PROGRAM YEAR 2000
2ND YEAR EARNINGS CLAIM
REALIZATION RATE STUDY OF THE
POWERSAVING PARTNERS PROGRAM

PG&E Study ID Numbers

Industrial Process PSP II = 425a
Industrial Lighting PSP II = 425b
Commercial Lighting PSP II = 426a
Commercial Traffic Lighting PSP II = 426b
Commercial HVAC PSP II = 426c

March 1, 2002

Pacific Gas and Electric Company™

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Measurement and Evaluation
Customer Energy Efficiency Policy & Evaluation Section
Pacific Gas and Electric Company
San Francisco, California

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Pacific Gas and Electric Company (PG&E), through its Program Partners and verification contractor, collects and verifies the information on program savings that are reported in this study. The results of the study may be applicable only to the unique geographic, meteorological, cultural, and social circumstances existing within the PG&E 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 the PG&E service area and any other circumstances described within the parameters of the study.

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EXECUTIVE SUMMARY

The following documents evaluate electric energy savings measured for Pacific Gas and Electric Company's PowerSaving Partners (PSP) Program for program year 2000. The PowerSaving Partners program is designed to provide Pacific Gas and Electric Company customers with an opportunity to purchase turnkey energy efficiency solutions supplied by the private energy services industry.

The PowerSaving Partners program consists of two phases; the original PSP I program, and PSP II, the Integrated Bid pilot program. This study verifies peak kW and annual kWh savings for the end uses installed in PY2000 and claimed in the 2001 AEAP Earnings Claim. The measures evaluated include:

- PowerSaving Partners II: Commercial Lighting
- PowerSaving Partners II: Commercial Traffic Lighting
- PowerSaving Partners II: Commercial HVAC
- PowerSaving Partners II: Industrial Lighting
- PowerSaving Partners II: Industrial Process

This study documents the second year of performance of PY2000 projects and the results of a thorough and rigorous monitoring study made by each of the PSP Partners and evaluated by Pacific Gas and Electric Company. PSP Partners are required to sample and meter all sites where measures are installed in order to receive payments for energy savings. This study tabulates the results of the Partner's findings. These findings are the basis for each realization rate claim.

For PSP PY2000 program accomplishments filed in the 2001 AEAP Claim, Pacific Gas and Electric Company claimed 4,910 kW and 32,838 MWh of gross annual energy savings. These accomplishments were derived from the industrial and commercial market sectors. Table One (1) lists the results of the Measurement and Verification (M&V) for these contracts by program end use.

PSP REALIZATION RATES

TABLE ONE

PY00 2nd Year Impact Study PowerSaving Partners II Study ID # 425a, b. 426a, b, c	Claimed Savings		Measured Savings		Gross Realization Rate	
	Peak kW	Annual kWh	Peak kW	Annual kWh	Peak kW	Annual kWh
	Ex-Ante		Ex-Post			
PY00 Power Saving Partners II: Commercial Lighting	3,019	14,439,937	2,549	14,255,613	0.84	0.99
PY00 Power Saving Partners II: Commercial Traffic Lights	37	320,968	37	321,048	1.00	1.00
PY00 Power Saving Partners II: Commercial HVAC	68	787,448	109	854,585	1.61	1.09
PY00 Power Saving Partners II: Industrial Process	1,540	14,931,728	1,307	11,525,680	0.85	0.77
PY00 Power Saving Partners II: Industrial Lighting	246	2,357,905	246	2,357,905	1.00	1.00
Total	**4,910**	**32,837,986**	**4,248**	**29,314,830**	**0.87**	**0.89**

PROGRAM BACKGROUND

PowerSaving Partners I

In March 1992, the CPUC mandated that Pacific Gas and Electric Company implement a pilot bidding program for DSM resources (D.92-03-038). In good faith, Pacific Gas and Electric Company conducted a bid auction, and announced the list of winning bidders in April 1993. The CPUC found the winning DSM contracts to be reasonable in Decision(s) 93-11-067, 94-04-039 and 95-10-037.

PowerSaving Partners II

In 1993, the CPUC mandated the development of an Integrated Bid pilot program in order D.93-06-040 (1993), 49 CPUC 2d 580. Pacific Gas and Electric Company was subsequently ordered by the CPUC to conduct a bid auction to fulfill the Integrated Bid pilot ordered in decision(s) D93-06-040, D. 93-010-040, and D. 94-06-046.

Pacific Gas and Electric Company issued a Request for Proposal under the Integrated Bid pilot in December 1994. After extensive evaluation and negotiation, PG&E signed nine contracts representing 34MW and 247 GWh. The contracts were approved by the CPUC in July 1996. All PSP II contracts had an initial three-year implementation period to install projects and accomplish contracted energy savings. However, effective August 1, 1999, the original Committed Operation Date, the CPUC approved the PG&E Advice filing 2173-G/1897-E, which extended the Implementation Period to January 1, 2000. A number of the contracts allowed for additional periods to install projects to remedy contract performance. The contracts then entered into the Committed Operation Period whereas savings and payment streams continue for the duration of each contract. Energy savings from the bidding pilots were included in Pacific Gas and Electric Company's 2001 AEAP earnings claim (Application 00-05-004).

All PSP contracts are based on pay-for-performance over a contract life ranging from eight to ten years. The PSP Partners perform measurement and verification (M&V) of energy savings annually before reporting program results. Payments are based on initial savings projections and then reconciled according to actual verified energy savings after one year. If savings are not achieved as projected, payments are modified and future savings projections are adjusted. A method for collecting overpayments, should they occur, is contained in each contract. This reconciliation process occurs annually throughout the duration of the contracts.

The M&V plans are consistent with the Measurement and Evaluation (M&E) protocols adopted by the Commission in all instances where such protocols exist. 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-ante 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' measurements and payments schedules.*

Pacific Gas and Electric Company has fully complied with the Commission ruling and actually created a rigorous verification plan as accurate for site-specific measurement as the Protocols used for the utility programs.

MEASUREMENT & VERIFICATION METHODOLOGY

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

Pacific Gas and Electric Company developed the PSP DSM Measurement and Verification Procedures Manual (Manual) following the directions in Appendix H of the Measurement Protocols adopted in Decision 94-05-063. That is, the 1993 NAESCO protocols were adapted to California conditions (for example, use of Title 24 baselines where appropriate) and made more rigorous. The Manual was reviewed and, in its final form, accepted by all PSP Partners.

The following list outlines the topics covered in the M&V Procedures Manual:

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

Following is a summary of the measurement strategy based on end-use/control group.

A. Lighting Efficiency Measures

1. The Partner surveys and records the existing condition (baseline) and new (post-installation) conditions to include exact fixture and lamp counts, ballast types, and usage areas. Usage areas *must* be defined in a way that combines areas with similar operating characteristics. For example, areas where comparable average operating hours are determined by the proportion of lights in operation during each of the five Pacific Gas and Electric Company costing periods would be grouped together. Pacific Gas and Electric Company independently verifies the reported baseline and post-installation conditions.

2. Approved lighting project wattages are listed in the *Table of Standard Wattages* and used to determine the kW per fixture for pre- and post-installation conditions. Operating hours are derived by short term metering of fixture 'on-time' within the various Time of Use costing periods. The short term metering duration is determined by market segment and typically ranges from 30 to 120 days. The required sample size for metering is calculated to achieve 90% confidence at 10% precision. The majority of measures installed by PSP in PY2000 were lighting efficiency retrofits and the M&V followed by each and every Partner conforms to the above statements.

B. Lighting Controls and Constant Load Motors

Constant load or variable hour projects are another category of projects (for example, motor efficiency retrofits or lighting controls). The verification strategy for these measures includes the collection of existing connected load and includes an actual kW or horsepower measurement, and a typical operating schedule. This verification process may include spot metering to determine actual demand and/or short-term metering of a sample to verify constant load, and to normalize results. The post-installation verification may include spot metering to determine connected load. The ongoing measurement activities for these types of measures include short-term metering for connected load and actual run-hours. Any short-term metering length is determined by application and typically lasts from 30 to 120 days.

C. Variable Load Projects

The last project group has variable loads, variable operating hours, or variations due to seasonal operation. For measurement and verification, a comprehensive strategy is necessary for this type of project. In these projects, end-use measurements can be difficult due to safety considerations, or cost prohibitive due to difficulty in isolating the operation. When a project specific approach is necessary, continuous metering or billing analysis are acceptable approaches. The Manual outlines a continuous metering strategy as well as pre and post installation billing analysis.

D. Gas Projects

All natural gas energy efficiency projects that were performed have protocols specific to the Partner and detailed in the particular M&V Plan.

REALIZATION STUDY METHODOLOGY

The PY2000 Pacific Gas and Electric Company savings claim was comprised of savings from a total of 45 Application Codes or Sites. The Sites were aggregated by end use or sector and reported in the 2000 E tables. The following tables document the PY2000 claim, and the actual PY2001, measured savings for each Site.

2002 Realization Rate by End Use/Study

Tables 2 through 6, "Realization Rate Study by End Use," lists a tracking code that represents each customer site, the kW and kWh savings as reported in the 2001 AEAP claim, and the current year measured kW and kWh savings as determined by analyzing metering and monitoring data. The gross realization rate is equal to the current measured savings values divided by the savings claimed in the first study. These tables are sorted by end use for each required study.

2002 Realization Rate by Partner

Table 7, "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.

Protocol Table 6

Protocol Table 6 lists the kW and kWh savings as reported in the 2001 AEAP claim, and current measured kW and kWh savings as determined by analyzing metering and monitoring data for PY2001 performance.

The **gross** realization rate is equal to the current savings measured in PY2001 divided by the PY2000 savings (as claimed in the 2001 AEAP).

The **net** realization rate is equal to the current savings measured in PY2001 (weighted by the appropriate Net-to-Gross ratio) divided by the PY2000 savings (as claimed in the PY2001 AEAP).

The Net-to-Gross ratios were defined in the original PSP contracts. Each end use or study has a separate Protocol Table 6.

Appendix

The Appendix contains three sets of documents for each Partner. There are four contractually distinctive Partners that installed projects in PY2000 Partners (one Partner has two contracts).

The first set of documents for each Partner includes a Pacific Gas and Electric letter approving the data review for each specific Annual Report. The Annual Report is comprised of site-specific information and submitted, as required, by the specific Measurement and Verification Plan, as prescribed by the M&V Manual. The information is the tabulation of actual monitored data from data loggers installed at each site, or at a representative sample of similar sites. The data was analyzed for Pacific Gas and Electric Company by a third party, Nexant, Inc. The approved hours of operation for each usage group were used to determine contract payments and incorporated into the invoices for the following year.

The second set of documents for each Partner includes the forms that describe the approved hours of operation, and the kW and kWh savings that determine payment levels.

The third set of documents for each Partner consists of forms that describe the baseline equipment, the retrofitted equipment, and all usage group designations. For non-lighting projects, the equipment tables, hours of operation and kW and kWh savings are consolidated on one form and found in the second tabbed section of that Partner's data. In all cases, after an installation is approved, the tables are loaded into the PSP database and a kW savings (connected load reduction) is calculated and recorded for each usage group. Savings are reported as maximum kW savings (connected load reductions). The forms are stored on a compact diskette and included with this report.

Kilowatt savings (connected load reductions) are reported as average on-peak kW savings. That is, the total maximum kW savings (connected load reductions) are multiplied by a ratio of the hours of operation in the on-peak period, divided by 774, the maximum on-peak hours in the 1993 baseline calendar year. The energy savings (kWh) reported are a product of the maximum kW reduction 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.

SUMMARY

Pacific Gas and Electric Company has adhered to or exceeded the basic concepts of ex-post measurement protocols by implementing the adjusted NAESCO standards for the first and second set of DSM bidding contracts. The kW and kWh realization rates in this report link the savings measured at 45 sites to the values reported in the E-tables filed in support of the Pacific Gas and Electric Company PY2000 second earnings claim.

Table 2
PY2000 Realization Study for 2nd Earning Claim
Study 425a : Industrial Process PSP II

			1st Earning Claim		2nd Earning Claim		1st EC	2nd EC
CODE	Sector	End Use	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PPLCH46/AM	Industrial	Process	240.72	1,985,956.00	129.43	1,334,527.30	0.54	0.67
PPLCH4701M	Industrial	Process	197.94	1,733,990.00	204.80	1,567,750.00	1.03	0.90
PPLCH4702M	Industrial	Process	290.89	2,548,158.00	363.72	2,921,533.00	1.25	1.15
PPLCH-601M	Industrial	Process	441.10	5,592,535.00	491.86	4,927,106.93	1.12	0.88
PPLEQ3266M	Industrial	Process	89.80	534,000.00	92.05	553,519.84	1.03	1.04
PPLEQ4405M	Industrial	Process	25.80	222,746.00	25.33	221,243.00	0.98	0.99
PPLPLUMPSM	Industrial	Process	253.95	2,314,343.00	0.00	0.00	0.00	0.00
Total			**1,540.20**	**14,931,728.00**	**1,307.19**	**11,525,680.07**	**0.85**	**0.77**

Table 3
PY2000 Realization Study for 2nd Earning Claim
Study 425b : Industrial Lighting PSP II

			1st Earning Claim		2nd Earning Claim		1st EC	2nd EC
CODE	Sector	End Use	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PORSQRMANC	Industrial	Lighting	21.11	391,040.52	21.11	391,040.52	1.00	1.00
PORSQRMANE	Industrial	Lighting	224.53	1,966,864.40	224.53	1,966,864.40	1.00	1.00
Total			**245.64**	**2,357,904.92**	**245.64**	**2,357,904.92**	**1.00**	**1.00**

Table 4
PY2000 Realization Study for 2nd Earning Claim
Study 426a : Commercial Lighting PSPII

			1st Earning Claim		2nd Earning Claim		1st EC	2nd EC
CODE	Sector	End Use	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PETMAAINEE	Commercial	Lighting	32.42	201,877.94	31.55	193,514.72	0.97	0.96
PETMAAINWE	Commercial	Lighting	23.69	163,688.25	23.33	157,779.00	0.98	0.96
PETMAFICEE	Commercial	Lighting	35.11	219,390.75	33.73	213,563.62	0.96	0.97
PETMAORALE	Commercial	Lighting	19.79	121,350.74	18.54	109,783.07	0.94	0.90
PETMIMMAE	Commercial	Lighting	45.65	253,620.29	36.94	197,514.56	0.81	0.78
PETMIMMCE	Commercial	Lighting	71.65	455,534.30	61.42	388,604.44	0.86	0.85
PETMIPMCE	Commercial	Lighting	182.68	1,197,471.27	164.69	1,029,081.27	0.90	0.86
PETMIPMOE	Commercial	Lighting	61.41	381,000.81	51.09	307,820.73	0.83	0.81
PETMOY180E	Commercial	Lighting	170.69	742,914.04	188.08	778,174.69	1.10	1.05
PETNAHOOLC	Commercial	Lighting	6.71	54,805.33	-9.00	-1,550.33	-1.34	-0.03
PETNAHOOLE	Commercial	Lighting	93.64	524,972.55	75.67	385,760.75	0.81	0.73
PETUSGATEE	Commercial	Lighting	6.64	31,576.43	5.86	39,739.96	0.88	1.26
PETUSILLEE	Commercial	Lighting	2.06	13,709.42	1.84	13,694.51	0.89	1.00
PETUSLEANE	Commercial	Lighting	34.42	143,607.57	27.03	177,718.71	0.79	1.24
PETUSLITSE	Commercial	Lighting	9.78	45,157.29	7.94	53,649.23	0.81	1.19
PETUSMONTE	Commercial	Lighting	13.65	64,451.42	11.00	74,683.65	0.81	1.16
PETUSTIONE	Commercial	Lighting	1.46	7,144.49	1.20	8,121.79	0.82	1.14
PETUSYANTE	Commercial	Lighting	34.11	185,711.03	28.75	201,602.06	0.84	1.09
PORAD_ARTC	Commercial	Lighting	0.19	1,658.88	0.19	1,658.88	1.00	1.00
PORAD_ARTE	Commercial	Lighting	52.98	245,673.64	52.98	245,673.64	1.00	1.00
PORBUORESC	Commercial	Lighting	33.59	252,857.96	30.62	309,466.70	0.91	1.22
PORBUORESE	Commercial	Lighting	44.58	384,545.91	36.30	283,117.80	0.81	0.74
PORPREREYE	Commercial	Lighting	1,045.47	3,483,218.78	659.30	3,737,062.39	0.63	1.07
PORSALAWE	Commercial	Lighting	9.18	30,562.63	9.18	30,562.63	1.00	1.00
PORSARESTE	Commercial	Lighting	27.67	98,316.60	27.67	98,316.60	1.00	1.00
PORSATICEE	Commercial	Lighting	169.05	599,727.81	169.05	599,727.81	1.00	1.00
PORSAUIREE	Commercial	Lighting	15.16	78,360.98	15.16	78,360.98	1.00	1.00
PORSAUNTYE	Commercial	Lighting	57.53	204,095.10	57.53	204,095.10	1.00	1.00
PORSO-PH1E	Commercial	Lighting	145.63	1,165,049.60	143.19	1,177,136.99	0.98	1.01
PORSO-PH2E	Commercial	Lighting	57.63	461,040.00	56.66	465,823.29	0.98	1.01
PORVAERG2E	Commercial	Lighting	412.90	2,015,045.44	412.90	2,015,045.40	1.00	1.00
PORWIWARDE	Commercial	Lighting	102.08	611,800.01	118.74	680,308.02	1.16	1.11
Total			**3,019.20**	**14,439,937.26**	**2,549.13**	**14,255,612.66**	**0.84**	**0.99**

Table 5
PY2000 Realization Study for 2nd Earning Claim
Study 426b : Commercial Traffic Lights PSPII

			1st Earning Claim		2nd Earning Claim		1st EC	2nd EC
CODE	Sector	End Use	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PETLE2DD4E	Commercial	Traffic Lights	1.77	15,484.22	1.82	15,564.00	1.03	1.01
PETLECALLE	Commercial	Traffic Lights	35.55	305,483.73	35.55	305,483.73	1.00	1.00
Total			**37.32**	**320,967.95**	**37.37**	**321,047.73**	**1.00**	**1.00**

Table 6
PY2000 Realization Study for 2nd Earning Claim
Study 426c : Commercial HVAC PSPII

			1st Earning Claim		2nd Earning Claim		1st EC	2nd EC
CODE	Sector	End Use	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	kW Realization Rate	kWh Realization Rate
PETELLLERM	Commercial	HVAC	28.61	443,705.56	109.09	854,585.08	3.81	1.93
PETSAEPH2M	Commercial	HVAC	39.24	343,742.40	0.00	0.00	0.00	0.00
Total			**67.85**	**787,447.96**	**109.09**	**854,585.08**	**1.61**	**1.09**

Table 7
PY2000 Realization Rates by Partner

		1st Earning Claim		2nd Earning Claim		1st EC	2nd EC	
CODE	Sector	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	Gross kW Realization Rate	Gross kWh Realization Rate	end use
ETI - 95PSP105								
PETELLLERM	Commercial	28.61	443,705.56	109.09	854,585.08	3.81	1.93	HVAC
PETLE2DD4E	Commercial	1.77	15,484.22	1.82	15,564.00	1.03	1.01	Traffic Lights
PETLECALLE	Commercial	35.55	305,483.73	35.55	305,483.73	1.00	1.00	Traffic Lights
PETMAAINEE	Commercial	32.42	201,877.94	31.55	193,514.72	0.97	0.96	Lighting
PETMAAINWE	Commercial	23.69	163,688.25	23.33	157,779.00	0.98	0.96	Lighting
PETMAFICEE	Commercial	35.11	219,390.75	33.73	213,563.62	0.96	0.97	Lighting
PETMAORALE	Commercial	19.79	121,350.74	18.54	109,783.07	0.94	0.90	Lighting
PETNAHOOLC	Commercial	6.71	54,805.33	-9.00	-1,550.33	-1.34	-0.03	Lighting
PETNAHOOLE	Commercial	93.64	524,972.55	75.67	385,760.75	0.81	0.73	Lighting
PETSAEPH2M	Commercial	39.24	343,742.40	0.00	0.00	0.00	0.00	HVAC
PETUSGATEE	Commercial	6.64	31,576.43	5.86	39,739.96	0.88	1.26	Lighting
PETUSILLEE	Commercial	2.06	13,709.42	1.84	13,694.51	0.89	1.00	Lighting
PETUSLEANE	Commercial	34.42	143,607.57	27.03	177,718.71	0.79	1.24	Lighting
PETUSLITSE	Commercial	9.78	45,157.29	7.94	53,649.23	0.81	1.19	Lighting
PETUSMONTE	Commercial	13.65	64,451.42	11.00	74,683.65	0.81	1.16	Lighting
PETUSTIONE	Commercial	1.46	7,144.49	1.20	8,121.79	0.82	1.14	Lighting
PETUSYANTE	Commercial	34.11	185,711.03	28.75	201,602.06	0.84	1.09	Lighting
ETI - 95PSP106								
PETMIMMAE	Commercial	45.65	253,620.29	36.94	197,514.56	0.81	0.78	Lighting
PETMIMMCE	Commercial	71.65	455,534.30	61.42	388,604.44	0.86	0.85	Lighting
PETMIPMCE	Commercial	182.68	1,197,471.27	164.69	1,029,081.27	0.90	0.86	Lighting
PETMIPMOE	Commercial	61.41	381,000.81	51.09	307,820.73	0.83	0.81	Lighting
PETMOY180E	Commercial	170.69	742,914.04	188.08	778,174.69	1.10	1.05	Lighting
Orion - 95PSP129								
PORAD_ARTC	Commercial	0.19	1,658.88	0.19	1,658.88	1.00	1.00	Lighting
PORAD_ARTE	Commercial	52.98	245,673.64	52.98	245,673.64	1.00	1.00	Lighting
PORBUORESC	Commercial	33.59	252,857.96	30.62	309,466.70	0.91	1.22	Lighting
PORBUORESE	Commercial	44.58	384,545.91	36.30	283,117.80	0.81	0.74	Lighting
PORPREREYE	Commercial	1,045.47	3,483,218.78	659.30	3,737,062.39	0.63	1.07	Lighting
PORSALAWE	Commercial	9.18	30,562.63	9.18	30,562.63	1.00	1.00	Lighting

Table 7
PY2000 Realization Rates by Partner

CODE	Sector	Claimed kW Savings	Claimed kWh Savings	Measured Peak kW Savings	Measured kWh Savings	Gross kW Realization Rate	Gross kWh Realization Rate	end use
PORSARESTE	Commercial	27.67	98,316.60	27.67	98,316.60	1.00	1.00	Lighting
PORSATICEE	Commercial	169.05	599,727.81	169.05	599,727.81	1.00	1.00	Lighting
PORSAUIREE	Commercial	15.16	78,360.98	15.16	78,360.98	1.00	1.00	Lighting
PORSAUNTYE	Commercial	57.53	204,095.10	57.53	204,095.10	1.00	1.00	Lighting
PORSO-PH1E	Commercial	145.63	1,165,049.60	143.19	1,177,136.99	0.98	1.01	Lighting
PORSO-PH2E	Commercial	57.63	461,040.00	56.66	465,823.29	0.98	1.01	Lighting
PORSQRMANC	Industrial	21.11	391,040.52	21.11	391,040.52	1.00	1.00	Lighting
PORSQRMANE	Industrial	224.53	1,966,864.40	224.53	1,966,864.40	1.00	1.00	Lighting
PORVAERG2E	Commercial	412.90	2,015,045.44	412.90	2,015,045.40	1.00	1.00	Lighting
PORWIWARDE	Commercial	102.08	611,800.01	118.74	680,308.02	1.16	1.11	Lighting
Planergy - 95PSP145								
PPLCH46/AM	Industrial	240.72	1,985,956.00	129.43	1,334,527.30	0.54	0.67	Process
PPLCH4701M	Industrial	197.94	1,733,990.00	204.80	1,567,750.00	1.03	0.90	Process
PPLCH4702M	Industrial	290.89	2,548,158.00	363.72	2,921,533.00	1.25	1.15	Process
PPLCH-601M	Industrial	441.10	5,592,535.00	491.86	4,927,106.93	1.12	0.88	Process
PPLEQ3266M	Industrial	89.80	534,000.00	92.05	553,519.84	1.03	1.04	Process
PPLEQ4405M	Industrial	25.80	222,746.00	25.33	221,243.00	0.98	0.99	Process
PPLPLUMPSM	Industrial	253.95	2,314,343.00	0.00	0.00	0.00	0.00	Process
	Total	**4,910.21**	**32,837,986.09**	**4,248.42**	**29,314,830.46**	**0.87**	**0.89**	

Protocol Table 6 (items 1-5)

PG&E Realization Study of 2000 PowerSavings Partners I Program, Study I.D. 425a - 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	1,540	100%	N/A
	Gross kWh (Energy) Impacts	14,931,728	100%	N/A
	Gross thm (Therm) Impacts	N/A	100%	N/A
	Net Peak kW (Demand) Impacts	1,307	100%	N/A
	Net kWh (Energy) Impacts	11,525,680	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	0.85	N/A	N/A
	Gross Energy Realization Rate	0.77	N/A	N/A
	Gross Therm Realization Rate	N/A	N/A	N/A
	Net Demand Realization Rate	0.85	N/A	N/A
	Net Energy Realization Rate	0.77	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	0.95	N/A	N/A
3.B	Net-to-Gross ratio based on Avg. Load Impacts per designated unit* of measurement.	0.95	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 2000 PowerSavings Partners II Program, Study I.D. 425b - Industrial 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	246	100%	N/A
	Gross kWh (Energy) Impacts	2,357,905	100%	N/A
	Gross thm (Therm) Impacts	N/A	100%	N/A
	Net Peak kW (Demand) Impacts	246	100%	N/A
	Net kWh (Energy) Impacts	2,357,905	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	0.90	N/A	N/A
	Gross Energy Realization Rate	0.90	N/A	N/A
	Gross Therm Realization Rate	N/A	N/A	N/A
	Net Demand Realization Rate	0.90	N/A	N/A
	Net Energy Realization Rate	0.90	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	0.90	N/A	N/A
3.B	Net-to-Gross ratio based on Avg. Load Impacts per designated unit* of measurement.	0.90	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 2000 PowerSavings Partners II Program, Study I.D.426a - 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	3,019	100%	N/A
	Gross kWh (Energy) Impacts	14,439,937	100%	N/A
	Gross thm (Therm) Impacts	N/A	100%	N/A
	Net Peak kW (Demand) Impacts	2,549	100%	N/A
	Net kWh (Energy) Impacts	14,255,613	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	0.84	100%	N/A
	Gross Energy Realization Rate	0.99	100%	N/A
	Gross Therm Realization Rate	N/A	N/A	N/A
	Net Demand Realization Rate	0.84	100%	N/A
	Net Energy Realization Rate	0.99	100%	N/A
	Net Therm Realization Rate	N/A	N/A	N/A
3.A	Net-to-Gross ratio based on Avg. Load Impacts	0.90	100%	1%
3.B	Net-to-Gross ratio based on Avg. Load Impacts per designated unit* of measurement.	0.90	100%	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 (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 2000 PowerSavings Partners II Program, Study I.D. 426b - Commercial Traffic 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	37	100%	N/A
	Gross kWh (Energy) Impacts	320,968	100%	N/A
	Gross thm (Therm) Impacts	N/A	100%	N/A
	Net Peak kW (Demand) Impacts	37	100%	N/A
	Net kWh (Energy) Impacts	321,048	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	0.90	N/A	N/A
	Gross Energy Realization Rate	0.90	N/A	N/A
	Gross Therm Realization Rate	N/A	N/A	N/A
	Net Demand Realization Rate	0.90	N/A	N/A
	Net Energy Realization Rate	0.90	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	0.90	N/A	N/A
3.B	Net-to-Gross ratio based on Avg. Load Impacts per designated unit* of measurement.	0.90	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 2000 PowerSavings Partners II Program, Study I.D. 426c - Commercial HVAC

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	68	100%	N/A
	Gross kWh (Energy) Impacts	787,448	100%	N/A
	Gross thm (Therm) Impacts	N/A	100%	N/A
	Net Peak kW (Demand) Impacts	109	100%	N/A
	Net kWh (Energy) Impacts	854,585	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	1.61	N/A	N/A
	Gross Energy Realization Rate	1.09	N/A	N/A
	Gross Therm Realization Rate	N/A	N/A	N/A
	Net Demand Realization Rate	1.61	N/A	N/A
	Net Energy Realization Rate	1.09	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	0.95	N/A	N/A
3.B	Net-to-Gross ratio based on Avg. Load Impacts per designated unit* of measurement.	0.95	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.