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OFFICE OF RATEPAYER ADVOCATES
CALIFORNIA PUBLIC UTILITIES COMMISSION

Report on the Results of Operations
for
San Diego Gas & Electric Company
Southern California Gas Company
Test Year 2016
General Rate Case

Customers, Sales, Cost Escalation

San Francisco, California
April 24, 2015

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CUSTOMERS, SALES, COST ESCALATION

I. INTRODUCTION

This exhibit presents the analyses and recommendations of the Office of Ratepayer Advocates (ORA) regarding the Customers, Sales, and Cost Escalation proposals of San Diego Gas & Electric Company (SDG&E) and the Customers and Cost Escalation proposals of Southern California Gas Company (SCG or SoCalGas), otherwise known as the Sempra Utilities.

ORA and the Sempra Utilities present forecasts of labor, non-labor, shared services and capital escalation for 2014, 2015, and Test Year (TY) 2016. ORA forecasts lower escalation rates than the Sempra Utilities. ORA's recommended escalation rates reflect the use of more recent forecast information. Specifically, ORA relied upon the 4th quarter 2014 Global Insight Power Planner forecast while Sempra relied upon the 4th quarter 2013 Global Insight Power Planner forecast.

ORA and SDG&E forecast electric and gas customers for 2014, 2015, and TY 2016. ORA and SDG&E arrive at very similar results. For most customer classes ORA's and SDG&E's results are less than one percent apart.

ORA and SoCalGas forecast gas customers for 2014, 2015, and TY 2016. As in the case of SDG&E, ORA's and SoCalGas' results are very close with ORA's and SoCalGas' forecasts differing by less than one percent.

II. SUMMARY OF RECOMMENDATIONS

The following summarizes ORA's key recommendations regarding SDG&E's customers and sales forecasts:

- SDG&E recommends residential electric customers of 1,257,698 in 2014, 1,270,654 in 2015 and 1,286,981 in TY 2016. ORA's forecast of electric customers for the 2014-2016 forecast period is very close to SDG&E's. In 2014 ORA forecasts residential customers of 1,257,698, in 2015 and 2016, ORA forecasts, respectively, residential customers of 1,271,680 and 1,288,009.
- SDG&E recommends small commercial electric customer customers of 123,111 in 2014, 123,754 in 2015, and 124,362 in TY

1 2016. ORA forecasts small commercial electric sales of 123,136 in
2 2014, 123,717 in 2015 and 124,278 in TY 2016.

3 • For the combined medium commercial, large commercial, and
4 industrial class of service, SDG&E forecasts electric customers of
5 24,262 in 2014, 24,576 in 2015, and 24,875 in TY 2016. For this
6 same period, ORA forecasts, respectively, combined medium
7 commercial, large commercial, and industrial electric customers of
8 24,086, 24,262, and 24,436 for the 2014-2016 forecast period.

9 • SDG&E forecasts residential gas customers of 838,671 in 2014,
10 848,964 in 2015, and 861,283 in TY 2016. ORA forecasts slightly
11 lower residential gas customers of 836,758 in 2014, 846,823 in
12 2015, and 857,029 in TY 2016.

13 • SDG&E forecasts combined commercial and industrial gas
14 customers of 30,085 in 2014, 30,067 in 2015, and 30,121 in TY
15 2016. ORA forecasts commercial and industrial gas customers of
16 30,176 in 2014, 30,294 in 2015, and 30,451 in TY 2016.

17 The following summarizes ORA's key recommendations regarding SoCalGas'
18 customers forecasts:

19 • SoCalGas forecasts residential single-family customers of
20 3,626,418 for 2014, 3,645,823 in 2015, and 3,667,357 in TY 2016.
21 ORA's forecasts of single-family residential customers is virtually
22 identical to SoCalGas'. For 2014, 2015, and TY 2016, ORA
23 forecasts, respectively, residential single-family customers of
24 3,624,369, 3,643,378 and 3,669,092.

25 • SoCalGas forecasts residential multi-family customers of 1,752,150
26 in 2014, 1,771,553 in 2015, and 1,796,593 in TY 2016. For this
27 class of customers, ORA forecasts slightly lower customers. For
28 2014, 2015, and TY 2016, ORA forecasts, respectively, residential
29 multi-family customers of 1,748,672, 1,761,402 and 1,776,868.

30 • SoCalGas and ORA are forecasting the same level of residential
31 master meter customers. For 2014 SoCalGas and ORA are
32 forecasting 40,661 master meter customers, for 2015, 40,454
33 master meter customers, and for TY 2016, 40,248 master meter
34 customers.

35 • For the commercial class of service SoCalGas forecasts 188,058
36 commercial customers in 2014, 188,470 in 2015, and 188,979 in
37 TY 2016. ORA forecasts slightly lower commercial customers. In
38 2014 ORA forecasts 187,754 commercial customers, in 2015

1 187,623 commercial customers, and in 2016, 188,056 commercial
2 customers.

- 3 • For the industrial class of service, SoCalGas forecasts industrial
4 customers of 19,018 in 2014, 19,159 in 2015, and 19,238 in TY
5 2016. In 2014 and 2015 ORA is projecting slightly lower customers
6 than SoCalGas while for TY 2016 ORA is forecasting slightly higher
7 customers than SoCalGas. In 2014, 2015, and TY 2016, ORA
8 forecasts, respectively, industrial customers of 19,062, 19,334, and
9 19,525.

10 The following summarizes ORA's key recommendations regarding SDG&E's
11 and SoCalGas' labor, non-labor and shared services cost escalation forecasts:¹

- 12 • For 2014, 2015 and TY 2016, SDG&E recommends annual labor
13 escalation rates of 2.14 %, 2.35 % and 2.65 %, respectively. On a
14 compound basis SDG&E recommends a TY labor escalation rate of
15 7.31 %. ORA recommends labor escalation rates of 1.95 % in
16 2014, 2.32 % in 2015, and 2.80 % for TY 2016. On a compound
17 basis ORA recommends an SDG&E labor escalation rate of 7.23 %
18 for TY 2016.
- 19 • SDG&E recommends electric non-labor escalation rates of 1.71 %
20 in 2014, 2.15 % in 2015, and 2.25 % for TY 2016. Compounding
21 these annual estimates yields a recommended non-labor escalation
22 rate of 6.46 % for TY 2016. ORA recommends, respectively, annual
23 non-labor escalation rates of 0.96 %, 0.27 % and 1.77 % for 2014,
24 2015, and 2016. ORA's annual non-labor escalation rates yield a
25 compound non-labor escalation rate of 3.02 % for TY 2016.
- 26 • SDG&E recommends annual escalation rates for gas non-labor of
27 1.69 % in 2014, 2.11 % in 2015, and 2.23 % in 2016. SDG&E
28 recommends a compound gas non-labor escalation rate of 6.96 %
29 for TY 2016. Similar to the electric non-labor results, ORA
30 recommends lower annual and compound gas non-labor escalation
31 rates. ORA recommends annual gas non-labor escalation rates of
32 1.60 % in 2014, -0.95 % in 2015, and 1.52 % in 2015.
33 Compounding these annual escalation rates yields ORA's
34 recommended compound gas escalation rate of 2.16 % for TY
35 2016.

¹ The SDG&E and SoCalGas labor, non-labor, and shared services indexes are constructed as weighted averages of historic and forecast indexes taken from the IHS Global Insight Power Planner (Global Insight). The Global Insight indexes and the weightings are discussed in greater detail in Section V of this testimony.

- 1 • SDG&E recommends shared services escalation rates of 2.05 % in
2 2014, 2.23 % in 2015, and 2.47 % in TY 2016. For TY 2016 these
3 annual changes yield a 6.91 % compound escalation rate for 2016.
4 ORA recommends a shared services escalation rate of 1.47 % in
5 2014, a 0.81 % in 2015, and 2.16 % in 2016, for a compound
6 escalation rate of 4.50 % in TY 2016.
- 7 • SoCalGas recommends labor escalation rates of 2.26 % in 2014,
8 2.46 in 2015, and 2.60 % in TY 2016. Compounding these annual
9 rates yields a compound labor escalation rate of 7.49 % for TY
10 2016. ORA forecasts labor escalation rates of 1.94 %, 2.16 % and
11 2.85 % in 2014, 2015, and 2016, respectively. ORA's annual
12 escalation rates yield a compound labor escalation rate of 7.10 % in
13 TY 2016.
- 14 • SoCalGas recommends non-labor escalation rates of 1.69% in
15 2014, 2.11 % in 2015, and 2.23 % in TY 2016. These annual
16 percent changes result in a recommended compound non-labor
17 escalation rate of 6.16 % in TY 2016. ORA recommends annual
18 non-labor escalation rates of 1.64 % in 2014, a decline of 0.82 % in
19 2015, an increase of 1.42 % in 2016. Coupling the annual
20 percent changes yields a compound escalation rate of 2.24 % in TY
21 2016.
- 22 • For gas shared services SoCalGas recommends annual escalation
23 rates of 2.09 % in 2014, 2.42 % in 2015, and 2.54 % in TY 2016.
24 Compounding the annual escalation rates yields a compound
25 escalation rate of 7.22 % for TY 2016. ORA forecasts annual gas
26 shared services escalation rates of 1.66 % in 2014, 0.79 % in 2015,
27 and 2.14 % in TY 2016. This yields a compound escalation rate of
28 4.65 % for TY 2016.

29 The following summarizes ORA's key recommendations regarding SDG&E's
30 and SoCalGas' capital related cost escalation forecasts:²

- 31 • For Steam Production Plant SDG&E recommends annual
32 escalation rates of 1.01 % in 2014, 2.01 % in 2015, and 1.96 % in
33 2016. These annual rates yield a compound escalation rate of 5.06
34 % in TY 2016. ORA recommends steam production escalation

² The SDG&E and SoCalGas capital escalation rates are based on historic and forecast Handy-Whitman indexes taken from the Global Insight Power Planner model. The details of the construction of these indexes are discussed in greater detail in Section V of this testimony.

- 1 rates of 1.35 % in 2014, 1.88 % in 2015, and 2.48 % in TY 2016.
2 Compounding these annual rates yields a compound escalation
3 rate of 5.82 % in 2016.
- 4 • For Other Production Plant SDG&E forecasts annual escalation
5 rates of 1.60 % in 2014, 2.21 % in 2015, and 2.26 % in 2016.
6 These annual rates yield a compound escalation rate of 5.61 % for
7 TY 2016. ORA, on the other hand, forecasts Other Production plant
8 annual escalation rates of 3.59 % in 2014, 2.71 % in 2015, and
9 2.76 % in 2016, for a TY 2016 compound escalation rate of 9.33 %.
 - 10 • In the case of Electric Distribution Plant, SDG&E forecasts,
11 respectively, annual escalation rates 1.53 %, 2.25 %, and 2.34 %,
12 for 2014, 2015, and 2016. These annual rates yield a compound
13 escalation rate of 6.01 % for TY 2016. ORA forecasts annual
14 escalation rates of 2.88 % in 2014, 2.08 % in 2015, and 2.34 % in
15 2016. These annual rates yield a compound escalation rate of 7.40
16 % for TY 2016.
 - 17 • For Total Electric Plant, SDG&E forecasts annual escalation rates
18 of 1.49 % in 2014, 2.22 % in 2015, and 2.34 % in 2016. These
19 annual rates equate to a compound rate of 5.88 % in TY 2016.
20 ORA recommends escalation rates of 2.80 % in 2014, 2.12 % in
21 2015, and 2.34 % in 2016. These annual rates yield a compound
22 escalation rate of 7.43 % in 2016.
 - 23 • For Total Gas Plant, SDG&E and SoCalGas forecast annual
24 escalation rates of 1.38 % in 2014, 1.52 % in 2015, and 1.80 % in
25 TY 2016. These annual rates yield a compound rate of 4.77 % in
26 2016. ORA recommends annual escalation rates of 1.39 % in 2014,
27 2.05 % in 2015, and 2.27 % in 2016. Compounding these annual
28 rates yields a compound escalation rate of 5.82 % for TY 2016.
 - 29 • For Combined Cycle Plant, SDG&E recommends, respectively,
30 annual escalation rates of 1.19 %, 2.08 %, and 1.87 % for 2014,
31 2015, and 2016. These annual rates yield a compound escalation
32 rate of 5.23 % for TY 2016. For this plant category, ORA forecasts
33 annual escalation rates of 2.05 % in 2014, 2.14 % in 2015, and
34 2.57 % in 2016. ORA's annual escalation rates equate to a
35 compound rate of 6.91 % for TY 2016.
 - 36 • For Common Plant, SDG&E recommends annual escalation rates
37 of 1.51 % in 2014, 2.03 % in 2015, and 2.01 % in 2016. These
38 annual rates yield a compound escalation rate of 5.65 % for 2016.
39 ORA forecasts annual escalation rates of 2.36 % in 2014, 2.04 % in
40 2015, and 2.28 % in 2016. These annual rates equate to a
41 compound escalation rate of 6.82 % in TY 2016.

1 Table 3-1 compares ORA's and SDG&E's forecasts of gas customers³ for
 2 2014-2016:

3 Table 3-1
 4 Comparison of ORA's and SDG&E's Forecasts of Gas
 5 Customers for 2014-2016

Description	ORA Recommended			SDG&E Proposed ⁴		
	2014	2015	2016	2014	2015	2016
Residential	836,758	846,823	857,029	838,671	848,964	861,283
Commercial & Industrial	30,176	30,294	30,451	30,085	30,067	30,121
NGV	25	25	25	25	25	25
Electric Generation	70	74	77	70	74	77
Total Customers	867,029	877,216	887,582	868,851	879,130	891,506

6 Table 3-2 compares ORA's and SoCalGas' forecasts of gas customers for
 7 2014-2016:

8 Table 3-2
 9 Comparison of ORA's and SoCalGas' Forecasts of
 10 Customers for 2014-2016

Description	ORA Recommended			SoCalGas Proposed ⁵		
	2014	2015	2016	2014	2015	2016
Residential Single-Family	3,624,369	3,643,378	3,669,092	3,626,418	3,645,823	3,667,359
Residential Multi-Family	1,748,672	1,761,402	1,776,868	1,752,150	1,771,533	1,796,593
Residential Master Meter	40,661	40,454	40,248	40,661	40,454	40,248
Commercial	187,754	187,623	188,056	188,058	188,470	188,979
Industrial	19,062	19,334	19,525	19,018	19,159	19,238
Total Customers	5,620,518	5,652,191	5,693,789	5,626,305	5,665,439	5,712,414

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³ SoCalGas defines customers as Active Meters.

⁴ Ex. SDG&E-32, p. RMP-3.

⁵ Corrected SCG-30-WP, April 10, 2015.

1 Table 3-3 compares ORA's and SDG&E's forecasts of electric customers for
 2 2014-2016.

3 Table 3-3
 4 Comparison of ORA's and SDG&E's Forecasts of Electric
 5 Customers and Sales for 2014-2016

Description	ORA Recommended			SDG&E Proposed ⁶		
	2014	2015	2016	2014	2015	2016
Residential	1,258,233	1,271,680	1,288,009	1,257,698	1,270,654	1,286,981
Small Commercial	123,142	123,717	124,278	123,111	123,754	124,362
Med/Lg Comm/Ind	24,086	24,262	24,436	24,262	24,576	24,875
Agriculture	3,379	3,379	3,379	3,379	3,379	3,379
Lighting	5,896	5,841	5,790	5,896	5,841	5,790
Total Customers	1,414,736	1,428,879	1,445,892	1,414,346	1,428,204	1,445,387

6 Table 3-4 compares ORA's and SDG&E's 2014-2016 forecasts of cost
 7 escalation on a yearly percentage basis.

8 Table 3-4
 9 Comparison of ORA's and SDG&E's Forecasts of
 10 2014-2016 Labor and Non-Labor Annual Escalation Rates

Description	ORA Recommended			SDG&E Proposed ⁷		
	2014	2015	2016	2014	2015	2016
Labor	1.95 %	2.32 %	2.80 %	2.14 %	2.35 %	2.65 %
Non-Labor						
Electric Non-Labor	0.96 %	0.27 %	1.77 %	1.71 %	2.15 %	2.25 %
Gas Non-Labor	1.60 %	-0.95 %	1.52 %	1.69 %	2.11 %	2.23 %
Shared Services	1.47 %	0.81 %	2.16 %	2.05 %	2.23 %	2.47 %

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⁶ Ex. SDG&E-31, p. KES-1.

⁷ Ex. SDG&E-33-WP, p. 1.

1 Table 3-5 compares ORA's and SDG&E's 2014-2016 forecasts of cost
 2 escalation on a compound basis.

3 Table 3-5
 4 Comparison of ORA's and SDG&E's Forecasts of
 5 2014-2016 Labor and Non-Labor Compound Escalation Rates

Description	ORA Recommended			SDG&E Proposed ⁸		
	2014	2015	2016	2014	2015	2016
Labor	1.0195	1.0431	1.0723	1.0214	1.0454	1.0731
Non-Labor						
Electric Non-Labor	1.0096	1.0123	1.0302	1.0171	1.0392	1.0646
Gas Non-Labor	1.0160	1.0063	1.0216	1.0197	1.0429	1.0696
Shared Services	1.0147	1.0229	1.0450	1.0205	1.0433	1.0691

6 Table 3-6 compares ORA's and SoCalGas' 2014-2016 forecasts of cost
 7 escalation on a yearly percentage basis.

8 Table 3-6
 9 Comparison of ORA's and SoCalGas' Forecasts of
 10 2014-2016 Labor and Non-Labor Annual Escalation Rates

Description	ORA Recommended			SoCalGas Proposed ⁹		
	2014	2015	2016	2014	2015	2016
Labor	1.94 %	2.16 %	2.85 %	2.26 %	2.46 %	2.60 %
Non-Labor Gas	1.64 %	-0.82 %	1.42 %	1.69 %	2.11 %	2.23 %
Shared Services	1.66 %	0.79 %	2.14 %	2.09 %	2.42 %	2.54 %

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⁸ Ex. SDG&E-33-WP, p. 1.

⁹ Ex. SCG-31-WP, p. 1 of 5.

1 Table 3-7 compares ORA's and SoCalGas' 2014-2016 forecasts of cost
 2 escalation on a compound basis.

3 Table 3-7
 4 Comparison of ORA's and SoCalGas' Forecasts of
 5 2014-2016 Labor and Non-Labor Compound Escalation Rates

Description	ORA Recommended			SoCalGas Proposed ¹⁰		
	2014	2015	2016	2014	2015	2016
Labor	1.0194	1.0414	1.0710	1.0226	1.0478	1.0749
Non-Labor Gas	1.0164	1.0081	1.0224	1.0169	1.0384	1.0616
Shared Services	1.0166	1.0246	1.0465	1.0209	1.0456	1.0722

6 Table 3-8 compares ORA's and SDG&E's forecasts of capital escalation on a
 7 yearly percentage basis. SoCalGas only relies upon the Total Gas Plant escalation
 8 rate.

9 Table 3-8
 10 Comparison of ORA's and SDG&E's Forecasts of
 11 2014-2016 Capital Annual Escalation Rates

Description	ORA Recommended			SDG&E Proposed ¹¹		
	2014	2015	2016	2014	2015	2016
Steam Production Plant	1.35 %	1.88 %	2.48 %	1.01 %	2.01 %	1.96 %
Other Production Plant	3.59 %	2.71 %	2.76 %	1.60 %	2.21 %	2.26 %
Electric Distribution Plant	2.88 %	2.08 %	2.27 %	1.53 %	2.25 %	2.34 %
Total Electric Plant	2.80 %	2.12 %	2.34 %	1.49 %	2.22 %	2.34 %
Total Gas Plant	1.39 %	2.05 %	2.27 %	1.38 %	1.52 %	1.80 %
Combined Cycle Plant	2.05 %	2.14 %	2.57 %	1.19 %	2.08 %	1.87 %
Common Plant	2.36 %	2.04 %	2.28 %	1.51 %	2.03 %	2.01 %

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1 Table 3-9 compares ORA's and SDG&E forecasts of capital escalation on a
2 compound basis.

3 Table 3-9
4 Comparison of ORA's and SDG&E's Forecasts of
5 2014-2016 Capital Compound Escalation Rates

Description	ORA Recommended			SDG&E Proposed ¹²		
	2014	2015	2016	2014	2015	2016
Steam Production Plant	1.0135	1.0325	1.0582	1.0101	1.0304	1.0506
Other Production Plant	1.0359	1.0640	1.0933	1.0160	1.0385	1.0561
Electric Distribution Plant	1.0288	1.0502	1.0740	1.0153	1.0381	1.0601
Total Electric Plant	1.0280	1.0498	1.0743	1.0149	1.0374	1.0588
Total Gas Plant	1.0139	1.0347	1.0582	1.0138	1.0292	1.0477
Combined Cycle Plant	1.0205	1.0424	1.0691	1.0119	1.0330	1.0523
Common Plant	1.0236	1.0445	1.0682	1.0151	1.0357	1.0565

6

7 III. CUSTOMERS

8 A. SDG&E's Request

9 1. Electric Customers

10 SDG&E relies upon econometric and non-econometric methods to forecast
11 electric customers for 2014, 2015, and TY 2016. SDG&E forecasts customers
12 (active meters) to the residential, small commercial, industrial, agricultural, and
13 lighting classes of service.¹³

14

¹² Ex. SDG&E-33-WP, p. 1.

¹³ The industrial class of service includes medium commercial and large commercial customers as well as industrial customers.

1 **a. Residential Customers**

2 SDG&E relies upon an econometric model to forecast the majority of its
3 residential customers. Specifically, SDG&E's residential econometric model applies
4 to the residential customer classes DR and DRLI.¹⁴ SDG&E regresses the historic
5 first difference of residential customers on seasonal quarterly dummy variables,¹⁵ a
6 dummy variable capturing the 2003 fire storm, weighted lagged housing starts in the
7 SDG&E service area,¹⁶ and housing starts versus the change in housing starts. The
8 model is estimated with quarterly observations from the first quarter of 1994 through
9 the fourth quarter of 2013.

10 The remaining residential schedules DM, DS, and DT are forecasted based
11 on their historic trend growth.¹⁷

12 **b. Small Commercial**

13 Small commercial customers are forecast based on their historic trend growth
14 over the period 2009 through 2013. Specifically, current values of small commercial
15 customers are related to lagged values of small commercial customers. The lagged
16 values of small commercial customers are a function of the growth in non-residential
17 customers. The number of non-residential customers,¹⁸ in turn, is a function of

¹⁴ DR is defined as Residential Electric Service while DRLI is defined as Residential Electric Service Low Income.

¹⁵ A dummy variable is a variable that takes on the value one at a point in time and equals zero elsewhere.

¹⁶ This variable is constructed with pre-imposed weights on the three period lag of housing starts, with sum of the lagged weights equaling one.

¹⁷ Specifically, SDG&E's trend model for these classes is $y = a \cdot e^{\text{time}}$. This model captures the historic exponential growth for these customer classes.

¹⁸ Non-residential customers are defined to include customers on the following rate schedules, Small Commercial, (CUST-A), General Service, Demand Metered, (CUST_AD), General Service, Demand Metered, Commercial, (CUST_ALTOUC), General Service, Demand Metered, Industrial, (CUSTALTOUI), and Experimental Power, Agriculture, Time of Use, (CUST_PAT1).

1 commercial and industrial employment in SDG&E’s service area. An exponential
2 growth model is then used to forecast the number of non-residential customers.

3 **c. Industrial Customers**

4 SDG&E defines medium commercial, large commercial, and industrial
5 customers as customers on schedules General Service, Time Metered, Commercial
6 (CUST_ALTOUC); General Service, Time Metered, Industrial (ALTOUI); General
7 Service, Time Metered, Optional, (CUST_A6TOU); and Street and Highway Lighting,
8 Utility Owned Installations (LS1). For most of these categories, customer forecasts
9 are based on the level of customers in the previous quarter beginning with the first
10 quarter of 2014.

11 **2. Gas Customers**

12 SDG&E relies upon econometric models to forecast gas customers to the
13 residential and combined commercial and industrial customer classes. For the
14 residential sector, gas customers are modeled as a function of housing starts in the
15 SDG&E service area. Combined commercial and industrial customers are modeled
16 as a function of commercial and industrial employment in SDG&E’s gas service
17 area.¹⁹

18 **a. Residential Customers**

19 SDG&E’s residential gas model regresses total residential gas units on
20 current housing starts and housing starts lagged one and eight quarters, seasonal
21 dummy variables, and dummy variables for the fourth quarter of 2006, the second
22 quarter of 2007, and the second quarter of 2008.²⁰ The model is estimated with

¹⁹ With the exception of the SDG&E residential customer model, Sempra (SDG&E and SoCalGas) relied upon the SAS Econometric Software system.

²⁰ SoCalGas explains that: “A residential unit is not the same as a residential meter. A residential customer is defined as a meter. On the other hand, residential units are defined as the total residential dwelling units with gas service. For example, residential master meters will serve multiple residential units off of a single residential gas meter.” (SDG&E Response to ORA Data Request ORA-SDG&E-DR-040-TMR, January 21, 2015.)

1 quarterly observations over the period from the first quarter of 1990 through the third
2 quarter of 2013.

3 **b. Commercial and Industrial Customers**

4 SDG&E's commercial and industrial gas customer model regresses the log of
5 commercial and industrial customers on the log of commercial and industrial
6 employment in SDG&E service area lagged one quarter along with quarterly
7 seasonal dummy variables. The model is estimated with quarterly observations over
8 the period from the first quarter of 1990 through the fourth quarter of 2013.

9 **c. Natural Gas Vehicle and Electric Generation**

10 Natural Gas Vehicle (NGV) and Electric Generation customers are forecast
11 non-econometrically. For the NGV class, SDG&E explains that: "The NGV forecast
12 is based on the historical compound average growth in NGV meters. The compound
13 annual growth rate of the NGV meters was calculated for 2008-2013 as 2.8%. The
14 2.8% growth was applied to the forecast years 2014-2035, resulting in adding
15 approximately 1 NGV station per year."²¹

16 SDG&E explains that the forecasted number of Electric Generation (EG)
17 customers "is based on the historical EG meters and a year-to-year adjustment
18 based on whether any new gas-fired plants are expected to come online or retire in
19 the future. The basis for the retirement or addition of new gas plants comes from the
20 CEC's (California Energy Commission) website for the status of new gas fired power
21 plants."²²

²¹ SDG&E Response to ORA Data Request ORA-SDG&E-DR-015-TMR, Question 1, December 15, 2014.

²² SDG&E Response to ORA Data Request ORA-SDG&E-DR-015-TMR, Question 2, December 15, 2014.

1 **B. ORA’s Analysis – SDG&E**

2 **1. Electric Customers**

3 ORA developed econometric models to forecast customers to the residential,
4 small commercial, and industrial classes of service. The models relate historic
5 customers to housing starts and employment in SDG&E’s service areas along with
6 seasonal factors and other variables.

7 **a. Residential**

8 ORA’s residential model regresses the first difference of electric customers on
9 seasonal quarterly variables, lagged values of housing starts in SDG&E’s service
10 area, a dummy variable for the 2003 fire storm, and housing starts versus the
11 change in housing starts. Lagged housing starts are specified as a six quarter
12 polynomial distributed lag.²³ The model was estimated with quarterly observations
13 over the period the second quarter of 1994 through the fourth quarter of 2013.

14 For the 2014-2016 forecast period ORA’s and SDG&E’s residential forecasts
15 are less than one percent apart.²⁴ In 2014, SDG&E forecasts residential electric
16 customers of 1,257,698 while ORA forecasts residential customers of 1,258,223. In
17 2015 and TY 2016, ORA forecasts residential customers of 1,271,680 and
18 1,288,091, respectively. For 2015 and 2016, SDG&E forecasts residential customers
19 of 1,270,654 and 1,286,981, respectively.

20 ORA’s and SDG&E’s residential forecasts are also consistent with the historic
21 growth in residential electric customers. Over the period 1993 through 2013
22 residential electric customers grew, on average, by 1.16 percent per year. Over a
23 more recent period 2007 through 2013, electric residential customers grew, on
24 average, by less than one percent per year.

²³ A polynomial distributed lag forces the coefficients to lie upon a polynomial of a pre-specified degree. In this case ORA specified a degree of one which makes the estimated coefficients on the housing starts variable linear.

²⁴ ORA does not dispute SDG&E’s forecasts for residential customers on schedules DM, DS, and DT. These forecasts are added to the forecasts derived from ORA’s residential model.

1 **b. Small Commercial**

2 ORA modeled small commercial customers as a function of commercial and
3 industrial employment in SDG&E's electric service area.²⁵ Specifically, ORA's small
4 commercial model regresses the log of small commercial customers on the log of
5 employment in SDG&E's service area along with a series of monthly dummy
6 variables. The employment variable was modeled as an eight month polynomial
7 distributed lag.²⁶ The model was estimated with monthly observations over the
8 period January 2009 through December 2013.

9 For the 2014-2016 forecast period, ORA and SDG&E's forecasts of the
10 number of small commercial customers are less than one percent apart. For 2014,
11 ORA forecasts small commercial customers of 123,136 while SDG&E forecasts
12 customers of 123,111. In 2015 and TY 2016 ORA forecasts small commercial
13 customers of 123,710 and 124,269, respectively. For these years, SDG&E forecasts
14 small commercial customers of 123,754 and 124,362, respectively.

15 For the forecast period, SDG&E forecasts that small commercial customers
16 will increase by 0.42 percent between 2013 and 2014, while ORA is forecasting
17 small commercial customer growth of 0.44 percent between 2013 and 2014.
18 Between 2014 and 2015, SDG&E projects small commercial growth of 0.52 percent.
19 ORA projects a growth rate of 0.47 percent between these years. Between 2015 and
20 TY 2016, SDG&E forecasts a growth rate of 0.49 percent while ORA forecasts a
21 growth rate of 0.45 percent for these years. Both forecasts are consistent with the

²⁵ SDG&E historical industrial and employment series is only available on a quarterly basis. To derive monthly values for the employment ORA used linear interpolation. ORA data requested SDG&E for a monthly employment series but was informed that: "SDG&E used employment data from IHS Global Insight's Regional Economic Service. The employment data from this service is only available at a quarterly level. A user would need to interpolate this data to create a monthly series that is consistent with the required analysis." (SDG&E Response to ORA Data Request ORA-SDG&E-DR-039-TMR, January 21, 2015).

²⁶ A polynomial distributed lag forces the coefficients to lie upon a polynomial of a specified degree. In ORA's model it's a degree of one which means the coefficients are linear lags of the employment variable.

1 historic growth in small commercial customers. Over the period 2009 through 2013,
2 small commercial electric customers grew, on average, by 0.29 percent per year.

3 **c. Industrial Customers**

4 ORA's industrial model is similar to the commercial sector model. ORA
5 regressed the log of industrial customers on the log of commercial and industrial
6 employment in SDG&E's service area along with monthly dummy variables. The
7 employment variable is specified as an eight month polynomial distributed lag. The
8 model was estimated with monthly observations from January 2009 through
9 December 2013.

10 ORA forecasts slightly lower industrial customers than does SDG&E. For
11 2014, ORA forecasts industrial customers of 24,086 while SDG&E forecasts
12 customers of 24,262, a difference of less than one percent. In 2015, ORA forecasts
13 industrial sector customers of 24,262 while SDG&E forecasts customers of 24,576.
14 ORA's forecast is 1.28 percent below SDG&E's. In TY 2016, ORA forecasts
15 industrial customers of 24,436 and SDG&E forecasts industrial customers of 24,875,
16 for a difference of 1.76 percent.

17 Over the forecast period ORA projects lower industrial customer growth than
18 SDG&E. Between 2014 and 2015, SDG&E forecasts that industrial customers will
19 grow by 0.92 percent while ORA projects a growth rate of 0.18 percent. Between
20 2014 and 2015 ORA forecasts that industrial customers will grow by 0.73 percent
21 and SDG&E forecasts a growth rate of 1.29 percent. Finally, between 2015 and TY
22 2016, ORA forecasts an industrial customer growth rate of 0.72 percent while
23 SDG&E forecasts a growth rate of 1.22 percent. Over the historic 2009 – 2013
24 period industrial customer growth averaged 0.92 percent per year. SDG&E's
25 industrial forecast represent an increase over the historic growth rate for this
26 customer class.

27 **2. Gas Customers**

28 **a. Residential Customers**

29 ORA's residential gas customer model regresses the historic first-difference
30 of gas residential units on lagged values of residential housing starts in SDG&E's

1 service area, seasonal quarterly dummy variables, and dummy variables for the
2 fourth quarter of 2006, the second quarter of 2008, and the second quarter of 2007.
3 The housing start variable is modeled as a 6 quarter polynomial distributed lag.
4 ORA's model is estimated with quarterly observations over the period from the first
5 quarter of 1990 through the fourth quarter of 2013.

6 For the 2014 – 2016 forecast period, ORA's and SDG&E's forecast of
7 residential gas customers are less than one percent apart. ORA and SDG&E are
8 forecasting that SDG&E residential gas customers will grow, on average, by slightly
9 more than one percent per year over the forecast period. This exceeds the most
10 recent five year growth in residential customers. Over the period 2007 through 2013
11 residential gas customer growth averaged 0.58 percent per year.

12 **b. Commercial and Industrial**

13 ORA's combined commercial and industrial gas customer model relates
14 historic customer growth to commercial and industrial employment in SDG&E's
15 service area. Specifically, over the period from the first quarter of 1990 through the
16 fourth quarter of 2013, ORA regresses the log of commercial and industrial
17 customers on the log of commercial and industrial employment along with seasonal
18 quarterly dummy variables. The employment variable is specified as a six quarter
19 polynomial distributed lag.

20 For the 2014 – 2016 forecast period ORA's and SDG&E' forecasts of
21 commercial and industrial customers are less than one percent apart. Over the most
22 recent five year period, 2007 through 2013, commercial and industrial customer
23 growth averaged 0.21 percent per year. ORA's and SDG&E's forecasts are
24 consistent with the most recent growth in this customer class. Over the 2014-2016
25 period ORA forecasts that commercial and industrial customers will grow, on
26 average, by 0.47 percent per year. SDG&E expects commercial and industrial
27 customers to grow, on average, by 0.11 percent per year.

28 **C. SoCalGas' Request**

29 SoCal gas relies upon econometric models to forecasts customers to the
30 residential, commercial, and industrial classes of service. The residential class of

1 service is forecasted with separate econometric models for the single-family and
2 multi-family classes of service. Master meter residential customers are based on a
3 pre-imposed coefficient times lagged values of historic master meter customers. In
4 general, the econometric models relate historic customers to economic conditions in
5 the SoCalGas service area. For the residential classes of service historic customers
6 are modeled as a function of housing starts while for the commercial and industrial
7 sectors historic customers are modeled as a function of employment in the
8 SoCalGas service area.

9 SoCalGas draws a distinction between connected meters and active meters.
10 Active meters are defined as connected meters less inactive meters. Inactive
11 meters, in turn, are derived by applying quarterly factors to forecasted connected
12 meters.²⁷ ORA also relied upon this methodology.

13 **1. Residential Models**

14 **a. Residential Single Family**

15 SoCalGas' residential single-family residential econometric model regresses
16 the historic first-differences in single-family customers on single-family housing starts
17 lagged one and eight quarters along with quarterly seasonal dummy variables and
18 dummy variables for the third quarter of 1996, the third quarter of 2005, and a
19 dummy variable for the period from second quarter of 2007 through the fourth
20 quarter of 2011.²⁸ The model is estimated with quarterly observations from the
21 second quarter of 1979 through the fourth quarter of 2013.

22 **b. Residential Master Meter**

23 For the residential master meter sector, SoCalGas regresses the first
24 difference of residential master meter customers on multi-family housing starts

²⁷ The only exception to this is in the case of industrial meters. For the industrial class of service SoCalGas forecasts active meters directly from the econometric model and then derives inactive and connected meters from forecasted active industrial meters.

²⁸ A dummy variable is a variable that takes on the value one at a particular point in time and equals zero in all the other periods.

1 lagged four and eight quarters along with dummy variables representing the fourth
2 quarter of 1986, the third quarter of 1996, and the third quarter of 2003. The model is
3 estimated from the first quarter of 1979 through the fourth quarter of 2013.

4 **c. Residential Master Meter**

5 For the residential master meter sector, SoCalGas forecasts customers to this
6 class as a function of a fixed coefficient times the actual connected master meter
7 customers lagged four quarters.

8 **2. Commercial Model**

9 For the commercial sector, SoCalGas regresses historic connected
10 commercial customers on commercial employment lagged one and two quarters
11 along with quarterly seasonal dummy variables. A log-log specification is used and
12 the model is estimated from the first quarter of 1979 through the fourth quarter of
13 2013.

14 **3. Industrial Model**

15 For the industrial sector, SoCalGas regresses historic active industrial meters
16 on industrial employment lagged one quarter along with seasonal dummies for the
17 third and fourth quarters of each year. Similar to the commercial sector model, a log-
18 log specification is used with the model estimated from the second quarter of 1979
19 through the fourth quarter of 2013.

20 **D. ORA's Analysis – SoCalGas**

21 ORA also developed econometric models to forecast customers to the
22 residential, commercial, and industrial classes of service. ORA adopted SoCalGas'
23 approach of developing separate models for the residential single-family, the
24 residential multi-family and residential master meter, commercial, and industrial
25 classes of service.

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1. Residential Models

a. Residential Single-Family

ORA’s residential model is similar to SoCalGas’ model. ORA regresses the first difference of single-family customers on single-family housing starts lagged one and four quarters along with seasonal dummies for the second and third quarters of each year. Following SoCalGas, ORA’s model includes dummy variables for the third quarter of 1996, the third quarter of 2005, and a dummy variable for the period from second quarter of 2007 through the fourth quarter of 2011. The model is estimated with quarterly observations from the first quarter of 1979 through the fourth quarter of 2013.

ORA’s and SoCalGas’ residential single-family models yield similar forecast results. For each year of the 2014-2016 period ORA’s and SoCalGas’ forecasts of residential single-family active meters are less than one percent apart. The forecast single-family active meter growth rates are also similar. SoCalGas forecasts that this class of customers will grow, respectively, by 0.32 %, 0.54 % and 0.59 % between 2014, 2015, and TY 2016. ORA projects slightly lower growth rates in 2014, and 2015, and a slightly lower growth rate in TY 2016. Specifically, between 2013 and 2014 ORA forecasts a growth rate of 0.26 %, between 2014 and 2015, a growth rate of 0.52 %, and between 2015 and TY 2016 a growth rate of 0.71 %. Both the ORA and SoCalGas forecasts are consistent with the most recent, 2000-2009, growth in residential single-family customers. Between 2000 and 2009, residential single-family customers grew, on average, by 0.47 % per year. Over the 2014-2016 forecast horizon SoCalGas projects an average growth rate of 0.48 % per year while ORA forecasts an average growth rate of 0.50 % per year.

b. Residential Multi-Family

ORA’s residential multi-family model is similar to SoCalGas’. ORA’s model regresses the first-difference of multi-family connected customers on housing starts in SoCalGas’ service area lagged four quarters and a dummy variable for the third quarter of 1996. The model is estimated with quarterly observations over the period from the second quarter of 1979 through the fourth quarter of 2013.

1 **3. Industrial**

2 ORA's industrial model is similar to the commercial model. ORA regresses
3 the log of active industrial employment on the log of industrial employment in
4 SoCalGas' service area along with quarterly seasonal dummy variables. Similar, to
5 the commercial model, the log of employment is specified as a six quarter
6 polynomial distributed lag. The model is estimated with quarterly observations over
7 the period from the first quarter of 1979 through the fourth quarter of 2013.

8 For 2014 and 2015, ORA forecasts slightly lower industrial customers than
9 SoCalGas. For TY 2016, however, ORA's industrial customer forecast exceeds
10 SoCalGas' forecast by 1.49 %. Over the 2014-2016 forecast horizon ORA and
11 SoCalGas are forecasting increases in the number of industrial customers. This
12 stands in sharp contrast to the 2009-2013 decline in industrial customer growth.
13 Over the 2009-2013 period industrial customers declined, on average, by 1.27
14 percent per year. Over the 2014-2016 period SoCalGas is projecting that industrial
15 customers will grow, on average, by 0.61 % per year. ORA, on the other hand, is
16 projecting that industrial customers will grow, on average, by 1.1 % per year.

17 **IV. SALES**

18 **A. SDG&E's Request**

19 **1. Electric Sales**

20 SDG&E is forecasting total system electric sales of 20,013 Gigawatt hours
21 (gWh). This total is comprised of 7,681 (gWh) to the residential class, 12,241 (gWh)
22 to the combined commercial, industrial, and agriculture classes of service, and 91
23 (gWh) to the lighting class of service. SDG&E explains that it obtained its "sales
24 forecast for the TY2016 GRC from the adopted California Energy Commission's
25 (CEC) mid-demand forecast. SDG&E made an additional adjustment to the CEC's

1 mid-demand forecast by accounting for the CEC's Additional Achievable Energy
2 Efficiency (AAEE)."²⁹

3 **2. Gas Sales**

4 Gas sales for SDG&E are developed as part of the Commission's Triennial
5 Cost Allocation (TCAP) proceeding. As a result, discussion of the sales forecast is
6 excluded from this testimony.

7 **B. ORA's Analysis – SDG&E**

8 **1. Electric Sales**

9 ORA does not oppose SDG&E's proposed level of electric sales for TY 2016.

10 **2. Gas Sales**

11 Gas sales for SDG&E are developed in the Commission's TCAP. As a result,
12 gas sales forecasts are not discussed in this testimony.

13 **C. SoCalGas' Request**

14 Gas sales for SoCalGas are developed as part of the Commission's TCAP.
15 As a result, gas sales forecasts are not discussed in this testimony.

16 **D. ORA's Analysis – SoCalGas**

17 Gas sales for SoCalGas are developed as part of the Commission's TCAP.
18 As a result, gas sales forecasts are not discussed in this testimony.

19 **V. COST ESCALATION**

20 **A. SDG&E's Request**

21 SDG&E develops escalation rates for labor, electric operations and
22 maintenance expenses (O&M), gas O&M, shared services, electric and gas plant,
23 for 2014, 2015, and TY 2016. SDG&E also presents a company-wide escalation

²⁹ Ex. SDG&E-31, p. KES-2.

1 index to be applied to post-TY expenses. SDG&E's recommended escalation rates
2 are based on indexes taken from the IHS Global Insight Power Planner model (IHS).
3 Specifically, SDG&E relied upon the IHS Global Insight Power Planner 4th quarter
4 2013 forecast. ORA relied upon the IHS Global Insight Power Planner 4th quarter
5 2014 forecast. For the non-labor gas and electric categories ORA is forecasting
6 lower escalation than either SDG&E or SoCalGas. This result is largely explained by
7 the recent decline in commodity prices. The fourth quarter Global Insight Power
8 Planner, for example, noted that: "From the summer of 2014 through the end of the
9 year, commodity prices plummeted. IHS's Material Price Index fell by more than 25
10 %. A combination of weak global demand growth and increasing supply is to blame.
11 Prices have continued to slide in early 2015."³⁰

12 SDG&E's reliance upon the Global Insight Power Planner model is consistent
13 with the approach used, and approved by the Commission, in its past General Rate
14 Cases (GRCs).

15 1. Labor

16 SDG&E's forecasted labor escalation index is based on a weighted average
17 of three labor related indexes drawn from the Global Insight Power Planner.
18 Specifically, SDG&E's labor escalation index is comprised of: "CEU4422000008,
19 Utility Service Workers, weighted 27.184 %; ECIPWMBFNS, Managers and
20 Administrators, weighted 24.739 %; and ECIPWPARNNS, Professional and Technical
21 Workers, weighted 48.077 %."³¹ The weights for the three employee categories are
22 derived from 2013 recorded wage and salary data. The derivation of the weights is
23 shown in Table 3-10.

24 For the years 2013 and 2014 SDG&E has union contracts in place which call
25 for wage increases of 2.50 percent in each year. For these years SDG&E relies

³⁰ IHS Global Insight Power Planner, Fourth Quarter, 2015, p. 12.

³¹ Ex. SDG&E-33, p. SRW-2.

1 upon the union negotiated wage increases. For 2015 and TY 2016 wage increases
 2 for union workers are based on the Global Insight forecast for CEU4422000008.

3 For 2014, 2015, and TY 2016 SDG&E recommends weighted labor escalation
 4 rates of 2.14 percent, 2.35 percent, and 2.65 percent, respectively. On a compound
 5 basis, these escalation rates equal 2.14 percent in 2014, 4.54 percent in 2015, and
 6 7.31 percent in TY 2016.

7 **Table 3 –10³²**

8 **Labor Weights and Global Insight Proxy Indexes**

Employee Category	2013 Earnings	Weight	Global Insight Variable
(1)	(2)	(3)	(4)
Union	\$ 156,055,625	27.184 %	CEU4422000008
Executive & Management	\$ 142,024,626	24.739 %	ECIPWMBTNS
Non-Supervisor Management & Associate	\$ 276,003,869	48.077 %	ECIPWPARNs

9

10 **2. Electric Non-Labor**

11 SDG&E’s electric non-labor escalation index is based on a weighted average
 12 of several O&M non-labor escalation indexes taken from the Global Insight Power
 13 Planner. The expenditure weights applied to each of the sub-indexes are taken from
 14 the “cost center system of internal accounting and control...”³³ In its previous GRC,
 15 SDG&E adjusted its internal accounting data to the corresponding FERC account
 16 categories. Table 3-11 shows the accounting data, the corresponding weights, and

³² Ex. SDG&E-33-WP, p. 4.

³³ Ex. SDG&E-33, p. SRW-2.

1 the Global Insight Power Planner proxy indexes for SDG&E's electric O&M index –
 2 JETOTALMSX_SD.

3 For the electric O&M cost category SDG&E recommends annual escalation
 4 rates of 1.71 % in 2015, 2.15 % in 2016, and 2.25 % in 2016. On a compound basis
 5 the non-labor electric escalation rates equal 1.71 % in 2014, 3.92 % in 2015, and
 6 6.46 % in TY 2016. ORA recommends its updated escalation rates of 0.96 % in
 7 2014, 0.27 % in 2015, and 1.77 % in 2016. On a compound basis ORA's
 8 recommendation amounts to escalation rates of 0.96 % in 2014, 1.23 % in 2015, and
 9 3.02 % in TY 2016.

10 **Table 3-11**

11 **Electric Non-Labor Weights and Global Insight Proxy Indexes**

Description	FERC Account	2013 Expenses	Weight	Global Insight Index
(1)	(2)	(3)	(4)	(5)
Electric Steam Production	500-514	\$ 11,146,576	8.64 %	JEFOMMS
Other Electric Production	546-554	\$ 30,080,487	23.30 %	JEOOMS
Electric Distribution	580-598	\$ 43,225,213	33.48 %	JEDOMMS
Customer Accounts	901-905	\$ 9,629,937	7.46 %	JECAOMS
Customer Service & Info	907-910	\$ 8,489,044	6.58 %	JECSIOMS
Admin & Gen (exclude Acct 926)	920-935-ex 926	\$ 26,508,400	20.54 %	JEADGOMMS_x926
Total		\$ 129,079,657	100.00 %	JETOTALMSX_SD

12

1 **3. SDG&E Gas Non-Labor**

2 A procedure similar to that used to develop the electric non-labor O&M index
 3 is used to construct the gas non-labor O&M index. SDG&E O&M accounting data is
 4 coupled with indexes taken from the Global Insight Power Planner to form an overall
 5 gas non-labor O&M index. The gas O&M weights and the Global Insight indexes
 6 associated with each O&M expense category are reported in Table 3-12.

7 **Table 3-12³⁴**

8 **Gas Non-Labor Weights and Global Insight Proxy Indexes**

Description	FERC Account	2013 Expenses	Weight	Global Insight Index
(1)	(2)	(3)	(4)	(5)
Gas Transmission	850-867	\$ 5,030,354	17.71 %	JGTOMMS
Gas Distribution	870-894	\$ 8,519,732	30.00 %	JGDOMMS
Customer Accounts	901-905	\$ 3,162,760	11.14 %	JGCAOMS
Customer Service & Info	907-910	\$ 2,897,368	10.20 %	JGCSIOMS
Admin & Gen (exclude Account 926)	920- 935_x926	\$ 8,788,623	30.95 %	JEADGOMMS_X926
Total		\$ 28,788,623	100.00 %	JGTOTALMSX_SD

9 For 2014, 2015, and 2016, SDG&E recommends gas non-labor escalation
 10 rates of 1.69 %, 2.11 % and 2.23 %, respectively for 2014TY-2016. On a compound
 11 basis these equate to 1.69 % in 2014, 4.29 % in 2015, and 6.96 % in 2016.

³⁴ Ex. SDG&E-33-WP, p. 3.

1 **4. Shared Services – SDG&E**

2 SDG&E’s constructed shared services index incorporates labor and electric
 3 and gas non-labor cost escalation. In the construction of this index, electric and gas
 4 O&M, and labor expenses are coupled with various indexes drawn from the Global
 5 Insight Power Planner model. The expense categories, weights, and Global Insight
 6 proxy indexes are reported in Table 3-13.

7
 8 **Table 3-13³⁵**

9 **SDG&E Shared Services and Global Insight Proxy Indexes**

Description	FERC Account	2013 Expenses	Weight	Global Insight Index
(1)	(2)	(3)	(4)	(5)
Labor	---	\$ 45,068,000	43.36 %	
Steam Electric Production	500-514	\$ 1,579,647	1.52 %	JEFOMMS
Electric Distribution	580-598	\$ 19,610,358	16.27 %	JEDOMMS
Customer Accounts (Electric)	901-905	\$ 9,934,007	9.55 %	JECAOMS
Customer Service & Info (Electric)	907-910	\$ 23,294	0.02 %	JECSIOMS
A&G (Excl 926)	920-935_Ex926	\$ 14,577,736	14.02 %	JEADGOMMS_X926
Gas Transmission	850-867	\$ 603,838	0.58 %	JGTOMMS
Gas Distribution	870-894	\$ 6,971,475	6.71 %	JGDOMMS
Customer Accounts (Gas)	901-905	\$ 3,311,336	3.18 %	JGCAOMS
Customer Service & Info (Gas)	907-910	\$ 15,525	0.01 %	JGCSIOMS
Admin & Gen (Excl 926)	920-935_Exc 926	\$ 4,971,745	4.78 %	JEADGOMMS_Exc 926
Total		\$ 103,966,959	100.00 %	

10
 11
 35 Ex. SDG&E-33-WP, p. 3.

1 For the forecast period SDG&E recommends shared services escalation rates
2 of 2.05 percent in 2014, 2.23 percent in 2016, and 2.47 percent in TY 2016. SDG&E
3 recommends a compound shared services escalation rate of 6.91 percent for TY
4 2016.

5 **5. Capital Escalation**

6 SDG&E's forecasts of capital escalation for Steam Production Plant, Other
7 Production Plant, Electric Distribution Plant, and Total Gas Plant are taken directly
8 from the Global Insight Power Planner model. The forecasts of capital escalation for
9 Total Electric Plant, Combined Cycle Plant and Common Plant are constructed as
10 weighted averages of Steam Production Plant, Other Production Plant, and Electric
11 Distribution Plant.

12 **a. Total Electric Plant**

13 SDG&E's total electric plant escalation index is based on a weighted average
14 of electric distribution plant, steam production plant, and other production plant.
15 SDG&E explains that: "The weightings are based on SDG&E's 2013 ratebase for
16 electric distribution (80.86%) and for total electric generation (19.14%). Ratebase
17 was not split by generation type, so the generation weighting was split evenly
18 between "Steam" and "Other" production plant (9.57% each)."³⁶

19 **b. Combined Cycle Plant**

20 SDG&E's combined cycle plant index is based on a weighted average of the
21 Global Insight steam production and other production capital indexes. The steam
22 production index is weighted 68.8 % while the other production index is weighted
23 31.2 %. The weights are calculated from SDG&E's 2013 accounting data for the
24 Palomar generation facility.

25 **c. Common Plant**

26 SDG&E develops a common plant index, applicable to gas and electric
27 operations, as a weighted average of the Handy-Whitman total gas plant index, the

³⁶ Ex. SDG&E-33, p. SRW-4.

1 Handy-Whitman electric distribution index and the Handy-Whitman electric
2 transmission index. The gas plant index is weighted 25.18 %, the electric distribution
3 index is weighted by 62.49 %, and the electric transmission index is weighted by
4 12.33 %. SDG&E explains that: “The weights are SDG&E’s common-plant allocation
5 factors based on actual 2013 cost data.”³⁷

6 **B. ORA’s Analysis – SDG&E**

7 **1. Labor**

8 ORA adopts SDG&E’s labor escalation methodology. ORA, however, has
9 based its recommended labor escalation rates on a more recent Global Insight
10 Power Planner forecast. Specifically, ORA relied upon the 4th Quarter 2014 Global
11 Insight Power Planner forecast. Relying upon the more recent Global Insight
12 forecast yields slightly lower labor escalation rates. For 2014, 2015, and TY 2016,
13 ORA forecasts labor escalation rates of 1.95 %, 2.32 %, and 2.80 %, respectively.
14 These rates result in a compound 2016 labor escalation rate of 7.23 %.

15 **2. Electric Non-Labor**

16 ORA adopts SDG&E’s electric non-labor escalation methodology. However,
17 as in the case of the labor escalation rates, ORA’s recommended electric non-labor
18 escalation rates reflect the use of the more recent Global Insight Power Planner 4th
19 quarter 2014 forecast. For 2014, 2015, and TY 2016, ORA forecasts, respectively,
20 annual escalation rates of 0.96 %, 0.27 %, and 1.77 %. These annual rates
21 compound to a TY 2016 escalation rate of 6.46 %.

22 **3. Gas Non-Labor**

23 As in the case of labor and electric non-labor escalation ORA has adopted
24 SDG&E’s methodology but based its recommended escalation results on information
25 taken from the 4th quarter Global Insight Power Planner. For 2014, ORA forecasts a
26 non-labor gas escalation rate of 1.60 %, for 2015 a decline of 0.95 %, and for TY

³⁷ Ex. SDG&E-33, p. SRW-4.

1 2016 a rate of 1.52 %. Compounding the annual escalation rates yields a TY 2016
2 compound escalation rate of 2.16 %.

3 **4. Shared Services**

4 ORA has also adopted SDG&E's shared services escalation methodology.
5 Based on information taken from the 4th quarter Global Insight Power Planner
6 forecast ORA recommends lower escalation rates than does SDG&E. For 2014,
7 2015, and 2016, ORA recommends shared services escalation rates of 1.47 %, 0.81
8 %, and 2.16 %. These annual escalation rates equate to a compound escalation rate
9 of 6.91 % for TY 2016.

10 **5. Capital Escalation**

11 Similar to labor escalation, electric non-labor escalation, gas non-labor
12 escalation, and shared services escalation, ORA adopts SDG&E's capital related
13 escalation methodology. Unlike these escalation results, ORA is recommending
14 slightly higher capital escalation results.

15 **C. SoCalGas' Request**

16 **1. Labor**

17 SoCalGas' labor escalation methodology parallels the approach taken by
18 SDG&E. SoCalGas explains that its "labor escalation index is a weighted average of
19 three Global Insight wage and salary cost indexes: CEU4422000008, Utility Service
20 Workers (weighted 51.401%); ECIPWMBFNS, Managers and Administrators,
21 (weighted 19.728%); and ECIPWPARNs, Professional and Technical Workers
22 (weighted 28.871%). The weightings are based on recorded 2013 labor earnings for
23 the three corresponding categories of SoCalGas employees."³⁸

24

³⁸ Ex. SCG-31, pp. SRW-1, SRW-2.

1 The derivation of the weights and Global Insight indexes are reported in Table
2 3-14.

3 **Table 3-14³⁹**

4 **Labor Weights and Global Insight Proxy Indexes**

Employee Category	2013 Earnings	Weight	Global Insight Variable
(1)	(2)	(3)	(4)
Union	\$ 378,806,413	51.401 %	CEU4422000008
Executive & Management	\$ 145,386,071	19.728 %	ECIPWMBTNS
Non-Supervisor Management & Associate	\$ 212,772,633	28.871 %	ECIPWPARNs

5

6 For 2014, 2015, and 2016, SoCalGas recommends annual escalation rates of
7 2.26 %, 2.46 %, and 2.60 %, respectively. For TY 2016 these annual escalation
8 rates yield a compound escalation rate of 7.49 percent.

9 **2. Non-Labor**

10 SoCalGas' non-labor escalation index is constructed as a weighted average
11 of several gas O&M indexes taken from the Global Insight Power Planner. The
12 weights are based on 2013 recorded gas O&M expenditures. Table 3-15 reports the
13 2013 gas O&M expenditures, and the weights associated with each Global Insight
14 Power Planner Index.

15

³⁹ Ex. SCG-31-WP, p. 4 of 5.

Table 3-15⁴⁰

SoCalGas Non-Labor Weights and Global Insight Proxy Indexes

Description	FERC Account	2013 Expenses	Weight	Global Insight Index
(1)	(2)	(3)	(4)	(5)
Underground Storage	814-837	\$ 20,189,109	8.43 %	JGUSOMMS
Gas Transmission	850-867	\$ 60,557,501	25.30 %	JGTOMMS
Gas Distribution	870-894	\$ 58,265,547	24.36 %	JGDOMMS
Gas Customer Accounts	901-905	\$ 34,726,445	14.52 %	JGCAOMS
Gas Service & Information	907-910	\$ 9,730,629	4.07 %	JGCSIOMS
Gas A&G exl 926	920-935_x926	\$ 55,778,613	23.32 %	JGADOMMS_X926
Total		\$ 239,227,844	100.00 %	

For 2014, SoCalGas recommends a non-labor escalation of 1.69 %, for 2015 2.11 %, and for TY 2016 2.13 %. Compounding the annual escalation rates yields a non-labor gas escalation rate of 6.16 %.

3. Shared Services

SoCalGas' shared services index is a weighted average of labor expenses attributable to shared services and several gas O&M indexes taken from the Global Insight Power Planner model. Table 3-16 reports the 2013 labor and O&M expenses as well as the weights and the Global Insight indexes.

⁴⁰ Ex. SCG-31-WP, p. 3 of 5.

1
2

Table 3-16⁴¹

SoCalGas Shared Services and Global Insight Proxy Indexes

Description	FERC Account	2013 Expenses	Weight	Global Insight Index
(1)	(2)	(3)	(4)	(5)
Labor	---	\$ 49,260,532	61.45 %	---
Underground Storage	814-837	\$ 1,516,932	1.89 %	JGUSOMMS
Gas Transmission	850-867	\$ 2,399,915	2.99 %	JGTOMMS
Gas Distribution	870-894	\$ 2,712,830	3.38 %	JGDOMMS
Gas Customer Accounts	901-905	\$ 1,776,693	2.22 %	JGCAOMS
Gas Service & Information	907-910	\$ 2,561,964	3.20 %	JGCSIOMS
Gas A&G exc 926	920-935x926	\$ 19,941,019	24.87 %	JEADGOMMS_X926
Total		\$ 80,169,885	100.00 %	

3 For 2014, 2015, and 2016, SoCalGas recommends, respectively, annual
4 shared services escalation rates of 2.09 %, 2.42 %, and 2.54 %. Compounding the
5 annual escalation rates yields a compound escalation rate of 7.22 %.

⁴¹ Ex. SCG-31-WP, page 3 of 5.

1 **D. ORA’s Analysis – SoCalGas**

2 **1. Labor**

3 ORA adopts SoCalGas’ labor escalation methodology. SoCalGas’ labor
4 escalation methodology is consistent with the approach taken in previous GRC
5 filings. The approach recommended by SoCalGas has also been adopted by the
6 Commission in several GRC decisions.

7 The differing labor escalation rates recommended by ORA and SoCalGas
8 reflect ORA’s use of a more recent Global Insight Power Planner forecast.
9 Specifically, ORA relied upon the 4th quarter 2014 Global Insight Power Planner
10 forecast while SoCalGas relied upon 4th quarter 2013 Global Insight Power Planner
11 forecast.

12 For the 2014 – 2016 forecast period, ORA recommends, respectively, labor
13 escalation rates of 1.94 %, 2.16 %, and 2.65 %. Compounding the annual rates
14 yields a TY labor escalation rate of 7.10 %.

15 **2. Non-Labor**

16 ORA also adopts SoCalGas’ non-labor escalation methodology. As in the
17 case of SoCalGas’ labor escalation methodology, the non-labor escalation
18 methodology recommended by SoCalGas is consistent with the approach adopted
19 by this Commission in several GRC decisions.

20 ORA, however, recommended non-labor escalation rates are based on
21 forecasts taken from the 4th quarter 2014 Power Planner forecast. As a result, ORA
22 recommends lower non-labor escalation rates than does SoCalGas. In 2014 ORA
23 recommends a non-labor escalation rate of 1.64 %. In 2015 ORA is projecting a
24 decline in non-labor escalation of 0.82 % while in TY 2016 ORA forecasts non-labor
25 escalation to rise by 1.42 percent. ORA’s recommended compound escalation rate
26 for 2016 is 2.24 %.

27 **3. Shared Services**

28 ORA has also adopted SoCalGas’ shared services escalation methodology.
29 Similar to the labor and non-labor escalation methodologies SoCalGas’ approach
30 has been adopted by the Commission in several past GRC decisions. Finally, as in

1 the case of the labor and non-labor escalation results, ORA's recommendations
2 reflect the use of the more recent 4th quarter Global Insight Power Planner forecast.

3 For 2014, 2015, and 2016, ORA recommends, respectively, shared services
4 escalation rates of 1.66 %, 0.79 %, and 2.14 %. Compounding the annual escalation
5 rates yields a compound 2016 shared services escalation rate of 4.65 %.