

Application of Southern California Gas
Company (U-904-G) for Approval of
Natural Gas Energy Efficiency Shareholder
Earnings for Program Year 2009

Application 11-06- xxx

Exhibit No.: _____
Witness: Athena M. Besa

TESTIMONY
OF
SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

June 29, 2011

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1 **Chapter 1**
2 **Executive Summary**

3 The Public Utilities Commission (“Commission”) issued Decision (“D.”) 10-12-049
4 which approved and established the methodology and process for the determination of
5 shareholder incentives associated with Program Year (“PY”) 2009. The decision also dictates
6 the methodology to be used for calculating the PY 2009 earnings and the requirements to be
7 submitted to facilitate the Commission’s review.

8 Southern California Gas Company (“SoCalGas”) achieved the following 2009 savings.

9 ***Table 1 – 2006-2009 Savings Achievements***

Program Year	Therms
2009	20,742,934
2006-2008	66,666,312
Total EE Program Savings	87,409,246
Codes and Standard Adjustments	4,600,000
LIEE 2006-2009 Savings	711,768
Total Cumulative Savings	92,721,014
Goal	84,000,000
Percent Achievement	110%

10
11 SoCalGas, through this application, is requesting Commission approval of its PY 2009
12 earnings claim of \$2,037,721. The earnings were calculated in compliance with all Commission
13 requirements and directives. SoCalGas coordinated with Pacific Gas and Electric Company, San
14 Diego Gas & Electric Company, and Southern California Edison Company (“Joint Utilities”) to
15 ensure that each of their Applications was developed with a consistent methodology. In addition,
16 the Joint Utilities worked with Energy Division (“ED”) to ensure that this common methodology
17 was appropriate and implemented correctly in the Evaluation Reporting Template (“ERT”)
18 software required by the Commission.

1 **Chapter 2**
2 **Background**

3 On December 16, 2010, the Commission issued D.10-12-049 which approved and
4 established the methodology and process for the determination of shareholder incentives
5 associated with PY 2009. D.10-12-049 (at page 4) states:

6 “This decision, which concerns the final phase of the 2006-2006 period,
7 adopts modifications to the incentive mechanism for purposes of calculating
8 the 2006-2008 true-up. Further, we determine that this same mechanism
9 should be applied to the 2009 program year, and establish a process by
10 which incentives for the 2009 program year will be determined.”

11 Furthermore, D.10-12-049 (at page 62) determines how and when the 2009 earnings
12 would be submitted by the utilities and addressed.

13 “To that end, the utilities shall file applications in which they calculate for
14 energy efficiency incentives in 2009 pursuant to the modifications made to
15 the incentive mechanism adopted herein. These applications shall be
16 submitted to the Commission no later than June 30, 2011 to allow for
17 consideration and disposition by December 31, 2011.”

18 **A. Mechanism to be Applied to PY 2009 Shareholder Earnings Calculations**

19 The decision also provides for the mechanism that should be used for the PY 2009
20 earnings calculations. The following is a brief outline of the mechanism (D.10-12-049 at
21 page 63).

1 **1. Minimum Performance Standard (“MPS”)**

2 The MPS will not include the 2004-2005 goals and savings. The MPS will include the
3 2006-2008 net goals and 2009 gross goals, the 50% decay from 2006-2008, and verified C&S
4 savings using 50% for pre-2006 and 100% post-2006 as directed in other Commission decisions.
5 The utility must achieve at least 85% of the cumulative 2006-2009 Energy Efficiency Goals.

6 **2. Performance Earnings Basis (“PEB”) and Earnings Rate**

7 The PEB is calculated as the sum of 2/3 of the Total Resource Cost net benefits and 1/3
8 of the Program Administrator Cost net benefits. The earnings rate is 7%.

9 **B. Requirements to be Included in the Application**

10 The utilities shall provide the following with their applications in order to facilitate the
11 Commission’s review of their incentive claims:

12 a) The Microsoft Access ERT tool the utilities used to modify the 2009 ex- ante numbers
13 to gross savings;

14 b) The Risk Reward Spreadsheet template (“RRST”) used to calculate the incentive
15 amounts; and

16 c) A document that describes the files or tables that were changed, and what specific
17 changes were made.

1 **Chapter 3**
2 **PY 2009 PROGRAM PERFORMANCE**

3 SoCalGas' PY 2009 portfolio of programs included local and statewide efforts, city and
4 county partnerships, and competitively bid third party programs. Although SoCalGas' focus was
5 on achieving energy savings, the 2009 portfolio also included customer information, education
6 and marketing, and outreach programs. More details on SoCalGas' 2009 Energy Efficiency
7 programs and Annual Report are available on <http://eega.cpuc.ca.gov/>.

8 SoCalGas achieved the following 2009 savings.

9 ***Table 2: PY 2009 Savings Achievements***

Program Year	Therms
2009	20,742,934

10
11 **A. Residential Programs**

12 In 2009 SoCalGas' Residential Program portfolio provided energy efficiency services to
13 both the single family and multi-family sectors. The programs included working with a diverse
14 group of contractors, retail partners, and the promotion of ENERGY STAR messaging on the
15 SoCalGas web sites. Point of Sale ("POS") rebates at "Big Box" retailers continued to be
16 extremely effective.

17 **B. Residential New Construction--Advanced Home Program ("AHP")**

18 The AHP paid out incentives in 2009 which totaled more than the previous three years
19 combined. The therms saved in 2009 were the single-best year in the history of the program
20 even as 2009 proved to be one of the worst years ever for building permits in its service territory.

1 **C. Non-Residential Programs**

2 In 2009, Express Efficiency successfully achieved its goal for the year by keeping
3 focused on replacing existing energy efficient natural gas equipment. The program encouraging
4 customers to move up to higher than standard efficiency models when purchasing additional
5 equipment for their established business. Several changes and enhancements were made to the
6 program to increase participation, including increasing incentives and changing eligibility of
7 high efficiency equipment.

8 The Local Business Energy Efficiency Program (“BEEP”) targets all non-residential
9 customers, including commercial, industrial, and agricultural customers. This program consists
10 of five program elements: Efficient Equipment Rebate Program, Process Equipment
11 Replacement Program, Custom Process Improvement Program, “Grant Program”, and
12 “Recognition Program”.

13 In 2009, BEEP continued to be a program with significant energy savings results and
14 helped to meet the needs of the commercial and industrial sectors in the SoCalGas service
15 territory. BEEP was on target to meet its therm savings goal as one of the larger contributors to
16 the portfolio.

17 **D. On-Bill Financing Program**

18 The SoCalGas On-Bill Financing (“OBF”) Program is a local program designed to
19 facilitate the purchase and installation of qualified energy efficiency measures by customers who
20 might otherwise not be able to act given capital, administrative, and time constraints to
21 participation. Five OBF Loan Agreements were signed in 2009, totaling
22 approximately \$258,000, representing projects, when completed that will contribute to natural
23 gas savings of approximately 171,000 therms per year.

1 **E. Partnership Programs**

2 **1. Local Government Partnerships (“LGP”)**

3 SoCalGas had 14 LGPs that were coordinated with SCE: Los Angeles County, Kern
4 County, Riverside County, San Bernardino County, Santa Barbara County San Luis Obispo
5 County, Orange County Cities, Desert Cities, Ventura County, Palm Desert, South Bay Cities,
6 Tulare County-Visalia, Community Energy Partnership and Local Government Commission
7 partnerships. The partnerships program met and exceeded their individual program goals for
8 2009.

9 **2. Statewide Partnership Programs**

10 SoCalGas, together with PG&E, SCE and SDG&E, partnered with the California
11 Community Colleges, University of California/California State University systems, the
12 California Department of Corrections and Rehabilitation to promote the installation of energy
13 efficiency measures to assist them in meeting California’s Green Building Initiative.

14 **F. Third Party Programs**

15 In addition to its core programs and various partnerships, SoCalGas had 18 third party
16 programs that brought not only energy savings but innovative program designs to increase the
17 penetration of energy efficiency installations.

1 **Chapter 4**
2 **PY 2009 EARNINGS CLAIM**

3 SoCalGas' through this application is requesting Commission approval of its PY 2009
4 earnings claim of \$2,037,721. The earnings were calculated in compliance with all Commission
5 requirements and directives. SoCalGas coordinated with the Joint Utilities to ensure that each of
6 their Applications was developed with a consistent methodology. In addition, the Joint Utilities
7 worked with Energy Division to ensure that this common methodology was appropriate and
8 implemented correctly in the Evaluation Reporting Template ("ERT") software required by the
9 Commission. The following sections describe the calculation methodology SoCalGas used to
10 determine its earnings claim submitted in this application for Commission approval.

11 **A. Energy Division's Risk Reward Spreadsheet Template**

12 D.10-12-049 Ordering Paragraph ("OP") 4 directs the utilities to use the Energy
13 Division's RRST. This template was provided by the Energy Division in April 2011 to the
14 utilities for use in this application. SoCalGas reviewed the spreadsheet to ensure its accuracy
15 and consulted with the Joint Utilities to ensure consistency and facilitate the Commission's
16 review. Presented below is SoCalGas' completed RRST.
17

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Table 3: RRIM Template

	Earnings Claim (2009)				
	PG&E	SCE	SDGE	SoCalGas	Total
Savings Goals	PY 2006-2009				
Total Cumulative Savings (GWH)					
Total Peak Savings (MW)					
Total Cumulative Natural Gas Savings (MMTh)				84.0	84.00
MPS Goals (80% of goal)					
Total Cumulative Savings (GWH)					
Total Peak Savings (MW)					
Total Cumulative Natural Gas Savings (MMTh)				67.2	67.20
Dead Band (65% of goal)					
Total Cumulative Savings (GWH)					
Total Peak Savings (MW)					
Total Cumulative Natural Gas Savings (MMTh)				54.6	54.60
Achieved Savings Towards MPS					
EE Portfolio Savings (adjusted ex-ante)	PY 2006-2009 + Decay				
Total Cumulative Savings (GWH)					
Total Peak Savings (MW)					
Total Cumulative Natural Gas Savings (MMTh)				85.3	85.29
50% C&S Savings (adjusted ex-ante)	PY 2006-2008 (at 50%) + 2009 (at 100%)				
Total Cumulative Savings (GWH)					
Total Peak Savings (MW)					
Total Cumulative Natural Gas Savings (MMTh)				4.6	4.60
EM&V Adjusted LIEE Savings	PY 2006-2009				
Total Cumulative Savings (GWH)					
Total Peak Savings (MW)					
Total Cumulative Natural Gas Savings (MMTh)				0.7	0.71
Total Savings	PY 2006-2009				
Total Cumulative Savings (GWH)					
Total Peak Savings (MW)					
Total Cumulative Natural Gas Savings (MMTh)				90.6	90.61
MPS Individual Metric Performance					
Percent of GWH Goal					
Percent of MW Goal					
Percent of MMTh Goal				108%	108%
MPS Average Metric Performance				108%	108%
PEB					
TRC Net Benefits	\$ -	\$ -		\$ 20,239,687	\$ 20,239,687
PAC Net Benefits	\$ -	\$ -		\$ 46,851,515	\$ 46,851,515
PEB	\$ -	\$ -		\$ 29,110,296	\$ 29,110,296
PEB at MPS Threshold	\$ -	\$ -		\$ 29,110,296	\$ 29,110,296
Earnings Rate	7%				
Total Earnings	\$ -	\$ -		\$ 2,037,721	\$ 2,037,721
Penalties	NO				
Total Penalties	No Penalty				\$ -

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1 **B. Energy Division’s Evaluation Reporting Template**

2 The information used to calculate and populate the template above is described in the
3 sections below. SoCalGas utilized the ERT tool to calculate its PY 2009 earnings claim, as
4 required in D.10-12-049. The complete SoCalGas ERT database, including all input sheets used
5 to determine its 2009 claim, are provided as supporting documents.

6 In order to qualify for any earnings, it is required that the utility 2006-2009 cumulative
7 Therm performance must meet or exceed the MPS of 80%. SoCalGas has met this requirement.
8 The following components are used to derive the cumulative performance:

- 9 i. 2006-2008 Portfolio: The 2006-2008 energy efficiency results are calculated
10 as net impacts, while the low income energy efficiency results are calculated
11 as gross impacts. The impacts are derived using the Energy Division’s 2006-
12 2008 Evaluation Report ERT Software Tool using *ex ante* input assumptions
13 adjusted by *ex post* installation rates.
- 14 ii. 2009 Portfolio: The 2009 energy efficiency and low income energy efficiency
15 results are calculated as gross impacts. The impacts are derived using the
16 Energy Division’s 2009 Evaluation Report ERT Software Tool using *ex ante*
17 input assumptions adjusted by *ex post* installation rates. This methodology is
18 described further in Section IV-C below.
- 19 iii. Codes & Standards Advocacy: For purposes of measuring MPS performance,
20 the IOUs are allowed to count 50% of verified pre-2006 and 100% of post-
21 2005 codes & standards advocacy work.
- 22 iv. Measure Decay: D.09-09-047 states that utilities may apply a conservative
23 deemed assumption that 50% of savings persist following the expiration of a
24 given measure’s life..¹ Furthermore, D.10-12-049 (at page 63) states:

¹ D.09-09-047, OP #49 at p. 390.

1 “In addition, the utilities shall use the risk reward spreadsheet template
2 provided by Energy Division which recognizes ..., the inclusion of 2006-
3 2008 net goals and 2009 gross goals, the inclusion of 50% decay from
4 2006-2008, ... as directed in other Commission decisions.”

5 The ERT calculated 50% decay from 2006-2008 values and was incorporated
6 in the RRST (see Appendix B). The Energy Division provided two versions
7 of the RRST, one on May 24, 2011 and an updated final version for inclusion
8 in the application on June 16, 2011. There is a difference in the final 2006-
9 2008 cumulative savings that SoCalGas has determined to be an error,
10 specifically its 2006-2006 cumulative gas savings.

11 SoCalGas is submitting in this application the corrected version but provides
12 both the ED and corrected version in its work papers. This issue is discussed
13 in more detail in Section B.2 below.

14 15 **1. Inclusion of 2009 Codes and Standards (“C&S”) Advocacy Net Benefits**

16 D.10-12-049 OP 4 allows for the incorporation of “verified C&S savings using 50% for
17 pre-2006 and 100% post-2006 as directed in other Commission directives”. However, the
18 Energy Division’s 2009 Energy Efficiency Evaluation Report (“Evaluation Report”) and
19 corresponding ERT, which forms the basis of the 2009 earnings claim, do not include the net
20 benefits attributable to post-2005 Codes & Standards Advocacy efforts.

21 In order to adhere to the Commission directive, the Joint Utilities contracted with
22 Heschong Mahone Group (“HMG”) to calculate the net benefit value of post-2005 Codes &
23 Standards Advocacy efforts. The Evaluation Report did include the verified savings from Codes
24 & Standards (pre-2006 and post-2005) that occurred in 2009, but did not quantify the net benefits
25 needed to calculate the performance earnings basis associated with these savings. HMG worked
26 with the contractor who prepared the Evaluation Report for the Energy Division and used the

1 same methodology to determine the PEB associated with post-2005 Codes and Standards
2 advocacy work. The workpaper, which outlines the methodology utilized, prepared by HMG
3 and reviewed by the Joint Utilities, is included as Appendix B. HMG determined that there were
4 no additional impacts for SoCalGas.

5 **2. 2006-2008 Gas Measure Decay Adjustment**

6 ED's June 2011 final version of the RRST contained adjustments to the overall 2006-
7 2008 cumulative savings from the May 2011 version. Energy Division staff sent an email note
8 to the IOUs on June 16, 2011 informing the IOUs of the final data to be used for their
9 applications. Staff specifically pointed out the following:

10 "You may notice the decay numbers are little lower (which will be used in the
11 risk reward spreadsheet [sic]) but the total savings are higher (this should be close to
12 what you all submit)."

13 Upon receiving this update, SoCalGas staff reviewed the data provided in order to
14 understand the change. In doing so, SoCalGas noted a discrepancy and on the following day
15 (June 17, 2010) brought this discrepancy to ED Staff's attention. SoCalGas continued to follow-
16 up and a conference call was held to discuss the issue. On Monday, June 27, 2011 Staff
17 informed SoCalGas that it should file its application correcting for the discrepancy. At no time
18 did Staff advise SoCalGas that SoCalGas' correction of the discrepancy was incorrect.

19 The following information shows the discrepancy between the May 2011 and the June
20 2011 versions of the decay data for SoCalGas.

Table 4: SoCalGas 2006-2008 Measure Decay Analysis

SCG THERMS					
SECTORS	6/16/2011 RRIM	5/24/2011 RRIM	Delta **		Pass Thru Therms Savings
Commercial		892.00	892		
Misc. Commercial	60,290,646.12	61,542,037.18	1,251,391		1,378,523 Commercial
Office		126,240.00	126,240		
Residential	4,260,779.54	4,753,771.46	492,992		492,991.91 Residential
	64,551,425.67	66,422,940.64	1,871,515		1,871,515 TOTAL

**Represents the difference between data derived from Tab labeled "Ex Post by Year " via the RRIM Template excel files provided by ED on 6/16/2011 and 5/24/3011. Note that the delta matches exactly the non evaluated pass-thru therm savings as provided within the 2006-2008 ERT.

SoCalGas’ analysis narrowed the differences to the 2006-2008 Commercial and Residential net therm savings. Detailed review shows the discrepancies to be for program therm savings that were supposed to be “pass-thru,” i.e., not subjected to the 2006-2008 EM&V process pursuant to D.10-12-049. SoCalGas has verified that these measures were installed and have measure lives that indicate they should be included in the 2006-2009 cumulative savings. Furthermore, ED’s June 2011 “Decay” spreadsheet shows that there is 0 decay for SoCalGas’ 2006-2008 therm savings.

To summarize the issue:

- (i) ED was required to calculate the cumulative achievement for 2006-2008 that should account for the loss of savings due to measure decay but include 50% of any measure decay per D.10-12-049.
- (ii) ED did not comport with this direction when it omitted approximately 1.4 million therms that were not subject to any decay in 2009.
- (iii) SoCalGas attempted to confirm with ED the rationale for this omission but received no detailed explanation other than a limited explanation of “lower decay” numbers.

- 1 (iv) SoCalGas conducted its own analysis to determine the source of “lower decay”
2 but found no evidence that the approximately 1.4 million therms would have been
3 subjected to any decay adjustment.
- 4 (v) SoCalGas must conclude that the June 16 RRST is erroneous and has corrected
5 this discrepancy in the ED RRST.

6 Therefore, the Commission should reject ED’s RRST and find SoCalGas’ submitted
7 RRST to be the correct version for the purpose of this application, in accordance with the
8 requirements of D.10-12-049.

9 **C. Additional Updates to SoCalGas ERT**

10 **1. Statewide Education & Training Program Energy Efficiency Correction**

11 **a. Program Description**

12 The Statewide Energy Efficiency Education and Training Program is a program offered
13 in the service territories of the Joint Utilities. Overall, the program promotes energy efficiency
14 to a variety of customers segments through energy centers (physical and virtual) and other
15 informational programs. The objective is to disseminate information about energy-efficient
16 technology and practices to utility customers for the purpose of assisting them in reducing energy
17 usage, lowering their utility bills, reducing operation and maintenance costs, and improving their
18 productivity. The programs also provide services to a variety of market actors, architects,
19 designers, engineers, distributors, and contractors who use information and tools to design more
20 efficient buildings or processes and to conduct energy efficiency retrofits and renovations.

21 **b. Description of SoCalGas Reporting Error**

22 SoCalGas reported program expenditures of \$3,236,028 but did not report energy
23 savings and corresponding resource benefits for the program. The Statewide Education &

1 Training Program E3 calculator is subject to verification and modification by Energy Division .
2 ED did not review the program savings information and therefore, did not catch the error.

3 **c. Impact of Correction**

4 If corrected, SoCalGas would show an increase in net benefits:

5 ***Table 4: Education & Training 2009 Impacts***

Incremental Annual Therm Savings	Incremental Lifecycle Savings	Original E3 Gas Benefits	Corrected E3 Gas Benefits
735,422	2,561,073	\$0	\$1,424,105

7 **2. UC/CSU Partnership Correction**

8 **a. Program Description**

9 The Partnership is a statewide EE program that accomplishes immediate, long-term EE
10 and demand savings through a permanent framework for comprehensive energy management at
11 33 UC and CSU campuses served by the IOUs. The Partnership funds energy efficiency
12 retrofits, monitoring based commissioning, emerging technology demonstrations, and training
13 and education in support of UC and CSU sustainability policies

14 **b. Description of SoCalGas Reporting Error**

15 Error #1: SoCalGas reported 5,388,692 in Partnership participant costs in its 2009 Q4
16 report based on \$69/therm unit cost. Participant unit cost should have been \$7/therm. SoCalGas
17 corrected Partnership participant costs should have been \$882,902.

18 Gas and electric EE Partnership projects in overlapping SoCalGas and SCE territory
19 should to split participant costs - 33% for SoCalGas and 67% for SCE – prior to reporting to
20 Energy Division for inclusion in the Performance Earnings Basis.

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Chapter 5
COST RECOVERY METHODOLOGY

SoCalGas has met the Commission’s requirements to submit its application for its PY 2009 earnings resulting from its successful administration and implementation of its PY 2009 Energy Efficiency portfolio. SoCalGas is requesting \$2,037,721 as calculated using the Energy Division’s RRIM template. SoCalGas will record this requested amount its “Rewards and Penalties Balancing Account” (“RPBA”). The balance in the RPBA will be recovered as a twelve-month amortization in natural gas rates in connection with SoCalGas’ applicable annual regulatory account balance update filings effective January 1 of the following year.

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Chapter 6
CONCLUSION

In conclusion, SoCalGas respectfully requests that Commission issue a decision:

- (1) Approving SoCalGas' corrections to Energy Division's RRST to reflect the correct 2006-2008 measure decay.
- (2) Approving SoCalGas' cumulative savings calculations derived using the Energy Division's 2006-2008 Evaluation Report ERT Software Tool using *ex ante* input assumptions adjusted by *ex post* installation rates;
- (3) Approving the corrections to SoCalGas' recorded measure costs for its UC/CSU Partnership and its energy savings for its Education & Training Program;
- (4) Approving the resulting earnings award of \$2,037,721;
- (5) Authorizing SoCalGas to record \$2,037,721 in rewards to its gas RPBA; and
- (6) The balances in the RPBA will be recovered as a twelve-month amortization in gas rates in connection with SoCalGas' applicable annual regulatory account balance update filings effective January 1 of the following year.

1 **Chapter 7**
2 **WITNESS QUALIFICATIONS**

3 My name is Athena M. Besa. My business address is 8335 Century Park Court, Suite
4 1200, San Diego, California 92123-1257. I am employed by San Diego Gas & Electric
5 Company as the Customer Programs and Assistance Policy and Support Manager in the
6 Customer Programs and Assistance Departments for SDG&E and SoCalGas. In my current
7 position, I am responsible for the measurement of energy efficiency, demand response and
8 customer assistance programs; regulatory reporting requirements, energy efficiency forecasting
9 and the financial management of the Customer Programs and Assistance departments.

10 I attended the University of the Philippines in Quezon City, Philippines. I graduated with
11 a Bachelor of Science degree in Statistics in 1983, and a Master of Science degree in Statistics in
12 1986. I have completed coursework at University of California, Davis towards a Doctorate
13 degree in Statistics.

14 I was hired by SDG&E in 1990 in the Load Research Section of the Marketing
15 Department. Since that time I have held positions of increasing responsibility in the Department.
16 I have been in my present position for five years. I have previously testified before this
17 Commission in several AEAPs and the PY2000/2001 Energy Efficiency Program Application
18 Proceeding.

19 The purpose of my testimony is to support the SoCalGas Program Year 2009 shareholder
20 earnings claim.

APPENDIX A
SUMMARY ERT INFORMATION

SoCalGas SUMMARY ERT

SCG				
MPS	KWH	KW	THERMS	SOURCE FILE **
2006-2008 EVALUATED			64,329,819	SCG_2006_2008_INPUT_EVALUATED_TOTALS.XLSX
2006-2008 PASS THRU			2,336,493	SCG_2008_2008_INPUT_PASSTHRU_TOTALS.XLX
SUBTOTAL 2006-2008			66,666,312	
2009 EVALUATED			17,814,450	SCG_2009_INPUTS_TOTAL.XLS
2009 PASS THRU			2,928,483	SCG_2009_PASSTHRU_TOTALS.XLS
SUBTOTAL 2009			20,742,934	
TOTAL			87,409,246	

** SEE RRIMCalculation_2009_Template_v2.xls ,, (ERT Summary tab for supporting documentation)

PEB	TRC	PAC	PEB	SOURCE FILE **
2009 Pass thru Programs	\$ (10,561,606)	\$ (8,553,479)	\$ (9,892,231)	SCG_RUN_RESULTS_v3.xlsx
2009 Evaluated Programs with Install rate Scenario	\$ 25,172,602	\$ 53,980,889	\$ 34,775,364	SCG_RUN_RESULTS_v3.xlsx
UC CSU Adjustment	4,505,790	-	\$ 3,003,860	UC_CSU_ED TRINING_ADJ_V1.XLS
ED Training Adjustment	\$ 1,122,902	\$ 1,424,105	\$ 1,223,303	UC_CSU_ED TRINING_ADJ_V1.XLS
TOTAL	\$ 20,239,687	\$ 46,851,515	\$ 29,110,296	

** SEE RRIMCalculation_2009_Template_v2.xls ,, (ERT Summary tab for supporting documentation)

1 SoCalGas erroneously reported the entire electric and gas participant costs for 2009 UC-
2 CSU Partnership projects, instead of just reporting the gas participant costs. However, the UC-
3 CSU Partnership E3 calculator is subject to verification and modification by ED. ED did not
4 review measure cost information and did not catch error.

5 **c. Impact of Correction**

6 If corrected, SoCalGas would show an increase in net benefits:

7 ***Table 6: UC/CSU Partnership 2009 Impacts***

8

Partnership Participant Cost Unallocated	Corrected Partnership Participant Cost	Correction to PEB
\$5,388,692	\$882,902	(\$266,023)

APPENDIX B
CODES AND STANDARDS SUPPORT



**HESCHONG
MAHONE
GROUP**

MEMORANDUM

April 4, 2010

**Consultants
Energy & Buildings**

11211 Gold Country Blvd.
Suite 103
Gold River CA 95670
phone: 916 962-7001
fax: 916 962-0101
web: www.h-m-g.com

Oakland Office:
Old Central Building
436 14th St., Suite 1123
Oakland CA 94613

To: San Diego Gas & Electric Company, Southern California Edison Company,
Southern California Gas Company, Pacific Gas & Electric Company

From: Yanda Zhang, Marian Goebes (HMG)

Subject: **2009 IOU Codes & Standards Advocacy Verified Net Benefits**

This document presents the method, data sources, and assumptions that Heschong Mahone Group (HMG) used to estimate the net benefits realized in 2009 from the Codes & Standards (C&S) programs.

C&S Programs

The IOUs are allowed to claim 50% of verified savings from C&S pre-2006 C&S advocacy work. Such savings include those from Title 20 and Title 24 standards that were advocated through the following IOU C&S programs:

- 2005 Title 24 C&S Programs
- 2005 Title 20 C&S Programs

Energy savings parameters and program attributions for 2005 Title 24 and Title 20 standards were obtained from the CPUC 2006-2008 C&S program evaluation report.¹

The IOUs are also allowed to claim 100% of verified savings and net benefits from post-2005 C&S advocacy work. Such savings and net benefits include those from the 2006 Title 20 C&S Programs. The 2006 Title 20 C&S program includes the following standards:

- Residential Pool Pumps, 2-speed Motors, Tier 2
- General Service Incandescent Lamps, Tier 2
- BR, ER and R20 Incandescent Reflector Lamps: Residential
- BR, ER and R20 Incandescent Reflector Lamps: Commercial

The first two standards have been evaluated by the CPUC 2006-2008 C&S program evaluation. Since they were advocated through post-2005 program efforts and took effect on January 1, 2008, they are not considered part of the pre-2006 C&S program. Their energy savings in 2008 were not included for the 2006-2008 program cycle. HMG used the evaluated energy savings parameters and program attributions for savings estimation in 2009.

¹Final Evaluation Report, Codes & Standards (C&S) Programs Impact Evaluation, California Investor Owned Utilities' Codes and Standards Program Evaluation for Program Years 2006-2008 Prepared by KEMA, Inc., The Cadmus Group, Inc., Itron, Inc., and Nexus Market Research, Inc.



The latter two standards were not evaluated by the CPUC 2006-2008 C&S program evaluation. HMG's assumptions for energy savings calculation are discussed in the following section.

2009 Codes & Standards Verified Savings

In October 2010, HMG provided a C&S savings estimation spreadsheet² to the CPUC and its program evaluation consultant, The Cadmus Group Inc., to support the 2009 C&S program evaluation. Cadmus commented on the methodology, data input, and assumptions used in the spreadsheet (documented as the Appendix Q of CPUC 2009 Energy Efficiency Evaluation Report³) and provided the verified 2009 C&S net savings to the CPUC based on this spreadsheet. HMG accepted all comments and changes proposed by Cadmus and accordingly produced a revised C&S program savings spreadsheet.⁴ Their key program attribution assumptions in the revised spreadsheet include:

1. For all evaluated standards, including 2005 Title 20, Title 24, Tier 2 Residential Pool Pumps, and Tier 2 General Service Incandescent Lamps standards, energy savings parameters and program attributions are based on the 2006-2008 C&S program evaluation results;
2. For the two BR, ER and R20 Incandescent Reflector Lamps standards, unit energy savings and market baselines are based on the corresponding CASE studies. Compliance rates and program attribution scores are assumed to be the same as the average values (weighted by potential energy savings) for 2005 title 20 standards;
3. A 50% adjustment is applied to estimated savings of all 2005 Title 20 and Title 24 standards. No adjustment is applied to the four 2006 Title 20 standards.
4. The 2005 Title 24 hardwired lighting measure is not included in the savings calculation. Instead, the corresponding savings were captured by including the whole house measure in the analysis to ensure that there was no double counting.
5. Savings for the 2005 Title 20 pre-rinse spray valves standard are not included, consistent with the 2006-2008 CPUC program evaluation.
6. The measure life for each standard was obtained from its corresponding CASE study report. In the case of the residential and nonresidential BR, ER and R20 Incandescent Reflector Lamps standards, the measure lives were updated to four years and one year, respectively, based on the rated lamp life and duty cycles provided in the CASE study report.

The revised 2009 net savings estimates are consistent with those in the CPUC 2009 Energy Efficiency Evaluation Report. HMG utilized this consistent approach to determine the net benefits attributed to the post-2005 C&S advocacy work in 2009.

² Total C&S Savings HMG - V5 19Oct 2010 - for 2009 estimate.xlsm

³ http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/EM+and+V/2009_Energy_Efficiency_Evaluation_Report.htm

⁴ Total C&S Savings HMG - V5 24Mar 2011 - for 2009 estimate.xlsm



Note: Some savings values in the CPUC report have only one significant digit, especially for natural gas savings, which can lead to large round-off errors.

2009 Codes & Standards Verified Net Benefits

In order to determine the 2009 verified net benefits associated with post-2005 C&S, HMG generated E3 Calculator input data each of the IOUs. (Because the verified savings associated with 2005 Title 20 and Title 24 C&S programs are not eligible for performance earning basis, they were not included in the E3 input tables). HMG provided the following inputs:

KWh / kW Savings: Based on the gross and net program savings estimates.

Net-to-Gross Ratio (NTG): Determined as the product of corresponding NOMAD and program attribution values.

Incremental Measure Costs (IMCs): Based on cost data provided in the corresponding CASE study reports for cost-effectiveness analysis.

Effective Useful Life (EUL): For the Tier 2 Residential Pool Pumps and Tier 2 General Service Incandescent Lamps, EULs were obtained from the 2006-2008 C&S evaluation results. For the EUL associated with the residential and nonresidential BR, ER and R20 Incandescent Reflector Lamps standards, they were derived from the CASE study report.

Load Shapes: Used the appropriate load shapes contained in each IOU E3 Calculator.