Docket	:	A.14-11-003, -004
Exhibit Number	:	ORA-7
Commissioner	:	M. Picker
ALJ	:	J. Wong, R.Lirag
Witness	:	S. Logan

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

SDG&E – Electric Distribution Capital Expenditures
Part 2 of 2

San Francisco, California
April 24, 2015

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SDG&E – ELECTRIC DISTRIBUTION CAPITAL EXPENDITURES
PART 2 OF 2

I. INTRODUCTION

This exhibit presents the analyses and recommendations of the Office of Ratepayer Advocates (ORA) regarding certain Electric Distribution capital expenditure proposals of San Diego Gas & Electric Company (SDG&E) for 2014 through 2016 in its Test Year (TY) 2016 General Rate Case (GRC). Specifically, this exhibit addresses SDG&E's proposals pertaining to the following six Electric Distribution program categories:

- Overhead Pools
- Mandated
- Materials
- Transmission / Federal Energy Regulatory Commission (FERC) Driven Projects
- Equipment / Tools / Miscellaneous
- Smart Meter Program

Exhibit (Ex.) ORA-6 addresses SDG&E's Electric Distribution capital expenditure proposals for the five other program categories.[1]

Electric distribution capital expenditures typically include plant investment in electric meters, distribution substations, replacing/reinforcing poles, and underground cables. Electric distribution capital includes projects to construct or modify facilities for the distribution of electricity, projects to construct or modify substations to transform transmission voltage to a lower distribution voltage, and projects to improve distribution system capacity and reliability (including aging infrastructure issues).

[1] The other five SDG&E Electric Distribution categories are: Capacity Expansion; Franchise; New Business; Reliability/Improvements; and Safety & Risk Management.

Of the six categories analyzed in this exhibit, the Overhead Pools category is the most difficult to forecast. The spending in this category is connected to spending in eight of the other 10 distribution capital categories. The Overhead Pools forecast costs are largely driven by the forecast costs in those eight other categories. ORA's approach to the Overhead Pools forecast is discussed below.

II. SUMMARY OF RECOMMENDATIONS

The following summarizes ORA's major recommendations regarding the Electric Distribution capital expenditures addressed in this exhibit:

- Based on 2014 adjusted-recorded costs, ORA recommends lower forecasts compared to SDG&E's 2014 forecast for each of the program categories addressed in this exhibit. In total, ORA recommends a $70.6 million reduction from SDG&E's 2014 forecast of $184.5 million
- Based on ORA's forecast for 2015 for distribution capital spending addressed in this exhibit and Ex.-ORA-6, ORA recommends a reduction of $28.0 million to SDG&E's $118.4 million forecast for 2015 Overhead Pools.
- Based on ORA's forecast for 2016 for distribution capital spending addressed in this exhibit and Ex.-ORA-6, ORA recommends a reduction of $1.9 million to SDG&E's $110.2 million forecast for 2016 Overhead Pools
- Based on ORA's forecast for reduced activities in the Materials program category for 2015, ORA recommends a reduction of $6.4 million from SDG&E's 2015 forecast of $22.0 million.
- For the Overhead Pools category, ORA accepts the forecast method used by SDG&E for the program years 2014, 2015, and 2016. ORA's Overhead Pools forecast for 2015 and 2016 should be updated by SDG&E in its Rebuttal Testimony to reflect the forecast capital spending recommended in Ex. ORA-6.[2]

[2] Specifically, any adjustments recommended in Ex. ORA-6 by budget codes should be incorporated into the Overhead Pools forecast for 2015 and 2016 using the "basis of forecast" method discussed below.

Table 7-1 presents and compares ORA's and SDG&E's 2014-2016 forecasts of Electric Distribution capital expenditures for the six program categories addressed in this exhibit:

Table 7-1
Electric Distribution Capital Expenditures for 2014-2016
(in Thousands of 2013 Dollars)

Description	ORA Recommended			SDG&E Proposed[3]		
	2014	2015	2016	2014	2015	2016
Overhead Pools	$63,826	$90,361	$108,345	$108,552	$118,357	$110,224
Mandated	$29,118	$38,148	$39,063	$37,872	$38,148	$39,063
Materials	$12,781	$15,605	$23,027	$21,024	$22,025	$23,027
Trans/FERC	$7,704	$19,180	$12,530	$14,608	$19,180	$12,530
Equip/Tools/Misc	$308	$1,372	$1,372	$1,372	$1,372	$1,372
Smart Meter	$165	$0	$0	$1,116	$0	$0
Total	$113,902	$164,666	$184,337	$184,544	$199,082	$186,216

III. SUMMARY OF CAPITAL EXPENDITURES: 2009 thru 2014

Table 7-2 presents the recorded capital expenditures for the years 2009-2014 for the six program categories.

Table 7-2
Electric Distribution (Part 2 of 2)
2009-2014 Recorded Capital Expenditures
(in Thousands of 2013 Dollars)

Description	2009	2010	2011	2012	2013	2014
Overhead Pools	$57,617	$55,052	$53,793	$57,406	$63,755	$63,826
Mandated	$27,552	$35,390	$27,228	$26,252	$28,646	$29,118
Materials	$22,768	$21,749	$17,850	$18,232	$15,605	$12,781
Trans/ FERC Driven	$3,048	$3,308	$3,419	$11,345	$7,324	$7,665
Equip/Tools/Misc	$1,548	$1,205	$1,125	$2,069	$913	$308
Smart Meter Program	$28,832	$144,007	$45,487	$12,831	$2,458	$165
Total	$138,317	$257,403	$145,483	$116,790	$111,377	$106,198

Source: 2009-2013 data from SDG&E data response to ORA data request ORA-SDG&E-GAW-005. 2014 adjusted-recorded capital expenditures from SDG&E's March 6, 2015 email to ORA.

[3] Ex. SDG&E-09-R, p. JDJ-26.

Most of these six program categories show relatively stable, steady spending for the historical period. One program, Smart Meter, has been winding down since 2012, and is expected to be complete with $0 spending by 2015.

IV. OVERHEAD POOLS

A. Overview of SDG&E's Request

Table 7-3 presents SDG&E's request and ORA's recommendation regarding the Overhead Pools category.

Table 7-3
Overhead Pools
2014-2016 Capital Expenditure Forecast
(in Thousands of 2013 Dollars)

Description	ORA Recommended			SDG&E Proposed[4]		
	2014	2015	2016	2014	2015	2016
Overhead Pools	$63,826	$90,361	$108,345	$108,552	$118,357	$110,224

The Overhead Pools category is comprised of the following four sub-categories:

- Local Engineering – Electric Distribution (ED) Pool - Planners, designers and engineers, and support personnel who research, analyze, and design facilities needed to serve customers.[5]
- Local Engineering – Substation Pool – Same as above, but specialize in substation projects.
- Department Overhead Pool – Costs for supervision and administration of SDG&E's Construction and Operation crews performing work in the Electric Distribution Districts.
- Contract Administration Pool – The administrative costs of projects that are performed by SDG&E's contractors.[6]

[4] Ex. SDG&E-09-R, p. JDJ-26.

[5] Ex. SDG&E-09-R, pp. JDJ-83 & 85.

[6] Ex. SDG&E-09-R, p. JDJ-83.

The Overhead Pools request broken out by subcategory is presented in the following table:

Table 7-4
Overhead Pools by Subcategory
2014-2016 Capital Expenditure Forecast
(in Thousands of 2013 Dollars)

Overhead Pools Subcategory	**SDG&E 2014**	**SDG&E 2015**	**SDG&E 2016**
Local Engineering Pool – ED Pool	$84,987	$93,688	$92,593
Local Engineering Pool – Substation Pool	15,328	15,147	7,045
Department Overhead Pool	3,319	3,727	4,139
Contract Administration Pool	4,918	5,795	6,447
Totals	**$108,552**	**$118,357**	**$110,224**

Source: Ex. SDG&E-09-R, p. JDJ-83.

As can be seen in the table, the ED Pool and the Substation Pool subcategories comprise over 90 percent of the requested budget for Overhead Pools.

For the purposes of forecasting, SDG&E uses the historical relationship between the costs of various distribution capital program categories (segmented by budget codes) and the pools' costs. The historical cost relationship is assumed to remain stable in the forecast period. The budget codes which form the "basis of the forecast" are used to forecast the costs the Overhead Pools subcategories. Each of the four subcategories has a specific set of budget codes which form the basis of each subcategory forecast.[7]

Based on the approach used by SDG&E for the Overhead Pools category, and the ED and Substation Pools specifically, costs are forecast by the company to increase significantly, based on the significant budget increases between the 2013 base year and the 2014 forecast of all electric distribution categories reflected in the application. Focusing on the ED Pool, SDG&E's "basis of forecast" is $330.6 million

[7] The budget codes used for these forecasts are too numerous to list here.

for 2014. This is in sharp contrast to the recorded basis of $206.8 million for 2013. As discussed below, the 2014 recorded "basis of forecast" was significantly lower than originally forecast by SDG&E.

B. ORA's Analysis

ORA analyzed the Overhead Pools category by first focusing on the ED Pool subcategory. The historical costs for 2009-2012 for ED Pool activities show this sub-category's costs were about 18.5% of the "basis of forecast" costs.[8] The 2013 costs were about 25.7% of the "basis of forecast" costs. The 25.7% figure is the assumption used by SDG&E for its 2014-2016 forecasts.[9]

ORA then questioned SDG&E's reliance on only the 2013 data in developing its forecast for the ED Pool subcategory. ORA data requested SDG&E for an explanation for its use of this assumption. SDG&E explained that "new advanced tools, like LiDAR and PLS-CADD, are changing the way engineering and design work is done for electric distribution facilities."[10] ORA investigated and determined that the tools cited by SDG&E are currently in use by much of the electric utility industry.

Finally, ORA reviewed the 2014 adjusted-recorded costs provided to ORA, then compared those costs to SDG&E's submitted forecast. The 2014 adjusted-recorded costs for the ED Pool "basis of forecast" were significantly below the original forecast. The recorded "basis of forecast" was $183.3 million, compared to the company's $330.6 million. However, the 2014 ED Pool adjusted-recorded costs did very closely track SDG&E's assumption of 25.7%. The table below summarizes these key elements of the ED Pool forecast:

[8] ORA calculation, based on SDG&E-09 Workpapers.

[9] SDG&E data response to ORA-SDG&E-016-SJL.

[10] SDG&E data response to ORA-SDG&E-016-SJL. (LiDAR = Light Detection and Ranging; PLS-CADD = Power Line Systems – Computer Aided Design and Drafting).

Table 7-5
Overhead Pool – ED Pool Subcategory
ORA vs. SDG&E
2014-2016 Basis of Forecast
(in Thousands of 2013 Dollars)

Category	GRC Forecast Sum of 2014 $	GRC Forecast Sum of 2015 $	GRC Forecast Sum of 2016 $
CAPACITY/EXPANSION	24,912	31,324	27,052
FRANCHISE	29,918	29,918	29,918
MANDATED	29,118	38,148	39,063
MATERIALS	12,781	15,605	23,027
NEW BUSINESS (Adjusted)	32,147	47,852	57,799
RELIABILITY/IMPROVEMENTS	28,678	85,893	104,099
SAFETY AND RISK MANAGEMENT	18,083	27,406	59,484
TRANSMISSION/FERC DRIVEN PROJECTS	7,665	19,180	12,530
ED Pool Basis Grand Total - ORA	**183,302**	**295,326**	**352,972**
ED Pool Basis Grand Total - SDG&E	**330,560**	**364,404**	**360,144**
ED POOL FORECASTS:			
SDG&E Forecast - 25.7% of above	**84,987**	**93,688**	**92,593**
ORA Forecast - 25.7% of above	**N/A+**	**75,899**	**90,714**
ORA Final Forecast (2014 = Recorded)	**49,364**	**75,899**	**90,714**

N/A+ note: Would equal $47,109 if recorded not used.

The "ORA Final Forecast" line above is used for the ED Pool subcategory in ORA forecast recommendations for the total Overhead Pools category.

For the Substation Pool, ORA did not perform a "basis of forecast" analysis. ORA accepts SDG&E's assumption of 24.5 percent of the "basis of forecast for the developing the Substation Pool forecast, since 24.5 percent is very close to the 2014 recorded cost data. For 2014, ORA uses the 2014 Substation Pool recorded costs. ORA then uses the 2014 recorded data as the starting point for its 2015 forecast. This recommended budget will be very close to the Substation Pool 2015 forecast that would result from a "basis of forecast" analysis. In other words, ORA accepts SDG&E's method of forecasting, but does not replicate that forecast method here. ORA accepts SDG&E's 2016 forecast.[11]

[11] Based on Ex. ORA-6, there could be minor adjustments to the 2016 forecast.

For the Department Overhead and the Contract Administration Pools, ORA uses an approach identical to the one used for the Substation Pool. The 2014 and 2015 forecasts are based on the 2014 recorded costs. For 2016, ORA accepts SDG&E's forecasts for these two subcategories. Again, ORA accepts SDG&E's forecast method as reasonable, but the ORA forecast amounts presented in this testimony are not based on that method. The percentages of the bases of the forecasts for the Department Overhead and Contracts Administration Pools are 1.3 percent and 2.2 percent, respectively. These values are reasonable as they reflect the 2014 adjusted-recorded cost data.

1. Overhead Pools 2014 Forecast

SDG&E requests $108.6 million for Overhead Pools for 2014. ORA recommends that the 2014 budget be based on the adjusted-recorded costs of $63.8 million. ORA's forecast is $44.7 million lower than SDG&E's.

2. Overhead Pools 2015 Forecast

SDG&E requests $118.4 million for Overhead Pools for 2015. As discussed above, ORA accepts the company's method to forecast the Overhead Pools budget. Based on the adjustments recommended in Ex. ORA-6, and the adjustment to the Materials category discussed below, the "basis of forecast, ED Pool" is significantly lower than that used by SDG&E. ORA's "basis of forecast" is $293.0 million, compared to the company's $360.1 million. Applying 25.7 % to $293.0 million results in a forecast of $75.3 million, compared to $93.7 million forecast by SDG&E.

The adjustment described above applies only to the ED Pool subcategory. ORA does not have the precise budget codes at this time to calculate the adjustments to the other three subcategories. ORA accepts SDG&E's method and cost factors used in these other subcategories, which are:

- Local Engineering – Substation Pool – 24.5%
- Department Overhead Pool – 1.3%
- Contract Administration Pool – 2.2%

ORA recommends that SDG&E calculate the 2015 Overhead Pools estimate reflecting ORA's adjustments recommended in Ex.-ORA-6 and provide that estimate in its Rebuttal Testimony. For the purposes of this testimony, ORA's forecast for Overhead Pools for 2015 is $90.4 million, compared to SDG&E's forecast of $118.6 million. ORA's forecast is $28.0 million below SDG&E's.

3. Overhead Pools 2016 Forecast

SDG&E forecasts $110.2 million in capital spending for the Overhead Pools in 2016. ORA accepts the method used to develop this forecast. Based on the recommendations set forth in Ex. ORA-6, certain adjustments are made to ORA's forecast. The ED Pool subcategory adjustments are reflected in Table 7-5 where ORA's 2016 forecast is shown to be $90.7 million, compared to SDG&E's $92.6 million. Similar to the 2015 forecast described above, ORA did not perform the analogous adjustments to the Substation Pool, Department Overhead Pool, and the Contract Administration Pool subcategories. For the purposes of this testimony, ORA uses SDG&E's forecast for these subcategories. ORA recommends that SDG&E calculate the 2016 Overhead Pools estimate reflecting ORA's capital expenditure forecasts in Ex. ORA-6, and provide that estimate in its Rebuttal Testimony.

Accounting for the ED Pool subcategory adjustment, ORA recommends a total Overhead Pools capital budget of $108.3 million, compared to SDG&E's requested $110.2 million. ORA recommends that its proposal be adopted, based on the discussion above.

V. MANDATED

A. Overview of SDG&E's Request

Table 7-6 presents SDG&E's proposed and ORA's recommended capital expenditure forecast for 2014-2016 Mandated programs.

Table 7-6
Mandated
2014-2016 Capital Expenditure Forecast
(in Thousands of 2013 Dollars)

Description	ORA Recommended			SDG&E Proposed[12]		
	2014	2015	2016	2014	2015	2016
Mandated	$29,118	$38,148	$39,063	$37,872	$38,148	$39,063

As shown in the table, ORA's 2014-2016 forecast only differs from SDG&E's forecast in the 2014 program year. This is due to ORA's use of the 2014 adjusted-recorded costs for its forecast.

The Mandated program category is comprised of the following five subcategories:

- Corrective Maintenance Program (CMP)
- CMG UG Switch Replacement & Manhole Repair
- Load Research/DLP Electric Metering Project
- Avian Protection
- Pole Replacement and Reinforcement

The large budget subcategories in the Mandated program area are Pole Replacement and Reinforcement, CMG UG Switch Replacement & Manhole Repair, and CMP.

B. ORA's Analysis

Most of the activities in the Mandated subcategories are performed for safety purposes and regulatory requirements. For example, CPUC General Orders (GO's) 165, 95, and 128 mandates the inspection and maintenance activities in the Corrective Maintenance Program. GO's 95 and 165 govern the Pole Replacement and Reinforcement program.

[12] Ex. SDG&E-09-R, p. JDJ-26.

ORA reviewed the underlying assumptions, activities, and forecasting methods in SDG&E's testimony and workpapers. ORA recommends that the 2014 Mandated capital expenditure forecast shown in table 7-6 above be adopted. ORA accepts the company's forecast for 2015 and Test Year 2016 for this program category, based on its review.

VI. MATERIALS

A. Overview of SDG&E's Request

The Materials programs category consists of the cost of new and replacement transformers placed on the electrical distribution system as part of ongoing activities in the major program categories, i.e., New Business, Mandated, Capacity Expansion, etc. Table 7-7 presents SDG&E's request and ORA's recommendations for the capital expenditure forecast:

Table 7-7
Materials
2014-2016 Capital Expenditure Forecast
(in Thousands of 2013 Dollars)

Description	ORA Recommended			SDG&E Proposed[13]		
	2014	2015	2016	2014	2015	2016
Materials	$12,781	$15,605	$23,027	$21,024	$22,025	$23,027

B. ORA's Analysis

Similar to the Overhead Pools category, the Materials (Transformers) category's costs are closely related to the costs of most of the other program categories. However, SDG&E did not employ a forecast method based on a cost-driven formula as it did with the Overhead Pools category. The yearly budgets proposed by SDG&E are relatively flat, but reflect the highest annual level of spending, which occurred back in 2009. Table 7-2 shows that spending in this category has steadily declined during the historical period 2009-2014. ORA's

[13] Ex. SDG&E-09-R, p. JDJ-26.

adjustments to the Materials forecast are based on recorded data, as discussed below.

1. 2014 Materials Forecast

SDG&E proposes $21.0 million for the 2014 Materials forecast. Based on the 2014 adjusted-recorded data, ORA recommends a 2014 budget of $12.8 million. ORA's forecast is $8.2 million below SDG&E, and should be adopted.

2. 2015 Materials Forecast

SDG&E requests $22.0 million for the 2015 Materials capital spending budget. Based on the 2013 and 2014 recorded data, and the fact that the trend in historical spending does not justify the requested 2015 budget, an adjustment is warranted. ORA recommends that the 2015 forecast be based on the 2013 expenditures. The 2013 expenditures are more reflective of historical spending, and should be considered a base year for the purposes of 2015 forecasting. Therefore, ORA recommends a 2015 Materials capital expenditure forecast of $15.6 million, representing a $6.4 million reduction from SDG&E's request and a $2.8 million (or nearly 22.0 percent) increase over SDG&E's 2014 adjusted-recorded expenditure level.

3. 2016 Materials Forecast

SDG&E proposes a 2016 Materials capital expenditure forecast of $23.0 million. Based on ORA's assumption that overall electric distribution activities will trend back to the company's forecast levels, ORA accepts this forecast.

VII. TRANSMISSION / FERC DRIVEN PROJECTS

A. Overview of SDG&E's Request

Table 7-8 presents SDG&E's request and ORA recommendations regarding the Transmission/FERC Driven Projects for the GRC cycle years 2014-2016.[14]

[14] FERC: Federal Energy Regulatory Commission.

Table 7-8
Transmission/FERC Driven Projects
2014-2016 Capital Expenditure Forecast
(in Thousands of 2013 Dollars)

Description	ORA Recommended			SDG&E Proposed[15]		
	2014	2015	2016	2014	2015	2016
Trans/FERC	$7,704	$19,180	$12,530	$14,608	$19,180	$12,530

SDG&E's testimony describes 18 different Transmission/FERC Driven projects and their estimated spending over the three year period.[16] The company's request in this GRC is for the *distribution component* of FERC-approved transmission projects.[17] The distribution component of a typical Transmission/FERC Driven project is generally a low percentage of overall project costs. The majority of project costs are recovered through the FERC formula ratemaking process.[18]

B. ORA's Analysis

Most of the Transmission/FERC Driven projects are for electric system reliability. Other project purposes include fire safety, compliance, and blanket budget projects.[19] ORA reviewed the project description, forecast method, goals, and cost driver(s) of each of the 18 projects in this program category. ORA accepts these justifications for SDG&E's forecast.

As with all other electric distribution program categories, ORA recommends that the 2014 adjusted-recorded data be used for the 2014 forecast. ORA recommends that $7.7 million be the adopted 2014 forecast, as opposed to the SDG&E request of $14.6 million. ORA's forecast is $6.9 million below SDG&E's.

SDG&E requests $19.2 million and $12.5 million for 2015 and 2016, respectively. ORA accepts these forecasts based on the discussion above.

[15] Ex. SDG&E-09-R, p. JDJ-26.

[16] Ex. SDG&E-09-R, p. JDJ-133 to -156.

[17] Ex. SDG&E-9-R, p. JDJ-25.

[18] Ex. SDG&E-9-R, p. JDJ-25..

VIII. EQUIPMENT / TOOLS / MISCELLANEOUS

A. Overview of SDG&E's Request

Table 7-9 presents SDG&E's request and ORA recommendations regarding the Equipment/Tools/Miscellaneous category for the GRC cycle years 2014-2016.

Table 7-9
Equipment/Tools/Miscellaneous
2014-2016 Capital Expenditure Forecast
(in Thousands of 2013 Dollars)

Description	ORA Recommended			SDG&E Proposed[20]		
	2014	2015	2016	2014	2015	2016
Equip/Tools/Misc	$308	$1,372	$1,372	$1,372	$1,372	$1,372

The Equipment/Tools/Miscellaneous forecast is based on a "blanket project" so that equipment and tools can be purchased for the company's distribution work crews as necessary. The forecast is based on a five-year historical average. As can be seen by Table 7-2, SDG&E's forecast is consistent with the historical spending in this category.

B. ORA's Analysis

The recorded spending for 2013 and 2014 is below the forecast levels in 2015 and 2016. It is reasonable to assume that these fluctuations are consistent with the historical spending patterns. Therefore, it is reasonable to adopt the adjusted-recorded 2014 data for the 2014 forecast. ORA's recommendation is $1.0 million below SDG&E's request.

SDG&E's requests $1.4 million each year for 2015 and 2016. ORA accepts these forecasts because they follow the pattern of historical spending.

(continued from previous page)
[19] Ex. SDG&E-09-R, p. JDJ-133 to -156.

[20] Ex. SDG&E-09-R, p. JDJ-26.

IX. SMART METER PROGRAM

A. Overview of SDG&E's Request

Table 7-10 presents SDG&E's request and ORA recommendations for the Smart Meter Program category for the GRC cycle years 2014-2016.

Table 7-10
Smart Meter Program
2014-2016 Capital Expenditure Forecast
(in Thousands of 2013 Dollars)

Description	ORA Recommended			SDG&E Proposed[21]		
	2014	2015	2016	2014	2015	2016
Smart Meter	$165	$0	$0	$1,116	$0	$0

As shown in Table 7-2 on page 3, over $230 million was spent on the Smart Meter Program during the 2009-2012 period. Costs and program activities have declined as the program's goal have been fulfilled in the SDG&E service territory. The company forecast the program to be complete by 2014.[22]

B. ORA's Analysis

ORA recommends that the adjusted-recorded spending of $.165 million be adopted for 2014. The company forecasts $0 for program spending in 2015 and 2016. ORA accepts the 2015 and 2016 forecast.

[21] Ex. SDG&E-09-R, p. JDJ-26.

[22] Ex. SDG&E-09-R, p. JDJ-32.