

Application of SOUTHERN CALIFORNIA GAS )  
COMPANY for authority to update its gas revenue )  
requirement and base rates effective January 1, 2008 )  
(U 904-G) )

Application No. 06-12-\_\_\_\_  
Exhibit No. (SCG-16) \_\_\_\_\_

PREPARED DIRECT TESTIMONY  
OF RODGER E. LARSEN  
ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

DECEMBER 2006

Application of SOUTHERN CALIFORNIA GAS )  
COMPANY for authority to update its gas revenue )  
requirement and base rates effective January 1, 2008 )  
(U 904-G) )

Application No. 06-12-\_\_\_\_  
Exhibit No. (SCG-16) \_\_\_\_\_

PREPARED DIRECT TESTIMONY  
OF RODGER E. LARSEN  
ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

DECEMBER 2006

**TABLE OF CONTENTS**

**I. Introduction..... 1**

**II. Depreciable Lives For TY 2008 ..... 2**

**III. Net Salvage Rates For TY 2008 ..... 3**

**IV. Depreciation Rate Calculation..... 4**

**V. Summary Of Estimated Expenses And Reserves..... 5**

**VI. Tables ..... 6**

**VII. Qualifications ..... 8**



1 California Public Utilities Commission (CPUC) issued this standard practice in 1961 as a  
2 guide for determining proper depreciation accruals.

3 The depreciation expense shown for Recorded Year 2005 results from the  
4 application of depreciation parameters<sup>1</sup> authorized by the CPUC in SCG's 2004 Cost of  
5 Service Decision No. (D.) 04-12-015. Beginning in TY 2008, SCG proposes depreciation  
6 expense (shown on Table SCG-REL-1) calculated using new depreciation rates which  
7 reflect the results of an updated study. This study used historical data to analyze and  
8 adjust, where indicated, the assigned mortality characteristics of plant accounts. The total  
9 TY 2008 depreciation expense increased \$56.7 million due to plant growth from 2005 to  
10 2008 (\$42.1 million in expense) and the impact of the new depreciation rates (\$14.6  
11 million). The depreciable plant growth and the investments for the Recorded Year 2005  
12 through the TY 2008 are addressed in rate base testimony of Garry Yee (Exhibit SCG-  
13 19).

## 14 **II. Depreciable Lives For TY 2008**

15 Depreciable lives were studied for two categories of plant accounts: (1) mortality  
16 accounts and (2) forecast accounts. Mortality accounts, generally referred to as mass  
17 accounts, maintain records for related types of property grouped by vintage year without  
18 regard to specific location. Examples of such property types are gas mains or meters.  
19 Forecast accounts are those for which accounting records are maintained by specific  
20 locations that will normally be retired as a single unit, have service lives which are  
21 directly estimated individually, and then composited by plant account. The forecast  
22 method was used for General Plant Structures and Improvements.

23 Mortality characteristics were reviewed for the 44 mortality accounts using  
24 historical data through 2005. Each of these accounts has been assigned a representative  
25 Iowa-type survivor curve<sup>2</sup> combined with an average service life. SCG's review

---

<sup>1</sup> "Depreciation parameters" (or "mortality characteristics") refer to the average service life, retirement dispersion, and net salvage rate for a group of assets.

<sup>2</sup> Iowa-type survivor curves plot the percent surviving (from an original asset placement group) versus the age of the group. The age is typically expressed as a percentage of average service life. The Iowa curves were developed from empirical industrial data, and are the most widely-used standardized survivor curves in the utility industry.

1 indicated the need to modify the average service lives for 18 of these accounts, while all  
2 others continue to exhibit the lives approved in SCG's 2004 Cost of Service Decision.  
3 The lengthening of average service lives has been the general trend.

4 Simulated Plant Record (SPR) analysis can be used when only annual additions,  
5 retirements and balances are available. SCG used the SPR Balances method which  
6 attempts to duplicate actual balances for an account by generating simulated retirements  
7 based on vintaged additions and an assumed Iowa-type retirement dispersion and average  
8 service life. An Iowa curve type is tested using varying average service lives until the  
9 actual test band balances are most closely approximated, as measured by the minimum  
10 sum of squared differences (SSD). This is done for all 31 curve types, which are then  
11 ranked using an Index of Variation.<sup>3</sup> Judgment is used to select the most representative  
12 Iowa curve type and service life combination.

13 Remaining lives for each vintage of plant are calculated by dividing the area under  
14 the survivor curve to the right of its age by the ordinate at that age. The average  
15 remaining life for each account was calculated by weighting the remaining life of each  
16 vintage year with its surviving plant balance as of December 31, 2005.

### 17 **III. Net Salvage Rates For TY 2008**

18 Estimated net salvage rates (equal to gross salvage less cost of removal as a  
19 percentage of retired plant cost) were determined after analyzing data for the past 15 years  
20 (1991 through 2005). The analysis indicated the need to change the net salvage rates for  
21 23 of the 45 accounts, while results for the remainder of the accounts are still consistent  
22 with those approved in SCG's 2004 Cost of Service Decision.

23 The method of analysis used is consistent with that specified in Standard Practice  
24 U-4, and is a method consistent with nearly all other regulatory jurisdictions in the United  
25 States. The prevailing trend of recent SCG studies is toward more negative net salvage  
26 rates. Generally, a change in net salvage rates is related to the change in service lives  
27 (which are lengthening at SCG) and has an offsetting impact on depreciation rates and  
28 expense. For example, when asset lives are lengthened, reuse salvage values decline

---

<sup>3</sup> Index of Variation = [1000 x (SSD/years in band)<sup>.5</sup>]/(average actual balance).

1 because assets are older at retirement and cost of removal increases due to the additional  
2 increases to labor and non-labor costs over time. Since the future net salvage estimate is  
3 expressed as a percentage of the original historical cost<sup>4</sup> of the associated retirement (a  
4 constant), the result is a more negative net salvage rate. Thus, while a lengthening life  
5 decreases the annual depreciation expense, the resulting more negative net salvage rate  
6 will increase expense.

#### 7 **IV. Depreciation Rate Calculation**

8 Depreciation rates are calculated in accordance with Standard Practice U-4 using  
9 the straight-line method, broad group procedure, and remaining life technique. The  
10 straight-line method prorates the recovery of service value in equal annual amounts. The  
11 broad group procedure (the most widely used in the utility industry) groups assets in  
12 categories (typically plant accounts and/or subaccounts), depreciates all assets as if they  
13 all had identical mortality characteristics, and a single depreciation rate is used for the  
14 entire category. The broad group procedure also assumes that under-accruals resulting  
15 from early retirements are offset by over-accruals on assets that outlive the average  
16 service life. The remaining life technique accrues unrecovered service value over the  
17 average remaining life of the group. The remaining life annual accruals are calculated for  
18 each plant account as follows:

$$19 \quad (plant\ balance - future\ net\ salvage - reserve) / average\ remaining\ life$$

20 “Plant balance” is the original installed cost of the assets less any contributions-in-  
21 aid of construction. The “future net salvage” is the projected gross salvage for recovered  
22 materials less costs associated with retiring the assets. The future net salvage is  
23 calculated by applying the net salvage rate to the surviving plant balance (that plant yet to  
24 be retired). The “reserve” is the accumulation, since the inception of the plant account, of  
25 the following booked entries: depreciation accruals, plus salvage, less cost of removal,  
26 less retirements, plus or minus any transfers in or out as provided by the FERC Uniform  
27 System of Accounts. The annual depreciation rates were calculated based on recorded

---

<sup>4</sup> The future net salvage parameter is expressed as a percentage of the original historical cost because the ultimate depreciation rate is applied to the historical cost of surviving plant. All values (plant cost, cost of removal, gross salvage, and reserve) used in the depreciation rate computations are nominal dollars.

1 information as of December 31, 2005, for each plant account by dividing the depreciation  
2 accrual by the plant balance. These remaining life rates are self-correcting for prior over-  
3 and under-accruals as the depreciation parameters are updated in accordance with each  
4 General Rate Case study. These newly developed rates were then applied on a composite  
5 functional group basis to the TY 2008 depreciable plant balances to obtain the proposed  
6 depreciation expense.

7 The composite depreciation rate resulting from the new study is 3.81% for TY  
8 2008 as compared to the 3.62% for the 2005 Recorded Year.

9 **V. Summary Of Estimated Expenses And Reserves**

10 The total of the estimated 2008 TY Gas Plant depreciation expense is \$316.0  
11 million as shown on Table SCG-REL-1. The total depreciation expense has increased  
12 from Recorded Year 2005 to TY 2008 by \$56.7 million. As discussed earlier, this results  
13 from the combined impact of the net additions to plant (a \$42.1 million expense  
14 increase), and of the higher proposed depreciation rates (a \$14.6 million expense  
15 increase).

16 The total estimated December 31, 2008, Gas Plant depreciation reserve is  
17 \$5,044.0 million. This reserve is shown on Table SCG-REL-2.

18 Account-level detail for the proposed underlying depreciation rates are included in  
19 the workpapers<sup>5</sup> submitted with this filing. These proposed rates have been developed in  
20 accordance with Standard Practice U-4, are reasonable, and should be adopted. The  
21 resulting depreciation expense and reserves shown on Tables SCG-REL-1 and SCG-  
22 REL-2 should be approved by the CPUC for use in TY 2008 for determination of revenue  
23 requirements.

24 //

25 //

26 //

27

28

---

<sup>5</sup> See calculation of depreciation rates by account in workpapers SCG-REL-WP-105 through SCG-REL-WP-108.

VI. Tables

**Table SCG-REL-1**  
**SOUTHERN CALIFORNIA GAS COMPANY**  
**TEST YEAR 2008**  
**DEPRECIATION EXPENSE**  
**(Thousands of Dollars)**

Line No.		Recorded (2005\$)	Test Year (2008\$)
1	Underground Storage	16,854	16,215
2	Transmission	21,120	22,327
3	Distribution	167,470	192,766
4	General Plant	<u>53,867</u>	<u>84,683</u>
5	Total Depreciation Expense	<u>259,311</u>	<u>315,991</u>

**Table SCG-REL-2**  
**SOUTHERN CALIFORNIA GAS COMPANY**  
**TEST YEAR 2008**  
**END-OF-YEAR DEPRECIATION RESERVES**  
**(Thousands of Dollars)**

Line No.		Recorded (2005\$)	Test Year (2008\$)
1	Underground Storage	343,666	379,275
2	Transmission	601,206	651,589
3	Distribution	3,185,267	3,582,284
4	General Plant	<u>303,903</u>	<u>430,891</u>
5	Total Depreciation Reserves	<u>4,434,042</u>	<u>5,044,040</u>

1 **VII. Qualifications**

2 My name is Rodger E. Larsen. My business address is 8330 Century Park Court,  
3 San Diego, California 92123. I am employed by San Diego Gas & Electric Company  
4 (SDG&E) as a Principal Accountant in the Accounting Operations Department.

5 I received a Bachelor of Science degree in Engineering Operations from Iowa  
6 State University in 1973 and a Master of Science degree in Business from the University  
7 of Baltimore in 1983. I have attended Depreciation Programs, Inc. courses II, III, IV, V,  
8 and VI during the period 1974 through 1984 and the NARUC Regulatory Studies  
9 Program at Michigan State University in 1986. I have also attended training programs  
10 sponsored by the Society of Depreciation Professionals in 1997, 2002, and 2005.

11 From 1973 through 1985 I worked as a depreciation engineer in the Valuation and  
12 Depreciation Department of Whitman, Requardt and Associates, a consulting engineering  
13 firm in Baltimore, Maryland. From 1985 to 1993 I was the Depreciation Engineer for the  
14 staff of the Maryland Public Service Commission where I testified as an expert witness in  
15 matters relating to depreciation.

16 I assumed a position as Depreciation Analyst with SDG&E in 1993. Since that  
17 time I have been promoted to Senior Accountant and to my current position, Principal  
18 Accountant. Since 1993, my responsibilities have included preparation of depreciation  
19 estimates and testimony for rate cases, performing special depreciation-related studies,  
20 and monitoring the depreciation and valuation practices used by SDG&E. Beginning in  
21 July 1998, these same duties have been extended to include Southern California Gas  
22 Company (SCG).

23 I am a member of the Society of Depreciation Professionals and a Certified  
24 Depreciation Professional.

25 I have testified before the California Public Utilities Commission in the following  
26 applications: SDG&E's 1999 Cost of Service Application No. 98-01-014, SDG&E's  
27 2004 Cost of Service Application No. 02-12-028, SDG&E's Palomar Energy Center  
28 Application No. 04-11-003, SCG's Cost of Service Application No. 02-12-027, Southern  
29 California Edison Application No. 04-12-014, and Pacific Gas & Electric Application No.

1 05-12-002. I have also testified before the Federal Energy Regulatory Commission and  
2 the Maryland Public Service Commission.

3 This concludes my prepared direct testimony.

4 //

5 //

6 //

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

