

Application of San Diego Gas & Electric
Company (U-902-M) for Approval of
Electric and Natural Gas Energy Efficiency
Shareholder Earnings for Program Year
2009

Application 11-06- xxx

Exhibit No.: _____
Witness: Athena M. Besa

TESTIMONY
OF
SAN DIEGO GAS & ELECTRIC 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 San Diego Gas & Electric Company (“SDG&E”) achieved the following 2009 savings
9 and cumulative savings.

10 *Table 1 – 2006-2009 Savings Achievements*

Program Year	KWH	KW	Therms
2009	550,751,554	118,120	3,319,214
2006-2008	695,556,155	124,024	6,632,200
Total EE Program Savings	1,246,307,708	242,144	9,951,415
Codes and Standard Adjustments	70,000,000	12,800	340,000
LIEE 2006-2009 Savings	20,873,981	5,123	978,742
Total Cumulative Savings	1,337,181,689	260,067	11,270,157
Goal	839,000,000	162,000	13,000,000
Percent Achievement	159%	161%	87%

11
12 SDG&E, through this application, is requesting Commission approval of its PY 2009
13 earnings claim of \$15,108,031. The earnings were calculated in compliance with all
14 Commission requirements and directives. SDG&E coordinated with Pacific Gas and Electric
15 Company, Southern California Gas Company, and Southern California Edison Company (“Joint
16 Utilities”) to ensure that each of their Applications was developed with a consistent
17 methodology. In addition, the Joint Utilities worked with Energy Division to ensure that this

- 1 common methodology was appropriate and implemented correctly in the Evaluation Reporting
- 2 Template (“ERT”) 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, adopts
7 modifications to the incentive mechanism for purposes of calculating the 2006-2008 true-
8 up. Further, we determine that this same mechanism should be applied to the 2009
9 program year, and establish a process by which incentives for the 2009 program year will
10 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 energy
14 efficiency incentives in 2009 pursuant to the modifications made to the incentive
15 mechanism adopted herein. These applications shall be submitted to the Commission no
16 later than June 30, 2011 to allow for consideration and disposition by December 31,
17 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 page
21 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 SDG&E’s PY 2009 portfolio of programs included local and statewide efforts, city and
4 county partnerships, and competitively bid third party programs. Although SDG&E’s focus was
5 on achieving energy and peak demand reductions, the 2009 portfolio also included customer
6 information, education and marketing, and outreach programs. More details on SDG&E’s 2009
7 Energy Efficiency programs and its Annual Report are available on <http://eega.cpuc.ca.gov/>.

8 SDG&E achieved the following 2009 savings.

9 *Table 2: PY 2009 Savings Achievements*

10

Program Year	KWH	KW	Therms
2009	550,751,554	118,120	3,319,214

11 **A. Residential Programs**

12 In 2009 SDG&E’s 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 SDG&E web sites. Point of Sale (“POS”) rebates at “Big Box” retailers continued to be
16 extremely effective.

17 The Upstream Lighting Program provided both basic and advanced lighting products as
18 well as indoor and outdoor fixtures through over 380 retail locations. In 2009, SDG&E
19 successfully introduced a variety of specialty bulbs and different styles of compact fluorescent
20 light (“CFL”) torchieres and table lamps which continued to build increasing customer

1 awareness in new CFL technology. In addition, a total of 36 lighting exchange events were held
2 in San Diego and Orange Counties in locations that served 54 zip code areas.

3 **B. Residential New Construction--Advanced Home Program (“AHP”)**

4 The AHP paid out incentives in 2009 which totaled more than the previous three years
5 combined. The kWh, kW, and therms saved in 2009 were the single-best year in the history of
6 the program even as 2009 proved to be one of the worst years ever for building permits in its
7 service territory, the AHP signed-up nearly 1,200 units, representing a market penetration of
8 41%, the highest on record.

9 **C. Non-Residential Programs**

10 SDG&E provided rebates to over 700 customers, with 64 customers taking advantage of
11 SDG&E’s 0% interest loans through the On-Bill Financing (“OBF”) Program.

12 SDG&E’s local Energy Bid program exceeded expectations and achieved excellent
13 results in 2009 as a result of increased outreach and awareness. A total of 64 signed incentive
14 agreements were obtained by December 31, 2009. This represents approximately 58% of the
15 total achieved during the previous 3-year 2006-2008 program cycle.

16 In 2009, the OBF program issued 226 loans for an approximate total of over \$5,000,000
17 and had committed 180 loans for an approximate total of over \$5,000,000. The program has had
18 less than 1% default.

19 **D. Partnership Programs**

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

21 SDG&E has 3 LGPs: City of San Diego, County Of San Diego and City of Chula Vista.
22 The partnerships program met and exceeded their program goals for 2009. The City of San

1 Diego provided local leadership by hosting 45 Peer-to-Peer events with other local governments
2 in SDG&E's territory. The County of San Diego exceeded its goal of reducing energy usage
3 (electricity and natural gas) by approximately 1 percent per year on a square footage basis. The
4 City of Chula Vista staff completed over 500 on-site energy evaluations at South Bay businesses
5 and residences to identify energy-saving opportunities and to enroll them in SDG&E incentive
6 programs. In addition, 27 businesses participated in third-party programs (e.g., HEEP, Mobile
7 Energy Clinic) as a result of the Chula Vista City-sponsored evaluations generating in indirect
8 energy savings.

9 In addition to these LGPs, SDG&E partnered with the San Diego County Water
10 Authority to provide high-efficiency clothes washer rebates. Over 7,000 high efficiency clothes
11 washers were rebated through the program.

12 **2. Statewide Partnership Programs**

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

17 **E. Third Party Programs**

18 In addition to its core programs and various partnerships, SDG&E had 25 third party
19 programs that brought not only energy savings but innovative program designs to increase the
20 penetration of energy efficiency installations.

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Chapter 4
PY 2009 EARNINGS CLAIM

SDG&E's through this application is requesting Commission approval of its PY 2009 earnings claim of \$15,108,031. The earnings were calculated in compliance with all Commission requirements and directives. SDG&E coordinated with Pacific Gas and Electric Company, Southern California Gas Company, and Southern California Edison Company ("Joint Utilities") to ensure that each of their Applications was developed with a consistent methodology. In addition, the Joint Utilities worked with Energy Division to ensure that this common methodology was appropriate and implemented correctly in the Evaluation Reporting Template ("ERT") software required by the Commission. The following sections describe the calculation methodology SDG&E used to determine its earnings claim submitted in this application for Commission approval.

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A. Energy Division's Risk Reward Spreadsheet Template

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

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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)			839.0		839.00
Total Peak Savings (MW)			162.0		162.00
Total Cumulative Natural Gas Savings (MMTh)			12.8		12.80
MPS Goals (80% of goal)					
Total Cumulative Savings (GWH)			671.2		671.20
Total Peak Savings (MW)			129.6		129.60
Total Cumulative Natural Gas Savings (MMTh)			10.2		10.24
Dead Band (65% of goal)					
Total Cumulative Savings (GWH)			545.4		545.35
Total Peak Savings (MW)			105.3		105.30
Total Cumulative Natural Gas Savings (MMTh)			8.3		8.32
Achieved Savings Towards MPS					
EE Portfolio Savings (adjusted ex-ante)	PY 2006-2009 + Decay				
Total Cumulative Savings (GWH)			1,245.1		1,245.13
Total Peak Savings (MW)			241.3		241.34
Total Cumulative Natural Gas Savings (MMTh)			10.0		9.95
50% C&S Savings (adjusted ex-ante)	PY 2006-2008 (at 50%) + 2009 (at 100%)				
Total Cumulative Savings (GWH)			70.0		70.00
Total Peak Savings (MW)			12.8		12.80
Total Cumulative Natural Gas Savings (MMTh)			0.3		0.34
EM&V Adjusted LIEE Savings	PY 2006-2009				
Total Cumulative Savings (GWH)			20.9		20.87
Total Peak Savings (MW)			5.1		5.12
Total Cumulative Natural Gas Savings (MMTh)			1.0		0.98
Total Savings	PY 2006-2009				
Total Cumulative Savings (GWH)			1,336.0		1,336.00
Total Peak Savings (MW)			259.3		259.27
Total Cumulative Natural Gas Savings (MMTh)			11.3		11.27
MPS Individual Metric Performance					
Percent of GWH Goal			159%		159%
Percent of MW Goal			160%		160%
Percent of MMTh Goal			88%		88%
MPS Average Metric Performance			136%		136%
PEB					
TRC Net Benefits	\$	- \$	- \$	200,684,346	\$ 200,684,346
PAC Net Benefits	\$	- \$	- \$	246,118,337	\$ 246,118,337
PEB	\$	- \$	- \$	215,829,009	\$ 215,829,009
PEB at MPS Threshold	\$	- \$	- \$	215,829,009	\$ 215,829,009
Earnings Rate	7%				
Total Earnings	\$	- \$	- \$	15,108,031	\$ 15,108,031
Penalties	NO				
Total Penalties	No Penalty \$ -				

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

5 The information used to calculate and populate the template above is described in the
6 sections below. SDG&E utilized the Evaluation Reporting Template (“ERT”) tool to calculate

1 its PY 2009 earnings claim, as required in D.10-12-049. The summary of the ERT is provided in
2 Appendix A. The complete SDG&E ERT database, including all input sheets used to determine
3 its 2009 claim, are provided as supporting documents.

4 In order to qualify for any earnings, it is required that the utility 2006-2009 cumulative
5 KWH, KW and Therm performance must meet or exceed the individual metric MPS of 80% and
6 the average of all metrics MPS of 85%. SDG&E has met this requirement with an average
7 performance of 136%. The following components are used to derive the cumulative
8 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.
- 18 iii. Codes & Standards Advocacy: For purposes of measuring MPS performance,
19 the IOUs are allowed to count 50% of verified pre-2006 and 100% of post-
20 2005 codes & standards advocacy work.
- 21 iv. CFLs Installed in 2009: The IOUs are required to include savings from all
22 CFLs installed in 2009, regardless of the program cycle where they were
23 originally incented. For example, in the Energy Division's evaluation of the
24 2006-2008 program cycle, they estimated a percentage of CFLs were
25 purchased but not installed during that program cycle. However, in 2009 the

1 Energy Division estimated the percentage of those CFLs from 2006-2008 that
2 were installed in 2009.

- 3 v. Measure Decay: D.09-09-047 states that utilities may apply a conservative
4 deemed assumption that 50% of savings persist following the expiration of a
5 given measure's life.¹ Furthermore, D.10-12-049 (at page 63) states:

6 "In addition, the utilities shall use the risk reward spreadsheet template
7 provided by Energy Division which recognizes ..., the inclusion of 2006-
8 2008 net goals and 2009 gross goals, the inclusion of 50% decay from
9 2006-2008, ... as directed in other Commission decisions."

10 The ERT calculated 50% decay from 2006-2008 values and was incorporated
11 in the RRST (see Appendix B). The Energy Division provided two versions of
12 the RRST, one on May 24, 2011 and an updated final version for inclusion in
13 the application on June 16, 2011. There is a difference in the final 2006-2008
14 cumulative savings that SDG&E has determined to be an error, specifically its
15 2006-2006 cumulative gas savings.

16 SDG&E is submitting in this application the corrected version but provides
17 both the ED and corrected version in its work papers. This issue is discussed
18 in more detail in Section B.3 below.

19 **1. Inclusion of 2009 Codes and Standards (C&S) Advocacy Net Benefits**

20 D.10-12-049 OP 4 allows for the incorporation of "verified C&S savings using 50% for
21 pre-2006 and 100% post-2006" as directed in other Commission directives. However, the
22 Energy Division's 2009 Energy Efficiency Evaluation Report ("Evaluation Report") and

¹ D.09-09-047, OP #49 at p. 390.

1 corresponding ERT, which forms the basis of the 2009 earnings claim, do not include the net
2 benefits attributable to post-2005 Codes & Standards Advocacy efforts.

3 In order to adhere to the Commission directive, the Joint Utilities contracted with
4 Heschong Mahone Group (“HMG”) to calculate the net benefit value of post-2005 Codes &
5 Standards Advocacy efforts. The Evaluation Report did include the verified savings from Codes
6 & Standards (pre-2006 and post-2005) that occurred in 2009, but did not quantify the net benefits
7 needed to calculate the performance earnings basis associated with these savings. HMG worked
8 with the contractor who prepared the Evaluation Report for the Energy Division and used the
9 same methodology to determine the PEB associated with post-2005 Codes and Standards
10 advocacy work. The workpaper, which outlines the methodology utilized, prepared by HMG
11 and reviewed by the Joint Utilities, is included as Appendix B.

12 **2. Update for PY 2006-2008 CFL Purchases Installed in PY 2009**

13 The 2006-2008 RRIM only allows for the utility to receive credit only for installed
14 measures. D.10-12-049(at page 60) allows for the utilities to potentially submit an earnings claim
15 to account for CFL purchases that install in future years.

16 “In any event, nothing in this decision precludes the utilities from seeking credit
17 for energy savings based on the installation of CFLs that were procured and rebated over
18 the 2006-2008 cycle but which were not installed in that period, provided an incentive
19 mechanism is adopted on a going forward basis.”

20 The Energy Division provided SDG&E with the quantities of eligible CFLs from the
21 previous program cycle that were installed in 2009, and subsequently included them in the ERT.
22 However, the ERT only contains *ex post* savings estimates for these CFLs which is not consistent
23 with the current mechanism adopted by the Commission, i.e., the use of *ex ante* savings to
24 Commission policy for this Application. SDG&E, in consultation with the Joint Utilities,

1 modified the ERT (see Appendix A and SDG&E ERT) so that it would calculate the *ex ante*
2 assumptions associated with the estimated CFLs installed in 2009 from 2006-2008, to comport
3 with Commission direction. Similar to how the 2006-2008 Residential Lighting Program was
4 evaluated by the Energy Division, SDG&E determined the average wattage of the 2006-2008
5 CFLs. This average wattage was then applied to the 2009 *ex ante* input parameters, namely
6 DEER 2008, the Commission's authorized source of *ex ante* savings. Once the appropriate *ex*
7 *ante* input parameters were established, they were incorporated into the ERT to calculate the
8 correct savings and benefit values. SDG&E then modified the ERT Software tool provided in
9 the 2009 Evaluation Report. This change was limited to an input sheet and savings table that
10 incorporated the CFLs installed in 2009 that were purchased in 2006-2008. This change was
11 necessary to calculate the 2009 MPS and PEB as required by the Commission. These updates
12 and change to the ERT were discussed with the Energy Division.

13 **3. 2006-2008 Gas Measure Decay Adjustment**

14 ED's June 2011 final version of the RRST contained adjustments to the overall 2006-
15 2008 cumulative savings from the May 2011 version. Energy Division staff sent an email note
16 to the IOUs on June 16, 2011 informing the IOUs of the final data to be used for their
17 applications. Staff specifically pointed out the following:

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

21 Upon receiving this update, SDG&E staff reviewed the data provided in order to
22 understand the change. In doing so, SDG&E noted a discrepancy and on the following day (June

17, 2010) brought this discrepancy to ED Staff's attention. SDG&E continued to follow-up and a conference call was held to discuss the issue. On Monday, June 27, 2011 Staff informed SDG&E that it should file its application correcting for the discrepancy. At no time did Staff advise SDG&E that SDG&E's correction of the discrepancy was incorrect.

The following information shows the discrepancy between the May 2011 and the June 2011 versions of the decay data for SDG&E.

Table 4: SDG&E 2006-2008 Measure Decay Analysis

SDG&E THERMS					
SECTORS	6/16/2011 RRIM	5/24/2011 RRIM	Delta **		Pass Thru Therms Savings
Agricultural	661,743	661,743	-		
Commercial	2,841,036	3,515,676	674,640		674,640 Commercial
Industrial	370,401	370,401	-		
Residential	1,395,684	2,084,378	688,694		688,694 Residential
	5,268,864	6,632,199	1,363,334		1,363,334 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.

SDG&E's 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. SDG&E 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 SDG&E's 2006-2008 therm savings.

To summarize the issue:

- 1 (i) ED was required to calculate the cumulative achievement for 2006-2008 that
2 should account for the loss of savings due to measure decay but include 50% of
3 any measure decay per D.10-12-049.
- 4 (ii) ED did not comport with this direction when it omitted approximately 1.4 million
5 therms that were not subject to any decay in 2009.
- 6 (iii) SDG&E attempted to confirm with ED the rationale for this omission but received
7 no detailed explanation other than a limited explanation of “lower decay”
8 numbers.
- 9 (iv) SDG&E conducted its own analysis to determine the source of “lower decay” but
10 found no evidence that the approximately 1.4 million therms would have been
11 subjected to any decay adjustment.
- 12 (v) SDG&E must conclude that the June 16 RRST is erroneous and has corrected this
13 discrepancy in the ED RRST.

14 Therefore, the Commission should reject ED’s RRST and find SDG&E’s submitted
15 RRST to be the correct version for the purpose of this application, in accordance with the
16 requirements of D.10-12-049.

17 **C. Correction to SDG&E’s Therm MPS**

18 In addition to the correction discussed above, SDG&E also made a correction to the
19 RRST Therm 2006-2009 cumulative goal. ED’s table states a cumulative goal of 13 million
20 therms for SDG&E. However, SDG&E’s Commission-approved cumulative therm savings goal
21 is 12.8 million therms.²

22 No additional updates were made to the Energy Division’s ERT.

² D.09-12-047, page 46.

1 **Chapter 5**
2 **COST RECOVERY METHODOLOGY**

3 SDG&E has met the Commission's requirements to submit its application for its PY 2009
4 earnings resulting from its successful administration and implementation of its PY 2009 Energy
5 Efficiency portfolio. SDG&E is requesting \$15,108,031 as calculated using the Energy
6 Division's RRIM template. SDG&E will record \$14,654,790 in rewards to its electric "Rewards
7 and Penalties Balancing Account" ("RPBA"). The remaining \$453,241 will be recorded in its gas
8 RPBA. The balances in the RPBAs will be recovered as a twelve-month amortization in electric
9 and gas rates in connection with SDG&E's applicable annual regulatory account balance update
10 filings effective January 1 of the following year.

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Chapter 6
CONCLUSION

In conclusion, SDG&E respectfully requests that Commission issue a decision:

- (1) Approving SDG&E's corrections to Energy Division's RRST to reflect the correct 2006-2008 measure decay and the correction to SDG&E's 2006-2009 cumulative therm goal.
- (2) Approving SDG&E's 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, inclusion of additional 50% of verified pre-2006 and 100% of post-2005 codes and standards advocacy work, update for PY 2006-2008 CFL purchases installed in PY 2009 and updates to PY 2006-2008 measure decay;
- (3) Approving the resulting earnings award of \$15,108,031;
- (4) Authorizing SDG&E to record \$14,654,790 in rewards to its electric RPBA and \$453,241 will be to its gas RPBA; and
- (5) The balances in the RPBAs will be recovered as a twelve-month amortization in electric and gas rates in connection with SDG&E's 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 SDG&E's Program Year 2009 shareholder
20 earnings claim.

APPENDIX A
SUMMARY ERT INFORMATION

SDG&E SUMMARY ERT

SDG&E					
MPS					
	KWH	KW	THERMS	SOURCE:	
2006-2008 EVALUATED(utility NTG)	683,331,106	120,022	5,268,866	3_SDGE_EVALUATED_TOTAL_WITH 50% DECAY RATE_V3.xls	
2006-2008 PASS THRU	12,225,048	4,002	1,363,334	2_SDGE_INPUT_SHEETS_PASS THRU_TOTALS_V4.XLS	
SUBTOTAL 2006-2008	695,556,155	124,024	6,632,200		
2009 EVLUATED GROSS (NTG=1.0)	421,050,446	94,053	2,698,659	SDGE Evaluation Up_v2.xlsx	
2009 PASS THRU (NET)	34,511,028	10,066	2,003,512	SDGE RESULTS_V5.xlsx	
CFL (2006-2008) IN 2009 GROSS	95,190,079.5	14,001.6	(1,382,957)	SDGE_3016_cfls.xls	
SUBTOTAL 2009	550,751,554	118,120	3,319,214		
TOTAL	1,246,307,708	242,144	9,951,415		

SDG&E					
PEB					
	TRC	PAC	PEB	SOURCE:	
2009 Pass thru Programs	\$ 15,206,105	\$ 18,481,611	\$ 16,297,940	SDGE RESULTS_V5.xlsx	
2009 Evaluated Programs with Install Rate Scenario	\$ 159,354,947	\$ 195,684,874	\$ 171,464,923	SDGE RESULTS_V5.xlsx	
2006 2008 CFL Carryover Benefits (Electric and Gas)	29,951,443	29,951,443	\$ 29,951,443	Summary of Table of 3016 for ADD CFLs	
C&S	\$ (3,828,149)	\$ 2,000,409	\$ (1,885,297)	SDG&E 09-11 4g3(Codes and Standards only)_v2.xls	
TOTAL	\$ 200,684,346	\$ 246,118,337	\$ 215,829,009		

APPENDIX B
CODES AND STANDARDS SUPPORT



**HESCHONG
MAHONE
GROUP**

MEMORANDUM

April 4, 2010

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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.