

Application of SAN DIEGO GAS & ELECTRIC)
COMPANY for authority to update its gas and electric)
revenue requirement and base rates)
effective January 1, 2016 (U 902-M))

Application No. 14-11-_____
Exhibit No.: (SDG&E-37-WP)

WORKPAPERS TO PREPARED
DIRECT TESTIMONY OF
SANDRA K. HRNA
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

NOVEMBER 2014



PROPOSED POST-TEST YEAR RATEMAKING MECHANISM – SDG&E

A. TOTAL REVENUE REQUIREMENT

This post-test year (“PTY”) ratemaking mechanism proposes to adjust 2016 test-year (“TY”) authorized revenue requirement in the PTY’s 2017, and 2018 for:

1. Labor and non-labor costs based on IHS Global Insight’s forecast (Section B.1.),
2. Medical costs based on the Towers Watson forecast (Section B.2), and
3. Capital investments impact on rate base (Section C).

The base margin amounts adopted in SDG&E’s 2016 TY are from the testimony of SDG&E witness Khai Nguyen (Exhibit SDG&E-36) and utilized throughout these workpapers. Table 1 below summarizes the total revenue requirement associated with SDG&E’s PTY ratemaking mechanism including Miscellaneous Revenues and Franchise Fees & Uncollectible (“FF&U”).

Table 1

Line No.	Description (\$ in millions)	PTY – 2017*	PTY – 2018*
1	Total O&M Margin (excluding Medical and FFU)	\$704.0	\$721.4
2	Medical Expense	29.4	31.6
3	Capital Related Costs (Depreciation, Taxes, Return)	1190.3	1265.9
4	Total (L1 + L2 + L3)	1,923.7	2,018.9
5	FF&U (Electric =3.70%, Gas=2.29%)	64.4	65.1
6	Total Base Margin (L4 + L5)	1,988.1	2,084.0
7	Miscellaneous Revenues	19.2	19.2
8	Total Revenue Requirement (L6 + L7)	\$2,007.4	\$2,103.2
9	Revenue Requirement Increase \$	\$96.4	\$95.9
10	Revenue Requirement Increase %	5.04%	4.78%
<i>*Differences due to rounding.</i>			

B. OPERATION & MAINTENANCE (“O&M”) EXPENSES

The starting base for O&M escalation is the 2016 Test Year revenue requirement excluding miscellaneous revenues, capital related margin, medical expense, and FF&U (“O&M Margin”). O&M expenses are determined in total for the electric distribution, electric generation and gas departments. Medical costs are escalated separately.

1. Escalation of O&M, excluding medical: For simplicity in calculating PTY escalation, a gas and electric O&M utility input price index (“GEOMPI”) is used to adjust O&M expenses to reflect the expected cost inflation of goods and services that SDG&E will incur to serve its customers. The calculation of GEOMPI is described in Mr. Scott Wilder’s testimony (Exhibit SDG&E-33). The PTY O&M revenue requirement prior to FF&U gross up is calculated below in Table 2 (differences due to rounding):

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Table 2

Line No.	O&M Expense Adjustment (\$ in millions)	TY-2016	2017	2018
1	Prior Year O&M Margin		\$686.3	\$704.0
2	O&M Escalation Rate		2.58%	2.46%
3	Attrition-year O&M Escalation (L1 * L2)		\$17.7	\$17.3
4	O&M Expense (L1+ L3)	\$686.3	\$704.0	\$721.4

2. Escalation of Medical Costs: Medical costs adopted in SDG&E’s 2016 test year will be escalated annually using the Towers Watson medical escalation projections as described in the direct testimony of SDG&E witness Ms. Debbie Robinson (Exhibit SDG&E-22). The associated revenue requirement prior to FF&U gross up is calculated in Table 3 below (differences due to rounding):

Table 3

Line No.	Medical Cost Adjustment (\$ in millions)	TY-2016	2017	2018
1	Prior Year Medical Expense		\$27.2	\$29.4
2	Medical Escalation Rate		7.8%	7.8%
3	Attrition-year Medical Escalation (L1 * L2)		\$2.1	\$2.3
4	Medical Expense (L1+ L3)	\$27.2	\$29.4	\$31.6

C. CAPITAL-RELATED

1. This section describes the development of PTY plant additions and other PTY rate base changes to determine the capital-related revenue requirement (authorized returns, depreciation expense, taxes and gross ups) for the electric distribution (“ED”), electric generation (“EG”) and gas distribution (“GD”) departments. The recorded (2010-2012) plant additions are taken from historically recorded rate base. The recorded (2013) and forecasted (2014-2016) rate base components, plant additions and plant retirements are from the testimony and workpapers of SDG&E witness Mr. Jesse S. Aragon (Exhibit SDG&E-27-CWP). SDG&E escalates the average of 2010-2016 capital additions to determine PTY capital additions. Incremental depreciation and amortization reserve and deferred taxes are also calculated to determine the rate base for the attrition-year. The change in year-over-year rate base is used to calculate the capital costs components of the revenue requirement. The capital-related revenue requirement is shown in Table 4 below (differences due to rounding):

Table 4

Line No.	Capital-Related Attrition (\$ in millions)	TY-2016	2017	2018
1	Prior Year Capital-Related Costs		\$1,114.4	\$1,190.3
2	Capital-Related Attrition		75.9	75.5
3	Capital-Related Costs (L1+ L2)	\$1,114.4	\$1,190.3	\$1,265.9

The development of the PTY rate base and the derivation of individual revenue requirement components are described in detail below.

2. Weighted Average (WAVG) Rate Base (Tables 5, 7, 9): The starting point in developing WAVG rate base for each attrition-year is the prior year plant-in-service, accumulated depreciation reserve and accumulated amortization reserve. WAVG plant additions are added and capital retirements are subtracted to determine net plant additions. Changes to the net depreciation and net amortization reserve and accumulated deferred tax reserve are calculated as further described below.

a) Weighted Net Plant Additions

- 1) Plant additions (Table 6, 8, 10: Lines 10, 11-13) for the PTY are calculated using a seven-year period of recorded (2010-2013) and forecasted (2014-2016) capital additions. Each year is escalated to 2016 dollars and then averaged. The seven-year average is then escalated to 2017 and 2018 using Global Insight indices, as described in the testimony of Scott Wilder (Exhibit SDG&E-33).
 - 2) Plant retirements (Table 6, 8, 10: Lines 10, 14-16) for the PTY are calculated using a three-year period of forecasted (2014-2016) capital retirements. Each year is escalated to 2016 dollars and then averaged. The three-year average is then escalated to 2017 and 2018 using Global Insight indices, as described in the testimony of Scott Wilder (Exhibit SDG&E-33).
 - 3) WAVG Net Plant Additions (Table 6, 8, 10: Lines 1-3, 17): Each PTY's WAVG net plant additions is calculated using the ratio of the prior year WAVG net plant additions balance to the prior year end of year (EOY) net plant additions balance multiplied by the attrition-year's EOY net plant additions.
- b) Change in Accumulated Depreciation Reserve (Tables 6, 8, 10: Lines 4-6): Each PTY's WAVG net depreciation reserve is calculated using the ratio of the prior year WAVG net depreciation reserve to the prior year EOY net depreciation reserve multiplied by the attrition-year's EOY net depreciation reserve.. Net depreciation reserve includes annual retirements, cost of removal and salvage.
- c) Change in Net Amortization Reserve (Tables 6, 8, 10: Lines 7-9): Each PTY's WAVG net amortization reserve is calculated using the ratio of the prior year WAVG net amortization reserve to the prior year EOY net amortization reserve multiplied by the attrition-year's EOY net amortization reserve.
- d) Change in Accumulated Deferred Tax Reserve (Tables 5, 7, 9: Line 11): Each PTY's WAVG accumulated deferred tax is calculated by multiplying the average of the estimated year over year percentage change (2014-2015 and 2015-2016) by the prior year WAVG accumulated deferred tax.

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- e) Working Capital and Other (Tables 5, 7, 9: Lines 3-7): SDG&E is not proposing to change the rate base elements of Fuel in Storage, Materials and Supplies, Working Cash, and Customer Advances for Construction from the test year 2016 amounts.

- f) Allocation of Electric General Plant and Common Plant (Tables 5, 7: Lines 14-15): To calculate the allocations of Electric General Plant and Common Plant from ED to EG for each PTY, SDG&E uses the ratio (from Table 5) of prior year allocated Electric General Plant to the plant-in-service multiplied by the attrition-year plant-in-service. Similarly, SDG&E uses the ratio (from Table 5) of prior year allocated Common Plant to the plant-in-service multiplied by the attrition-year plant-in-service. The resulting allocations are transferred to EG in Table 7.

The resulting WAVG Depreciated Rate Base is used to calculate the capital-related revenue requirement (authorized returns, depreciation expense, taxes and gross ups) for the ED, EG and GD departments as described in Section C.3. below.

Table 5

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WEIGHTED AVERAGE DEPRECIATED RATE BASE
ELECTRIC DISTRIBUTION
(Thousands of Dollars)

		2016 RO Model			2017-2018 Attrition Year		
Source: Witness: Jesse S. Aragon / Exhibit SDG&E-27							
Line No.	Account Description	Recorded Year 2013	Estimated Year		Test Year 2016	PTY AY 2017	PTY AY 2018
			2014	2015			
Fixed Capital							
1	Plant-in-Service	5,838,012	6,257,997	6,797,536	7,302,839	7,810,572	8,297,352
2	Total Fixed Capital	5,838,012	6,257,997	6,797,536	7,302,839	7,810,572	8,297,352
Working Capital							
3	Fuel in Storage						
4	Materials & Supplies	35,933	38,098	38,818	39,665	39,665	39,665
5	Working Cash	-	-	-	124,107	124,107	124,107
6	Total Working Capital	35,933	38,098	38,818	163,771	163,771	163,771
Other							
7	Customer Advances For Construction	(14,720)	(25,147)	(26,704)	(26,885)	(26,885)	(26,885)
8	Total Other	(14,720)	(25,147)	(26,704)	(26,885)	(26,885)	(26,885)
Deductions For Reserves							
9	Accumulated Depreciation Reserve	2,398,023	2,527,376	2,673,700	2,830,835	2,995,115	3,170,176
10	Accumulated Amortization Reserve	125,429	162,559	211,205	266,905	324,787	386,474
11	Accumulated Deferred Taxes	399,947	373,466	358,216	336,210	319,019	302,707
12	Total Deductions For Reserves	2,923,400	3,063,401	3,243,121	3,433,950	3,638,921	3,859,357
13	Weighted Average Depreciated Rate Base	2,935,826	3,207,547	3,566,528	4,005,774	4,308,538	4,574,881
14	Allocated Electric General		(8,518)	(8,526)	(8,570)	(9,166)	(9,737)
15	Allocated Common		(13,686)	(16,512)	(17,823)	(19,062)	(20,250)
16	Total Weighted Average Rate Base		3,185,343	3,541,490	3,979,381	4,280,310	4,544,894

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Table 6

San Diego Gas and Electric Company
WAVG Rate Base Support: Capital Additions, Capital Retirements, Net Depreciation and Amortization Reserve
ELECTRIC DISTRIBUTION
(Thousands of Dollars)

		2016 RO Model		2017-2018 Attrition Year						
Line No.	Description	2016		2017			2018			
		End of Year	WAVG	End of Year	WAVG	WAVG Increase	End of Year	WAVG	WAVG Increase	
Plant-in-Service										
1	Beginning of the Year	7,057,148	7,057,148	7,588,756	7,588,756	531,608	8,068,707	8,068,707	479,951	
2	Net Plant Additions	531,608	245,690	479,951	221,817	(23,874)	494,726	228,645	6,828	
3	Total	7,588,756	7,302,839	8,068,707	7,810,572	507,734	8,563,432	8,297,352	486,779	
Accumulated Depreciation Reserve										
4	Beginning of the Year	2,747,592	2,747,592	2,906,085	2,906,085	158,493	3,075,597	3,075,597	169,512	
5	Net Depreciation Reserve	158,493	83,242	169,512	89,030	5,787	180,077	94,578	5,549	
6	Total	2,906,085	2,830,835	3,075,597	2,995,115	164,280	3,255,674	3,170,176	175,061	
Accumulated Amortization Reserve										
7	Beginning of the Year	238,643	238,643	294,559	294,559	55,916	354,363	354,363	59,804	
8	Net Amortization Reserve	55,916	28,262	59,804	30,227	1,965	63,531	32,111	1,884	
9	Total	294,559	266,905	354,363	324,787	57,881	417,894	386,474	61,688	
		Recorded				Forecast			PTY	
		2010 (2010\$)	2011 (2011\$)	2012 (2012\$)	2013 (2013\$)	2014 (2014\$)	2015 (2015\$)	2016 (2016\$)	2017	2018
10	Escalation Rates to 2016\$	17.120%	12.296%	8.541%	6.012%	4.415%	2.116%	0.000%	2.338%	3.078%
11	Capital Additions (Table 11)	458,807	352,196	436,433	380,272	691,996	539,756	619,313		
12	Capital Additions (2016\$)	537,357	395,501	473,709	403,132	722,549	551,178	619,313		
13	Capital Additions 7-Year Average							528,963	541,331	557,996
14	Capital Retirements (Table 12)					63,162	50,515	62,399		
15	Capital Retirements (2016\$)					65,951	51,584	62,399		
16	Capital Retirements 3-Year Average							59,978	61,380	63,270
17	Net Plant Additions for Ratebase								479,951	494,726

Table 7

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San Diego Gas and Electric Company
WEIGHTED AVERAGE DEPRECIATED RATE BASE
ELECTRIC GENERATION
(Thousands of Dollars)

		2016 RO Model			2017-2018 Attrition Year		
Source: Witness: Jesse S. Aragon / Exhibit SDG&E-27							
Line No.	Account Description	Recorded Year 2013	Estimated Year		Test Year 2016	PTY AY 2017	PTY AY 2018
			2014	2015			
Fixed Capital							
1	Plant-in-Service	950,786	978,971	995,965	1,005,247	1,042,713	1,117,550
2	Total Fixed Capital	950,786	978,971	995,965	1,005,247	1,042,713	1,117,550
Working Capital							
3	Fuel in Storage						
4	Materials & Supplies	23,306	49,662	65,231	65,927	65,927	65,927
5	Working Cash	-	-	-	-	-	-
6	Total Working Capital	23,306	49,662	65,231	65,927	65,927	65,927
Other							
7	Customer Advances For Construction	-	-	-	-	-	-
8	Total Other	-	-	-	-	-	-
Deductions For Reserves							
9	Accumulated Depreciation Reserve	259,104	292,904	329,685	367,163	405,822	446,599
10	Accumulated Amortization Reserve	-	1	3	6	8	10
11	Accumulated Deferred Taxes	45,718	48,874	54,980	60,540	67,382	74,998
12	Total Deductions For Reserves	304,822	341,779	384,669	427,708	473,212	521,607
13	Weighted Average Depreciated Rate Base	669,270	686,854	676,527	643,465	635,429	661,870
14	Allocated Electric General		8,518	8,526	8,570	9,166	9,737
15	Allocated Common		13,686	16,512	17,823	19,062	20,250
16	Total Weighted Average Rate Base		709,057	701,565	669,858	663,657	691,857

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Table 8

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WAVG Rate Base Support: Capital Additions, Capital Retirements, Net Depreciation and Amortization Reserve
ELECTRIC GENERATION
(Thousands of Dollars)

		2016 RO Model		2017-2018 Attrition Year																																																																																																																			
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Plant-in-Service																																																																																																																							
1	Beginning of the Year	1,001,203	1,001,203	1,010,476	1,010,476	9,272	1,084,397	1,084,397	73,922																																																																																																														
2	Net Plant Additions	9,272	4,044	73,922	32,238	28,194	76,019	33,153	915																																																																																																														
3	Total	1,010,476	1,005,247	1,084,397	1,042,713	37,466	1,160,417	1,117,550	74,837																																																																																																														
Accumulated Depreciation Reserve																																																																																																																							
4	Beginning of the Year	348,209	348,209	386,161	386,161	37,952	425,528	425,528	39,367																																																																																																														
5	Net Depreciation Reserve	37,952	18,954	39,367	19,661	706	42,192	21,072	1,411																																																																																																														
6	Total	386,161	367,163	425,528	405,822	38,659	467,720	446,599	40,778																																																																																																														
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7	Beginning of the Year	5	5	7	7	2	9	9	2																																																																																																														
8	Net Amortization Reserve	2	1	2	1	0	2	1	0																																																																																																														
9	Total	7	6	9	8	2	11	10	2																																																																																																														
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Table 9

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WEIGHTED AVERAGE DEPRECIATED RATE BASE
GAS DISTRIBUTION
(Thousands of Dollars)

		2016 RO Model			2017-2018 Attrition Year		
Source: Witness: Jesse S. Aragon / Exhibit SDG&E-27							
Line No.	Account Description	Recorded Year 2013	Estimated Year		Test Year 2016	PTY AY 2017	PTY AY 2018
			2014	2015			
Fixed Capital							
1	Plant-in-Service	1,552,171	1,639,346	1,728,304	1,821,343	1,917,710	1,998,109
2	Total Fixed Capital	1,552,171	1,639,346	1,728,304	1,821,343	1,917,710	1,998,109
Working Capital							
3	Fuel in Storage	282	282	282	282	282	282
4	Materials & Supplies	3,536	3,615	3,667	3,728	3,728	3,728
5	Working Cash	-	-	-	17,689	17,689	17,689
6	Total Working Capital	3,818	3,896	3,949	21,699	21,699	21,699
Other							
7	Customer Advances For Construction	(1,706)	(1,613)	(1,400)	(1,216)	(1,216)	(1,216)
8	Total Other	(1,706)	(1,613)	(1,400)	(1,216)	(1,216)	(1,216)
Deductions For Reserves							
9	Accumulated Depreciation Reserve	900,989	928,355	962,961	994,894	1,022,813	1,052,023
10	Accumulated Amortization Reserve	41,490	47,351	57,237	68,621	80,139	92,200
11	Accumulated Deferred Taxes	80,394	58,059	57,252	55,575	54,375	53,201
12	Total Deductions For Reserves	1,022,872	1,033,765	1,077,450	1,119,091	1,157,327	1,197,424
13	Weighted Average Depreciated Rate Base	531,411	607,865	653,402	722,735	780,865	821,168
14	Total Weighted Average Rate Base		607,865	653,402	722,735	780,865	821,168

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Table 10

San Diego Gas and Electric Company
WAVG Rate Base Support: Capital Additions, Capital Retirements, Net Depreciation and Amortization Reserve
GAS DISTRIBUTION
(Thousands of Dollars)

		2016 RO Model		2017-2018 Attrition Year						
Line No.	Description	2016		2017			2018			
		End of Year	WAVG	End of Year	WAVG	WAVG Increase	End of Year	WAVG	WAVG Increase	
Plant-in-Service										
1	Beginning of the Year	1,779,785	1,779,785	1,886,621	1,886,621	106,836	1,966,542	1,966,542	79,921	
2	Net Plant Additions	106,836	41,558	79,921	31,088	(10,470)	81,151	31,567	478	
3	Total	1,886,621	1,821,343	1,966,542	1,917,710	96,367	2,047,693	1,998,109	80,400	
Accumulated Depreciation Reserve										
4	Beginning of the Year	978,839	978,839	1,005,909	1,005,909	27,069	1,034,410	1,034,410	28,502	
5	Net Depreciation Reserve	27,069	16,055	28,502	16,904	849	29,697	17,613	709	
6	Total	1,005,909	994,894	1,034,410	1,022,813	27,919	1,064,107	1,052,023	29,210	
Accumulated Amortization Reserve										
7	Beginning of the Year	62,911	62,911	74,126	74,126	11,215	85,935	85,935	11,809	
8	Net Amortization Reserve	11,215	5,710	11,809	6,013	302	12,304	6,265	252	
9	Total	74,126	68,621	85,935	80,139	11,518	98,239	92,200	12,061	
		Recorded				Forecast			PTY	
		2010 (2010\$)	2011 (2011\$)	2012 (2012\$)	2013 (2013\$)	2014 (2014\$)	2015 (2015\$)	2016 (2016\$)	2017	2018
10	Escalation Rates to 2016\$	23.376%	12.711%	4.434%	4.770%	3.348%	1.799%	0.000%	2.098%	1.538%
11	Capital Additions (Table 11)	87,026	52,942	73,434	79,587	111,623	81,924	108,537		
12	Capital Additions (2016\$)	107,370	59,671	76,690	83,383	115,361	83,398	108,537		
13	Capital Additions 7-Year Average							90,630	92,532	93,955
14	Capital Retirements (Table 12)					13,541	9,983	12,897		
15	Capital Retirements (2016\$)					13,994	10,163	12,897		
16	Capital Retirements 3-Year Average							12,351	12,611	12,805
17	Net Plant Additions for Ratebase								79,921	81,151

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Table 11

**SAN DIEGO GAS & ELECTRIC
RECORDED & FORECASTED CAPITAL ADDITIONS BY FUNCTION
(Thousands of Dollars)**

Source: Witness: Jesse S. Aragon / Exhibit SDG&E-27-CWP

Asset ID	Description/Function	RECORDED				FORECASTS		
		2010	2011	2012	2013	2014	2015	2016
10	Steam Production Land	0	0	0	0	-	-	-
20	Steam Production Easements	0	0	0	0	-	-	-
30	Steam Production Other	6,499	141,042	8,356	23,306	6,952	668	742
		6,499	141,042	8,356	23,306	6,952	668	742
40	Other Production Land	0	0	0	0	-	-	-
50	Other Production Easements	0	0	0	0	-	-	-
60	Other Production Other	1,301	150,712	17,609	1,279	16,804	9,105	9,236
		1,301	150,712	17,609	1,279	16,804	9,105	9,236
70	Electric Transmission Assigned to Generation	0	5,130	794	0	-	-	-
80	Electric Distribution Assigned to Generation	0	0	0	0	-	-	-
90	Nuclear Generation	0	0	0	0	-	8,135	2,349
100	Electric Distribution Software & Franchises	219	5,305	69,550	15,264	39,257	7,930	5,074
100	Electric Distribution Software & Franchises - Fully Recovered	0	0	0	0	-	-	-
110	Electric Distribution Land	0	3,003	180	2,471	-	-	-
120	Electric Distribution Easements	1,996	1,979	1,825	1,451	5,289	5,334	5,809
130	Electric Distribution Other	369,183	261,734	243,041	241,254	484,524	429,081	454,469
		371,397	272,021	314,596	260,440	529,069	442,345	465,352
140	Electric Generation Assigned to Electric Distribution	9,707	21,710	7,829	8,992	4,189	254	1
150	Electric Transmission Land Assigned to Electric Distribution	0	0	879	0	-	-	-
151	Electric Transmission Easement Assigned to Electric Distribution	0	0	161	0	-	-	-
152	Electric Transmission Other Assigned to Electric Distribution	518	5,660	1,970	2,759	-	4,921	18,562
		10,225	27,371	10,839	11,751	4,189	5,175	18,562
160	Electric General Land & Non Depreciables	0	13	0	0	-	-	-
170	Electric General Other	16,629	17,261	29,481	34,896	15,016	6,078	25,595
		16,629	17,273	29,481	34,896	15,016	6,078	25,595
180	Gas Storage Land	0	0	0	0	-	-	-
190	Gas Storage Other	118	210	0	0	-	-	-
		118	210	0	0	-	-	-
200	Gas Transmission Land	0	0	0	0	-	-	-
210	Gas Transmission Easements	0	0	1	0	507	-	-
220	Gas Transmission Other	3,682	6,282	17,174	32,449	44,315	11,952	10,730
		3,682	6,282	17,175	32,449	44,822	11,952	10,730
230	Gas Distribution Software & Franchises	0	0	0	0	-	-	-
230	Gas Distribution Software & Franchises - Fully Recovered	0	0	0	0	-	-	-
240	Gas Distribution & General Land	0	0	0	0	-	-	-
250	Gas Distribution & General Easements	15	55	22	27	16	29	32
260	Gas Distribution & General Other	71,726	41,053	42,521	31,794	43,602	56,866	78,532
		71,740	41,109	42,543	31,821	43,619	56,895	78,564
270	Common Software 5 Year	41,473	29,803	30,684	27,026	85,138	49,101	37,727
270	Common Software 5 Year-Fully Recovered	0	0	0	0	-	-	-
280	Common Software 15 Year	0	0	0	0	-	-	-
280	Common Software 15 Year-Fully Recovered	0	0	0	0	-	-	-
290	Common Land & Non-Depreciable Easements	0	26,028	1,556	0	-	-	-
300	Common IT Hardware	0	0	0	0	11,320	13,853	38,729
310	Common Other	31,756	18,352	69,139	67,334	76,674	39,682	55,248
		73,229	74,184	101,379	94,360	173,131	102,636	131,704
Total		554,819	735,333	542,772	490,303	833,601	642,989	742,833
Allocation of Common IT:								
	Electric Generation	1,186	33,312	6,146	5,859	6,227	3,401	2,656
	Electric Distribution	60,557	35,531	81,517	73,184	143,721	86,158	109,804
	Gas	11,486	5,341	13,716	15,317	23,183	13,077	19,244
		73,229	74,184	101,379	94,360	173,131	102,636	131,704

Description/Function	Asset ID	2010	2011	2012	2013	2014	2015	2016
Electric Distribution	100+110+120+130+140+150+151+152+160+170+Common IT	458,807	352,196	436,433	380,272	691,996	539,756	619,313
Electric Generation	10+20+30+40+50+60+70+80+Common IT	8,986	330,195	32,906	30,444	29,982	13,174	12,634
Gas Distribution	180+190+200+210+220+230+240+250+260+Common IT	87,026	52,942	73,434	79,587	111,623	81,924	108,537
		554,819	735,333	542,772	490,303	833,601	634,855	740,484

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Table 12

**SAN DIEGO GAS & ELECTRIC
FORECASTED CAPITAL RETIREMENTS BY FUNCTION
(Thousands of Dollars)**

Source: Witness: Jesse S. Aragon / Exhibit SDG&E-27-CWP

Asset		FORECASTS		
		Total 2014 Retirements	Total 2015 Retirements	Total 2016 Retirements
ID	Description/Function			
10	Steam Production Land	-	-	-
20	Steam Production Easements	-	-	-
30	Steam Production Other	575	583	583
		575	583	583
40	Other Production Land	-	-	-
50	Other Production Easements	-	-	-
60	Other Production Other	116	120	122
		116	120	122
70	Electric Transmission Assigned to Generation	-	-	-
80	Electric Distribution Assigned to Generation	-	-	-
90	Nuclear Generation	-	-	-
100	Electric Distribution Software & Franchises	-	-	-
100	Electric Distribution Software & Franchises - Fully Recovered	-	-	-
110	Electric Distribution Land	-	-	-
120	Electric Distribution Easements	446	474	503
130	Electric Distribution Other	29,173	31,812	34,115
		29,620	32,287	34,618
140	Electric Generation Assigned to Electric Distribution	-	-	-
150	Electric Transmission Land Assigned to Electric Distribution	-	-	-
151	Electric Transmission Easement Assigned to Electric Distribution	-	-	-
152	Electric Transmission Other Assigned to Electric Distribution	-	-	-
		-	-	-
160	Electric General Land & Non Depreciables	-	-	-
170	Electric General Other	818	691	1,101
		818	691	1,101
180	Gas Storage Land	-	-	-
190	Gas Storage Other	-	-	-
		-	-	-
200	Gas Transmission Land	-	-	-
210	Gas Transmission Easements	1	1	1
220	Gas Transmission Other	114	132	137
		115	133	138
230	Gas Distribution Software & Franchises	-	-	-
230	Gas Distribution Software & Franchises - Fully Recovered	-	-	-
240	Gas Distribution & General Land	-	-	-
250	Gas Distribution & General Easements	43	43	43
260	Gas Distribution & General Other	6,367	6,341	7,201
		6,410	6,384	7,244
270	Common Software 5 Year	-	-	-
270	Common Software 5 Year-Fully Recovered	-	-	-
280	Common Software 15 Year	-	-	-
280	Common Software 15 Year-Fully Recovered	-	-	-
290	Common Land & Non-Depreciable Easements	-	-	-
300	Common IT Hardware	34,831	9,073	8,176
310	Common Other	5,652	12,304	24,545
		40,483	21,377	32,721
Total		78,136	61,575	76,528
Allocation of Common IT:				
	Electric Generation	743	374	527
	Electric Distribution	32,725	17,537	26,680
	Gas	7,016	3,466	5,514
		40,483	21,377	32,721
Description/Function	Asset ID	2014	2015	2016
Electric Distribution	100+110+120+130+140+150+151+152+160+170+Common IT	63,162	50,515	62,399
Electric Generation	10+20+30+40+50+60+70+80+Common IT	1,434	1,077	1,232
Gas Distribution	180+190+200+210+220+230+240+250+260+Common IT	13,541	9,983	12,897
Total Retirements by Major Function		78,136	61,575	76,528

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3. Capital-Related Revenue Requirement: The capital-related revenue requirement components for each attrition-year are calculated using the methodology described below:
- a) Depreciation Expense (Tables 14, 17, 20: Lines 1-7): Depreciation expense is calculated by multiplying the current PTY plant-in-service weighted average increase by the TY's system average depreciation rate (ED 4.63%, EG 4.21%, GD 3.14 %).
 - b) Ad Valorem Tax (Tables 14, 17, 20: Lines 8-14): Ad Valorem Tax is calculated by multiplying the current attrition-year additions by the TY's system ad valorem tax rate (ED 0.68%, EG 1.09%, GD 0.48%).
 - c) State Tax Depreciation (Tables 14, 17, 20: Lines 15-23): State Tax Depreciation income tax expense is calculated by multiplying the current attrition-year additions by the TY's system average state tax depreciation rate (ED 2.96%, EG 3.62%, GD 2.78%) and by the state income tax rate (8.84%).
 - d) Payroll Tax (Tables 14, 17, 20: Lines 24-28): Payroll Tax is calculated by multiplying the prior year payroll taxes by the current attrition-year labor escalation rate forecasted by Global Insight (2.71% in 2017 and 2.62% in 2018).
 - e) Federal Tax Depreciation (Tables 15, 18, 21: Lines 1-9): Federal Tax Depreciation income tax expense is calculated by multiplying current attrition-year additions by the TY's system average federal tax depreciation rate (ED 3.60%, EG 3.17%, GD 2.53%) and by the federal income tax rate (35%).
 - f) California Corporation Franchise Tax (Prior Year) (Tables 15, 18, 21: Lines 10-28)): Prior Year's state income tax is a deduction for federal income tax purposes.
 - g) Long-Term Debt Cost (Tables 16, 19, 22: Lines 4-10): Long-Term Debt Cost is calculated by multiplying the attrition-year change in WAVG rate base by the authorized weighted cost of Long Term Debt.
 - h) Preferred Stock Cost (Tables 16, 19, 22: Lines 11-17): Preferred Stock Cost is calculated by multiplying the attrition-year change in WAVG rate base by the authorized weighted return on Preferred Stock.
 - i) Common Equity Cost (Tables 16, 19, 22: Lines 18-24): Common Equity Cost is calculated by multiplying the attrition-year change in WAVG rate base by the authorized weighted return on Common Equity.
 - j) Gross Ups: All revenue requirement components which are not directly deductible for income taxes are grossed up for income taxes by factors shown in Table 13. These components are Book Depreciation, State Tax Depreciation, Federal Tax Depreciation, Preferred Stock Cost, Common Equity Cost, and California

Corporation Franchise Tax (Prior Year). All revenue requirement components are grossed up for FF&U as described in Section D.

4. Tax Law Changes: The revenue requirement estimates were calculated using current federal and state tax laws enacted through the filing date of this testimony. SDG&E's revenue requirement will reflect all tax law changes (depreciation policy) and tax rate changes, including but not limited to changes in income taxes, payroll taxes, and ad valorem taxes.
- D. Franchise Fees and Uncollectible Gross Up (Table 13): All revenue requirement components are grossed up for FF&U using the franchise fee factors of 3.40% (electric) and 2.07% (gas), and the uncollectible factor of 0.174% (electric and gas) as adopted in SDG&E's GRC¹. The calculations of the gross up factors (Table 13) are from the testimony of SDG&E witness Khai Nguyen (Exhibit SDG&E-36) Table KN-50.

¹ D.13-05-010.

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Table 13

TABLE KN-50
SAN DIEGO GAS & ELECTRIC COMPANY
TEST YEAR 2016
NET-TO-GROSS MULTIPLIER

Line No.	Description	Uncollectible and Franchise Fee Factor		State & Federal Tax Factor	N-T-G Multiplier	
		Electric	Gas	Electric and Gas	Electric	Gas
1	Revenues	1.000000	1.000000	1.000000	1.000000	1.000000
2	Uncollectible Tax Rate	0.001740	0.001740	0.000000	0.001740	0.001740
3	Uncollectible Amount Applied	1.000000	1.000000	1.000000	1.000000	1.000000
4	Less: Uncollectible (Line 2 * Line 3)	0.001740	0.001740	0.000000	0.001740	0.001740
5	Subtotal (Line 3 - Line 4)	0.998260	0.998260	1.000000	0.998260	0.998260
6	Franchise Fees Tax Rate	0.034011	0.020727	0.000000	0.034011	0.020727
7	Franchise Fees Amount Applied (Line 5)	0.998260	0.998260	1.000000	0.998260	0.998260
8	Less: Franchise Fees (Line 6 * Line 7)	0.033952	0.020691	0.000000	0.033952	0.020691
9	Subtotal (Line 7 - Line 8)	0.964308	0.977569	1.000000	0.964308	0.977569
10	S.I.T. Rate			0.088400	0.088400	0.088400
11	S.I.T. Amount Applied (Line 9)			1.000000	0.964308	0.977569
12	Less: S.I.T. (Line 10 * Line 11)			0.088400	0.085245	0.086417
13	Subtotal (Line 11 - Line 12)			0.911600	0.879063	0.891152
14	F.I.T. Rate			0.350000	0.350000	0.350000
15	F.I.T. Amount Applied (Line 13)			0.911600	0.879063	0.891152
16	Less: F.I.T. (Line 14 * Line 15)			0.319060	0.307672	0.311903
17	Net Operating Revenues (Line 15 - Line 16)			0.592540	0.571391	0.579249
18	Uncollectible and Franchise Fee Factor (1 / Line 9)	1.037013	1.022946			
19	State & Federal Tax Factor (1 / Line 17)			1.687650		
20	N-T-G Multiplier (1 / Line 17)				1.750115	1.726374

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Table 14

SAN DIEGO GAS & ELECTRIC
2016 CPUC General Rate Case (Application)
Electric Distribution
Calculation of Revenue Requirement Increase
Depreciation Expense, State Tax Depreciation, Ad Valorem Taxes, & Payroll Taxes
(Thousands of Dollars)

Line No.	Description	TY 2016	PTY 2017	PTY 2018
<u>Depreciation Expense</u>				
1	Test Year (TY) Accrual	338,189		
2	/ TY Weighted Average (WAVG) Plant-in-Service	<u>7,302,839</u>		
3	= System Average Depreciation Rate	4.63%	4.63%	4.63%
4	x Plant in Service Weighted Average Increase		<u>507,734</u>	<u>486,779</u>
5	= Increase in Depreciation Expense		23,513	22,542
6	x Net-to-Gross Multiplier	1.750115	<u>1.750115</u>	<u>1.750115</u>
7	= Increase in Revenue Requirement		<u>41,150</u>	<u>39,452</u>
<u>Ad Valorem Taxes</u>				
8	TY Ad Valorem Taxes	51,835		
9	/ TY Plant In Service	<u>7,588,756</u>		
10	= System Average Ad Valorem Tax Rate	0.68%	0.68%	0.68%
11	x Current Attrition Year Additions		<u>479,951</u>	<u>494,726</u>
12	= Increase to Ad Valorem Taxes		3,278	3,379
13	x FF&U Factor	1.037013	<u>1.037013</u>	<u>1.037013</u>
14	= Increase in Revenue Requirement		<u>3,400</u>	<u>3,504</u>
<u>State Tax Depreciation</u>				
15	TY State Tax Depreciation	224,874		
16	/ TY Plant In Service	<u>7,588,756</u>		
17	= System Average State Tax Depreciation Rate	2.96%	2.96%	2.96%
18	x Current Attrition Year Additions		<u>479,951</u>	<u>494,726</u>
19	= Increase in State Tax Depreciation Expense		14,222	14,660
20	x -State Income Tax Rate	(0.0884)	<u>(0.0884)</u>	<u>(0.0884)</u>
21	= State Income Taxes		(1,257)	(1,296)
22	x Net-to-Gross Multiplier	1.750115	<u>1.750115</u>	<u>1.750115</u>
23	= Decrease in Revenue Requirement		<u>(2,200)</u>	<u>(2,268)</u>
<u>Payroll Taxes</u>				
24	Prior Year Payroll Taxes		11,638	11,954
25	x Current Year Labor Escalation Rate		<u>2.71%</u>	<u>2.62%</u>
26	= Increase in Full Year Additions		315	313
27	x FF&U Factor		<u>1.037013</u>	<u>1.037013</u>
28	= Increase in Revenue Requirement		<u>327</u>	<u>324</u>

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Table 15

SAN DIEGO GAS & ELECTRIC
2016 CPUC General Rate Case (Application)
Electric Distribution
Calculation of Revenue Requirement Increase
Federal Tax Depreciation Expense & Prior Year CCFT
(Thousands of Dollars)

Line No.	Description	TY 2016	PTY 2017	PTY 2018
<u>Federal Tax Depreciation (ACRS/MACRS Basis)</u>				
1	TY Federal Tax Depreciation	272,896		
2	/ TY Plant-In-Service	<u>7,588,756</u>		
3	= System Average Federal Tax Depreciation Rate	3.60%	3.60%	3.60%
4	x Current Attrition Year Additions		<u>479,951</u>	494,726
5	= Increase in Federal Tax Depreciation Expense		17,259	17,791
6	x-Federal Income Tax Rate	(0.3500)	<u>(0.3500)</u>	<u>(0.3500)</u>
7	= Federal Income Taxes		(6,041)	(6,227)
8	x Net-to-Gross Multiplier	1.750115	<u>1.750115</u>	<u>1.750115</u>
9	= Decrease in Revenue Requirement		<u>(10,572)</u>	<u>(10,897)</u>
<u>California Corporation Franchise Tax (Prior Year)</u>				
10	+ RevReq from Book Depreciation			41,150
11	+ RevReq from State Tax Depreciation			(2,200)
12	+ RevReq from Federal Tax Depreciation (ACRS.MACRS)			(10,572)
13	+ Rate Base: Preferred Stock			895
14	+ Rate Base: Common Stock Equity			28,229
15	+ CCFT			<u>(4,231)</u>
16	= Revenue Requirement Increase			53,271
17	x Prior Year State Income Tax Cumulative Component			<u>0.088400</u>
18	= Prior Year State Income Tax Increase			4,709
19	+ Prior Year State Income Tax (State Tax Depreciation Expense)			(1,257)
20	+ Prior Year State Income Tax (State Rate Change)			<u>-</u>
21	= Prior Year Total State Income Tax Increase			3,452
22	Prior Year Current California Corp Franchise Tax		27,354	30,806
23	- Prior Year CCFT Deductible for Federal Income Taxes		<u>20,446</u>	<u>27,354</u>
24	= Increase CCFT Deduction on Federal Income Taxes		6,908	3,452
25	x-Federal Income Tax Rate		<u>(0.3500)</u>	<u>(0.3500)</u>
26	= Federal Income Taxes		(2,418)	(1,208)
27	x Net-To-Gross Multiplier		<u>1.750115</u>	<u>1.750115</u>
28	= Decrease in Revenue Requirement		<u>(4,231)</u>	<u>(2,114)</u>

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Table 16

SAN DIEGO GAS & ELECTRIC
2016 CPUC General Rate Case (Application)
Electric Distribution
Calculation of Revenue Requirement Increase
Return on Rate Base
(Thousands of Dollars)

Line No.	Description	TY 2016	PTY 2017	PTY 2018
<u>Change in Weighted Average Rate Base</u>				
1	TY WAVG Rate Base	3,979,381	3,979,381	
2	CY WAVG Rate Base		4,280,310	4,544,894
3	Change in WAVG Rate Base		300,929	264,584
<u>Long Term Debt</u>				
4	Prior Year Return on Debt	5.00%	5.00%	5.00%
5	xPrior Year Debt Capitalization	45.25%	45.25%	45.25%
6	= Prior Year Weighted Cost of Debt	2.26%	2.26%	2.26%
7	xChange in WAVG Rate Base		300,929	264,584
8	= Change in Weighted Cost of Debt		6,801	5,980
9	xFF&U Factor	1.037013	1.037013	1.037013
10	= Increase in Revenue Requirement		7,053	6,201
<u>Preferred Stock</u>				
11	Prior Year Return on Preferred Stock	6.22%	6.22%	6.22%
12	xPrior Year Preferred Stock Capitalization	2.75%	2.75%	2.75%
13	= Prior Year Weighted Cost of Preferred Stock	0.17%	0.17%	0.17%
14	xChange in WAVG Rate Base		300,929	264,584
15	= Change in Weighted Cost of Preferred Stock		512	450
16	xNet-To-Gross Multiplier	1.750115	1.750115	1.750115
17	= Increase in Revenue Requirement		895	787
<u>Common Equity</u>				
18	Prior Year Return on Common Equity	10.30%	10.30%	10.30%
19	xPrior Year Common Equity Capitalization	52.00%	52.00%	52.00%
20	= Prior Year Weighted Cost of Common Equity	5.36%	5.36%	5.36%
21	xChange in WAVG Rate Base		300,929	264,584
22	= Change in Weighted Cost of Common Equity		16,130	14,182
23	xNet-To-Gross Multiplier	1.750115	1.750115	1.750115
24	= Increase in Revenue Requirement		28,229	24,820
25	Total Increase in ED Revenue Requirement		64,050	59,808

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Table 17

SAN DIEGO GAS & ELECTRIC
2016 CPUC General Rate Case (Application)
Electric Generation
Calculation of Revenue Requirement Increase
Depreciation Expense, State Tax Depreciation, Ad Valorem Taxes, & Payroll Taxes
(Thousands of Dollars)

Line No.	Description	TY 2016	PTY 2017	PTY 2018
<u>Depreciation Expense</u>				
1	Test Year (TY) Accrual	42,282		
2	/ TY Weighted Average (WAVG) Plant-in-Service	<u>1,005,247</u>		
3	= System Average Depreciation Rate	4.21%	4.21%	4.21%
4	x Plant in Service Weighted Average Increase		<u>37,466</u>	<u>74,837</u>
5	= Increase in Depreciation Expense		1,576	3,148
6	x Net-to-Gross Multiplier	1.750115	<u>1.750115</u>	<u>1.750115</u>
7	= Increase in Revenue Requirement		<u>2,758</u>	<u>5,509</u>
<u>Ad Valorem Taxes</u>				
8	TY Ad Valorem Taxes	11,012		
9	/ TY Plant In Service	<u>1,010,476</u>		
10	= System Average Ad Valorem Tax Rate	1.09%	1.09%	1.09%
11	x Current Attrition Year Additions		<u>73,922</u>	<u>76,019</u>
12	= Increase to Ad Valorem Taxes		806	828
13	x FF&U Factor	1.037013	<u>1.037013</u>	<u>1.037013</u>
14	= Increase in Revenue Requirement		<u>835</u>	<u>859</u>
<u>State Tax Depreciation</u>				
15	TY State Tax Depreciation	36,536		
16	/ TY Plant In Service	<u>1,010,476</u>		
17	= System Average State Tax Depreciation Rate	3.62%	3.62%	3.62%
18	x Current Attrition Year Additions		<u>73,922</u>	<u>76,019</u>
19	= Increase in State Tax Depreciation Expense		2,673	2,749
20	x -State Income Tax Rate	(0.0884)	<u>(0.0884)</u>	<u>(0.0884)</u>
21	= State Income Taxes		(236)	(243)
22	x Net-to-Gross Multiplier	1.750115	<u>1.750115</u>	<u>1.750115</u>
23	= Decrease in Revenue Requirement		<u>(414)</u>	<u>(425)</u>
<u>Payroll Taxes</u>				
24	Prior Year Payroll Taxes		789	810
25	x Current Year Labor Escalation Rate		<u>2.71%</u>	<u>2.62%</u>
26	= Increase in Full Year Additions		21	21
27	x FF&U Factor		<u>1.037013</u>	<u>1.037013</u>
28	= Increase in Revenue Requirement		<u>22</u>	<u>22</u>

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Table 18

SAN DIEGO GAS & ELECTRIC
2016 CPUC General Rate Case (Application)
Electric Generation
Calculation of Revenue Requirement Increase
Federal Tax Depreciation Expense & Prior Year CCFT
(Thousands of Dollars)

Line No.	Description	TY 2016	PTY 2017	PTY 2018
<u>Federal Tax Depreciation (ACRS/MACRS Basis)</u>				
1	TY Federal Tax Depreciation	32,009		
2	/ TY Plant-In-Service	<u>1,010,476</u>		
3	= System Average Federal Tax Depreciation Rate	3.17%	3.17%	3.17%
4	x Current Attrition Year Additions		<u>73,922</u>	<u>76,019</u>
5	= Increase in Federal Tax Depreciation Expense		2,342	2,408
6	x-Federal Income Tax Rate	(0.3500)	<u>(0.3500)</u>	<u>(0.3500)</u>
7	= Federal Income Taxes		(820)	(843)
8	x Net-to-Gross Multiplier	1.750115	<u>1.750115</u>	<u>1.750115</u>
9	= Decrease in Revenue Requirement		<u>(1,434)</u>	<u>(1,475)</u>
<u>California Corporation Franchise Tax (Prior Year)</u>				
10	+ RevReq from Book Depreciation			2,758
11	+ RevReq from State Tax Depreciation			(414)
12	+ RevReq from Federal Tax Depreciation (ACRS.MACRS)			(1,434)
13	+ Rate Base: Preferred Stock			(18)
14	+ Rate Base: Common Stock Equity			(582)
15	+ CCFT			<u>44</u>
16	= Revenue Requirement Increase			354
17	x Prior Year State Income Tax Cumulative Component			<u>0.088400</u>
18	= Prior Year State Income Tax Increase			31
19	+ Prior Year State Income Tax (State Tax Depreciation Expense)			(236)
20	+ Prior Year State Income Tax (State Rate Change)			<u>-</u>
21	= Prior Year Total State Income Tax Increase			(205)
22	Prior Year Current California Corp Franchise Tax		6,541	6,336
23	- Prior Year CCFT Deductible for Federal Income Taxes		<u>6,614</u>	<u>6,541</u>
24	= Increase CCFT Deduction on Federal Income Taxes		(72)	(205)
25	x-Federal Income Tax Rate		<u>(0.3500)</u>	<u>(0.3500)</u>
26	= Federal Income Taxes		25	72
27	x Net-To-Gross Multiplier		<u>1.750115</u>	<u>1.750115</u>
28	= Increase in Revenue Requirement		<u>44</u>	<u>126</u>

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Table 19

SAN DIEGO GAS & ELECTRIC
2016 CPUC General Rate Case (Application)
Electric Generation
Calculation of Revenue Requirement Increase
Return on Rate Base
(Thousands of Dollars)

Line No.	Description	TY 2016	PTY 2017	PTY 2018
<u>Change in Weighted Average Rate Base</u>				
1	TY WAVG Rate Base	669,858	669,858	
2	CY WAVG Rate Base		663,657	691,857
3	Change in WAVG Rate Base		(6,202)	28,200
<u>Long Term Debt</u>				
4	Prior Year Return on Debt	5.00%	5.00%	5.00%
5	xPrior Year Debt Capitalization	45.25%	45.25%	45.25%
6	= Prior Year Weighted Cost of Debt	2.26%	2.26%	2.26%
7	xChange in WAVG Rate Base		(6,202)	28,200
8	= Change in Weighted Cost of Debt		(140)	637
9	xFF&U Factor	1.037013	1.037013	1.037013
10	= Increase (Decrease) in Revenue Requirement		(145)	661
<u>Preferred Stock</u>				
11	Prior Year Return on Preferred Stock	6.22%	6.22%	6.22%
12	xPrior Year Preferred Stock Capitalization	2.75%	2.75%	2.75%
13	= Prior Year Weighted Cost of Preferred Stock	0.17%	0.17%	0.17%
14	xChange in WAVG Rate Base		(6,202)	28,200
15	= Change in Weighted Cost of Preferred Stock		(11)	48
16	xNet-To-Gross Multiplier	1.750115	1.750115	1.750115
17	= Increase (Decrease) in Revenue Requirement		(18)	84
<u>Common Equity</u>				
18	Prior Year Return on Common Equity	10.30%	10.30%	10.30%
19	xPrior Year Common Equity Capitalization	52.00%	52.00%	52.00%
20	= Prior Year Weighted Cost of Common Equity	5.36%	5.36%	5.36%
21	xChange in WAVG Rate Base		(6,202)	28,200
22	= Change in Weighted Cost of Common Equity		(332)	1,512
23	xNet-To-Gross Multiplier	1.750115	1.750115	1.750115
24	= Increase (Decrease) in Revenue Requirement		(582)	2,645
25	Total Increase in EG Revenue Requirement		1,066	8,005

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Table 20

SAN DIEGO GAS & ELECTRIC
2016 CPUC General Rate Case (Application)
Gas Distribution
Calculation of Revenue Requirement Increase
Depreciation Expense, State Tax Depreciation, Ad Valorem Taxes, & Payroll Taxes
(Thousands of Dollars)

Line No.	Description	TY 2016	PTY 2017	PTY 2018
<u>Depreciation Expense</u>				
1	Test Year (TY) Accrual	57,207		
2	/ TY Weighted Average (WAVG) Plant-in-Service	<u>1,821,343</u>		
3	= System Average Depreciation Rate	3.14%	3.14%	3.14%
4	x Plant in Service Weighted Average Increase		<u>96,367</u>	<u>80,400</u>
5	= Increase in Depreciation Expense		3,027	2,525
6	x Net-to-Gross Multiplier	1.726374	<u>1.726374</u>	<u>1.726374</u>
7	= Increase in Revenue Requirement		<u>5,225</u>	<u>4,360</u>
<u>Ad Valorem Taxes</u>				
8	TY Ad Valorem Taxes	8,983		
9	/ TY Plant In Service	<u>1,886,621</u>		
10	= System Average Ad Valorem Tax Rate	0.48%	0.48%	0.48%
11	x Current Attrition Year Additions		<u>79,921</u>	<u>81,151</u>
12	= Increase to Ad Valorem Taxes		381	386
13	x FF&U Factor	1.022946	<u>1.022946</u>	<u>1.022946</u>
14	= Increase in Revenue Requirement		<u>389</u>	<u>395</u>
<u>State Tax Depreciation</u>				
15	TY State Tax Depreciation	52,444		
16	/ TY Plant In Service	<u>1,886,621</u>		
17	= System Average State Tax Depreciation Rate	2.78%	2.78%	2.78%
18	x Current Attrition Year Additions		<u>79,921</u>	<u>81,151</u>
19	= Increase in State Tax Depreciation Expense		2,222	2,256
20	x -State Income Tax Rate	(0.0884)	<u>(0.0884)</u>	<u>(0.0884)</u>
21	= State Income Taxes		(196)	(199)
22	x Net-to-Gross Multiplier	1.726374	<u>1.726374</u>	<u>1.726374</u>
23	= Decrease in Revenue Requirement		<u>(339)</u>	<u>(344)</u>
<u>Payroll Taxes</u>				
24	Prior Year Payroll Taxes		5,326	5,470
25	x Current Year Labor Escalation Rate		<u>2.71%</u>	<u>2.62%</u>
26	= Increase in Full Year Additions		144	143
27	x FF&U Factor		<u>1.022946</u>	<u>1.022946</u>
28	= Increase in Revenue Requirement		<u>148</u>	<u>146</u>

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Table 21

SAN DIEGO GAS & ELECTRIC
2016 CPUC General Rate Case (Application)
Gas Distribution
Calculation of Revenue Requirement Increase
Federal Tax Depreciation Expense & Prior Year CCFT
(Thousands of Dollars)

Line No.	Description	TY 2016	PTY 2017	PTY 2018
<u>Federal Tax Depreciation (ACRS/MACRS Basis)</u>				
1	TY Federal Tax Depreciation	47,821		
2	/ TY Plant-In-Service	<u>1,886,621</u>		
3	= System Average Federal Tax Depreciation Rate	2.53%	2.53%	2.53%
4	x Current Attrition Year Additions		<u>79,921</u>	<u>81,151</u>
5	= Increase in Federal Tax Depreciation Expense		2,026	2,057
6	x-Federal Income Tax Rate	(0.3500)	<u>(0.3500)</u>	<u>(0.3500)</u>
7	= Federal Income Taxes		(709)	(720)
8	x Net-to-Gross Multiplier	1.726374	<u>1.726374</u>	<u>1.726374</u>
9	= Decrease in Revenue Requirement		<u>(1,224)</u>	<u>(1,243)</u>
<u>California Corporation Franchise Tax (Prior Year)</u>				
10	+ RevReq from Book Depreciation			5,225
11	+ RevReq from State Tax Depreciation			(339)
12	+ RevReq from Federal Tax Depreciation (ACRS.MACRS)			(1,224)
13	+ Rate Base: Preferred Stock			171
14	+ Rate Base: Common Stock Equity			5,379
15	+ CCFT			<u>(309)</u>
16	= Revenue Requirement Increase			8,903
17	x Prior Year State Income Tax Cumulative Component			<u>0.088400</u>
18	= Prior Year State Income Tax Increase			787
19	+ Prior Year State Income Tax (State Tax Depreciation Expense)			(196)
20	+ Prior Year State Income Tax (State Rate Change)			<u>-</u>
21	= Prior Year Total State Income Tax Increase			591
22	Prior Year Current California Corp Franchise Tax		4,333	4,924
23	- Prior Year CCFT Deductible for Federal Income Taxes		<u>3,822</u>	<u>4,333</u>
24	= Increase CCFT Deduction on Federal Income Taxes		511	591
25	x-Federal Income Tax Rate		<u>(0.3500)</u>	<u>(0.3500)</u>
26	= Federal Income Taxes		(179)	(207)
27	x Net-To-Gross Multiplier		<u>1.726374</u>	<u>1.726374</u>
28	= Decrease in Revenue Requirement		<u>(309)</u>	<u>(357)</u>

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Table 22

SAN DIEGO GAS & ELECTRIC
2016 CPUC General Rate Case (Application)
Gas Distribution
Calculation of Revenue Requirement Increase
Return on Rate Base
(Thousands of Dollars)

Line No.	Description	TY 2016	PTY 2017	PTY 2018
<u>Change in Weighted Average Rate Base</u>				
1	TY WAVG Rate Base	722,735	722,735	
2	CY WAVG Rate Base		780,865	821,168
3	Change in WAVG Rate Base		58,130	40,303
<u>Long Term Debt</u>				
4	Prior Year Return on Debt	5.00%	5.00%	5.00%
5	x Prior Year Debt Capitalization	45.25%	45.25%	45.25%
6	= Prior Year Weighted Cost of Debt	2.26%	2.26%	2.26%
7	x Change in WAVG Rate Base		58,130	40,303
8	= Change in Weighted Cost of Debt		1,314	911
9	x FF&U Factor	1.022946	1.022946	1.022946
10	= Increase in Revenue Requirement		1,344	932
<u>Preferred Stock</u>				
11	Prior Year Return on Preferred Stock	6.22%	6.22%	6.22%
12	x Prior Year Preferred Stock Capitalization	2.75%	2.75%	2.75%
13	= Prior Year Weighted Cost of Preferred Stock	0.17%	0.17%	0.17%
14	x Change in WAVG Rate Base		58,130	40,303
15	= Change in Weighted Cost of Preferred Stock		99	69
16	x Net-To-Gross Multiplier	1.726374	1.726374	1.726374
17	= Increase in Revenue Requirement		171	118
<u>Common Equity</u>				
18	Prior Year Return on Common Equity	10.30%	10.30%	10.30%
19	x Prior Year Common Equity Capitalization	52.00%	52.00%	52.00%
20	= Prior Year Weighted Cost of Common Equity	5.36%	5.36%	5.36%
21	x Change in WAVG Rate Base		58,130	40,303
22	= Change in Weighted Cost of Common Equity		3,116	2,160
23	x Net-To-Gross Multiplier	1.726374	1.726374	1.726374
24	= Increase in Revenue Requirement		5,379	3,729
25	Total Increase in GD Revenue Requirement		10,784	7,736