



## LEGISLATIVE ANALYST REPORT

**From:** Adam Van de Water, Office of the Legislative Analyst  
**Date:** August 23, 2006  
**Re:** Peak Energy Program (OLA No. 038-06)

### SUMMARY OF REQUESTED ACTION

The sponsor requested that the Office of the Legislative Analyst (OLA) evaluate the Department of the Environment's (DOE) \$2.2 million contract with Pacific Gas and Electric (PG&E) for the Peak Energy Program (PEP). Specific emphasis shall be placed on the following:

- a) Why did the City and County of San Francisco and PG&E not achieve their kW reduction goal?
- b) What did DOE spend its share of the money on and what were the results of this expenditure?

### METHODOLOGY

On May 25, 2006, the OLA sent DOE the following questions regarding the PEP:

- Goal Setting - Who set the partnership goal? What was it based on? Why did SF achieve only 50% of the goal and do we need to consider revising the goal?
- Program Budget - Of the \$16.3 million budget, how much remains unspent? How much did PG&E issue in rebates and how much did DOE spend on marketing/outreach/program coordination? Of DOE's share, how much was spent on each activity (ie, administration, direct outreach, etc.)?

Their July 7 response is attached.

The OLA also met with Travis Kiyota, Manager of Governmental and Public Affairs at PG&E to discuss the PEP. Mr. Kiyota provided a one-page chart summarizing the results of PG&E's eight local government partnerships shown in Table I below as well as the letter reprinted in Appendix II.

### BACKGROUND

The Peak Energy Program (PEP) grew out of the Electricity Resource Plan (ERP) completed in 2002 by the Department of the Environment (DOE) and SF PUC under City ordinance. The ERP showed that San Francisco would have a reliability problem particularly in the peak evening hours of winter 2004 when the Mirant plant on Potrero Hill would be down for retrofit. The ERP set annual energy efficiency goals through 2012, including a 16,000 kW reduction goal for 2003/04.

In order to reach this goal, DOE sought funding from the only significant source available: Public Goods Charge (PGC) funds assessed on all utility bills<sup>1</sup> for statewide energy efficiency and demand

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<sup>1</sup> Charges are only assessed on customers of the four major California investor-owned utilities: PG&E, Southern California Edison, Southern California Gas, and San Diego Gas & Electric. The PGC generates between \$250 and \$400 million in statewide energy efficiency funds annually.

reduction activities. In October 2002, the California Public Utilities Commission (CPUC) announced that it would only accept applications for PGC funds from utilities or partnerships with utilities.

According to DOE, PG&E would only agree to a partnership if CCSF had a contract from PG&E and the City would only get a relatively small amount of funds to help market PG&E's energy efficiency programs in San Francisco. The CPUC granted PG&E \$16.3 million (approximately equal to two years of PGC funds) to meet the 16,000 kW 2003 and 2004 ERP goals. This amount coincides with PG&E's past portfolio performance, which tended to average approximately \$1,000 per kW reduction<sup>2</sup>. The final two-year contract with DOE was amended to \$2.2 million (13.5% of the total budget) and was subsequently extended to three years. With this money DOE provided energy assessments and technical services in addition to marketing PG&E programs, particularly in hard to reach small businesses (users of less than 200 kW) and the Bayview-Hunters Point neighborhoods. PG&E retained control of program design and reimbursement for program participants.

### FINDINGS

The initial proposal submitted to the CPUC in December 2002 used the ERP goal of a 16,000 kW gross reduction. However, when PG&E submitted the required Program Implementation Plan in June 2003, they had designed an aggressive program design that projected a 22,000 kW gross reduction. As PG&E reports net reductions rather than gross<sup>3</sup>, the final PEP compromise goal, according to information provided by PG&E and re-printed in Table I below, was 18,980 net kW.

According to PG&E's August 2005 report and its summary of the eight local government partnerships, the PEP achieved a gross reduction of 12,100 kW and a net reduction of 9,454 kW.

DOE staff points out that the figures in Table I below are not directly comparable. Not only did they have different funding cycles and rules but, unlike SF-PEP, the majority (all except the East Bay Energy and Silicon Valley Initiatives, according to DOE) addressed government facilities only, not private sector buildings. In addition, the \$ per kW allocated to other governments was much higher than San Francisco's, and therefore much easier to achieve.

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<sup>2</sup> According to DOE, \$1 million per MW (equivalent to \$1,000 per KW) is an historical average used as a shorthand cost-effectiveness calculation.

<sup>3</sup> Gross reductions typically exceed net reductions as the latter takes into consideration those customers who would have otherwise reduced their demand without the PEP. The CPUC establishes the rules for calculating net reductions and requires utilities to report energy reduction achievements in net terms. However, as the PEP was a rare case designed to reduce peak demand due to the Mirant plant closure, the goals were set in terms of gross reduction.

**Table I: PG&E 2005 Local Government Partnership Goals and Achievements**

LOCAL GOVERNMENT PARTNERSHIPS	BUDGET	% OF BUDGET SPENT	GOAL (Net)		ACHIEVED (Net)		% OF GOAL ACHIEVED	
			kW	kWH	kW	kWH	kW	kWH
<b>NAME</b>	<b>\$</b>	<b>%</b>						
Bakersfield/Kern	\$3,996,711	84%	1,309	6,633,543	1,216	5,888,848	93%	89%
City of Fresno	\$3,000,000	100%	1,567	7,949,427	1,515	7,412,356	97%	93%
City of Stockton	\$2,198,572	82%	1,141	5,355,967	819	5,350,430	72%	100%
East Bay Energy Initiative	\$5,349,873	99%	4,125	14,524,834	2,321	10,826,699	56%	75%
El Dorado County	\$1,186,978	91%	493	2,298,422	700	4,534,983	142%	197%
<b>SF Peak Energy Program (SF-PEP)</b>	<b>\$16,313,000</b>	<b>98%</b>	<b>18,980</b>	<b>91,090,000</b>	<b>9,454</b>	<b>57,786,961</b>	<b>50%</b>	<b>63%</b>
Silicon Valley Energy Initiative	\$2,225,859	84%	1,456	5,840,226	1,263	7,054,983	87%	121%
UC/CSU/IOU EE Initiative	\$5,492,072	109%	1,107	7,499,828	2,002	11,717,105	181%	156%
<b>LGP TOTALS</b>	<b>\$ 39,763,065</b>	<b>96%</b>	<b>30,178</b>	<b>141,192,247</b>	<b>19,290</b>	<b>110,572,365</b>	<b>64%</b>	<b>78%</b>

Source: PG&E

Regardless of differences in program design, however, simply calculating the kW reduction per dollar spent highlights San Francisco as the largest as well as the most cost effective of PG&E’s eight local government partnerships. Each kW reduction in San Francisco cost only \$1,726, or 16% below the average cost for all eight partnerships.

LOCAL GOVERNMENT PARTNERSHIPS	\$/kW Reduction
Bakersfield/Kern	\$3,287
City of Fresno	\$1,980
City of Stockton	\$2,684
East Bay Energy Initiative	\$2,305
El Dorado County	\$1,696
<b>SF Peak Energy Program (SF-PEP)</b>	<b>\$1,726</b>
Silicon Valley Energy Initiative	\$1,762
UC/CSU/IOU EE Initiative	\$2,743
<b>LGP TOTALS</b>	<b>\$2,061</b>

This suggests not that San Francisco’s PEP program was a failed effort but rather that too few resources were dedicated to the program relative to other local government partnerships.

**Finding #1: Delays, Disagreements, and Competition Prevented Goal Achievement**

According to DOE, numerous factors resulted in not meeting the stated goals, including:

1. **Implementation Delays** – by 9 months of CPUC decisions and PG&E contract negotiations plus an additional 3 months for DOE hiring and training of required new staff, leaving only one year to deliver a program designed for two years.
2. **Program Design Disagreements** – between PG&E, which was ultimately responsible for the program’s design and implementation, and DOE regarding the types of programs most promising for success in San Francisco. According to DOE, PG&E disallowed proven programs such as

DOE's Power Savers program, relying instead upon its existing statewide programs<sup>4</sup> that DOE did not feel applied well in San Francisco.

3. **Program Competition** – from a PG&E statewide program released in January 2004 (one month after the PEP started) that provided equal or greater incentives than the PEP Cash Rebate program. The initial DOE program was then shut down and in April an alternate program was developed and approved by the CPUC, leaving only 8 months to achieve the program goals designed for two years.

**Finding #2: DOE Had the Most Efficient Dollar per Watt Reduction Ratio**

Of the \$2,245,500 allocated to DOE, as of the May 2006 invoice (attached) DOE had spent \$1,893,184 to market PG&E's programs, conduct energy audits and customer surveys, and develop an energy ordinance. The remaining unspent balance of \$352,316 includes \$50,000 committed to technical service contractors working on codes and standards.

DOE efforts were responsible for nearly one quarter of the total PEP gross reduction (2,580 kW of the 12,100 kW reduction achieved), including:

- 832 kW of peak savings from audits and technical services,
- 944 kW of peak savings from leading the refrigeration maintenance campaign, and
- 805 kW of peak savings from exchanging less-efficient torchiere lamps.

This equates to a dollar per watt reduction of \$1,893,184 for 2,580 kW or \$734 per kW. This is more than twice as efficient as the overall SF-PEP program, on a dollar per kW reduced basis, and nearly three times as efficient as the average dollar per watt reduction of all eight local government partnerships.

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<sup>4</sup> Such as the Express Efficiency Rebate Program, which provides rebates up to a maximum of \$200,000 to small- and medium-sized (<500kW or 20,800 therms/month) customers per year for lighting, HVAC/food service/other technologies, refrigeration, and gas applications.

## Attachment I: Questions Concerning the Peak Energy Program

### MEMORANDUM

**TO:** Adam Van de Water  
**FROM:** Jared Blumenfeld  
**DATE:** July 7, 2006  
**RE:** Questions Concerning the Peak Energy Program

The Peak Energy Program (PEP) grew out of the Electricity Resource Plan completed in 2002 by the Department of the Environment (SFE) and SF PUC under CCSF ordinance. The Plan showed that San Francisco would have a reliability problem particularly in the winter evening peak of 2004 when the Mirant plant would be down for retrofit. The Plan also set annual energy efficiency goals through 2012. DOE began a search for funding for energy efficiency and demand reduction by consulting with every relevant state agency, including the Governor's office and the California Public Utilities Commission (CPUC).

In October of 2002, the California Public Utilities Commission (CPUC) announced there would be no energy efficiency applications accepted other than from the utilities. CPUC staff informed DOE that they would accept a proposal from PG&E for a "partnership" with CCSF.

PG&E would only agree to a "partnership" if CCSF had a contract with PG&E. PG&E's intention was that CCSF would get a relatively small amount of funds (up to \$200,000 for the two years), to help market PG&E's energy efficiency programs in San Francisco. DOE argued for a larger role and PG&E agreed to 10% of the budget for CCSF activities. PG&E refused to allow CCSF to run its own programs, but ultimately allowed DOE to provide energy assessments and technical services in addition to marketing PG&E programs. They also agreed to set aside funds for case studies specific to San Francisco and for work on updating energy codes and standards.

In summary, PEP was a "partnership" in which PG&E controlled the design and implementation of programs, controlled program changes and formal communications with the CPUC, and controlled CCSF activities through the contractual relationship. In December 2002, PG&E filed a proposal to CPUC for a two-year partnership program with CCSF for \$16.3 million to achieve 16 MW of gross peak load reduction.

1. **Who set the partnership goal?** PG&E used the goal stated in CCSF's Electricity Resource Plan of 16 MW for 2003 and 2004 for the initial proposal; however, when PG&E submitted the Implementation Plan using a standardized calculator, the program goal from the calculator came out at 22 MW.
2. **What was the goal based on?** PG&E had \$20 million in unspent PGC funds from previous years. The CCSF Electricity Resource Plan stated that savings of 16 MW were needed for 2003-04. PG&E's portfolio of programs used approximately \$1 million for 1 MW of reduction. Therefore, the CPUC authorized to use \$16.3 million of the unspent funds to meet

the two-year goal. This amount was also approximate to two years of PGC funds collected from San Francisco customers.

3. **SFE goals achieved.** Using the initial CPUC-approved goal of 16 MW Gross, not net, and according to PG&E’s August 2005 report, PEP achieved 12.1 MW Gross, or 78% of its goal, not 50%. SFE had no specific goal assigned as kW are attached to the incentive funds, all of which PG&E retained.

The total budget for the San Francisco Peak Energy program was \$16.3 M. Of this \$2.2M was allocated to SF Environment for support services, including data collection and analysis, program development and design, marketing, outreach, implementation, evaluation and closeout with a concentrations of effort on the hard to reach small business sector in San Francisco and the Bayview-Hunters Point neighborhoods. Of these funds \$2.0M has been spent.

<b>BUDGET and GOALS</b>			
		<b>MW Goals</b>	<b>MW Achieved</b>
<b>Program</b>	\$16.3M	16.0	12.1
<b>SFE</b>	\$2M expended	0.00	2.58

Table 1

SFE audits and technical services resulted in 832 kW of peak savings. In addition, SFE took the lead role in managing the refrigeration campaign (an additional 944 kW of peak savings) and the torchiere lamp exchanges (805 kW savings).

SFE’s efforts directly effected 2.58 MW peak demand reduction, 21.3% of the achieved savings and 16.0% of the program goals.

<b>ENERGY SAVINGS</b>		
<b>Program Area</b>	<b>kW savings</b>	<b>kWh savings</b>
Audits and technical services	832	6,510,196
Refrigeration campaign*	944	8,175,907
Torchiere exchanges	805	587,650
<b>TOTAL</b>	<b>2,581</b>	<b>15,273,753</b>

Table 2 \*Savings overlap accounted for

4. **Do we need to consider revising the goal?** The present contract ended on June 30, 2006; however, the amount of MW saved may be larger than appears. In 2004, when the program was re-started, the new program design required a broader view of the savings than what was achieved by PEP only, but should include what all programs operating in SF achieved. This was to avoid having PEP and PG&E’s other rebate programs compete with one another and would support cooperation. The Department is still waiting for PG&E to report the citywide savings achieved from all programs during 2003-05. At one point, an 18 MW figure was provided by PG&E but they have yet to answer any CCSF questions about the figure.
5. **How much remains unspent?** In CCSF’s contract, there is \$352,316 unspent, approximately \$50,000 of this is committed to technical services contractors working on codes and standards.

As of the May invoice (attached), the DOE has spent a total of \$1,893,184 including energy audits, marketing PG&E's other programs, customer surveys, energy ordinance development, etc.

6. **What businesses were contacted?** Tables 3 and 4 summarize business marketing activities and sectors contacted. SFE only has information on business that staff contacted, not businesses that PG&E contacted. Further, PG&E did not allow CCSF to deliver services to large customers, with loads of 200 kW and larger, unless specifically requested by PG&E.

SFE made 12,670 direct contacts through mailings and telemarketing, presented at 83 different neighborhood, merchant and professional meetings reaching over 2,000 people, directly performed or achieved 487 energy efficiency audits and installations, performed an additional 452 mini-audits and followed up on 313 incoming inquiries.

<b>BUSINESS CONTACTS</b>	
<b>SFE Outreach</b>	
Mailings and telemarketing	12,671
Presentation attendees	2,075
Audits and installations	487
Mini audits	452
Incoming hotline calls	313
<b>TOTAL</b>	<b>15,998</b>

**Table 3**

SFE concentrated its outreach on the food service sector (small market, restaurant, wholesalers, etc.), which received 91% of our contact efforts. SFE focused the remaining efforts on offices, hotels, senior facilities, churches, schools and other facilities.

<b>BUS. CONTACTS: SECTOR DISTRIBUTION</b>	
<b>Customer Sectors</b>	<b>% Total</b>
Food service (small market, restaurant, wholesalers, etc.)	91.0%
Office	4.2%
Other (retail, warehouse, etc)	1.6%
Hotel	1.2%
Senior facility	1.1%
Church	0.6%
School	0.3%

**Table 4**

SFE efforts were fairly distributed throughout the City, with the highest concentrations in the Mission, Civic Center/Western Addition and Bayveiw Hunters Point.

<b>BUS.CONTACTS: AREA DISTRIBUTION</b>			
<b>Zip Code</b>	<b>% Dist</b>	<b>Zip Code</b>	<b>% Dist</b>
<b>94102</b>	8%	<b>94117</b>	4%
<b>94103</b>	7%	<b>94118</b>	4%
<b>94104</b>	2%	<b>94121</b>	3%
<b>94105</b>	3%	<b>94122</b>	5%
<b>94107</b>	4%	<b>94123</b>	4%
<b>94108</b>	4%	<b>94124</b>	6%
<b>94109</b>	7%	<b>94127</b>	1%
<b>94110</b>	9%	<b>94130</b>	1%
<b>94111</b>	4%	<b>94131</b>	1%
<b>94112</b>	3%	<b>94132</b>	1%
<b>94114</b>	4%	<b>94133</b>	8%
<b>94115</b>	4%	<b>94134</b>	2%
<b>94116</b>	2%		

**Table 5**



## ATTACHMENT II: PG&E RESPONSE

Travis Kiyota  
Director, Governmental Relations  
PG&E

PG&E is looking very forward to a strengthened and improved 2006- 2008 partnership program with CCSF, focusing on delivering energy savings to the residential and small business community of San Francisco. PG&E and CCSF are committed to working together to implement the 2006-2008 SF Energy Watch Program and effectively utilize our collective resources to maximize our reach in the San Francisco community. PG&E and CCSF share a commitment and passion for bringing energy efficiency and green/renewable resources to San Francisco's residential and business communities.

(1) Who set the partnership goal?:

DOE recommended a program goal of 16MW. This came from DOE's own energy plan and was tied to finding energy to replace that which was lost when Hunter's Point Power Plant was closed. Their goal was 16MW gross savings. The filing with the CPUC by PG&E recommended an energy goal of 22MW based upon the work plan developed by DOE and PG&E. The specific program elements and strategies proposed by DOE impacted the 22MW energy goal calculation. 18.9MW was the compromise goal between CCSF and PG&E...and the final 2003-2005 Program goal.

(2) What was the goal based on?:

The goals were calculated using a standardized calculator...which runs a formula that determines cost-savings required for \$s allocated to the program, based upon types of customers targeted (i.e., residential, small business, hard-to-reach, ethnic communities, etc.) and program elements (i.e., incentive/rebate, audits, technical assistance, turnkey, education, etc.) This standardized calculator was used to determine the goal for each of the local government partnership programs.

(3) What were the goals achieved?

The partnership achieved 9.5MW in savings, not 12.1MW. The savings were incorrectly reported one month (August 2005) due to an error in how energy savings for refrigerator gaskets were reported. (Savings should have been calculated per linear foot, but were incorrectly calculated per linear inch...so savings were incorrectly inflated.) Once the energy savings calculations corrections were made, the total program savings was 9.5MW.

(4) Do we need to reconsider revising the goal?

A major component of the PEP program was a Business Customer Rebate program. This program offered rebates for installing energy efficient equipment/measures. In retrospect, the rebate levels for this program were too high, creating the program dollars to be spent quickly without the associated kW energy savings needed to meet the program goal.

PG&E prefers to look forward, rather than focusing on the unmet 2003-2005 partnership goal. PG&E is confident that the 2006-2008 Energy Watch partnership program is starting off as a true partnership, and CCSF and PG&E will work closely to build an effective program that

brings energy savings to the SF residential and small business community.

(5) How much remains unspent?:

There is \$349,745 remaining in the SF PEP contract. Invoices for May and June 2006 are yet to be processed. DOE spent their share of the PEP budget on marketing (60%); administrative costs (12%); and direct implementation costs (28%) = \$2.179M. PG&E spent their share of the PEP budget on customer incentives (\$7.86M = 57%); direct implementation (24%); administrative costs (11%); marketing (8%). = \$5.91M \$7.86M of the total \$16.3M budget was spent in customer rebates/incentives.