impacts	N/A	N/A	N/A
	Per designated unit Net Therm Impacts	N/A	N/A	N/A
2.C	Percent change in usage (relative to base usage) of the participant group and comparison group.	N/A	N/A	N/A
2.D	Gross Demand Realization Rate	0.95	N/A	N/A
	Gross Energy Realization Rate	1.32	N/A	N/A
	Gross Therm Realization Rate §	N/A	N/A	N/A
	Net Demand Realization Rate	0.95	N/A	N/A
	Net Energy Realization Rate	1.32	N/A	N/A
	Net Therm Realization Rate §	N/A	N/A	N/A
3.A	Net-to-Gross ratio based on Avg. Load Impacts	1.00	N/A	N/A
3.B	Net-to-Gross ratio based on Avg. Load Impacts per designated unit* of measurement.	1.00	N/A	N/A
3.C	Net-to-Gross ratio based on Avg. Load Impacts as a percent change from base usage	N/A	N/A	N/A
4.A	Pre-installation Avg. (mean) Sq. Foot (participant group)	N/A	N/A	N/A
	Pre-installation Avg. (mean) Sq. Foot (comparison group)	N/A	N/A	N/A
	Pre-installation Avg. Hours of OperationY (participant group)	N/A	N/A	N/A
	Pre-installation Avg. Hours of OperationY (comparison group)	N/A	N/A	N/A
4.B	Post-installation Avg. (mean) Sq. Foot (participant group)	N/A	N/A	N/A
	Post-installation Avg. (mean) Sq. Foot (comparison group)	N/A	N/A	N/A
	Post-installation Avg. Hours of OperationY (participant group)	N/A	N/A	N/A
	Post-installation Avg. Hours of OperationY (comparison group)	N/A	N/A	N/A

* The measurement standards used in PSP meet or exceed NAESCO standards which uphold the 90/10 requirement mandated by CPUC Protocols. Hence, all load impact estimates are at or above the 90% precision, 10% confidence interval.

Protocol Table 6

Items 1-5

PG&E Realization Study of 1996 PowerSavings Partners Program, Study I.D. 396f - Residential Gas Boilers

Table Item		Relative Precision		
Item Number	Description	Estimate	90% Confidence *	80% Confidence
1.A	Pre-installation usage, Base usage, and Base usage per designated unit of measurement.	N/A	N/A	N/A
1.B	Impact Year usage, Impact year usage per designated unit of measurement.	N/A	N/A	N/A
2.A	Gross Peak kW (Demand) Impacts	N/A	100%	N/A
	Gross kWh (Energy) Impacts	N/A	100%	N/A
	Gross thm (Therm) Impacts	106,229	100%	N/A
	Net Peak kW (Demand) Impacts	N/A	100%	N/A
	Net kWh (Energy) Impacts	N/A	100%	N/A
	Net thm (Therm) Impacts	106,229	100%	N/A
2.B	Per designated unit* Gross Demand Impacts	N/A	N/A	N/A
	Per designated unit* Gross Energy Impacts	N/A	N/A	N/A
	Per designated unit Gross Therm Impacts	1.00	N/A	N/A
	Per designated unit* Net Demand Impacts	N/A	N/A	N/A
	Per designated unit* Net Energy Impacts	N/A	N/A	N/A
	Per designated unit Net Therm Impacts	1.00	N/A	N/A
2.C	Percent change in usage (relative to base usage) of the participant group and comparison group.	N/A	N/A	N/A
2.D	Gross Demand Realization Rate	N/A	N/A	N/A
	Gross Energy Realization Rate	N/A	N/A	N/A
	Gross Therm Realization Rate §	N/A	N/A	N/A
	Net Demand Realization Rate	N/A	N/A	N/A
	Net Energy Realization Rate	N/A	N/A	N/A
	Net Therm Realization Rate §	N/A	N/A	N/A
3.A	Net-to-Gross ratio based on Avg. Load Impacts	1.00	N/A	N/A
3.B	Net-to-Gross ratio based on Avg. Load Impacts per designated unit* of measurement.	1.00	N/A	N/A
3.C	Net-to-Gross ratio based on Avg. Load Impacts as a percent change from base usage	N/A	N/A	N/A
4.A	Pre-installation Avg. (mean) Sq. Foot (participant group)	N/A	N/A	N/A
	Pre-installation Avg. (mean) Sq. Foot (comparison group)	N/A	N/A	N/A
	Pre-installation Avg. Hours of OperationY (participant group)	N/A	N/A	N/A
	Pre-installation Avg. Hours of OperationY (comparison group)	N/A	N/A	N/A
4.B	Post-installation Avg. (mean) Sq. Foot (participant group)	N/A	N/A	N/A
	Post-installation Avg. (mean) Sq. Foot (comparison group)	N/A	N/A	N/A
	Post-installation Avg. Hours of OperationY (participant group)	N/A	N/A	N/A
	Post-installation Avg. Hours of OperationY (comparison group)	N/A	N/A	N/A

* The measurement standards used in PSP meet or exceed NABSCO standards which uphold the 90/10 requirement mandated by CPUC Protocols. Hence, all load impact estimates are at or above the 90% precision, 10% confidence interval.

PROTOCOL TABLE 7

REALIZATION STUDY OF 1996 POWER SAVING PARTNERS PROGRAM

PG&E STUDY ID #395a, 395b, 395c, 395d, 395e, 395f

The purpose of this section is to provide the documentation for data quality and processing as required in Table 7 of the California Public Utility Commission (CPUC) Evaluation and Measurement Protocols (the Protocols). Although other important considerations are addressed throughout this section, major topics are organized and presented in the same order as they are listed in Table 7 for ease of reference and review. When responses to the items are discussed in detail elsewhere in the report, only a brief summary will be given in this section to avoid redundancy.

A. OVERVIEW INFORMATION

1. Study Title and Study ID Number

Study Title: Realization Study of 1996 Power Saving Partners Program

Study ID Number: #395a, 395b, 395c, 395d, 395e, 395f

2. Program, Program Year and Program Description

Program: PG&E Power Saving Partners Program: Commercial Sector, Industrial Sector, Residential Sector

Program Year: Rebates Received in the 1996 Calendar Year.

Program Description:

In March 1992, the CPUC mandated in D. 92-03-038 that PG&E implement a DSM resources bidding pilot program. PG&E conducted issued a Request for Proposal and contracted with winning bidders. The CPUC found all contracts to be reasonable in Decisions 93-11-067, 94-04-039 and 95-10-37.

All contracts are based on pay-for-performance over a contract life of up to 10 years. The PowerSaving Partners (PSP or Partners) perform the measurement and verification, and savings are verified annually. The implementation period is 36 months with specific reporting requirements. Payments are based on savings projections and then reconciled according to actual verified savings after one year. If savings are not achieved, payments are modified and savings projections are reduced. A method for collecting overpayments, should they occur, is contained in each contract.

There is a residential and nonresidential component of PG&E's PSP Program. Residential projects are primarily common area lighting and boiler retrofits. Nonresidential PSP projects range from facility audits and cost effectiveness evaluations to implementation, financing, and maintenance.

3. End Uses and/or Measures Covered

End Use Covered: 1) commercial lighting; 2) industrial process; 3) residential lighting; 4) commercial hvac 5) residential gas boilers

Measures Covered: Lighting equipment, lighting and boiler controls, variable speed drives, refrigeration controls.

4. Methods and Models Used

Per the PSP Manual, specific measures must adhere to unique measurement methods. These methods are fully documented in both the Blue Book and the Realization Study of 1996 Power Saving Partners Program.

5. Participant and Comparison Group Definition

The PSP sample consists solely of participants. Participants are all individuals and entities included within the program. Consequently, there is no comparison group.

6. Analysis Sample Size

The PSP program meters one hundred percent of program participants. In cases where a large homogenous population participates, the program may sample subject to the 90/10 sampling criteria.

B. DATABASE MANAGEMENT

Database information consisting of equipment inventories of each participating site has been filed electronically for this report. Database information is as documented in the data dictionary included with the datafiles. There is no data kept with regards to characteristics of participant and nonparticipant groups.

1. Data Description and Flow Chart

Not Applicable

2. Key Data Elements and Sources

Not Applicable

3. Data Attrition Process

Not Applicable

4. Internal Data Quality Procedures

Not Applicable

5. Unused Data Elements

Not Applicable

C. SAMPLING

The PSP program does not sample because it meters one hundred percent of program participants.

1. Sampling Procedures and Protocols

Not Applicable

2. Survey Information

Not Applicable

3. Statistical Descriptions

Not Applicable

D. DATA SCREENING AND ANALYSIS

The PSP program does not adjust data since all program participants are metered and data samples are not used.

1. Outliers, Missing Data and Weather Adjustment

Not Applicable

2. Background Variables

Not Applicable

3. Data Screen Process

Not Applicable

4. Regression Statistics

Not Applicable

5. Model Specification

Not Applicable

6. Measurement Errors

Not Applicable

7. Autocorrelation

Not Applicable

8. Heteroskdasticity

Not Applicable

9. Collinearity
Not Applicable

10. Influential Data Points
Not Applicable

11. Missing Data
Not Applicable

12. Precision
Not Applicable

E. DATA INTERPRETATION AND APPLICATION

The PSP program does not adjust data since all program participants are metered and data samples are not used.

Self Report Method
Not applicable