

SOUTHWEST GAS CORPORATION

DOCKET NO. G-01551A-07-0504

**DIRECT
RATE DESIGN TESTIMONY**

OF

RODNEY L. MOORE

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

April 11, 2008

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1 **INTRODUCTION**

2 Q. Please state your name, position, employer and address.

3 A. Rodney L. Moore, Public Utilities Analyst V

4 Residential Utility Consumer Office ("RUCO")

5 1110 West Washington Street, Suite 220

6 Phoenix, Arizona 85007.

7

8 Q. Have you previously filed testimony regarding this docket?

9 A. Yes, I have. I filed direct testimony in this docket on March 28, 2008.

10

11 Q. What is the purpose of your additional direct testimony?

12 A. My additional direct testimony will address RUCO's rate design and prove
13 that this rate design will produce RUCO's recommended revenue. Also I
14 have included an analysis of a typical residential bill.

15

16 To support RUCO's position in this additional direct testimony, I have
17 prepared Schedules numbered RLM-19 and RLM-20.

18

19

20

21

22

23

1 **RATE DESIGN**

2 Q. Please explain your contribution to RUCO's recommended rate designs.

3 A. As shown on Schedule RLM-19, I was responsible for producing an
4 accurate set of bill determinants (i.e. test-year customer bill counts and
5 therms consumed). After reviewing the Company's workpapers, I
6 accepted SWG's bill determinants as adjusted for weather normalization
7 and customer annualization. An in-depth discussion of RUCO's proposed
8 rate design is contained in the testimony of RUCO witness, William
9 Rigsby. In summary, for residential customers, RUCO proposes a
10 monthly basic service charge of \$11.50 and a commodity charge of
11 \$0.08803 for all therms consumed.

12

13 Q. Please explain elements of the rate design.

14 A. Schedule RLM-19 illustrates the elements of RUCO's rate design
15 proposed by Mr. Rigsby in his testimony, which are:

- 16 1. Provides a positive move to mitigate the Company's risk of not
17 recovering its authorized revenue requirement by placing more cost
18 recovery into basic customer charge;
- 19 2. Is consistent with the Company's Cost of Service Study
20 parameters;
- 21 3. Eliminates the two-tier volumetric rates to send appropriate price
22 signals regarding gas conservation; and

23

1 4. Resets the beginning PGA to zero, by shifting all existing gas costs
2 to base rates.

3

4 **PROOF OF RECOMMENDED REVENUE**

5 Q. Have you prepared a Schedule presenting proof of your recommended
6 revenue?

7 A. Yes, I have. Proof that RUCO's recommended rate design will produce
8 the recommended required revenue as illustrated, is presented on
9 Schedule RLM-19.

10

11 **TYPICAL BILL ANALYSIS**

12 Q. Have you prepared a Schedule representing the financial impact of
13 RUCO's recommended rate design on the typical residential customer?

14 A. Yes, I have. A typical bill analysis for residential customers with various
15 levels of usage is presented on Schedule RLM-20.

16

17 Q. Please provide an excerpt of RUCO's rate structure that illustrates
18 RUCO's rate design goals as set forth in the testimony of Mr. Rigsby that
19 captures these fundamental changes in SWG's current rate design.

20 A. Schedule RLM-20 provides an extensive breakdown of the effects of
21 RUCO's proposed rates on the G-5 Residential Customer. Below is a
22 chart gleaned from Schedule RLM-19 comparing SWG's proposed rates
23 to RUCO's proposed annual rates:

1	<u>SWG Proposed Rates and Charges</u>		
2	Basic Monthly Service Charge		\$12.80
3	Non-Weather Sensitive Use – Charge Per Therm		
4	Margin (Non-Gas Costs)	PGA (Gas Costs)	Total Gas Costs
5	\$0.88069	\$0.60996	\$1.49065
6	Weather Sensitive Use – Charge Per Therm		
7	Margin (Non-Gas Costs)	PGA (Gas Costs)	Total Gas Costs
8	\$0.00	\$1.49065	\$1.49065

9			
10	<u>RUCO Proposed Rates and Charges</u>		
11	Basic Monthly Service Charge		\$11.50
12	All Consumption – Charge Per Therm		
13	Margin (Non-Gas Costs)	PGA (Gas Costs)	Total Gas Costs
14	\$0.880298	\$0.60996	\$1.49026

- 15
- 16 Q. Does this conclude your direct testimony?
- 17 A. Yes, it does.

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE

LINE NO.	DESCRIPTION	(A) PROPOSED SCHEDULE NO.	(B) ADJUSTED BILLING NUMBER OF BILLS	(C) DETERMINANT: SALES (THERMS)	(D) PROPOSED MARGIN RATES		(E) MARGIN AT PROPOSED RATES		(H) TOTAL MARGIN	(I) REVENUE AT PROPOSED RATES		(J) TOTAL REVENUE
					BASIC SERVICE CHARGE	COMMODITY CHARGE	BASIC SERVICE CHARGE	COMMODITY CHARGE		GAS COST	TOTAL REVENUE	
<u>Single-Family Residential Gas Service</u>		G-5										
<u>Summer (May - October)</u>												
1	Basic Service Charge per Month		5,107,859		\$ 11.50		\$ 58,737,949		\$ 58,737,949		\$	58,737,949
2	Commodity Charge per Therm											
3	First 15 Therms			48,048,640	\$ 0.88030		\$ 42,297,115	42,297,115	\$ 29,307,749			71,604,864
3	Over 15 Therms			16,007,105	0.00000		0	0	23,860,990			23,860,990
<u>Winter (November - April)</u>												
4	Basic Service Charge per Month		5,190,171		\$ 11.50		\$ 59,684,499		\$ 59,684,499		\$	59,684,499
5	Commodity Charge per Therm											
5	First 35 Therms			133,956,357	\$ 0.88030		117,921,493	117,921,493	81,708,020			199,629,513
6	Over 35 Therms			91,044,013	0.00000		0	0	135,714,758			135,714,758
7	Total Single-Family Residential Gas Service		<u>10,298,030</u>	<u>289,056,115</u>			<u>\$ 118,422,448</u>	<u>\$ 160,218,608</u>	<u>\$ 278,641,056</u>	<u>\$ 270,591,517</u>	<u>\$</u>	<u>549,232,573</u>
8	Ratio Of Fixed To Variable Revenues						42.50%	57.50%				
<u>Low Income Single-Family Residential Gas Svc</u>		G-10										
<u>Summer (May - October)</u>												
9	Basic Service Charge		153,923		\$ 7.25		\$ 1,115,942		\$ 1,115,942		\$	1,115,942
10	Commodity Charge per Therm											
10	Summer (May - October)											
11	First 15 Therms			1,499,731	\$ 0.88030		\$ 1,320,210	1,320,210	\$ 735,693			2,055,903
11	Over 15 Therms			343,792	0.00000		0	0	471,422			471,422
<u>Winter (November - April)</u>												
12	Basic Service Charge per Month		156,983		\$ 7.25		\$ 1,138,127		\$ 1,138,127		\$	1,138,127
13	Commodity Charge per Therm											
13	First 35 Therms			4,229,842	\$ 0.88030		3,723,520	3,723,520	2,074,949			5,798,469
14	Next 115 Therms			2,532,839	0.00000		0	0	3,473,130			3,473,130
15	Over 150 Therms			52,769	0.00000		0	0	72,359			72,359
16	Total Low Income Single-Family Residential Gas Service		<u>310,906</u>	<u>8,658,972</u>			<u>\$ 2,254,069</u>	<u>\$ 5,043,730</u>	<u>\$ 7,297,799</u>	<u>\$ 6,827,553</u>	<u>\$</u>	<u>14,125,352</u>
17	Ratio Of Fixed To Variable Revenues						30.89%	69.11%				
<u>Special Residential Gas Service for Air Conditioning</u>		G-15										
<u>Summer (May - October)</u>												
18	Basic Service Charge per Month		648		\$ 11.50		\$ 7,452		\$ 7,452		\$	7,452
19	Commodity Charge per Therm											
19	First 15 Therms			7,899	\$ 0.88030		\$ 6,953	6,953	\$ 4,744			11,697
20	Over 15 Therms			65,327	0.00000		0	0	96,765			96,765
<u>Winter (November - April)</u>												
21	Basic Service Charge per Month		648		\$ 11.50		\$ 7,452		\$ 7,452		\$	7,452
22	Commodity Charge per Therm											
22	First 35 Therms			19,309	\$ 0.88030		16,998	16,998	11,596			28,594
23	Over 35 Therms			48,985	\$ -		0	0	72,559			72,559
24	Total Special Residential Gas Service		<u>1,296</u>	<u>141,520</u>			<u>\$ 14,904</u>	<u>\$ 23,951</u>	<u>\$ 38,855</u>	<u>\$ 185,664</u>	<u>\$</u>	<u>224,519</u>
25	Ratio Of Fixed To Variable Revenues						38.36%	61.64%				

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE

LINE NO.	DESCRIPTION	(A) PROPOSED SCHEDULE NO.	(B) ADJUSTED BILLING NUMBER OF BILLS	(C) DETERMINANT: SALES (THERMS)	(D) PROPOSED MARGIN RATES		(E) MARGIN AT PROPOSED RATES			(F) REVENUE AT PROPOSED RATES	
					BASIC SERVICE CHARGE	COMMODITY CHARGE	BASIC SERVICE CHARGE	COMMODITY CHARGE	TOTAL MARGIN	GAS COST	TOTAL REVENUE
<u>Multi-Family Residential Gas Service</u>		G-6									
<u>Summer (May - October)</u>											
26	Basic Service Charge per Month		182,409		\$ 9.00		\$ 1,641,681		\$ 1,641,681		\$ 1,641,681
	Commodity Charge per Therm										
27	First 7 Therms			1,044,432	\$ 0.88030			\$ 919,411	919,411	\$ 637,062	1,556,473
28	Over 7 Therms			950,005	\$ 0.00000			0	0	1,416,125	1,416,125
<u>Winter (November - April)</u>											
29	Basic Service Charge per Month		188,153		\$ 9.00		\$ 1,693,377		\$ 1,693,377		\$ 1,693,377
	Commodity Charge per Therm										
30	First 18 Therms			2,633,090	\$ 0.88030			2,317,904	2,317,904	1,606,080	3,923,984
31	Over 18 Therms			1,880,532	\$ -			0	0	2,803,214	2,803,214
32	Total Multi-Family Residential Gas Service		<u>370,562</u>	<u>6,508,059</u>			<u>\$ 3,335,058</u>	<u>\$ 3,237,315</u>	<u>\$ 6,572,373</u>	<u>\$ 6,462,481</u>	<u>\$ 13,034,854</u>
33	Ratio Of Fixed To Variable Revenues						50.74%	49.26%			
<u>Low Income Multi-Family Residential Gas Svc</u>		G-11									
<u>Summer (May - October)</u>											
34	Basic Service Charge per Month		13,560		\$ 7.25		\$ 98,310		\$ 98,310		\$ 98,310
	Commodity Charge per Therm										
35	First 7 Therms			79,822	\$ 0.88030			\$ 70,267	70,267	\$ 39,157	109,424
36	Over 7 Therms			78,071	\$ 0.00000			-	0	107,054	107,054
<u>Winter (November - April)</u>											
37	Basic Service Charge per Month		13,828		\$ 7.25		\$ 100,253		\$ 100,253		\$ 100,253
	Commodity Charge per Therm										
38	First 18 Therms			207,982	\$ 0.88030			183,086	183,086	102,026	285,112
39	Next 132 Therms			186,423	\$ -			0	0	255,630	255,630
40	Over 150 Therms			345	\$ -			0	0	473	473
41	Total Low Income Multi-Family Residential Gas Service		<u>27,388</u>	<u>552,643</u>			<u>\$ 198,563</u>	<u>\$ 253,353</u>	<u>\$ 451,916</u>	<u>\$ 504,340</u>	<u>\$ 956,256</u>
42	Ratio Of Fixed To Variable Revenues						43.94%	56.06%			
43	Total Residential Gas Service		<u>11,008,182</u>	<u>304,917,309</u>			<u>124,225,042</u>	<u>168,776,957</u>	<u>293,001,999</u>	<u>284,571,555</u>	<u>577,573,554</u>
	Ratio Of Fixed To Variable Revenues						42.40%	57.60%			
<u>Master Metered Mobile Home Park Gas Service</u>		G-20									
44	Basic Service Charge per Month		1,968		\$ 60.00		\$ 118,080		\$ 118,080		\$ 118,080
	Commodity Charge per Therm All Usage										
45	All Usage			2,223,993	\$ 0.39476			\$ 877,950	877,950	\$ 2,083,637	2,961,587
46	Total MMMHP Gas Service		<u>1,968</u>	<u>2,223,993</u>			<u>\$ 118,080</u>	<u>\$ 877,950</u>	<u>\$ 996,030</u>	<u>\$ 2,083,637</u>	<u>\$ 3,079,667</u>
							11.86%	88.14%			
<u>General Gas Service - Small</u>		G-25(S)									
47	Basic Service Charge Per Month		201,805		\$ 25.00		\$ 5,045,125		\$ 5,045,125		\$ 5,045,125
	Commodity Charge per Therm All Usage										
48	Transportation Customers			10,138	\$ 0.68117			\$ 6,906	6,906	\$ 8,288	15,194
49	Sales Customers			5,010,616	\$ 0.68117			3,413,068	3,413,068	4,647,246	8,060,314
50	Total Small General Gas Service		<u>201,805</u>	<u>5,020,754</u>			<u>\$ 5,045,125</u>	<u>\$ 3,419,974</u>	<u>\$ 8,465,099</u>	<u>\$ 4,655,534</u>	<u>\$ 13,120,633</u>
51	Ratio Of Fixed To Variable Revenues						59.60%	40.40%			

RATE DESIGN AND PROOF OF RECOMMENDED REVENUE

LINE NO.	DESCRIPTION	(A) PROPOSED SCHEDULE NO.	(C) DETERMINANT:		(E) PROPOSED MARGIN RATES		(G) MARGIN AT PROPOSED RATES			(J) REVENUE AT PROPOSED RATES	
			(B) NUMBER OF BILLS	(C) SALES (THERMS)	(D) BASIC SERVICE CHARGE	(E) COMMODITY CHARGE	(F) BASIC SERVICE CHARGE	(G) COMMODITY CHARGE	(H) TOTAL MARGIN	(I) GAS COST	(J) TOTAL REVENUE
<u>Gas Service for Compression on Customer's Premises</u>											
		G-55									
82	Basic Service Charge										
	Small		252		\$ 25.00	\$ 6,300		\$ 6,300		\$ 6,300	
83	Large		288		239.03	68,842		68,842		68,842	
84	Residential		1,272		11.50	14,627		14,627		14,627	
85	Commodity Charge per Therm All Usage			0			\$ 0.16793	\$ -	\$ -	\$ -	\$ -
	Transportation Customers										
	Sales Customers										
86	Small			177,495		\$ 0.16793		29,807	29,807	164,623	194,430
87	Large			2,060,152		\$ 0.16793		345,960	345,960	1,910,750	2,256,710
88	Residential			77,361		\$ 0.16793		12,991	12,991	71,751	84,742
89	Total CNG Gas Service		1,812	2,315,008				89,769	388,758	478,527	2,147,124
90	Ratio Of Fixed To Variable Revenues							18.76%	81.24%		
<u>Electric Generation Gas Service</u>											
		G-60									
91	Basic Service Charge										
	General Service - Small		36		\$ 25.00	\$ 900		\$ 900		\$ 900	\$ 900
92	General Service - Medium		36		41.59	1,497		1,497		1,497	1,497
93	General Service - Large		84		152.98	12,850		12,850		12,850	12,850
94	General Service - Transportation Eligible		84		-	0		0		0	0
95	Essential Agricultural		12		114.74	1,377		1,377		1,377	1,377
96	Commodity Charge per Therm All Usage			0			\$ 0.11820	\$ -	\$ -	\$ -	\$ -
	Transportation Customers										
97	Sales Customers			21,521,946		\$ 0.11820		2,544,000	2,544,000	19,961,174	22,505,174
98	Total Electric Generation Gas Service		252	21,521,946				16,624	2,544,000	2,560,624	19,961,174
99	Ratio Of Fixed To Variable Revenues							0.65%	99.35%		
<u>Essential Agriculture User Gas Service</u>											
		G-75									
100	Basic Service Charge		1,216		\$ 114.74	\$ 139,519		\$ 139,519		\$ 139,519	\$ 139,519
101	Commodity Charge per Therm All Usage										
	Transportation Customers			6,217,976		\$ 0.22311		\$ 1,387,316	1,387,316	\$ 5,083,071.00	6,470,387
102	Sales Customers			7,214,684		\$ 0.22311		1,609,695	1,609,695	6,691,475	8,301,170
103	Total Essential Agricultural Gas Service		1,216	13,432,660				139,519	2,997,011	3,136,530	11,774,546
104	Ratio Of Fixed To Variable Revenues							4.45%	95.55%		
<u>Natural Gas Engine Gas Service</u>											
		G-80									
105	Basic Service Charge										
	Off-Peak Season (Oct. - March)		2,516		\$ 0.00	\$ -		\$ -		\$ -	\$ -
106	Peak Season (April - September)		2,589		119.52	309,429		309,429		309,429	309,429
107	Commodity Charge per Therm All Usage			0			\$ 0.17924	\$ -	\$ -	\$ -	\$ -
	Transportation Customers										
108	Sales Customers			13,070,981		\$ 0.17924		2,342,801	2,342,801	9,591,355	11,934,156
109	Total Natural Gas Engine Gas Service		5,105	13,070,981				309,429	2,342,801	2,652,230	9,591,355
110	Ratio Of Fixed To Variable Revenues							11.67%	88.33%		
111	Total Tariff Sales		11,502,504	658,002,715				\$ 153,126,600	\$ 259,358,493	\$ 412,485,093	\$ 604,827,059
112	Optional Gas Service	G-30	84	49,447,344				120,540	3,135,458	3,255,998	40,422,215
113	Special Contract Service	B-1	244	35,660,859				449,274	2,078,755	2,528,029	2,528,029
114	Other Operating Revenues							12,261,805	12,261,805	12,261,805	12,261,805
115	Total		11,502,832	743,110,918				\$ 165,958,219	\$ 264,572,707	\$ 430,530,926	\$ 645,249,274
116	Ratio Of Fixed To Variable Revenues							38.55%	61.45%		
117	Total Revenue Requirement								430,530,964	645,249,274	1,075,780,237
118	Over/(Under)								\$ (37)	\$ -	\$ (37)

**SINGLE - FAMILY RESIDENTIAL TYPICAL BILL ANALYSIS
COMPARISON OF PRESENT MONTHLY CHARGES TO COMPANY PROPOSED AND RUCO PROPOSEE**

LINE NO.	DESCRIPTION	(A) USAGE THERMS	(B) TOTAL MONTHLY COST PRESENT RATES	(C) TOTAL MONTHLY COST COMPANY PROPOSED	(D) TOTAL MONTHLY COST RUCO PROPOSED	(E) RUCO INCREASE OVER PRESENT CHANGE	(F) RUCO INCREASE OVER PRESENT PERCENTAGE
<u>Single-Family Residential Gas Service</u>							
<u>Summer (May - October)</u>							
1	50% Average Summer Usage per Month	6	\$ 18.97	\$ 22.15	\$ 20.84	\$ 1.87	9.86%
2	75% Average Summer Usage per Month	9	\$ 23.61	\$ 26.82	\$ 25.52	\$ 1.91	8.07%
3	100% Average Monthly Summer Use	13	\$ 28.25	\$ 31.49	\$ 30.19	\$ 1.94	6.88%
4	125% Average Summer Usage per Month	16	\$ 32.86	\$ 36.17	\$ 34.86	\$ 2.01	6.10%
5	150% Average Summer Usage per Month	19	\$ 37.36	\$ 40.84	\$ 39.53	\$ 2.17	5.81%
<u>Winter (November - April)</u>							
6	50% Average Winter Usage per Month	22	\$ 41.76	\$ 45.11	\$ 43.80	\$ 2.05	4.90%
7	75% Average Winter Usage per Month	33	\$ 57.78	\$ 61.27	\$ 59.95	\$ 2.17	3.75%
8	100% Average Monthly Winter Use	43	\$ 73.47	\$ 77.42	\$ 76.10	\$ 2.63	3.59%
9	125% Average Winter Usage per Month	54	\$ 89.05	\$ 93.58	\$ 92.26	\$ 3.20	3.60%
10	150% Average Winter Usage per Month	65	\$ 104.64	\$ 109.73	\$ 108.41	\$ 3.77	3.60%

RATE SCHEDULES

DESCRIPTION	BASIC SERVICE CHARGE	NON-GAS COSTS	GAS COST	TOTAL GAS COST
PRESENT RATES				
<u>Single-Family Residential Gas Service</u>				
<u>Summer (May - October)</u>				
11	Basic Service Charge per Month	\$ 9.70		
12	Commodity Charge per Therm			
13	First 15 Therms	\$ 0.54200	\$ 0.93689	\$ 1.47889
13	Over 15 Therms	\$ 0.50100	\$ 0.93689	\$ 1.43789
<u>Winter (November - April)</u>				
14	Basic Service Charge per Month	\$ 9.70		
15	Commodity Charge per Therm			
16	First 35 Therms	\$ 0.54200	\$ 0.93689	\$ 1.47889
16	Over 35 Therms	\$ 0.50100	\$ 0.93689	\$ 1.43789
COMPANY PROPOSED RATES				
<u>Single-Family Residential Gas Service</u>				
<u>All Year Around And All Usage</u>				
17	Basic Service Charge per Month	\$ 12.80		
18	Non- Weather Sensitive Use - Commodity Charge per Therm	\$ 0.88069	\$ 0.60996	\$ 1.49065
19	Weather Sensitive Use - Commodity Charge per Therm	\$ -	\$ 1.49065	\$ 1.49065
RUCO PROPOSED RATES				
<u>Single-Family Residential Gas Service</u>				
<u>All Year Around And All Usage</u>				
20	Basic Service Charge per Month	\$ 11.50		
21	Commodity Charge per Therm	\$ 0.880298	\$ 0.60996	\$ 1.49026