

IN THE MATTER OF
SOUTHWEST GAS CORPORATION
APPLICATION 19-04-____

PREPARED DIRECT TESTIMONY
OF
RANDI L. CUNNINGHAM

ON BEHALF OF
SOUTHWEST GAS CORPORATION

APRIL 26, 2019

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Prepared Direct Testimony
of

RANDI L. CUNNINGHAM

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Appendix A – Summary of Qualifications of Randi L. Cunningham

Exhibit No.__(RLC-1)

Exhibit No.__(RLC-2)

Exhibit No.__(RLC-3)

Exhibit No.__(RLC-4)

BEFORE THE CALIFORNIA PUBLIC UTILITIES COMMISSION

Prepared Direct Testimony
of
RANDI L. CUNNINGHAM

I. INTRODUCTION

Q. 1 Please state your name and business address.

A. 1 My name is Randi L. Cunningham. My business address is 5241 Spring Mountain Road, Las Vegas, Nevada 89150.

Q. 2 By whom and in what capacity are you employed?

A. 2 I am employed by Southwest Gas Corporation (Southwest Gas or the Company) in the Regulation and Energy Efficiency department. My title is Regulatory Professional.

Q. 3 Please summarize your educational background and relevant business experience.

A. 3 My educational background and relevant business experience are summarized in Appendix A to this testimony.

Q. 4 Have you previously testified before any regulatory commission?

A. 4 Yes. I have previously testified before the California Public Utilities Commission (Commission), the Arizona Corporation Commission and the Public Utilities Commission of Nevada.

Q. 5 What is the purpose of your prepared direct testimony in this proceeding?

A. 5 I sponsor the Company's request that the Commission find that full cost recovery for the Company's Customer Data Modernization Initiative (CDMI) should be granted, the proposed costs of the CDMI are just and reasonable and grant such other relief as is necessary and proper. I also sponsor the Company's request for

1 authority to establish a two-way balancing account to record the revenues and
2 costs associated with the CDMI between general rate cases (GRCs).

3 **Q. 6 Please summarize your prepared direct testimony.**

4 A. 6 My prepared direct testimony is summarized as follows:

- 5 • The revenue requirement associated with the CDMI, and the appropriateness
6 of requesting cost recovery for the CDMI in this Application.
- 7 • The Company's request for an interest-bearing two-way balancing account,
8 and why it is appropriate to establish a two-way interest-bearing balancing
9 account to track and recover costs associated with the CDMI between GRCs.
- 10 • Estimated gas rate and bill impacts associated with the CDMI.

11 **II. CUSTOMER DATA MODERNIZATION INITIATIVE REVENUE REQUIREMENT**

12 **Q. 7 What is the CDMI?**

13 A. 7 As discussed further in the Prepared Direct Testimony of Company witness, Robin
14 D. Pierce, the CDMI will replace the Company's legacy Customer Service System
15 (CSS) and the Gas Transaction System (GTS).

16 **Q. 8 Why is it appropriate to request cost recovery for the CDMI in this
17 Application?**

18 A. 8 The CDMI is significant, from both a financial perspective and a functional
19 perspective, and non-routine in nature outside the scope of the Company's normal
20 operations. With an estimated total-Company cost of \$174M through the
21 implementation and stabilization phase, of which approximately \$19M will be
22 allocated to the Company's California rate jurisdictions, this initiative will have a
23 material impact on the Company and the Company will suffer significant financial
24 attrition absent alternative ratemaking treatment outside the traditional cost-of-
25 service ratemaking process.

26 As discussed in the testimony of Company witness, Robin D. Pierce,
27 through the CDMI, the Company proposes to modernize CSS and GTS, critical

1 customer-related systems, for improved functionality, flexibility, reliability and
2 efficiencies and to employ flexible and expandable systems that support customer
3 growth and enhanced products and services.

4 Customers have benefited substantially from the use of the current CSS and
5 GTS well beyond the useful lives estimated at the time of the systems'
6 implementation. The legacy CSS was placed into service in 1990 and has been
7 fully amortized for over twenty years. The legacy GTS was placed into service in
8 stages between 1996 and 2003 and has been fully amortized for over ten years.

9 To the extent the CDMI results in an increased cost of service, the Company
10 seeks to record the revenue requirement associated with the CDMI into an
11 interest-bearing, two-way balancing account.

12 **Q. 9 How will the revenue requirement of the CDMI be determined?**

13 A. 9 The Company is requesting recovery for only the portion of the incremental
14 revenue requirement for the CDMI that is allocable to the Company's California
15 operations in this Application. The total amount will be allocated to each California
16 rate jurisdiction using the 4-Factor methodology to determine the amount included
17 in the two-way balancing account.

18 The Company will record the incremental California-allocated revenue
19 requirement associated with the CDMI into the two-way balancing account as
20 discussed further below. The monthly revenue requirement recorded into the two-
21 way balancing account will be an amount equal to depreciation and amortization
22 expense, 1/12 of the authorized rate of return (grossed up for income taxes,
23 franchise taxes and uncollectibles) multiplied by the ending rate base each month,
24 plus incremental operations and maintenance (O&M) expenses¹. The revenue
25 requirement on capital expenditures will be recorded in the two-way balancing
26

27 ¹ Includes costs generally charged to FERC accounts 813 through 935.

1 account beginning the month after each work order is placed into service. The
 2 amortization period is expected to be 15 years for the CSM Program and 10 years
 3 for GTS for the portion charged to Account 303. For any capitalized hardware
 4 costs, the depreciation expense will be based on the Company's authorized
 5 system allocable depreciation rate, which is currently 19.80 percent for Account
 6 391.1.

7 To the extent there are any costs that are appropriately accounted for as a
 8 prepayment, the Company will include the 13-month average balance of the
 9 related items in Account 165 multiplied by 1/12 of the authorized rate of return
 10 mentioned above, as well as the related monthly amortization of the prepayment
 11 in the monthly revenue requirement calculation.

12 **Q. 10 Please provide an illustrative annual revenue requirement for the CDMI.**

13 **A. 10** Please refer to Exhibit No.__(RLC-1) for the illustrative total-Company revenue
 14 requirement. The illustrative jurisdictional revenue requirements for the CDMI is
 15 included in Exhibit No.__(RLC-2), and the amounts from 2019 through 2021 are
 16 as follows (\$ in Millions):

Jurisdiction	2019	2020	2021
Southern California	\$0.42	\$0.43	\$2.72
Northern California	\$0.08	\$0.08	\$0.51
South Lake Tahoe	\$0.07	\$0.07	\$0.40

21 The illustrative rate and bill impacts associated with the annual revenue
 22 requirement of the CDMI from 2019-2022 are described below.

23 ...

24 ...

25 ...

26 ...

27

1 **III. COST RECOVERY TREATMENT**

2 **Q. 11 What cost recovery treatment for the CDMI is the Company requesting in**
3 **this Application?**

4 A. 11 Southwest Gas requests authority to establish a two-way, interest-bearing,
5 balancing account² to record actual revenue and costs associated with the CDMI.
6 The Company will seek rate recovery of the balance in the CDMI balancing
7 account after the modernized system goes into service and is used and useful.

8 **Q. 12 Why is it appropriate to establish a two-way interest-bearing balancing**
9 **account to track and recover costs associated with the CDMI?**

10 A. 12 As described above, the CDMI consists of large, complex, non-routine projects
11 that are necessary for the Company to continue to provide safe and reliable
12 service to its customers. Additionally, the California allocated portion of the
13 incremental costs associated with this project are outside of what currently-
14 authorized rates would support. Absent an interim ratemaking solution, the
15 Company faces a significant financial burden and would suffer from financial
16 attrition because of this project.

17 The use of a two-way interest-bearing balancing account mechanism is
18 equitable between the Company and its customers. The mechanism is
19 reasonable because it allows the utility to compare the authorized revenue for the
20 project to actual costs and to adjust rates accordingly. In other words, customers
21 will be charged only the actual costs for the project and the Company will not over
22 or under recover its actual costs due to uncertainties in the scope or timing of the
23 project. The rate associated with CDMI is proposed to begin after the CDMI is
24 placed into service in 2021 and would be trued up annually for overcollections or

25
26 ² Subsequent to this Application, Southwest Gas will file a motion to request to establish a Customer Data
27 Modernization Initiative Memorandum Account (CDMIMA). Upon approval, Southwest Gas will begin to record
the revenue requirement of the Customer Data Modernization Initiative in the CDMIMA. The costs recorded in
the CDMIMA would transfer to the two-way balancing account proposed in this instant Application.

1 under collections. Having a timely implementation of a rate through a two-way
2 balancing account, rather than including the cumulative revenue requirement in a
3 memorandum account until the Company's next GRC after 2021, will mitigate any
4 rate shock resulting from the increased revenue requirement due to this project.

5 **Q. 13 The Company will be filing a GRC in 2019 with a 2021 test year. Why does**
6 **the Company need a two-way interest-bearing balancing account for its**
7 **CDMI? Could the Company just include these projects in its upcoming**
8 **GRC?**

9 A. 13 The Company believes that its cost estimates and estimated project timeline for
10 the CDMI is well-supported. However, the Company also recognizes that there
11 are considerable unknowns with a project of the complexity and magnitude of the
12 CDMI, which may result in material changes to the costs or timeline for the
13 projects. As such, the Company is concerned that including the CDMI costs in
14 base rates in its 2021 Test Year GRC may not meet either the used and useful
15 standard, if the CDMI project in-service date is delayed, or the known and
16 measurable standard if the actual costs vary significantly from the current
17 estimates. Additionally, while the CDMI is expected to be complete in mid-2021,
18 due to the average rate base methodology used to set base rates in California,
19 the Company will only earn a return on half of the project's rate base in 2021.

20 Additionally, the incremental O&M costs related to the CDMI fluctuates
21 materially from year to year and is not expected to stabilize until 2023. A two-way
22 balancing account is the superior method for recovering only the actual level of
23 incremental O&M costs from customers.

24 **Q. 14 Could the Company address cost recovery for the CDMI in its attrition**
25 **filings?**

26 A. 14 Yes, however, that would necessitate additional calculations in the Company's
27 attrition filings in order for the Company to earn its full return on the CDMI

1 investment and obtain dollar-for-dollar recovery on the incremental CDMI O&M,
2 while rates from the 2021 GRC are in effect. The Company's current attrition
3 mechanism is very simple, increasing the prior year's authorized margin by 2.75
4 percent per year. Also, some level of O&M for the CDMI would be included in the
5 test year if it is not being tracked through a two-way balancing account; however,
6 as mentioned above, there will be O&M incurred prior to 2021 and O&M is not
7 expected to stabilize until 2023. This timing issue would further complicate the
8 attrition year calculation. As such, it is more administratively efficient to recover
9 the CDMI costs through a two-way balancing account.

10 **Q. 15 When will the revenue requirement related to the CDMI charged to the two-**
11 **way balancing account cease?**

12 **A. 15** The revenue requirement related to the CDMI charged to the two-way balancing
13 account will cease the day before rates are effective in the next GRC after the
14 Company's Test Year 2021 GRC. Assuming a typical five-year rate case cycle,
15 this will potentially be a Test Year 2026 GRC. At that time, the revenue
16 requirement associated with the CDMI will roll into the base margin revenue
17 requirement. The CDMI balancing account will terminate when the costs charged
18 to the balancing account are fully collected from customers.

19 **IV. PROJECTED RATE AND BILL IMPACTS**

20 **Q. 16 What is the initial gas rate impact associated with the CDMI?**

21 **A. 16** The Company is proposing to implement a per therm volumetric rate for each
22 customer class³ after the CDMI is placed into service to begin recovering the
23 actual revenue requirement associated with these projects. These rates will be
24 updated annually. Exhibit No.__(RLC-3) shows current and proposed gas rates
25 by customer class before and after the recovery of costs associated with the CDMI

26 _____
27 ³ The revenue requirement was allocated to all full margin transportation and sales customer classes, and the customer class allocation was based on the net plant factor calculated in the last GRC.

1 projects costs. The proposed change in rates per therm for residential customers
2 are \$0.04542 for Southern California, \$0.03047 for Northern California, and
3 \$0.02280 for South Lake Tahoe. These changes assume the forecasted revenue
4 requirements provided above. Rates for other components, including surcharges,
5 would remain unchanged based on the Application; therefore, the subject rates
6 have been held constant for the present-versus-proposed comparison.

7 **Q. 17 Please provide the anticipated bill impacts associated with the CDMI.**

8 A. 17 Exhibit No.__(RLC-4) shows bill impacts for gas rates by each major customer
9 class due to the recovery of costs associated with the CDMI project costs. As
10 shown in Exhibit No.__(RLC-4), in 2021, the typical monthly bills for residential
11 customers would change as follows:

- 12 • Southern California – a residential customer that uses an average of 40
13 therms per month would change by \$1.83 or 2.38%;
- 14 • Northern California – a residential customer that uses an average of 65 therms
15 per month would change by \$1.98 or 2.07%; and
- 16 • South Lake Tahoe – a residential customer that uses an average of 73 therms
17 per month would change by \$1.66 or 2.06%.

18 **Q. 18 Does this conclude your prepared direct testimony?**

19 A. 18 Yes.

**SUMMARY OF QUALIFICATIONS
RANDI L. CUNNINGHAM**

I graduated from the University of Washington in Seattle, Washington with a Bachelor of Arts in Business Administration, Accounting. My areas of concentration were accounting and finance. I graduated from the University of Nevada, Las Vegas with a Masters in Business Administration (MBA), with Beta Gamma Sigma honors. I am a Certified Management Accountant (CMA) and a member of the Institute of Management Accountants.

One year before completing my bachelor's degree, I accepted employment at Washington Mutual Savings Bank in Seattle, Washington as an Asset/Liability Management intern. Upon graduation in 1993, I accepted a full-time position as a Financial Analyst Trainee in the Financial Forecasting Department. In 1994, I was promoted to Financial Analyst I. My responsibilities included assisting in the budget and forecasting process and various financial analyses.

In February 1995, I accepted a position as a Budget Analyst in the Budget and Forecasting Department at PriMerit Bank in Las Vegas, Nevada, which was a subsidiary of Southwest Gas at the time. In April 1996, I transferred to Southwest Gas as a Corporate Accountant I in the Accounting Control Department. In January 1998, I was promoted to Analyst I/Accounting. In February 1998, I transferred to the Revenue Requirements department as an Analyst. In January 2001 I was promoted to Specialist, in July 2003 I was promoted to Senior Specialist, in May 2007 I was promoted to Supervisor, and in April 2009 I was promoted to Manager. Subsequent to a reorganization in October 2014, I have worked in the Regulation department in my present position.

I have attended numerous training and technical conferences related to utility ratemaking, regulatory, and accounting issues.

I taught the Cost of Service Problem for “The Basics” conference presented by the Center for Public Utilities at New Mexico State University and the National Association of Regulatory Utility Commissioners from 2003 to 2014.

SOUTHWEST GAS CORPORATION
APPLICATION 19-04-____- CUSTOMER DATA MODERNIZATION INITIATIVE
TOTAL PROJECT COSTS
ILLUSTRATIVE REVENUE REQUIREMENT STREAM (\$ MILLIONS)

Line No.	Description (a)	2019 (b)	2020 (c)	2021 (d)	2022 (e)	2023 (f)	2024 (g)	2025 (h)	2026 (i)	2027 (j)	2028 (k)	2029 (l)	2030 (m)	2031 (n)	2032 (o)	2033 (p)	2034 (p)	2035 (p)	2036 (p)			
1	Gross Plant	\$ 0.00	\$ 0.00	\$ 149.59	\$ 149.59	\$ 149.59	\$ 149.59	\$ 149.59	\$ 149.59	\$ 149.59	\$ 149.59	\$ 149.59	\$ 149.59	\$ 149.59	\$ 149.59	\$ 149.59	\$ 149.59	\$ 149.59	\$ 149.59			
2	Accumulated Reserve for Amort/Dep	0.00	0.00	(7.05)	(19.15)	(31.24)	(43.33)	(55.42)	(66.25)	(75.96)	(85.68)	(95.39)	(105.11)	(113.87)	(121.96)	(130.05)	(138.13)	(146.22)	(149.59)			
3	Net Plant	\$ 0.00	\$ 0.00	\$ 142.53	\$ 130.44	\$ 118.35	\$ 106.26	\$ 94.16	\$ 83.34	\$ 73.62	\$ 63.91	\$ 54.19	\$ 44.47	\$ 35.71	\$ 27.62	\$ 19.54	\$ 11.45	\$ 3.37	\$ 0.00	\$ (149.59)		
4	Less: Deferred Taxes	0.00	0.00	8.65	19.76	21.99	21.88	19.63	17.50	15.46	13.42	11.38	9.34	7.50	5.80	4.10	2.41	0.71	0.00	0.00		
5	Rate Base	\$ 0.00	\$ 0.00	\$ 151.18	\$ 150.20	\$ 140.34	\$ 127.14	\$ 113.79	\$ 100.84	\$ 88.08	\$ 77.33	\$ 65.57	\$ 55.81	\$ 48.21	\$ 43.21	\$ 38.34	\$ 33.55	\$ 29.06	\$ 24.57	\$ 20.08	\$ 0.00	
6	Dep / Amortization Expense	\$ 0.00	\$ 0.00	\$ 7.05	\$ 12.09	\$ 12.09	\$ 12.09	\$ 12.09	\$ 10.83	\$ 9.72	\$ 9.72	\$ 9.72	\$ 9.72	\$ 8.76	\$ 8.09	\$ 8.09	\$ 8.09	\$ 8.09	\$ 8.09	\$ 8.09	\$ 3.37	
7	Incremental O&M [1]	5.31	5.34	11.44	15.09	15.09	15.09	15.09	13.83	12.72	12.72	12.72	12.72	11.76	11.09	11.09	11.09	11.09	11.09	11.09	3.00	
8	Total Expenses	\$ 5.31	\$ 5.34	\$ 18.49	\$ 13.66	\$ 15.09	\$ 15.09	\$ 15.09	\$ 13.83	\$ 12.72	\$ 12.72	\$ 12.72	\$ 12.72	\$ 11.76	\$ 11.09	\$ 11.09	\$ 11.09	\$ 11.09	\$ 11.09	\$ 11.09	\$ 3.00	\$ 6.37

Note: please see Exhibit RLC-2 for jurisdictional allocations.
[1] 2019 O&M includes all O&M incurred through the end of 2019.

SOUTHWEST GAS CORPORATION
 APPLICATION 19-04-____ - CUSTOMER DATA MODERNIZATION INITIATIVE
 SOUTHERN CALIFORNIA
 ILLUSTRATIVE REVENUE REQUIREMENT STREAM (\$ MILLIONS)

Line No.	Description (a)	Reference (b)	2019 (c)	2020 (d)	2021 (e)	2022 (f)	2023 (g)	2024 (h)	2025 (i)	2026 (j)	2027 (k)	2028 (l)	2029 (m)	2030 (n)	2031 (o)	2032 (p)	2033 (q)	2034 (q)	2035 (q)	2036 (q)
1	Total Rate Base		\$ 0.00	\$ 0.00	\$ 133.88	\$ 110.68	\$ 96.36	\$ 84.38	\$ 74.53	\$ 65.84	\$ 58.16	\$ 50.49	\$ 42.81	\$ 35.14	\$ 28.21	\$ 21.82	\$ 15.44	\$ 9.05	\$ 2.66	\$ 0.00
2	Allocated Rate Base	8.00%	\$ 0.00	\$ 0.00	\$ 10.71	\$ 8.85	\$ 7.71	\$ 6.75	\$ 5.96	\$ 5.27	\$ 4.65	\$ 4.04	\$ 3.42	\$ 2.81	\$ 2.26	\$ 1.75	\$ 1.23	\$ 0.72	\$ 0.21	\$ 0.00
3	Return on Investment and Income Taxes	9.11%	\$ 0.00	\$ 0.00	\$ 0.98	\$ 0.81	\$ 0.70	\$ 0.61	\$ 0.54	\$ 0.48	\$ 0.42	\$ 0.37	\$ 0.31	\$ 0.26	\$ 0.21	\$ 0.16	\$ 0.11	\$ 0.07	\$ 0.02	\$ 0.00
4	Total Expenses		\$ 5.31	\$ 5.34	\$ 18.49	\$ 13.86	\$ 15.09	\$ 15.09	\$ 15.09	\$ 13.83	\$ 12.72	\$ 12.72	\$ 12.72	\$ 12.72	\$ 11.76	\$ 11.09	\$ 11.09	\$ 11.09	\$ 11.09	\$ 6.37
5	Allocated Expenses	8.00%	\$ 0.42	\$ 0.43	\$ 1.48	\$ 1.09	\$ 1.21	\$ 1.21	\$ 1.21	\$ 1.11	\$ 1.02	\$ 1.02	\$ 1.02	\$ 1.02	\$ 0.94	\$ 0.89	\$ 0.89	\$ 0.89	\$ 0.89	\$ 0.51
6	Total Revenue Requirement (RR)	Ln 3 + Ln 5	\$ 0.42	\$ 0.43	\$ 2.46	\$ 1.90	\$ 1.91	\$ 1.82	\$ 1.75	\$ 1.59	\$ 1.44	\$ 1.39	\$ 1.33	\$ 1.27	\$ 1.15	\$ 1.05	\$ 1.00	\$ 0.95	\$ 0.91	\$ 0.51

SOUTHWEST GAS CORPORATION
 APPLICATION 19-04- - CUSTOMER DATA MODERNIZATION INITIATIVE
 - NORTHERN CALIFORNIA
 ILLUSTRATIVE REVENUE REQUIREMENT STREAM (\$ MILLIONS)

Line No.	Description (a)	Reference (b)	2019 (c)	2020 (d)	2021 (e)	2022 (f)	2023 (g)	2024 (h)	2025 (i)	2026 (j)	2027 (k)	2028 (l)	2029 (m)	2030 (n)	2031 (o)	2032 (p)	2033 (q)	2034 (r)	2035 (s)	2036 (t)
1	Total Rate Base		\$ 0.00	\$ 0.00	\$ 133.88	\$ 110.68	\$ 96.36	\$ 84.38	\$ 74.53	\$ 65.84	\$ 58.16	\$ 50.49	\$ 42.81	\$ 35.14	\$ 28.21	\$ 21.82	\$ 15.44	\$ 9.05	\$ 2.66	\$ 0.00
2	Allocated Rate Base	1.57%	\$ 0.00	\$ 0.00	\$ 2.10	\$ 1.74	\$ 1.51	\$ 1.32	\$ 1.17	\$ 1.03	\$ 0.91	\$ 0.79	\$ 0.67	\$ 0.55	\$ 0.44	\$ 0.34	\$ 0.24	\$ 0.14	\$ 0.04	\$ 0.00
3	Return on Investment and Income Taxes	10.46%	\$ 0.00	\$ 0.00	\$ 0.22	\$ 0.18	\$ 0.16	\$ 0.14	\$ 0.12	\$ 0.11	\$ 0.10	\$ 0.08	\$ 0.07	\$ 0.06	\$ 0.05	\$ 0.04	\$ 0.03	\$ 0.01	\$ 0.00	\$ 0.00
4	Total Expenses		\$ 5.31	\$ 5.34	\$ 18.49	\$ 13.66	\$ 15.09	\$ 15.09	\$ 15.09	\$ 13.83	\$ 12.72	\$ 12.72	\$ 12.72	\$ 12.72	\$ 11.76	\$ 11.09	\$ 11.09	\$ 11.09	\$ 11.09	\$ 6.37
5	Allocated Expenses	1.57%	\$ 0.08	\$ 0.08	\$ 0.29	\$ 0.21	\$ 0.24	\$ 0.24	\$ 0.24	\$ 0.22	\$ 0.20	\$ 0.20	\$ 0.20	\$ 0.20	\$ 0.18	\$ 0.17	\$ 0.17	\$ 0.17	\$ 0.17	\$ 0.10
6	Total Revenue Requirement (RR)	Ln 3 + Ln 5	\$ 0.08	\$ 0.08	\$ 0.51	\$ 0.40	\$ 0.40	\$ 0.38	\$ 0.36	\$ 0.33	\$ 0.30	\$ 0.28	\$ 0.27	\$ 0.26	\$ 0.23	\$ 0.21	\$ 0.20	\$ 0.19	\$ 0.18	\$ 0.10

SOUTHWEST GAS CORPORATION
 APPLICATION 19-04-_____- CUSTOMER DATA MODERNIZATION INITIATIVE
 SOUTH LAKE TAHOE
 ILLUSTRATIVE REVENUE REQUIREMENT STREAM (\$ MILLIONS)

Line No.	Description (a)	Reference (b)	2019 (c)	2020 (d)	2021 (e)	2022 (f)	2023 (g)	2024 (h)	2025 (i)	2026 (j)	2027 (k)	2028 (l)	2029 (m)	2030 (n)	2031 (o)	2032 (p)	2033 (q)	2034 (r)	2035 (s)	2036 (t)
1	Total Rate Base		\$ 0.00	\$ 0.00	\$ 133.88	\$ 110.68	\$ 96.36	\$ 84.38	\$ 74.53	\$ 65.84	\$ 58.16	\$ 50.49	\$ 42.81	\$ 35.14	\$ 28.21	\$ 21.82	\$ 15.44	\$ 9.05	\$ 2.66	\$ 0.00
2	Allocated Rate Base	1.23%	\$ 0.00	\$ 0.00	\$ 1.65	\$ 1.36	\$ 1.19	\$ 1.04	\$ 0.92	\$ 0.81	\$ 0.72	\$ 0.62	\$ 0.53	\$ 0.43	\$ 0.35	\$ 0.27	\$ 0.19	\$ 0.11	\$ 0.03	\$ 0.00
3	Return on Investment and Income Taxes	10.45%	\$ 0.00	\$ 0.00	\$ 0.17	\$ 0.14	\$ 0.12	\$ 0.11	\$ 0.10	\$ 0.08	\$ 0.07	\$ 0.06	\$ 0.06	\$ 0.05	\$ 0.04	\$ 0.03	\$ 0.02	\$ 0.01	\$ 0.00	\$ 0.00
4	Total Expenses		\$ 5.31	\$ 5.34	\$ 18.49	\$ 13.66	\$ 15.09	\$ 15.09	\$ 15.09	\$ 13.83	\$ 12.72	\$ 12.72	\$ 12.72	\$ 12.72	\$ 11.76	\$ 11.09	\$ 11.09	\$ 11.09	\$ 11.09	\$ 6.37
5	Allocated Expenses	1.23%	\$ 0.07	\$ 0.07	\$ 0.23	\$ 0.17	\$ 0.19	\$ 0.19	\$ 0.19	\$ 0.17	\$ 0.16	\$ 0.16	\$ 0.16	\$ 0.16	\$ 0.14	\$ 0.14	\$ 0.14	\$ 0.14	\$ 0.14	\$ 0.08
6	Total Revenue Requirement (RR)	Ln 3 + Ln 5	\$ 0.07	\$ 0.07	\$ 0.40	\$ 0.31	\$ 0.31	\$ 0.29	\$ 0.28	\$ 0.25	\$ 0.23	\$ 0.22	\$ 0.21	\$ 0.20	\$ 0.18	\$ 0.16	\$ 0.16	\$ 0.15	\$ 0.14	\$ 0.08

SOUTHWEST GAS CORPORATION
APPLICATION 19-04- - CUSTOMER DATA MODERNIZATION INITIATIVE
SOUTHERN CALIFORNIA
ANNUALIZED CHANGE IN RATES AND REVENUE BY RATE SCHEDULE

Line No.	Description (a)	Commodity Tariff Rates			Annual Sales in Therms (d)	Annual No. of Bills (b)	Basic Service Charge (c)	Commodity Tariff Rates		Increase/ (Decrease) (g)	Total Revenue			Line No.
		Current Eff. Rates (e)	Proposed Rates (f)	Present (h)				Proposed (i)	Change (l)		Percent Change (k)			
1	GS-10 - Residential Gas Service												1	
2	Baseline Quantities	42,313,225	\$ 1.72791	\$ 1.77333	\$ 0.04542								2	
3	Tier II	19,535,277	\$ 1.89918	\$ 1.94460	\$ 0.04542								3	
4	Total												4	
5	GS-15 - Secondary Residential Gas Service												5	
6	All Usage	92,030	\$ 2.11943	\$ 2.17360	\$ 0.05417								6	
7	Total												7	
8	GS-20 - Multi-Family Master-Metered Gas Service												8	
9	Baseline Quantities	148,981	\$ 1.72791	\$ 1.77333	\$ 0.04542								9	
10	Tier II	47,412	\$ 1.89918	\$ 1.94460	\$ 0.04542								10	
11	Total												11	
12	GS-25 - Multi-Family Master Metered Gas Service - Submetered												12	
13	Baseline Quantities	1,003,649	\$ 1.72791	\$ 1.77333	\$ 0.04542								13	
14	Tier II	196,318	\$ 1.89918	\$ 1.94460	\$ 0.04542								14	
15	Total												15	
16	GS-40 - Core General Gas Service												16	
17	First 100	73,730	\$ 11.00										17	
18	Next 500	12	\$ 780.00										18	
19	Next 2400												19	
20	Over 3000												20	
21	Total												21	
22	GS-50 - Core Natural Gas Service for Motor Vehicles												22	
23	All Usage	48	\$ 25.00										23	
24	Total												24	
25	GS-60 - Core Internal Combustion Engine Gas Service												25	
26	All Usage	132	\$ 25.00										26	
27	Total												27	
28	GS-LUZ - Solar Electric Power Generation Gas Service												28	
29	All Usage	24	\$ 50.00										29	
30	Total												30	
31	GS-66 - Core Small Electric Power Generation Gas Service												31	
32	All Usage	12	\$ 25.00										32	
33	Total												33	
34	GS-70 - Noncore General Gas Transportation Service												34	
35	All Usage	156	\$ 100.00										35	
36	Total	120	\$ 780.00										36	
37	GS-VIC - City of Victorville Gas Service												37	
38	All Usage	12	\$ 11.00										38	
39	Total	12	\$ 780.00										39	
40	Total Annualized Change in Rates												40	

94,362,511
1,701,894

\$ 7,674,850
\$ 73,113,445
\$ 37,101,007
\$ 117,889,302
\$ 552,180
\$ 6,587,252
\$ 7,139,432
\$ 6,000
\$ 257,426
\$ 90,044
\$ 353,470
\$ 13,500
\$ 1,734,215
\$ 372,843
\$ 2,120,558
\$ 820,390
\$ 5,609,978
\$ 8,756,027
\$ 6,511,990
\$ 4,297,693
\$ 25,996,078
\$ 1,200
\$ 819,746
\$ 820,946
\$ 3,300
\$ 297,044
\$ 300,344
\$ 1,200
\$ 1,577,762
\$ 1,578,962
\$ 300
\$ 274
\$ 574
\$ 109,200
\$ 4,120,898
\$ 4,230,098
\$ 9,492
\$ 999,638
\$ 1,009,130
\$ 161,438,895
\$ 7,674,850
\$ 75,035,311
\$ 37,988,300
\$ 2,809,159
\$ 562,180
\$ 6,755,614
\$ 7,307,794
\$ 6,000
\$ 264,192
\$ 92,197
\$ 362,390
\$ 13,500
\$ 1,779,801
\$ 381,760
\$ 2,175,061
\$ 820,390
\$ 5,688,700
\$ 8,893,258
\$ 6,824,579
\$ 4,381,472
\$ 26,408,399
\$ 1,200
\$ 824,518
\$ 825,718
\$ 3,300
\$ 299,761
\$ 303,061
\$ 1,200
\$ 1,602,774
\$ 1,603,974
\$ 300
\$ 279
\$ 579
\$ 109,200
\$ 4,196,425
\$ 4,305,625
\$ 9,492
\$ 1,008,131
\$ 1,017,623
\$ 165,008,685
\$ 2,809,159
\$ 168,362
\$ 2,36%
\$ 8,920
\$ 54,503
\$ 2,57%
\$ 412,320
\$ 1,58%
\$ 2,717
\$ 0,90%
\$ 25,012
\$ 1,58%
\$ 5
\$ 5
\$ 75,527
\$ 1,79%
\$ 8,493
\$ 0,84%
\$ 3,569,791
\$ 2,21%

SOUTHWEST GAS CORPORATION
APPLICATION 19-04- - CUSTOMER DATA MODERNIZATION INITIATIVE
NORTHERN CALIFORNIA
ANNUALIZED CHANGE IN RATES AND REVENUE BY RATE SCHEDULE

Line No.	Description (a)	Annual No. of Bills (b)	Basic Service Charge (c)	Annual Sales in Therms (d)	Commodity Tariff Rates		Increase/Decrease (g)	Total Revenue		Percent Change (k)	Line No.	
					Current Eff. Rates (e)	Proposed Rates (f)		Present (h)	Proposed (i)			
1	GN-10 - Residential Gas Service	147,742	\$ 5.00					\$ 738,710	\$ 738,710		1	
2	Baseline Quantities			6,613,336	\$ 1.36248	\$ 1.39295	\$ 0.03047	\$ 9,010,538	\$ 9,212,046		2	
3	Tier II			3,001,688	\$ 1.47329	\$ 1.50376	\$ 0.03047	\$ 4,422,357	\$ 4,513,818		3	
4	Total							\$ 14,171,605	\$ 14,464,575	\$ 292,970	2.07%	4
5	GN-15 - Secondary Residential Gas Service	143,168	\$ 6.00					\$ 859,008	\$ 859,008		5	
6	All Usage			8,278,230	\$ 1.51915	\$ 1.54916	\$ 0.03001	\$ 12,575,873	\$ 12,824,303		6	
7	Total							\$ 13,434,881	\$ 13,683,311	\$ 248,430	1.85%	7
8	GN-20 - Multi-Family Master-Metered Gas Service	24	\$ 25.00					\$ 600	\$ 600		8	
9	Baseline Quantities			13,872	\$ 1.36248	\$ 1.39295	\$ 0.03047	\$ 18,900	\$ 19,323		9	
10	Tier II			0	\$ 1.47329	\$ 1.50376	\$ 0.03047	\$ 0	\$ 0		10	
11	Total							\$ 19,500	\$ 19,923	\$ 423	2.17%	11
12	GN-25 - Multi-Family Master Metered Gas Service - Submetered	12	\$ 25.00					\$ 300	\$ 300		12	
13	Baseline Quantities			16,473	\$ 1.36248	\$ 1.39295	\$ 0.03047	\$ 22,444	\$ 22,946		13	
14	Tier II			2,818	\$ 1.47329	\$ 1.50376	\$ 0.03047	\$ 4,152	\$ 4,238		14	
15	Total							\$ 26,896	\$ 27,484	\$ 588	2.19%	15
16	GN-40 - Core General Gas Service	18,784	\$ 11.00					\$ 206,624	\$ 206,624		16	
17	First 100			1,071,977	\$ 1.22385	\$ 1.24655	\$ 0.02270	\$ 1,311,939	\$ 1,336,273		17	
18	Next 500			1,861,214	\$ 1.09444	\$ 1.11714	\$ 0.02270	\$ 2,036,987	\$ 2,079,237		18	
19	Next 2400			1,574,988	\$ 0.96846	\$ 0.99116	\$ 0.02270	\$ 1,525,313	\$ 1,561,065		19	
20	Over 3000			1,311,622	\$ 0.78352	\$ 0.80622	\$ 0.02270	\$ 1,027,682	\$ 1,057,456		20	
21	Total							\$ 6,108,545	\$ 6,240,655	\$ 132,109	2.16%	21
22	GN-50 - Core Natural Gas Service for Motor Vehicles	24	\$ 25.00					\$ 600	\$ 600		22	
23	All Usage			140,747	\$ 0.68973	\$ 0.70379	\$ 0.01406	\$ 97,077	\$ 99,056		23	
24	Total							\$ 97,677	\$ 99,656	\$ 1,979	2.03%	24
25	GN-60 - Core Internal Combustion Engine Gas Service	24	\$ 25.00					\$ 600	\$ 600		25	
26	All Usage			355	\$ 0.88443	\$ 0.90713	\$ 0.02270	\$ 314	\$ 322		26	
27	Total							\$ 914	\$ 922	\$ 8	0.88%	27
28	GS-66 - Core Small Electric Power Generation Gas Service	0	\$ 25.00					\$ 0	\$ 0		28	
29	All Usage			0	\$ 0.81588	\$ 0.83858	\$ 0.02270	\$ 0	\$ 0		29	
30	Total							\$ 0	\$ 0	\$ 0	0.00%	30
31	GN-70 - Noncore General Gas Transportation Service	12	\$ 100.00					\$ 10,560	\$ 10,560		31	
32	All Usage			300,400	\$ 0.22534	\$ 0.22753	\$ 0.00219	\$ 67,692	\$ 68,349		32	
33	Total							\$ 78,252	\$ 78,909	\$ 657	0.84%	33
34	Total Annualized Change in Rates			<u>24,187,720</u>				<u>\$ 33,938,271</u>	<u>\$ 34,615,434</u>	<u>\$ 677,164</u>	<u>2.00%</u>	34

SOUTHWEST GAS CORPORATION
APPLICATION 19-04- - CUSTOMER DATA MODERNIZATION INITIATIVE
SOUTH LAKE TAHOE
ANNUALIZED CHANGE IN RATES AND REVENUE BY RATE SCHEDULE

Line No.	Description (a)	Annual No. of Bills (b)	Basic Service Charge (c)	Annual Sales in Terms (d)	Commodity Tariff Rates		Increase/ (Decrease) (g)	Total Revenue		Percent Change (k)	Line No.	
					Current Eff. Rates (e)	Proposed Rates (f)		Present (h)	Proposed (i)			
1	SLT-10 - Residential Gas Service	142,714	\$ 5.00					\$ 713,570	\$ 713,570		1	
2	Baseline Quantities			7,091,497	\$ 1.00859	\$ 1.03139	\$ 0.02280	\$ 7,152,413	\$ 7,314,099		2	
3	Tier II			3,301,815	\$ 1.09613	\$ 1.11893	\$ 0.02280	\$ 3,619,218	\$ 3,694,500		3	
4	Total							\$ 11,485,201	\$ 11,722,169	\$ 236,968	4	
5	SLT-15 - Secondary Residential Gas Service	72,767	\$ 6.00					\$ 436,602	\$ 436,602		5	
6	All Usage			4,382,074	\$ 1.14041	\$ 1.16888	\$ 0.02847	\$ 4,997,361	\$ 5,122,119		6	
7	Total							\$ 5,433,963	\$ 5,558,721	\$ 124,758	7	
8	SLT-20 - Multi-Family Master-Metered Gas Service	1,152	\$ 11.00					\$ 12,672	\$ 12,672		8	
9	Baseline Quantities			553,605	\$ 1.00859	\$ 1.03139	\$ 0.02280	\$ 558,360	\$ 570,983		9	
10	Tier II			194,887	\$ 1.09613	\$ 1.11893	\$ 0.02280	\$ 213,621	\$ 218,065		10	
11	Total							\$ 784,654	\$ 801,720	\$ 17,066	11	
12	SLT-25 - Multi-Family Master Metered Gas Service - Submetered	144	\$ 11.00					\$ 1,584	\$ 1,584		12	
13	Baseline Quantities			116,348	\$ 1.00859	\$ 1.03139	\$ 0.02280	\$ 117,347	\$ 120,000		13	
14	Tier II			299,433	\$ 1.09613	\$ 1.11893	\$ 0.02280	\$ 328,217	\$ 335,045		14	
15	Total							\$ 447,149	\$ 456,629	\$ 9,480	15	
16	SLT-40 - Core General Gas Service	16,124	\$ 11.00					\$ 214,804	\$ 214,804		16	
17	First 100	48	\$ 780.00					\$ 1,077,446	\$ 1,098,843		17	
18	Next 500			960,393	\$ 1.12188	\$ 1.14416	\$ 0.02228	\$ 1,891,468	\$ 1,931,483		18	
19	Next 2400			1,795,993	\$ 1.05316	\$ 1.07544	\$ 0.02228	\$ 1,596,131	\$ 1,632,255		19	
20	Over 3000			1,621,343	\$ 0.98445	\$ 1.00673	\$ 0.02228	\$ 1,531,929	\$ 1,571,331		20	
21	Total			1,768,501	\$ 0.86623	\$ 0.88851	\$ 0.02228	\$ 6,311,777	\$ 6,448,715	\$ 136,938	21	
22	SLT-50 - Core Natural Gas Service for Motor Vehicles	12	\$ 11.00					\$ 132	\$ 132		22	
23	All Usage			91,877	\$ 0.88473	\$ 0.89538	\$ 0.01065	\$ 81,286	\$ 82,265		23	
24	Total							\$ 81,418	\$ 82,397	\$ 978	24	
25	SLT-60 - Core Internal Combustion Engine Gas Service	0	\$ 11.00					\$ 0	\$ 0		25	
26	All Usage			0	\$ 0.91517	\$ 0.93745	\$ 0.02228	\$ 0	\$ 0		26	
27	Total							\$ 0	\$ 0	\$ 0.00%	27	
28	SLT-66 - Core Small Electric Power Generation Gas Service	0	\$ 11.00					\$ 0	\$ 0		28	
29	All Usage			0	\$ 0.85702	\$ 0.87930	\$ 0.02228	\$ 0	\$ 0		29	
30	Total							\$ 0	\$ 0	\$ 0.00%	30	
31	SLT-70 - Noncore General Gas Transportation Service	24	\$ 100.00					\$ 21,120	\$ 21,120		31	
32	All Usage	24	\$ 780.00	579,100	\$ 0.30965	\$ 0.31722	\$ 0.00757	\$ 179,318	\$ 183,702		32	
33	Total							\$ 200,438	\$ 204,822	\$ 4,384	33	
34	Total Annualized Change in Rates	<u>232,937</u>		<u>22,756,866</u>				<u>\$ 24,744,601</u>	<u>\$ 25,275,172</u>	<u>\$ 530,572</u>	<u>2.14%</u>	34

SOUTHWEST GAS CORPORATION
APPLICATION 19-04-____ - CUSTOMER DATA MODERNIZATION INITIATIVE
SOUTHERN CALIFORNIA
TYPICAL BILL IMPACT COMPARISON BASED ON AVERAGE ANNUAL USE [1]

Line No.	Description (a)	Monthly Consumption (Therms) (b)	Present Monthly Bill (c)	Proposed Monthly Bill (d)	Monthly Increase/(Decrease)		Line No.
					Dollars (e)	Percent (f)	
1	GS-10 - Residential Gas Service	40	\$ 76.80	\$ 78.63	\$ 1.83	2.38%	1
2	GS-15 - Secondary Residential Gas Service	34	77.58	79.41	1.83	2.36%	2
3	GS-20 - Multi-Family Master-Metered Gas Service	818	1,472.79	1,509.96	37.17	2.52%	3
4	GS-25 - Multi-Family Master Metered Gas Service - Submetered	2,222	3,926.96	4,027.89	100.93	2.57%	4
5	GS-40 - Core General Gas Service	243	352.58	358.18	5.59	1.59%	5
6	GS-50 - Core Natural Gas Service for Motor Vehicles	15,297	17,103.03	17,202.46	99.43	0.58%	6
7	GS-60 - Core Internal Combustion Engine Gas Service	1,908	2,275.33	2,295.92	20.58	0.90%	7
8	GS-LUZ - Solar Electric Power Generation Gas Service	403,933	65,790.10	66,832.24	1,042.15	1.58%	8
9	GS-66 - Core Small Electric Power Generation Gas Service	20	47.83	48.29	0.45	0.95%	9
10	GS-70 - Noncore General Gas Transportation Service	30,204	27,116.01	27,600.16	484.15	1.79%	10
11	GS-VIC - City of Victorville Gas Service	65,472	84,094.17	84,801.93	707.76	0.84%	11

[1] Based on revenue requirement of approx. \$ 3,569,758
The revenue requirement was allocated to all full margin transportation and sales customer classes.
The customer class allocation was based on the net plant factor calculated in the last GRC.

SOUTHWEST GAS CORPORATION
APPLICATION 19-04-____ - CUSTOMER DATA MODERNIZATION INITIATIVE
NORTHERN CALIFORNIA
TYPICAL BILL IMPACT COMPARISON BASED ON AVERAGE ANNUAL USE [1]

Line No.	Description (a)	Monthly Consumption (Therms) (b)	Present Monthly Bill (c)	Proposed Monthly Bill (d)	Monthly Increase/(Decrease)		Line No.
					Dollars (e)	Percent (f)	
1	GS-10 - Residential Gas Service	65	\$ 95.92	\$ 97.90	\$ 1.98	2.07%	1
2	GS-15 - Secondary Residential Gas Service	58	93.84	95.58	1.74	1.85%	2
3	GS-20 - Multi-Family Master-Metered Gas Service	578	812.51	830.13	17.61	2.17%	3
4	GS-25 - Multi-Family Master Metered Gas Service - Submetered	1,608	2,241.32	2,290.31	48.98	2.19%	4
5	GS-40 - Core General Gas Service	310	325.20	332.23	7.03	2.16%	5
6	GS-50 - Core Natural Gas Service for Motor Vehicles	5,864	4,069.89	4,152.35	82.45	2.03%	6
7	GS-60 - Core Internal Combustion Engine Gas Service	15	38.08	38.42	0.34	0.88%	7
8	GS-70 - Noncore General Gas Transportation Service	25,033	6,521.01	6,575.73	54.71	0.84%	8

[1] Based on revenue requirement of approx. \$ 677,202
The revenue requirement was allocated to all full margin transportation and sales customer classes.
The customer class allocation was based on the net plant factor calculated in the last GRC.

SOUTHWEST GAS CORPORATION
APPLICATION 19-04-____ - CUSTOMER DATA MODERNIZATION INITIATIVE
SOUTH LAKE TAHOE
TYPICAL BILL IMPACT COMPARISON BASED ON AVERAGE ANNUAL USE[1]

Line No.	Description (a)	Monthly Consumption (Therms) (b)	Present Monthly Bill (c)	Proposed Monthly Bill (d)	Monthly Increase/(Decrease)		Line No.
					Dollars (e)	Percent (f)	
1	GS-10 - Residential Gas Service	73	\$ 80.48	\$ 82.14	\$ 1.66	2.06%	1
2	GS-15 - Secondary Residential Gas Service	60	74.68	76.39	1.71	2.30%	2
3	GS-20 - Multi-Family Master-Metered Gas Service	650	681.12	695.94	14.81	2.17%	3
4	GS-25 - Multi-Family Master Metered Gas Service - Submetered	2,887	3,105.20	3,171.03	65.83	2.12%	4
5	GS-40 - Core General Gas Service	381	391.45	399.95	8.49	2.17%	5
6	GS-50 - Core Natural Gas Service for Motor Vehicles	7,656	6,784.86	6,866.40	81.54	1.20%	6
7	GS-70 - Noncore General Gas Transportation Service	24,129	8,351.60	8,534.25	182.66	2.19%	7

[1] Based on revenue requirement of approx. \$ 530,547
The revenue requirement was allocated to all full margin transportation and sales customer classes.
The customer class allocation was based on the net plant factor calculated in the last GRC.