

Application of SOUTHERN CALIFORNIA GAS )  
COMPANY for authority to update its gas revenue )  
requirement and base rates )  
effective January 1, 2016 (U 904-G) )

Application No. 14-11-\_\_\_\_  
Exhibit No.: (SCG-04-WP)

WORKPAPERS TO  
PREPARED DIRECT TESTIMONY  
OF FRANK B. AYALA  
ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

NOVEMBER 2014





**2016 General Rate Case - APP  
INDEX OF WORKPAPERS**

**Exhibit SCG-04-WP - GAS DISTRIBUTION**

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**Overall Summary For Exhibit No. SCG-04-WP**

<b>Area:</b>	<b>GAS DISTRIBUTION</b>
<b>Witness:</b>	<b>Frank B. Ayala</b>

Description	In 2013 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
<b>Non-Shared Services</b>	105,258	116,641	126,403	137,077
<b>Shared Services</b>	3,409	3,409	3,409	7,909
<b>Total</b>	<b>108,667</b>	<b>120,050</b>	<b>129,812</b>	<b>144,986</b>

*Note: Totals may include rounding differences.*

Southern California Gas Company  
 2016 GRC - APP  
 Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala

**Summary of Non-Shared Services Workpapers:**

Description	In 2013 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
B. Field Operations & Maintenance	83,715	92,452	99,827	106,290
C. Asset Management	7,549	8,731	9,913	10,827
D. Operations Management & Training	9,951	11,258	12,347	15,644
E. Regional Public Affairs	4,043	4,200	4,316	4,316
<b>Total</b>	<b>105,258</b>	<b>116,641</b>	<b>126,403</b>	<b>137,077</b>

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Field Operations & Maintenance  
Workpaper: VARIOUS

**Summary for Category: B. Field Operations & Maintenance**

	In 2013\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	65,127	69,635	75,057	79,487
Non-Labor	18,587	22,819	24,771	26,805
NSE	0	0	0	0
<b>Total</b>	<b>83,714</b>	<b>92,454</b>	<b>99,828</b>	<b>106,292</b>
FTE	792.1	849.3	908.4	959.0

**Workpapers belonging to this Category:**

**2GD000.002 Field O&M - Locate & Mark**

Labor	10,366	10,693	11,114	11,535
Non-Labor	676	824	869	915
NSE	0	0	0	0
<b>Total</b>	<b>11,042</b>	<b>11,517</b>	<b>11,983</b>	<b>12,450</b>
FTE	135.1	138.7	143.3	147.9

**2GD000.001 Field O&M - Leak Survey**

Labor	6,237	6,665	7,231	7,796
Non-Labor	16	19	21	24
NSE	0	0	0	0
<b>Total</b>	<b>6,253</b>	<b>6,684</b>	<b>7,252</b>	<b>7,820</b>
FTE	88.3	93.8	101.4	108.9

**2GD002.000 Field O&M - Measurement & Regulation**

Labor	9,636	9,409	9,432	9,546
Non-Labor	2,336	2,168	2,168	2,242
NSE	0	0	0	0
<b>Total</b>	<b>11,972</b>	<b>11,577</b>	<b>11,600</b>	<b>11,788</b>
FTE	112.7	113.3	113.5	114.6

**2GD003.000 Field O&M - Cathodic Protection**

Labor	7,145	7,336	7,378	7,587
Non-Labor	3,705	4,343	5,073	5,803
NSE	0	0	0	0
<b>Total</b>	<b>10,850</b>	<b>11,679</b>	<b>12,451</b>	<b>13,390</b>
FTE	89.2	92.7	93.3	95.1

**2GD000.003 Field O&M - Main Maintenance**

Labor	8,375	9,374	11,028	12,684
Non-Labor	2,454	4,720	5,468	6,216
NSE	0	0	0	0
<b>Total</b>	<b>10,829</b>	<b>14,094</b>	<b>16,496</b>	<b>18,900</b>
FTE	94.7	105.4	124.8	144.2

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Field Operations & Maintenance  
Workpaper: VARIOUS

In 2013\$ (000) Incurred Costs			
Adjusted-Recorded	Adjusted-Forecast		
2013	2014	2015	2016

**2GD000.004 Field O&M - Service Maintenance**

Labor	7,874	9,121	9,224	9,327
Non-Labor	-730	173	184	196
NSE	0	0	0	0
<b>Total</b>	<b>7,144</b>	<b>9,294</b>	<b>9,408</b>	<b>9,523</b>
FTE	92.4	107.1	108.4	109.8

**2GD000.000 Field O&M - Field Support**

Labor	15,494	17,037	19,650	21,012
Non-Labor	3,043	3,359	3,618	3,883
NSE	0	0	0	0
<b>Total</b>	<b>18,537</b>	<b>20,396</b>	<b>23,268</b>	<b>24,895</b>
FTE	179.7	198.3	223.7	238.5

**2GD000.005 Field O&M - Tools Fittings & Materials**

Labor	0	0	0	0
Non-Labor	7,087	7,213	7,370	7,526
NSE	0	0	0	0
<b>Total</b>	<b>7,087</b>	<b>7,213</b>	<b>7,370</b>	<b>7,526</b>
FTE	0.0	0.0	0.0	0.0

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2GD000.002 - Field O&M - Locate & Mark**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 1. Locate & Mark  
 Workpaper: 2GD000.002 - Field O&M - Locate & Mark

**Activity Description:**

The activities completed under this cost workgroup are preventative in nature and are required to avert damages caused by third-party excavators working near gas underground substructures. The work is primarily comprised of locating and marking SoCalGas' underground pipelines, conducting job observations, and performing depth checks.

Details on the historical locate and mark work orders (tickets) can be found in supplemental workpaper SCG-FBA-O&M-SUP-008.

**Forecast Explanations:**

**Labor - 3-YR Linear**

The activity in this workgroup is driven mainly by the level of construction activity. In general, IHS Global Insight forecasts that the non-farm employment growth rate is projected to increase in the Southern California area in the next few years. For this reason, the Locate and Mark forecast is based on the linear trend observed the last three years (2011 through 2013). Using a five-year average would not appropriately account for the increase in work anticipated over the forecast period, as construction activities continue to increase. Thus, to reflect these changing conditions and increase in Locate and Mark work, SoCalGas is projecting that forecasted expenses for this workgroup will follow the three-year historical trend. Therefore, a three-year (2011 through 2013) linear trend was used to calculate the labor requested for this group.

**Non-Labor - 3-YR Linear**

The activity in this workgroup is driven mainly by the level of construction activity. In general, IHS Global Insight forecasts that the non-farm employment growth rate is projected to increase in the Southern California area in the next few years. For this reason, the Locate and Mark forecast is based on the linear trend observed the last three years (2011 through 2013). Using a five-year average would not appropriately account for the increase in work anticipated over the forecast period, as construction activities continue to increase. Thus, to reflect these changing conditions and increase in Locate and Mark work, SoCalGas is projecting that forecasted expenses for this workgroup will follow the three-year historical trend. Therefore, a three-year (2011 through 2013) linear trend was used to calculate the non-labor requested for this group.

**NSE - Zero-Based**

NSE is not applicable to this workgroup.

**Summary of Results:**

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		9,914	9,523	9,524	9,664	10,366	10,693	11,114	11,535	
Non-Labor		841	888	586	939	676	824	869	915	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>10,755</b>	<b>10,411</b>	<b>10,109</b>	<b>10,603</b>	<b>11,042</b>	<b>11,517</b>	<b>11,983</b>	<b>12,449</b>	
FTE		133.3	126.5	126.0	127.5	135.1	138.7	143.3	147.9	

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 1. Locate & Mark  
 Workpaper: 2GD000.002 - Field O&M - Locate & Mark

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	3-YR Linear	10,693	11,114	11,535	0	0	0	10,693	11,114	11,535
Non-Labor	3-YR Linear	824	869	915	0	0	0	824	869	915
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>11,517</b>	<b>11,983</b>	<b>12,449</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11,517</b>	<b>11,983</b>	<b>12,449</b>
FTE	3-YR Linear	138.7	143.3	147.9	0.0	0.0	0.0	138.7	143.3	147.9

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2016 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Field Operations & Maintenance  
Category-Sub: 1. Locate & Mark  
Workpaper: 2GD000.002 - Field O&M - Locate & Mark

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	7,554	7,518	7,799	8,055	8,888
Non-Labor	267	263	202	339	288
NSE	0	0	0	0	0
<b>Total</b>	<b>7,821</b>	<b>7,781</b>	<b>8,001</b>	<b>8,393</b>	<b>9,176</b>
FTE	112.1	107.1	107.6	109.4	115.6
<b>Adjustments (Nominal \$) **</b>					
Labor	64	26	0	80	0
Non-Labor	492	559	361	584	388
NSE	0	0	0	0	0
<b>Total</b>	<b>556</b>	<b>585</b>	<b>361</b>	<b>664</b>	<b>388</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	7,618	7,544	7,799	8,135	8,888
Non-Labor	759	822	563	923	676
NSE	0	0	0	0	0
<b>Total</b>	<b>8,377</b>	<b>8,366</b>	<b>8,362</b>	<b>9,057</b>	<b>9,564</b>
FTE	112.1	107.1	107.6	109.4	115.6
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	1,377	1,319	1,295	1,302	1,477
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>1,377</b>	<b>1,319</b>	<b>1,295</b>	<b>1,302</b>	<b>1,477</b>
FTE	21.2	19.4	18.4	18.1	19.5
<b>Escalation to 2013\$</b>					
Labor	919	660	430	227	0
Non-Labor	82	66	22	16	0
NSE	0	0	0	0	0
<b>Total</b>	<b>1,001</b>	<b>726</b>	<b>452</b>	<b>243</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	9,914	9,523	9,524	9,664	10,366
Non-Labor	841	888	586	939	676
NSE	0	0	0	0	0
<b>Total</b>	<b>10,755</b>	<b>10,411</b>	<b>10,109</b>	<b>10,603</b>	<b>11,042</b>
FTE	133.3	126.5	126.0	127.5	135.1

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 1. Locate & Mark  
 Workpaper: 2GD000.002 - Field O&M - Locate & Mark

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	64	26	0	80	0
Non-Labor	492	559	361	584	388
NSE	0	0	0	0	0
<b>Total</b>	<b>556</b>	<b>585</b>	<b>361</b>	<b>664</b>	<b>388</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	0	492	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1143902860
To transfer USA fees to Locate & Mark work group for complete showing of L&M expense							
2009	64	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1144638173
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
<b>2009 Total</b>	<b>64</b>	<b>492</b>	<b>0</b>	<b>0.0</b>			
2010	0	559	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1143923887
To transfer USA fees to Locate & Mark work group for complete showing of L&M expense							
2010	26	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013111 5144212647
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
<b>2010 Total</b>	<b>26</b>	<b>559</b>	<b>0</b>	<b>0.0</b>			
2011	0	361	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1143947673
To transfer USA fees to Locate & Mark work group for complete showing of L&M expense							
<b>2011 Total</b>	<b>0</b>	<b>361</b>	<b>0</b>	<b>0.0</b>			

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 1. Locate & Mark  
 Workpaper: 2GD000.002 - Field O&M - Locate & Mark

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2012	0	584	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1144008797
To transfer USA fees to Locate & Mark work group for complete showing of L&M expense							
2012	80	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1144856217
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
<b>2012 Total</b>	<b>80</b>	<b>584</b>	<b>0</b>	<b>0.0</b>			
2013	0	388	0	0.0	1-Sided Adj	N/A	TP1MTC2014020 9114749643
To transfer USA fees to Locate & Mark work group for complete showing of L&M expense.							
<b>2013 Total</b>	<b>0</b>	<b>388</b>	<b>0</b>	<b>0.0</b>			

Note: Totals may include rounding differences.

**Supplemental Workpapers for Workpaper 2GD000.002**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

**SCG-FBA-O&M-SUP-008**  
Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala  
Supplemental Workpaper Number of Tickets and Annual Expense for Field O&M Locate and Mark  
Field O&M - Locate and Mark Workgroup

Total SoCalGas Distribution USA Tickets					
	2009	2010	2011	2012	2013
Number of USA Tickets <sup>1</sup>	492,968	467,333	493,441	534,174	577,524
Annual Expense (shown in Thousands) <sup>2</sup>	\$ 10,755	\$ 10,411	\$ 10,109	\$ 10,603	\$ 11,042

<sup>1</sup> USA refers to the Underground Service Alert one-call center for excavators to request locate & mark service. This table shows all SoCalGas Distribution USA tickets 2009 - 2013.

<sup>2</sup> Amounts are shown in thousands of 2013 dollars and include vacation and sick.

**Beginning of Workpaper**  
**2GD000.001 - Field O&M - Leak Survey**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Field Operations & Maintenance  
Category-Sub: 2. Leak Survey  
Workpaper: 2GD000.001 - Field O&M - Leak Survey

**Activity Description:**

Recorded to this workgroup are the labor and non-labor expenses associated with federal pipeline safety regulation 49 CFR §192.723 (Distribution systems: Leakage surveys) requiring SoCalGas to survey its gas distribution system for leakage. SoCalGas pipelines are typically leak surveyed at intervals of one, three, or five years. The frequency of this survey is determined by the pipe material involved (i.e. plastic or steel), the operating pressure, whether or not the pipe is under cathodic protection, and the proximity of the pipe to various population densities. SoCalGas currently has approximately 99,400 miles of main and service pipeline requiring leak survey.

**Forecast Explanations:**

**Labor - 5-YR Linear**

As SoCalGas continues to experience growth of its pipeline system, survey requirements will increase. For example, new pipe installed in years 2009 through 2011 that is on a five-year survey cycle will increase survey footage requirements in the years 2014 through 2016. Thus, the increase in leak survey footage and the associated increase in expenditures for this workgroup is the result of pipe installed in the SoCalGas system between the years 2009 and 2013, as well as changes in work practices. These facts also explain why using this five-year (2009 through 2013) historical linear trend forecast method is appropriate. Using an average methodology would not capture the continued growth in the survey requirements and would underestimate a critical safety-related operations expenses. Therefore, a five-year (2009 through 2013) linear trend was used to calculate the labor requested for this group.

**Non-Labor - 5-YR Linear**

As SoCalGas continues to experience growth of its pipeline system, survey requirements will increase. For example, new pipe installed in years 2009 through 2011 that is on a five-year survey cycle will increase survey footage requirements in the years 2014 through 2016. Thus, the increase in leak survey footage and the associated increase in expenditures for this workgroup is the result of pipe installed in the SoCalGas system between the years 2009 and 2013, as well as changes in work practices. These facts also explain why using this five-year (2009 through 2013) historical linear trend forecast method is appropriate. Using an average methodology would not capture the continued growth in the survey requirements and would underestimate a critical safety-related operations expenses. Therefore, a five-year (2009 through 2013) linear trend was used to calculate the non-labor requested for this group.

**NSE - Zero-Based**

NSE is not applicable to this workgroup.

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 2. Leak Survey  
 Workpaper: 2GD000.001 - Field O&M - Leak Survey

**Summary of Results:**

		<b>In 2013\$ (000) Incurred Costs</b>								
		<b>Adjusted-Recorded</b>					<b>Adjusted-Forecast</b>			
<b>Years</b>		<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	
Labor		4,104	4,162	4,789	5,551	6,237	6,665	7,231	7,796	
Non-Labor		3	13	10	13	16	19	21	24	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>4,107</b>	<b>4,175</b>	<b>4,799</b>	<b>5,564</b>	<b>6,253</b>	<b>6,684</b>	<b>7,252</b>	<b>7,820</b>	
FTE		60.2	60.0	68.3	79.2	88.3	93.8	101.4	108.9	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 2. Leak Survey  
 Workpaper: 2GD000.001 - Field O&M - Leak Survey

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Linear	6,665	7,231	7,796	0	0	0	6,665	7,231	7,796
Non-Labor	5-YR Linear	19	21	24	0	0	0	19	21	24
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>6,684</b>	<b>7,252</b>	<b>7,820</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,684</b>	<b>7,252</b>	<b>7,820</b>
FTE	5-YR Linear	93.8	101.4	108.9	0.0	0.0	0.0	93.8	101.4	108.9

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2016 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Field Operations & Maintenance  
Category-Sub: 2. Leak Survey  
Workpaper: 2GD000.001 - Field O&M - Leak Survey

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	3,128	3,297	3,922	4,627	5,348
Non-Labor	2	12	10	13	16
NSE	0	0	0	0	0
<b>Total</b>	<b>3,130</b>	<b>3,309</b>	<b>3,931</b>	<b>4,640</b>	<b>5,364</b>
FTE	50.6	50.8	58.3	68.1	76.4
<b>Adjustments (Nominal \$) **</b>					
Labor	26	0	0	45	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>45</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	3,154	3,297	3,922	4,672	5,348
Non-Labor	2	12	10	13	16
NSE	0	0	0	0	0
<b>Total</b>	<b>3,156</b>	<b>3,309</b>	<b>3,931</b>	<b>4,685</b>	<b>5,364</b>
FTE	50.6	50.8	58.3	68.1	76.4
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	570	576	651	748	889
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>570</b>	<b>576</b>	<b>651</b>	<b>748</b>	<b>889</b>
FTE	9.6	9.2	10.0	11.0	11.9
<b>Escalation to 2013\$</b>					
Labor	380	288	216	130	0
Non-Labor	0	1	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>381</b>	<b>289</b>	<b>216</b>	<b>131</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	4,104	4,162	4,789	5,551	6,237
Non-Labor	3	13	10	13	16
NSE	0	0	0	0	0
<b>Total</b>	<b>4,107</b>	<b>4,175</b>	<b>4,799</b>	<b>5,564</b>	<b>6,253</b>
FTE	60.2	60.0	68.3	79.1	88.3

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 2. Leak Survey  
 Workpaper: 2GD000.001 - Field O&M - Leak Survey

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	26	0	0	45	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>45</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	26	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1144147500

To transfer union retroactive pay out of 2GD000.005 - Tools Ftngs & Materials - and into impacted field work groups

<b>2009 Total</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
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<b>2010 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
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<b>2011 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
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2012	45	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1144230543
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To transfer union retroactive pay out of 2GD000.005 - Tools Ftngs & Materials - and into impacted field work groups

<b>2012 Total</b>	<b>45</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
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<b>2013 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2GD002.000 - Field O&M - Measurement & Regulation**

Southern California Gas Company  
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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 3. Measurement & Regulation  
 Workpaper: 2GD002.000 - Field O&M - Measurement & Regulation

**Activity Description:**

Recorded to this workgroup are labor and non-labor expenses for maintaining and operating regulator stations, medium and large Meter Set Assemblies (MSAs), and associated components. Measurement and Regulation activities focus primarily on maintaining and operating approximately 2,000 regulator stations and approximately 95,000 medium and large customer MSAs in the SoCalGas service territory.

Regulator stations reduce the pressure of gas entering the distribution system from high-pressure pipelines to provide the lower pressures used on the distribution pipeline system. Medium and large customer MSAs require routine maintenance of the meters, regulators, and other components to meet customers' capacity requirements and to measure gas volume accurately.

**Forecast Explanations:**

**Labor - 5-YR Average**

In developing the forecast for this area, historical expenditures for 2009 through 2013 were evaluated. Given the numerous Measurement and Regulation activities covered in this workgroup, and to factor in periods of high operations and maintenance work as well as years with lower levels of work, SoCalGas selected a five-year average for the period of 2009 through 2013 plus the incremental funding required for additional valve maintenance efforts as a result of PSEP activities and the increase in Measurement & Regulation employees Operator Qualification training to forecast the spending for this area. This approach allows SoCalGas to capture historical spending under a variety of conditions that reflect the historical fluctuation in labor expenditures associated with this work group.

**Non-Labor - 5-YR Average**

In developing the forecast for this area, historical expenditures for 2009 through 2013 were evaluated. Given the numerous Measurement and Regulation activities covered in this workgroup, and to factor in periods of high operations and maintenance work as well as years with lower levels of work, SoCalGas selected a five-year average for the period of 2009 through 2013 plus the incremental funding required for additional valve maintenance efforts as a result of PSEP activities to forecast the spending for this area. This approach allows SoCalGas to capture historical spending under a variety of conditions that reflect the historical fluctuation in non-labor expenditures associated with this work group.

**NSE - Zero-Based**

NSE is not applicable to this workgroup.

**Summary of Results:**

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		9,847	9,082	9,046	9,317	9,636	9,409	9,432	9,546	
Non-Labor		2,509	1,975	1,898	2,122	2,336	2,168	2,168	2,242	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>12,357</b>	<b>11,057</b>	<b>10,944</b>	<b>11,440</b>	<b>11,972</b>	<b>11,577</b>	<b>11,600</b>	<b>11,788</b>	
FTE		119.9	110.7	109.7	112.4	112.7	113.3	113.5	114.6	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 3. Measurement & Regulation  
 Workpaper: 2GD002.000 - Field O&M - Measurement & Regulation

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Average	9,386	9,386	9,386	23	46	160	9,409	9,432	9,546
Non-Labor	5-YR Average	2,168	2,168	2,168	0	0	74	2,168	2,168	2,242
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>11,554</b>	<b>11,554</b>	<b>11,554</b>	<b>23</b>	<b>46</b>	<b>234</b>	<b>11,577</b>	<b>11,600</b>	<b>11,788</b>
FTE	5-YR Average	113.1	113.1	113.1	0.2	0.4	1.5	113.3	113.5	114.6

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2014	23	0	0	23	0.2	1-Sided Adj

ii. Field Operator Qualification Training - Incremental labor is required by Meter and Regulator field employees to address new operator qualification elements.

Labor costs will be 404 hours X \$56.94 = \$23K. beginning in 2014.  
 Labor costs will be 808 hours X \$56.94 = \$46K beginning in 2015.  
 Total labor for TY2016 is 1,212 hours X \$56.94 = \$69K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-001 for calculation details.

<b>2014 Total</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>23</b>	<b>0.2</b>	
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2015	46	0	0	46	0.4	1-Sided Adj
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ii. Field Operator Qualification Training - Incremental labor is required by Meter and Regulator field employees to address new operator qualification elements.

Labor costs will be 404 hours X \$56.94 = \$23K. beginning in 2014.  
 Labor costs will be 808 hours X \$56.94 = \$46K beginning in 2015.  
 Total labor for TY2016 is 1,212 hours X \$56.94 = \$69K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-001 for calculation details.

<b>2015 Total</b>	<b>46</b>	<b>0</b>	<b>0</b>	<b>46</b>	<b>0.4</b>	
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2016	91	74	0	165	0.9	1-Sided Adj
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*Note: Totals may include rounding differences.*

Southern California Gas Company  
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 3. Measurement & Regulation  
 Workpaper: 2GD002.000 - Field O&M - Measurement & Regulation

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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i. Incremental Valve Maintenance - Maintenance for valve actuators and related distribution system control components added under the PSEP Valve Plan to isolate and depressurize critical pipelines in the event of a rupture; maintaining enhanced flow measurement and telemetry at new pipeline locations; maintaining new check valves and other enhancements to prevent back-flow of gas into major pipeline isolation sections.

Labor costs will be \$91K beginning in 2016.  
 Associated non-labor expense is estimated to be \$74K also beginning in 2016.

See Supplemental Workpaper SCG-FBA-O&M-SUP-002 for calculation details.

2016	69	0	0	69	0.6	1-Sided Adj
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ii. Field Operator Qualification Training - Incremental labor is required by Meter and Regulator field employees to address new operator qualification elements.

Labor costs will be 404 hours X \$56.94 = \$23K. beginning in 2014.  
 Labor costs will be 808 hours X \$56.94 = \$46K beginning in 2015.  
 Total labor for TY2016 is 1,212 hours X \$56.94 = \$69K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-001 for calculation details.

<b>2016 Total</b>	<b>160</b>	<b>74</b>	<b>0</b>	<b>234</b>	<b>1.5</b>	
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*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Field Operations & Maintenance  
Category-Sub: 3. Measurement & Regulation  
Workpaper: 2GD002.000 - Field O&M - Measurement & Regulation

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	7,487	7,169	7,407	7,748	8,265
Non-Labor	2,265	1,828	1,825	2,086	2,336
NSE	0	0	0	0	0
<b>Total</b>	<b>9,752</b>	<b>8,997</b>	<b>9,233</b>	<b>9,833</b>	<b>10,601</b>
FTE	100.9	93.7	93.6	96.5	96.5
<b>Adjustments (Nominal \$) **</b>					
Labor	80	26	0	95	-2
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>80</b>	<b>26</b>	<b>0</b>	<b>95</b>	<b>-2</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	7,567	7,195	7,407	7,843	8,263
Non-Labor	2,265	1,828	1,825	2,086	2,336
NSE	0	0	0	0	0
<b>Total</b>	<b>9,832</b>	<b>9,023</b>	<b>9,233</b>	<b>9,928</b>	<b>10,599</b>
FTE	100.9	93.7	93.6	96.5	96.5
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	1,367	1,258	1,230	1,256	1,373
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>1,367</b>	<b>1,258</b>	<b>1,230</b>	<b>1,256</b>	<b>1,373</b>
FTE	19.1	16.9	16.0	16.0	16.2
<b>Escalation to 2013\$</b>					
Labor	913	629	408	219	0
Non-Labor	244	148	73	37	0
NSE	0	0	0	0	0
<b>Total</b>	<b>1,157</b>	<b>777</b>	<b>481</b>	<b>256</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	9,847	9,082	9,046	9,317	9,636
Non-Labor	2,509	1,975	1,898	2,122	2,336
NSE	0	0	0	0	0
<b>Total</b>	<b>12,357</b>	<b>11,057</b>	<b>10,944</b>	<b>11,440</b>	<b>11,972</b>
FTE	120.0	110.6	109.6	112.5	112.7

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 3. Measurement & Regulation  
 Workpaper: 2GD002.000 - Field O&M - Measurement & Regulation

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	80	26	0	95	-2
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>80</b>	<b>26</b>	<b>0</b>	<b>95</b>	<b>-2</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	80	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145342970
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
<b>2009 Total</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
2010	26	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013111 5144321183
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
<b>2010 Total</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2011 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
2012	95	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145435617
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
<b>2012 Total</b>	<b>95</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 3. Measurement & Regulation  
 Workpaper: 2GD002.000 - Field O&M - Measurement & Regulation

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2013	-2	0	0	0.0	CCTR Transf	To 2200-2064.000	RHFLAMIN20140 305120701317
Transfer labor from Gas Distribution 2200-0483 to Gas Engineering 2200-2064 to combine NERBA Subpart W costs under a single workpaper.							
<b>2013 Total</b>	<b>-2</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			

*Note: Totals may include rounding differences.*

**Supplemental Workpapers for Workpaper 2GD002.000**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

**SCG-FBA-O&M-SUP-001**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**

**Supplemental Workpaper Calculations for Costs Related to Incremental Operator Qualification Requirements**

**Field O&M - Field Support Workgroup**  
**Field O&M - Measurement & Regulation (M&R) Workgroup**  
**Field O&M - Cathodic Protection (CP) Workgroup**

Assumptions: [A]: Incremental Operator Qualification hours required in 2014  
 [B]: Incremental Operator Qualification hours required in 2015  
 [C]: Incremental Operator Qualification hours required in 2016  
 [D]: 2013 Weighted Average Overtime Rate for Employees from each respective Distribution department

	<u>Hours</u>			<u>Labor</u>				<u>FTEs</u>			
	[A]	[B]	[C]	[D]	[AxD]	[BxD]	[CxD]	[E]	[A/E]	[B/E]	[C/E]
	2014 Hours	2015 Hours	2016 Hours	Weighted Average Overtime Rate	2014 Labor Forecast	2015 Labor Forecast	2016 Labor Forecast	Yearly Hour Factor	2014 FTEs	2015 FTEs	2016 FTEs
Field Support	5,168	35,785	36,062	\$ 54.02	\$ 279,175	\$ 1,933,106	\$ 1,948,069	2088	2.5	17.1	17.3
M&R	404	808	1,212	\$ 56.94	\$ 23,004	\$ 46,008	\$ 69,011	2088	0.2	0.4	0.6
CP	284	426	3,408	\$ 58.38	\$ 16,580	\$ 24,870	\$ 198,959	2088	0.1	0.2	1.6

Amounts are shown in 2013 dollars and include vacation and sick.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

**SCG-FBA-O&M-SUP-002**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**  
**Supplemental Workpaper Calculations for Incremental Valve Maintenance**  
**Field O&M - Measurement & Regulation (M&R) Workgroup**

In their joint Pipeline Safety Enhancement Plan (PSEP), first filed in August 2011 in Rulemaking 11-02-019 (the Pipeline Safety Rulemaking), SoCalGas and SDG&E requested approval and recovery of the revenue requirements resulting from Capital and O&M forecasts of the PSEP for years 2011 through 2015, to coincide with SoCalGas and SDG&E's anticipated next GRC cycles.

SoCalGas and SDG&E are approximately one year behind in their implementation of the PSEP proposed in August 2011. Therefore, associated Capital and O&M costs for the valve enhancement work have been offset by one calendar year or more and SoCalGas and SDG&E expect O&M costs previously forecast to be expended in year 2015 of the PSEP valve enhancement plan to be expended in 2016, rather than 2015. As a result, this 2016 forecast reflects the O&M costs previously forecast to be expended in year 2015 of the PSEP.

Assumptions: [A] & [B]: Labor and non-labor forecast from R.11-02-019, Chapter IX-2 Valves, for SoCalGas Gas Distribution O&M in the year 2015. This is in 2011 dollars with vacation and sick.

[C]: Average blended wage rate for project managers and M&R employees working on the valves, in 2011 dollars.

[E] & [F]: Escalation factor to convert 2011 dollars into 2013 dollars.

	2015 Forecast from PSEP Workpapers (2011\$ with V&S)		FTE Calculations (2011\$)			2011 - 2013 Escalation Rates		Resulting 2016 Forecast (2013\$ with V&S)		
	Labor	Non-Labor	Wage Rate	Hours / FTE	FTEs	Labor	Non-Labor	Labor	Non-Labor	Total
	[A]	[B]	[C]	[D]	[A]/([C]*[D])	[E]	[F]	[G] ([A]/[E])	[H] ([B]/[F])	[G]+[H]
Base Valve Work	\$ 974	\$ 1,716	\$47	2088	0.01	95.5%	96.2%	\$ 1,020	\$ 1,784	\$ 2,805
Backflow Prevention - Remote Control Capability	\$ 4,670	\$ 2,731	\$47	2088	0.05	95.5%	96.2%	\$ 4,890	\$ 2,840	\$ 7,731
Backflow Prevention - Regulator Station Control Piping	\$ 2,824	\$ 1,366	\$47	2088	0.03	95.5%	96.2%	\$ 2,958	\$ 1,420	\$ 4,378
Backflow Prevention - Check Valves	\$ 1,808	\$ 819	\$47	2088	0.02	95.5%	96.2%	\$ 1,893	\$ 852	\$ 2,746
Tap Meters - Measurement Stations for Flow Analysis	\$ 6,266	\$ 2,731	\$47	2088	0.06	95.5%	96.2%	\$ 6,562	\$ 2,840	\$ 9,402
Radio System for Valve Communication	\$ 70,000	\$ 61,412	\$47	2088	0.71	95.5%	96.2%	\$ 73,308	\$ 63,861	\$ 137,169
<b>Total Incremental Valve Maintenance</b>	<b>\$ 86,542</b>	<b>\$ 70,776</b>			<b>0.88</b>			<b>\$ 90,632</b>	<b>\$ 73,598</b>	<b>\$ 164,230</b>

Southern California Gas Company  
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Non-Shared Service Workpapers

From R.11-02-019, Chapter IX-2, Revised to Show More Significant Figures:

**OPERATIONS AND MAINTENANCE WORKPAPER**

Page 2 of 2

<b>WORKPAPER TITLE</b> SoCalGas Distribution Valves O&M (Valves_O&M_SCG_Dist)	<b>FERC ACCT.</b> 874.4
<b>WITNESS</b> Joseph Rivera	

**Table B**

<b>VALVE ENHANCEMENT PLAN O&amp;M COSTS (\$ Millions) BY ELEMENT (SOCALGAS)</b>							
PROJECT COST (\$000,000 IN 2011\$)	2012	2013	2014	2015	2012-2015	2016-2021	Total
<b>BASE VALVE WORK</b>							<b>0.033</b>
DIRECT LABOR	0.000	0.000	0.001	0.001	0.002	0.011	0.013
DIRECT NON-LABOR	0.001	0.001	0.002	0.002	0.006	0.013	0.019
<b>94 ASV TO RCV</b>							<b>-</b>
DIRECT LABOR	-	-	-	-	-	-	-
DIRECT NON-LABOR	-	-	-	-	-	-	-
<b>COMM TO 100 ASVs</b>							<b>-</b>
DIRECT LABOR	-	-	-	-	-	-	-
DIRECT NON-LABOR	-	-	-	-	-	-	-
<b>20 LARGE METER SITES</b>							<b>-</b>
DIRECT LABOR	-	-	-	-	-	-	-
DIRECT NON-LABOR	-	-	-	-	-	-	-
<b>120 BACKFLOW PREV SITES (three elements)</b>							<b>0.245</b>
DIRECT LABOR	0.000	0.001	0.005	0.009	0.016	0.144	0.160
DIRECT NON-LABOR	0.000	0.000	0.003	0.005	0.008	0.077	0.085
<b>40 TAP METERS</b>							<b>0.135</b>
DIRECT LABOR	-	-	0.003	0.006	0.009	0.085	0.094
DIRECT NON-LABOR	-	-	0.001	0.003	0.004	0.037	0.041
<b>SCADA SYSTEM EXPANSION</b>							<b>-</b>
DIRECT LABOR	-	-	-	-	-	-	-
DIRECT NON-LABOR	-	-	-	-	-	-	-
<b>SDGE RADIO SYSTEM EXP</b>							<b>-</b>
DIRECT LABOR	-	-	-	-	-	-	-
DIRECT NON-LABOR	-	-	-	-	-	-	-
<b>SCG RADIO SYSTEM EXP</b>							<b>5.008</b>
DIRECT LABOR	-	-	-	0.070	0.070	0.420	0.490
DIRECT NON-LABOR	-	-	0.013	0.061	0.075	4.443	4.518
<b>PLAN TOTALS-O&amp;M</b>							<b>5.420</b>
DIRECT LABOR	0.001	0.001	0.009	0.087	0.098	0.660	0.757
DIRECT NON-LABOR	0.002	0.002	0.019	0.071	0.093	4.570	4.663

**Beginning of Workpaper**  
**2GD003.000 - Field O&M - Cathodic Protection**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 4. Cathodic Protection  
 Workpaper: 2GD003.000 - Field O&M - Cathodic Protection

**Activity Description:**

In addition to the application of coating and electrical isolation, cathodic protection (CP) is one method for mitigating external corrosion on steel pipelines. CP uses both magnesium anodes and rectifier stations to impose a negative charge on the pipeline. Additionally, test stations are installed to monitor the CP system and insulators are placed on the mains to isolate CP areas.

This workgroup addresses the resulting identified field maintenance requirements. Examples of maintenance activities performed within this workgroup include, installing anodes, clearing underground shorts created by two pipelines touching each other, repairing or replacing broken wires to anodes or test stations, raising test station lids as a result of the re-pavement of streets adding test points on pipelines, and installing insulators on mains and services.

**Forecast Explanations:**

**Labor - 5-YR Average**

Given that the need for CP maintenance as recorded to this workgroup is generally reactive and outside of SoCalGas' control, and to capture the variation that can occur within this activity, SoCalGas is forecasting labor and non-labor expenses for this workgroup based on the five-year average spending for the period 2009 through 2013 plus the incremental funding required for the CP effort to address the aging infrastructure and the Field Operations Operator Qualification training efforts. This approach allows SoCalGas to capture historical spending under a variety of conditions that reflect the historical fluctuation in labor and non-labor expenditures associated with this workgroup.

**Non-Labor - 5-YR Average**

Given that the need for CP maintenance as recorded to this workgroup is generally reactive and outside of SoCalGas' control, and to capture the variation that can occur within this activity, SoCalGas is forecasting labor and non-labor expenses for this workgroup based on the five-year average spending for the period 2009 through 2013 plus the incremental funding required for the CP effort to address the aging infrastructure. This approach allows SoCalGas to capture historical spending under a variety of conditions that reflect the historical fluctuation in labor and non-labor expenditures associated with this workgroup.

**NSE - Zero-Based**

NSE is not applicable to this workgroup.

**Summary of Results:**

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		8,291	6,951	7,045	6,988	7,145	7,336	7,378	7,587	
Non-Labor		4,072	3,404	3,631	3,253	3,705	4,343	5,073	5,803	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>12,363</b>	<b>10,355</b>	<b>10,676</b>	<b>10,241</b>	<b>10,851</b>	<b>11,679</b>	<b>12,451</b>	<b>13,390</b>	
FTE		108.0	88.2	89.5	86.3	89.2	92.7	93.3	95.1	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 4. Cathodic Protection  
 Workpaper: 2GD003.000 - Field O&M - Cathodic Protection

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Average	7,284	7,284	7,284	52	94	303	7,336	7,378	7,587
Non-Labor	5-YR Average	3,613	3,613	3,613	730	1,460	2,190	4,343	5,073	5,803
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>10,897</b>	<b>10,897</b>	<b>10,897</b>	<b>782</b>	<b>1,554</b>	<b>2,493</b>	<b>11,679</b>	<b>12,451</b>	<b>13,390</b>
FTE	5-YR Average	92.2	92.2	92.2	0.5	1.1	2.9	92.7	93.3	95.1

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2014	35	730	0	765	0.4	1-Sided Adj

i. Incremental Cathodic Protection System Enhancement - Additional installation of magnesium anodes is required to provide needed protection and to extend the life of steel pipelines.

The labor forecast is based on the total incremental cathodic protection packages to be worked per year, the estimated troubleshooting hours per package, and the labor rate. The non-labor forecast is based on the packages to be worked per year and the estimated non-labor cost per incremental cathodic protection packages.

See Supplemental Workpaper SCG-FBA-O&M-SUP-004 for calculation details.

2014	17	0	0	17	0.1	1-Sided Adj
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ii. Field Operator Qualification Training - Incremental labor is required by Cathodic Protection field employees to address new operator qualification elements.

Labor costs will be 284 hours X \$58.38 = \$17K. beginning in 2014.

Labor costs will be 426 hours X \$58.38 = \$25K beginning in 2015.

Total labor for TY2016 is 3,408 hours X \$58.38 = \$199K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-001 for calculation details.

<b>2014 Total</b>	<b>52</b>	<b>730</b>	<b>0</b>	<b>782</b>	<b>0.5</b>	
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2015	69	1,460	0	1,529	0.9	1-Sided Adj
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Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 4. Cathodic Protection  
 Workpaper: 2GD003.000 - Field O&M - Cathodic Protection

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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i. Incremental Cathodic Protection System Enhancement - Additional installation of magnesium anodes is required to provide needed protection and to extend the life of steel pipelines.

The labor forecast is based on the total incremental cathodic protection packages to be worked per year, the estimated troubleshooting hours per package, and the labor rate. The non-labor forecast is based on the packages to be worked per year and the estimated non-labor cost per incremental cathodic protection packages.

See Supplemental Workpaper SCG-FBA-O&M-SUP-004 for calculation details.

2015	25	0	0	25	0.2	1-Sided Adj
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ii. Field Operator Qualification Training - Incremental labor is required by Cathodic Protection field employees to address new operator qualification elements.

Labor costs will be 284 hours X \$58.38 = \$17K. beginning in 2014.

Labor costs will be 426 hours X \$58.38 = \$25K beginning in 2015.

Total labor for TY2016 is 3,408 hours X \$58.38 = \$199K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-001 for calculation details.

<b>2015 Total</b>	<b>94</b>	<b>1,460</b>	<b>0</b>	<b>1,554</b>	<b>1.1</b>	
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2016	104	2,190	0	2,294	1.3	1-Sided Adj
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i. Incremental Cathodic Protection System Enhancement - Additional installation of magnesium anodes is required to provide needed protection and to extend the life of steel pipelines.

The labor forecast is based on the total incremental cathodic protection packages to be worked per year, the estimated troubleshooting hours per package, and the labor rate. The non-labor forecast is based on the packages to be worked per year and the estimated non-labor cost per incremental cathodic protection packages.

See Supplemental Workpaper SCG-FBA-O&M-SUP-004 for calculation details.

2016	199	0	0	199	1.6	1-Sided Adj
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Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 4. Cathodic Protection  
 Workpaper: 2GD003.000 - Field O&M - Cathodic Protection

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
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ii. Field Operator Qualification Training - Incremental labor is required by Cathodic Protection field employees to address new operator qualification elements.

Labor costs will be 284 hours X \$58.38 = \$17K. beginning in 2014.

Labor costs will be 426 hours X \$58.38 = \$25K beginning in 2015.

Total labor for TY2016 is 3,408 hours X \$58.38 = \$199K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-001 for calculation details.

<b>2016 Total</b>	<b>303</b>	<b>2,190</b>	<b>0</b>	<b>2,493</b>	<b>2.9</b>	
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*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Field Operations & Maintenance  
Category-Sub: 4. Cathodic Protection  
Workpaper: 2GD003.000 - Field O&M - Cathodic Protection

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	6,290	5,482	5,769	5,796	6,127
Non-Labor	3,627	3,105	3,450	3,160	3,644
NSE	0	0	0	0	0
<b>Total</b>	<b>9,917</b>	<b>8,587</b>	<b>9,219</b>	<b>8,956</b>	<b>9,771</b>
FTE	90.9	74.7	76.5	74.2	76.9
<b>Adjustments (Nominal \$) **</b>					
Labor	81	25	0	86	0
Non-Labor	49	44	42	37	61
NSE	0	0	0	0	0
<b>Total</b>	<b>130</b>	<b>69</b>	<b>42</b>	<b>123</b>	<b>61</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	6,371	5,507	5,769	5,882	6,127
Non-Labor	3,676	3,149	3,492	3,197	3,705
NSE	0	0	0	0	0
<b>Total</b>	<b>10,047</b>	<b>8,656</b>	<b>9,261</b>	<b>9,079</b>	<b>9,832</b>
FTE	90.9	74.7	76.5	74.2	76.9
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	1,151	963	958	942	1,018
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>1,151</b>	<b>963</b>	<b>958</b>	<b>942</b>	<b>1,018</b>
FTE	17.2	13.5	13.1	12.1	12.3
<b>Escalation to 2013\$</b>					
Labor	769	482	318	164	0
Non-Labor	397	254	139	56	0
NSE	0	0	0	0	0
<b>Total</b>	<b>1,165</b>	<b>736</b>	<b>457</b>	<b>221</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	8,291	6,951	7,045	6,988	7,145
Non-Labor	4,072	3,404	3,631	3,253	3,705
NSE	0	0	0	0	0
<b>Total</b>	<b>12,363</b>	<b>10,355</b>	<b>10,676</b>	<b>10,241</b>	<b>10,851</b>
FTE	108.1	88.2	89.6	86.3	89.2

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 4. Cathodic Protection  
 Workpaper: 2GD003.000 - Field O&M - Cathodic Protection

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	81	25	0	86	0
Non-Labor	49	44	42	37	61
NSE	0	0	0	0	0
<b>Total</b>	<b>130</b>	<b>69</b>	<b>42</b>	<b>123</b>	<b>61</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	81	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145506877
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
2009	0	49	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1150106403
To transfer Cathodic Protection NL into CP work group							
<b>2009 Total</b>	<b>81</b>	<b>49</b>	<b>0</b>	<b>0.0</b>			
2010	0	44	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1150131463
To transfer Cathodic Protection NL into CP work group							
2010	25	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013111 5144356263
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
<b>2010 Total</b>	<b>25</b>	<b>44</b>	<b>0</b>	<b>0.0</b>			
2011	0	42	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1150153607
To transfer Cathodic Protection NL into CP work group							
<b>2011 Total</b>	<b>0</b>	<b>42</b>	<b>0</b>	<b>0.0</b>			

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 4. Cathodic Protection  
 Workpaper: 2GD003.000 - Field O&M - Cathodic Protection

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2012	86	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145609453
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
2012	0	37	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1150216950
To transfer Cathodic Protection NL into CP work group							
<b>2012 Total</b>	<b>86</b>	<b>37</b>	<b>0</b>	<b>0.0</b>			
2013	0	61	0	0.0	1-Sided Adj	N/A	TP1MTC2014020 9114930557
To transfer Cathodic Protection NL into CP work group.							
<b>2013 Total</b>	<b>0</b>	<b>61</b>	<b>0</b>	<b>0.0</b>			

*Note: Totals may include rounding differences.*

**Supplemental Workpapers for Workpaper 2GD003.000**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

**SCG-FBA-O&M-SUP-001**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**

**Supplemental Workpaper Calculations for Costs Related to Incremental Operator Qualification Requirements**

**Field O&M - Field Support Workgroup**  
**Field O&M - Measurement & Regulation (M&R) Workgroup**  
**Field O&M - Cathodic Protection (CP) Workgroup**

Assumptions: [A]: Incremental Operator Qualification hours required in 2014  
[B]: Incremental Operator Qualification hours required in 2015  
[C]: Incremental Operator Qualification hours required in 2016  
[D]: 2013 Weighted Average Overtime Rate for Employees from each respective Distribution department

	<u>Hours</u>			<u>Labor</u>				<u>FTEs</u>			
	[A]	[B]	[C]	[D]	[AxD]	[BxD]	[CxD]	[E]	[A/E]	[B/E]	[C/E]
	2014 Hours	2015 Hours	2016 Hours	Weighted Average Overtime Rate	2014 Labor Forecast	2015 Labor Forecast	2016 Labor Forecast	Yearly Hour Factor	2014 FTEs	2015 FTEs	2016 FTEs
Field Support	5,168	35,785	36,062	\$ 54.02	\$ 279,175	\$ 1,933,106	\$ 1,948,069	2088	2.5	17.1	17.3
M&R	404	808	1,212	\$ 56.94	\$ 23,004	\$ 46,008	\$ 69,011	2088	0.2	0.4	0.6
CP	284	426	3,408	\$ 58.38	\$ 16,580	\$ 24,870	\$ 198,959	2088	0.1	0.2	1.6

Amounts are shown in 2013 dollars and include vacation and sick.

Southern California Gas Company  
2016 GRC - APP  
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**SCG-FBA-O&M-SUP-004**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**  
**Supplemental Workpaper Calculations for Incremental Cathodic Protection System Enhancement**  
**Field O&M - Cathodic Protection Workgroup**

Assumptions: [A]: Total Backlog of O&M Cathodic Protection (CP) Packages (See total for Letter [H] below)

[B]: Percent of backlogged packages to be worked in each year

[D]: Estimated System Protection Specialist (SPS) hours spent troubleshooting per package.  
Estimates from cathodic protection subject matter experts.

[E]: 20103 System Protection Specialist Labor rate

[H]: Total backlog of O&M CP packages per area size

Labor & FTEs

	[A]	[B]	[C] (AxB)	[D]	[E]	[F] (CxDxE)	[G]	[M] (CxD/G)
	Total CP Packages	% of Packages to be Worked	Packages to be Worked per Year	Estimated Troubleshooting Hours per Package	SPS Labor Rate	Total Labor Per Year	Yearly Hour Factor	FTEs
<b>2014</b>	1,161	17%	193	4.75	\$ 37.96	\$ 34,800	2088	0.4
<b>2015</b>	1,161	33%	387	4.75	\$ 37.96	\$ 69,780	2088	0.9
<b>2016</b>	1,161	50%	581	4.75	\$ 37.96	\$ 104,670	2088	1.3

Non-Labor By CP Area Size

	[H]	[I]	[J] (HxI)
	Total Qty	Non Labor Cost per Package	Total Incremental Non-Labor Costs
100-500 Feet	132	\$ 2,000	\$ 264,000
501-1000 Feet	203	\$ 4,000	\$ 812,000
1001-5000 Feet	826	\$ 4,000	\$ 3,304,000
<b>Total</b>	<b>1161</b>		<b>\$ 4,380,000</b>

Non-Labor By Year

	[B]	[K] (J)	[L] (BxK)
	% of Packages to be Worked	Total Non-Labor for all CP Packages	Total Non-Labor per Year
<b>2014</b>	17%	\$ 4,380,000	\$ 730,000
<b>2015</b>	33%	\$ 4,380,000	\$ 1,460,000
<b>2016</b>	50%	\$ 4,380,000	\$ 2,190,000

Summary

	(F)	(L)	(F+L)	(M)
	Labor	Non-Labor	Total	FTEs
<b>2014</b>	\$ 34,800	\$ 730,000	\$ 764,800	0.4
<b>2015</b>	\$ 69,780	\$ 1,460,000	\$ 1,529,780	0.9
<b>2016</b>	\$ 104,670	\$ 2,190,000	\$ 2,294,670	1.3

Amounts are shown in 2013 dollars and include vacation and sick.

**Beginning of Workpaper**  
**2GD000.003 - Field O&M - Main Maintenance**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Field Operations & Maintenance  
Category-Sub: 5. Main Maintenance  
Workpaper: 2GD000.003 - Field O&M - Main Maintenance

**Activity Description:**

Main maintenance work is generally corrective in nature and is required to keep the natural gas system operating safely and reliably. The work in this workgroup is designed to meet federal, i.e., 49 C.F.R. §192, and state, i.e., CPUC General Order 112-E, pipeline safety regulations and to extend the life of distribution main pipelines and related infrastructure. Main maintenance work is primarily comprised of five activities which are leak evaluations, leak repairs, franchise alterations, compliance maintenance, and miscellaneous main maintenance.

**Forecast Explanations:**

**Labor - 5-YR Linear**

A variety of factors influence the level of spending on main maintenance in a given year. These factors include increasing government regulations, aging infrastructure, public safety, municipality requirements, material failure, infrastructure, and economic conditions. The labor and non-labor expenses have experienced an upward trend in costs. This upward trend is forecasted to continue as work pressures continue to increase. Therefore, a five-year (2009 through 2013) historical linear trend was used to forecast the base level of future labor expenses. Using an average forecasting method would not be appropriate for this work category as it would not fully fund future critical compliance and maintenance work. Given the continued upward trend in these drivers, a five-year linear spending for the period 2009 through 2013 was used to forecast the base level of funding plus the incremental increase funding needed for the gas leak backlog reduction effort.

**Non-Labor - Zero-Based**

A variety of factors influence the level of spending on main maintenance in a given year. These factors include increasing government regulations, aging infrastructure, public safety, municipality requirements, material failure, infrastructure, and economic conditions. The labor and non-labor expenses have experienced an upward trend in costs. This upward trend is forecasted to continue as work pressures continue to increase. Therefore, a five-year (2009 through 2013) historical linear trend was used to forecast future base expense for these workgroup components. Using an average forecasting method would not be appropriate for this work category as it would not fully fund future critical compliance and maintenance work. For the damage credits component of this workgroup, SoCalGas used a five-year (2009 through 2013) average. This option is best suited for these activities given the unpredictability of damages - both in terms of frequency and severity - and the timing of collecting funds from third parties. Furthermore, the collection of the damage credit can occur in a different year as the damage itself. Given this uncertainty and variability, a five-year (2009 through 2013) average for damage credits was applied. These non-labor components of this zero-based forecast are shown in Supplemental Workpaper SCG-FBA-O&M-SUP-007. Incremental funding for the gas leak backlog reduction effort was added to this forecast base.

**NSE - Zero-Based**

NSE is not applicable to this workgroup.

*Note: Totals may include rounding differences.*

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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 5. Main Maintenance  
 Workpaper: 2GD000.003 - Field O&M - Main Maintenance

**Summary of Results:**

		<b>In 2013\$ (000) Incurred Costs</b>								
		<b>Adjusted-Recorded</b>					<b>Adjusted-Forecast</b>			
<b>Years</b>		<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	
Labor		5,332	5,420	7,281	7,787	8,375	9,374	11,028	12,684	
Non-Labor		1,972	2,180	3,553	5,182	2,454	4,720	5,468	6,216	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>7,304</b>	<b>7,601</b>	<b>10,834</b>	<b>12,968</b>	<b>10,829</b>	<b>14,094</b>	<b>16,496</b>	<b>18,900</b>	
FTE		63.8	62.8	82.6	89.8	94.7	105.4	124.8	144.2	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 5. Main Maintenance  
 Workpaper: 2GD000.003 - Field O&M - Main Maintenance

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Linear	9,374	10,219	11,065	0	809	1,619	9,374	11,028	12,684
Non-Labor	Zero-Based	0	0	0	4,720	5,468	6,216	4,720	5,468	6,216
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>9,374</b>	<b>10,219</b>	<b>11,065</b>	<b>4,720</b>	<b>6,277</b>	<b>7,835</b>	<b>14,094</b>	<b>16,496</b>	<b>18,900</b>
FTE	5-YR Linear	105.4	114.2	123.1	0.0	10.6	21.1	105.4	124.8	144.2

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2014	0	4,720	0	4,720	0.0	1-Sided Adj

Base Forecast Methodology for Main Maintenance Non-Labor: Forecasted using a five-year historical trend for the non-labor excluding damage credits. The five-year average of the damage credits was then applied to the non-labor forecast.

See Supplemental Workpaper SCG-FBA-O&M-SUP-007 for calculation details.

<b>2014 Total</b>	<b>0</b>	<b>4,720</b>	<b>0</b>	<b>4,720</b>	<b>0.0</b>	
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2015	809	198	0	1,007	10.6	1-Sided Adj
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i. Leak Reduction Effort - SoCalGas plans to reduce the number of pending leaks in its backlog. This effort will reduce the number of pending main leaks by approximately 800 in 2015 and 1601 in 2016.

Labor costs will be 800 leaks X \$1,011.43 = \$809K beginning in 2015. Associated non-labor expense is estimated to be 800 leaks X \$247.20 = \$198K also beginning in 2015.

Beginning in TY2016, the leak reduction effort will be doubled from the previous year. Total labor for TY2016 is 1601 leaks X \$1,011.43 = \$1,619K in labor. Total non-labor for TY2016 expense is 1601 leaks X \$247.20 = \$396K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-003 for calculation details.

2015	0	5,270	0	5,270	0.0	1-Sided Adj
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*Note: Totals may include rounding differences.*

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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 5. Main Maintenance  
 Workpaper: 2GD000.003 - Field O&M - Main Maintenance

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
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Base Forecast Methodology for Main Maintenance Non-Labor: Forecasted using a five-year historical trend for the non-labor excluding damage credits. The five-year average of the damage credits was then applied to the non-labor forecast.

See Supplemental Workpaper SCG-FBA-O&M-SUP-007 for calculation details.

<b>2015 Total</b>	<b>809</b>	<b>5,468</b>	<b>0</b>	<b>6,277</b>	<b>10.6</b>	
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2016	1,619	396	0	2,015	21.1	1-Sided Adj
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i. Leak Reduction Effort - SoCalGas plans to reduce the number of pending leaks in its backlog. This effort will reduce the number of pending main leaks by approximately 800 in 2015 and 1601 in 2016.

Labor costs will be leaks 800 X \$1,011.43 = \$809K beginning in 2015. Associated non-labor expense is estimated to be 800 leaks X \$247.20 = \$198K also beginning in 2015.

Beginning in TY2016, the leak reduction effort will be doubled from the previous year. Total labor for TY2016 is 1601 leaks X \$1,011.43 = \$1,619K in labor. Total non-labor for TY2016 expense is 1601 leaks X \$247.20 = \$396K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-003 for calculation details.

2016	0	5,820	0	5,820	0.0	1-Sided Adj
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Base Forecast Methodology for Main Maintenance Non-Labor: Forecasted using a five-year historical trend for the non-labor excluding damage credits. The five-year average of the damage credits was then applied to the non-labor forecast.

See Supplemental Workpaper SCG-FBA-O&M-SUP-007 for calculation details.

<b>2016 Total</b>	<b>1,619</b>	<b>6,216</b>	<b>0</b>	<b>7,835</b>	<b>21.1</b>	
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Note: Totals may include rounding differences.

Southern California Gas Company  
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Field Operations & Maintenance  
Category-Sub: 5. Main Maintenance  
Workpaper: 2GD000.003 - Field O&M - Main Maintenance

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	4,046	4,268	5,962	6,444	6,996
Non-Labor	2,191	2,776	3,814	4,926	4,954
NSE	0	0	0	0	0
<b>Total</b>	<b>6,237</b>	<b>7,044</b>	<b>9,777</b>	<b>11,370</b>	<b>11,950</b>
FTE	53.7	53.1	70.5	77.1	78.9
<b>Adjustments (Nominal \$) **</b>					
Labor	51	26	0	110	185
Non-Labor	-411	-758	-398	166	-2,500
NSE	0	0	0	0	0
<b>Total</b>	<b>-360</b>	<b>-732</b>	<b>-398</b>	<b>276</b>	<b>-2,315</b>
FTE	0.0	0.0	0.0	0.0	2.5
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	4,097	4,294	5,962	6,554	7,181
Non-Labor	1,780	2,018	3,417	5,092	2,454
NSE	0	0	0	0	0
<b>Total</b>	<b>5,877</b>	<b>6,312</b>	<b>9,379</b>	<b>11,646</b>	<b>9,635</b>
FTE	53.7	53.1	70.5	77.1	81.4
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	740	751	990	1,049	1,194
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>740</b>	<b>751</b>	<b>990</b>	<b>1,049</b>	<b>1,194</b>
FTE	10.1	9.6	12.1	12.7	13.3
<b>Escalation to 2013\$</b>					
Labor	494	376	328	183	0
Non-Labor	192	163	136	90	0
NSE	0	0	0	0	0
<b>Total</b>	<b>686</b>	<b>539</b>	<b>464</b>	<b>273</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	5,332	5,420	7,281	7,787	8,375
Non-Labor	1,972	2,180	3,553	5,182	2,454
NSE	0	0	0	0	0
<b>Total</b>	<b>7,304</b>	<b>7,601</b>	<b>10,834</b>	<b>12,968</b>	<b>10,829</b>
FTE	63.8	62.7	82.6	89.8	94.7

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 5. Main Maintenance  
 Workpaper: 2GD000.003 - Field O&M - Main Maintenance

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	51	26	0	110	185
Non-Labor	-411	-758	-398	166	-2,500
NSE	0	0	0	0	0
<b>Total</b>	<b>-360</b>	<b>-732</b>	<b>-398</b>	<b>276</b>	<b>-2,315</b>
FTE	0.0	0.0	0.0	0.0	2.5

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	0	-362	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1135514830
To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)							
2009	51	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145121100
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
2009	0	-49	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145906860
To transfer Cathodic Protection NL into CP work group							
<b>2009 Total</b>	<b>51</b>	<b>-411</b>	<b>0</b>	<b>0.0</b>			
2010	0	-714	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1135104560
To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)							
2010	0	-44	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145930543
To transfer Cathodic Protection NL into CP work group							
2010	26	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013111 5144245243
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							

Note: Totals may include rounding differences.

Southern California Gas Company  
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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 5. Main Maintenance  
 Workpaper: 2GD000.003 - Field O&M - Main Maintenance

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
<b>2010 Total</b>	<b>26</b>	<b>-758</b>	<b>0</b>	<b>0.0</b>			
2011	0	-356	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1135146230
To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)							
2011	0	-42	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145951463
To transfer Cathodic Protection NL into CP work group							
<b>2011 Total</b>	<b>0</b>	<b>-398</b>	<b>0</b>	<b>0.0</b>			
2012	0	203	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1135304630
To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training).							
2012	110	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145215717
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
2012	0	-37	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1150015117
To transfer Cathodic Protection NL into CP work group							
<b>2012 Total</b>	<b>110</b>	<b>166</b>	<b>0</b>	<b>0.0</b>			
2013	0	-2,439	0	0.0	1-Sided Adj	N/A	TP1MTC2014020 9114530327
To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)							
2013	0	-61	0	0.0	1-Sided Adj	N/A	TP1MTC2014020 9114837023
To transfer Cathodic Protection NL into CP work group.							
2013	185	0	0	2.5	1-Sided Adj	N/A	TP1MTC2014021 0105927810
To transfer main leak repair costs from Service Maintenance work group.							
<b>2013 Total</b>	<b>185</b>	<b>-2,500</b>	<b>0</b>	<b>2.5</b>			

Note: Totals may include rounding differences.

**Supplemental Workpapers for Workpaper 2GD000.003**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

**SCG-FBA-O&M-SUP-007**

Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala

**Supplemental Workpaper Calculations for Field O&M Main Maintenance Base Forecast for Non-Labor**

**Field O&M - Main Maintenance Workgroup**

**Calculation of Average Damage Credits applied to Non-Labor to determine the total forecast for Main Maintenance**

SoCalGas has experienced a wide variation in the damage credits applied to the Main Maintenance workgroup; therefore, an average forecasting methodology was used on the Damage Credits and then applied to the Non-Labor forecast. To accurately reflect the forecast, a five-year historical trend was used on the labor and non-labor excluding damage credits. The five-year average of the damage credits was then applied to the Non-Labor forecast. The tables below show these calculations.

[H] Shows the Zero-Based Non-Labor Base Forecast

Historical Data

Historical Dollars (1000s/with V&S in 2013\$)		2009	2010	2011	2012	2013
[A]	Field O&M - Main Maintenance - Labor	5,332	5,420	7,281	7,787	8,375
[B]	Field O&M - Main Maintenance - Non-Labor	1,972	2,180	3,553	5,182	2,454
[C]	Field O&M - Main Maintenance -- Non-Labor Damage Credits	-1,462	-859	-495	-387	-2,468
[D]	Field O&M - Main Maintenance -- Non-Labor Excluding Damage Credits ([B]-[C])	3,434	3,039	4,047	5,568	4,922

Forecast Calculations

		5Yr Trend for Labor / Zero Base for Non Labor			
		2014	2015	2016	
[E]	5-Year Trend of A	Labor	9,374	10,219	11,065
[F]	5-Year Trend of D	Non-Labor Excluding Damage Credits	5,854	6,404	6,955
[G]	5-Year Average of C	Non-Labor Damage Credits	-1,134	-1,134	-1,134
[H]	Sum of F and G	Non-Labor Subtotal	4,720	5,270	5,820
[I]	Sum of E and H	<b>Total Base Forecast</b>	<b>14,094</b>	<b>15,489</b>	<b>16,885</b>
[J]		Incremental (See Supplemental Workpaper SCG-FBA-O&M-SUP-003)	-	1,007	2,015
	Sum of I and J	<b>Resulting Total Forecast</b>	<b>14,094</b>	<b>16,496</b>	<b>18,900</b>

Amounts are shown in thousands of 2013 dollars and include vacation and sick.

Southern California Gas Company  
2016 GRC - APP  
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**SCG-FBA-O&M-SUP-003**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**  
**Supplemental Workpaper Calculations for incremental cost related to Leak Reduction Effort**  
**Field O&M - Main Maintenance Workgroup**  
**Field O&M - Service Maintenance Workgroup**

Assumptions: [A]: Total leaks to be worked per year in order to eliminate backlog by the end of 2018. In the first year of this incremental O&M work, it is estimated that SoCalGas will eliminate 1,090 leaks through main and service repair. In subsequent years that number will increase to 2,179.

[B]: Percent based on historical repairs of Main or Service

[C]: Estimated number of leaks to be worked - Main or Service

[D]: Labor Cost per order based on 2013 historical repair costs

[E]: Incremental Labor cost of Main or Service repair

[F]: Non-Labor Cost per order based on 2013 historical repair costs

[G]: Incremental Non-Labor cost of Main or Service repair

[H]: Lead Construction Tech and Construction Tech 2013 blended rate

[I]: Yearly hour factor

		[A]	[B]	[C] (AxB)	[D]	Labor [E] (CxD)	Non-Labor [F]	[G] (CxF)	(E+G)
		Estimated Total Leaks to be Worked	% Main or Service	Number of leaks to be Worked	Labor Cost per Order	Total Incremental Labor Cost	Non- Labor Cost per Order	Total Incremental Non-Labor Cost	Total Labor and Non- Labor
Main Leaks	2015	1,090	73%	800	\$ 1,011	\$ 809,144	\$ 247	\$ 197,760	\$ 1,006,904
	2016	2,179	73%	1601	\$ 1,011	\$ 1,619,299	\$ 247	\$ 395,767	\$ 2,015,067
Service Leaks	2015	1,090	27%	289	\$ 356	\$ 102,930	\$ 39	\$ 11,285	\$ 114,216
	2016	2,179	27%	579	\$ 356	\$ 206,217	\$ 39	\$ 22,610	\$ 228,827

FTEs

		[E] (CxD)	[H]	[I]	[E/H/I]
		Total Incremental Labor Cost	Wage Rate	Yearly Factor	FTEs
Main Leaks	2015	\$ 809,144	\$ 36.68	2,088	10.6
	2016	\$ 1,619,299	\$ 36.68	2,088	21.1
Service Leaks	2015	\$ 102,930	\$ 36.68	2,088	1.3
	2016	\$ 206,217	\$ 36.68	2,088	2.7

Amounts are shown in 2013 dollars and include vacation and sick.

**Beginning of Workpaper**  
**2GD000.004 - Field O&M - Service Maintenance**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 6. Service Maintenance  
 Workpaper: 2GD000.004 - Field O&M - Service Maintenance

**Activity Description:**

Service maintenance work is generally corrective in nature and is required to keep the natural gas system operating safely and reliably. The work in this workgroup is designed to meet federal, i.e., 49 C.F.R. §192, and state, i.e., CPUC General Order 112-E, pipeline safety regulations and to extend the life of the distribution service pipeline system. Service maintenance work is primarily comprised of the following four activities: evaluation and repair of service leak, service alterations, meter set assembly (MSA) alterations and meter guard replacements, and miscellaneous service and MSA maintenance.

**Forecast Explanations:**

**Labor - 5-YR Average**

A variety of factors influence any one year's level of spending on service maintenance. These factors include government regulations, public safety, municipality requirements, material failure, infrastructure condition, and economic conditions. Given the general variation in the drivers and the influence these have on the overall cost basis in this workgroup, a five-year average of the spending for the period 2009 through 2013 was used to forecast the base level of funding needed for this area. Using a linear trend or base year forecasting method would not be appropriate for this work category as it would not provide sufficient funding for the level of work anticipated in the future. Therefore, a five-year average plus the incremental funding required for the gas leak backlog reduction effort was used to calculate the labor requested for this group.

**Non-Labor - 5-YR Average**

A variety of factors influence any one year's level of spending on service maintenance. These factors include government regulations, public safety, municipality requirements, material failure, infrastructure condition, and economic conditions. Given the general variation in the drivers and the influence these have on the overall cost basis in this workgroup, a five-year average of the spending for the period 2009 through 2013 was used to forecast the base level of funding needed for this area. Using a linear trend or base year forecasting method would not be appropriate for this work category as it would not provide sufficient funding for the level of work anticipated in the future. Therefore, a five-year average plus the incremental funding required for the gas leak backlog reduction effort was used to calculate the non-labor requested for this group.

**NSE - Zero-Based**

NSE is not applicable to this workgroup.

**Summary of Results:**

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		10,940	10,405	8,099	8,285	7,874	9,121	9,224	9,327	
Non-Labor		170	-457	498	1,383	-730	173	184	196	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>11,110</b>	<b>9,948</b>	<b>8,597</b>	<b>9,668</b>	<b>7,144</b>	<b>9,293</b>	<b>9,407</b>	<b>9,522</b>	
FTE		128.7	119.6	95.4	99.3	92.4	107.1	108.4	109.8	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 6. Service Maintenance  
 Workpaper: 2GD000.004 - Field O&M - Service Maintenance

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Average	9,121	9,121	9,121	0	103	206	9,121	9,224	9,327
Non-Labor	5-YR Average	173	173	173	0	11	23	173	184	196
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>9,293</b>	<b>9,293</b>	<b>9,293</b>	<b>0</b>	<b>114</b>	<b>229</b>	<b>9,293</b>	<b>9,407</b>	<b>9,522</b>
FTE	5-YR Average	107.1	107.1	107.1	0.0	1.3	2.7	107.1	108.4	109.8

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	

2015                      103                      11                      0                      114                      1.3      1-Sided Adj

i. Leak Reduction Effort - SoCalGas plans to reduce the number of pending leaks in its backlog. This effort will reduce the number of pending service leaks by approximately 289 in 2015 and 579 in 2016.

Labor costs will be 289 leaks X \$356.16 = \$103K beginning in 2015. Associated non-labor expense is estimated to be 289 leaks X \$39.05 = \$11K also beginning in 2015.

Beginning in TY2016, the leak reduction effort will be doubled. Total labor for TY2016 is 579 leaks X \$356.16 = \$206K. Total non-labor for TY2016 is 579 leaks X \$39.05 = \$23K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-003 for calculation details.

<b>2015 Total</b>	<b>103</b>	<b>11</b>	<b>0</b>	<b>114</b>	<b>1.3</b>	
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2016                      206                      23                      0                      229                      2.7      1-Sided Adj

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 6. Service Maintenance  
 Workpaper: 2GD000.004 - Field O&M - Service Maintenance

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
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i. Leak Reduction Effort - SoCalGas plans to reduce the number of pending leaks in its backlog. This effort will reduce the number of pending service leaks by approximately 289 in 2015 and 579 in 2016.

Labor costs will be 289 leaks X \$356.16 = \$103K beginning in 2015. Associated non-labor expense is estimated to be 289 X \$39.05 = \$11K also beginning in 2015.

Beginning in TY2016, the leak reduction effort will be doubled. Total labor for TY2016 is 579 leaks X \$356.16 = \$206K. Total non-labor for TY2016 is 579 X \$39.05 = \$23K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-003 for calculation details.

<b>2016 Total</b>	<b>206</b>	<b>23</b>	<b>0</b>	<b>229</b>	<b>2.7</b>	
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*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Field Operations & Maintenance  
Category-Sub: 6. Service Maintenance  
Workpaper: 2GD000.004 - Field O&M - Service Maintenance

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	8,326	8,243	6,632	6,892	6,937
Non-Labor	1,513	1,163	1,358	1,583	1,679
NSE	0	0	0	0	0
<b>Total</b>	<b>9,838</b>	<b>9,406</b>	<b>7,990</b>	<b>8,475</b>	<b>8,616</b>
FTE	108.2	101.3	81.5	85.2	81.8
<b>Adjustments (Nominal \$) **</b>					
Labor	81	0	0	82	-185
Non-Labor	-1,359	-1,586	-879	-224	-2,409
NSE	0	0	0	0	0
<b>Total</b>	<b>-1,278</b>	<b>-1,586</b>	<b>-879</b>	<b>-142</b>	<b>-2,594</b>
FTE	0.0	0.0	0.0	0.0	-2.5
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	8,407	8,243	6,632	6,974	6,752
Non-Labor	153	-423	479	1,359	-730
NSE	0	0	0	0	0
<b>Total</b>	<b>8,560</b>	<b>7,820</b>	<b>7,111</b>	<b>8,333</b>	<b>6,021</b>
FTE	108.2	101.3	81.5	85.2	79.3
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	1,519	1,441	1,102	1,117	1,122
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>1,519</b>	<b>1,441</b>	<b>1,102</b>	<b>1,117</b>	<b>1,122</b>
FTE	20.5	18.3	13.9	14.1	13.2
<b>Escalation to 2013\$</b>					
Labor	1,014	721	365	195	0
Non-Labor	17	-34	19	24	0
NSE	0	0	0	0	0
<b>Total</b>	<b>1,031</b>	<b>687</b>	<b>384</b>	<b>219</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	10,940	10,405	8,099	8,285	7,874
Non-Labor	170	-457	498	1,383	-730
NSE	0	0	0	0	0
<b>Total</b>	<b>11,110</b>	<b>9,948</b>	<b>8,597</b>	<b>9,668</b>	<b>7,144</b>
FTE	128.7	119.6	95.4	99.3	92.5

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 6. Service Maintenance  
 Workpaper: 2GD000.004 - Field O&M - Service Maintenance

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	81	0	0	82	-185
Non-Labor	-1,359	-1,586	-879	-224	-2,409
NSE	0	0	0	0	0
<b>Total</b>	<b>-1,278</b>	<b>-1,586</b>	<b>-879</b>	<b>-142</b>	<b>-2,594</b>
FTE	0.0	0.0	0.0	0.0	-2.5

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	0	-1,359	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1135426663
To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)							
2009	81	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145243630
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
<b>2009 Total</b>	<b>81</b>	<b>-1,359</b>	<b>0</b>	<b>0.0</b>			
2010	0	-1,586	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1135604340
To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)							
<b>2010 Total</b>	<b>0</b>	<b>-1,586</b>	<b>0</b>	<b>0.0</b>			
2011	0	-879	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1135634250
To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)							
<b>2011 Total</b>	<b>0</b>	<b>-879</b>	<b>0</b>	<b>0.0</b>			

*Note: Totals may include rounding differences.*

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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 6. Service Maintenance  
 Workpaper: 2GD000.004 - Field O&M - Service Maintenance

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2012	0	-224	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1135907317
To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)							
2012	82	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145309253
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
<b>2012 Total</b>	<b>82</b>	<b>-224</b>	<b>0</b>	<b>0.0</b>			
2013	0	-2,409	0	0.0	1-Sided Adj	N/A	TP1MTC2014020 9114557777
To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)							
2013	-185	0	0	-2.5	1-Sided Adj	N/A	TP1MTC2014021 0110020263
To transfer main leak repair costs to Main Maintenance work group.							
<b>2013 Total</b>	<b>-185</b>	<b>-2,409</b>	<b>0</b>	<b>-2.5</b>			

Note: Totals may include rounding differences.

**Supplemental Workpapers for Workpaper 2GD000.004**

Southern California Gas Company  
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Non-Shared Service Workpapers

**SCG-FBA-O&M-SUP-003**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**  
**Supplemental Workpaper Calculations for incremental cost related to Leak Reduction Effort**  
**Field O&M - Main Maintenance Workgroup**  
**Field O&M - Service Maintenance Workgroup**

Assumptions: [A]: Total leaks to be worked per year in order to eliminate backlog by the end of 2018. In the first year of this incremental O&M work, it is estimated that SoCalGas will eliminate 1,090 leaks through main and service repair. In subsequent years that number will increase to 2,179.

[B]: Percent based on historical repairs of Main or Service

[C]: Estimated number of leaks to be worked - Main or Service

[D]: Labor Cost per order based on 2013 historical repair costs

[E]: Incremental Labor cost of Main or Service repair

[F]: Non-Labor Cost per order based on 2013 historical repair costs

[G]: Incremental Non-Labor cost of Main or Service repair

[H]: Lead Construction Tech and Construction Tech 2013 blended rate

[I]: Yearly hour factor

		[A]	[B]	[C] (AxB)	[D]	Labor [E] (CxD)	Non-Labor [F]	[G] (CxG)	(E+G)
		Estimated Total Leaks to be Worked	% Main or Service	Number of leaks to be Worked	Labor Cost per Order	Total Incremental Labor Cost	Non- Labor Cost per Order	Total Incremental Non-Labor Cost	Total Labor and Non- Labor
Main Leaks	2015	1,090	73%	800	\$ 1,011	\$ 809,144	\$ 247	\$ 197,760	\$ 1,006,904
	2016	2,179	73%	1601	\$ 1,011	\$ 1,619,299	\$ 247	\$ 395,767	\$ 2,015,067
Service Leaks	2015	1,090	27%	289	\$ 356	\$ 102,930	\$ 39	\$ 11,285	\$ 114,216
	2016	2,179	27%	579	\$ 356	\$ 206,217	\$ 39	\$ 22,610	\$ 228,827

FTEs

		[E] (CxD)	[H]	[I]	[E/H/I]
		Total Incremental Labor Cost	Wage Rate	Yearly Factor	FTEs
Main Leaks	2015	\$ 809,144	\$ 36.68	2,088	10.6
	2016	\$ 1,619,299	\$ 36.68	2,088	21.1
Service Leaks	2015	\$ 102,930	\$ 36.68	2,088	1.3
	2016	\$ 206,217	\$ 36.68	2,088	2.7

Amounts are shown in 2013 dollars and include vacation and sick.

**Beginning of Workpaper**  
**2GD000.000 - Field O&M - Field Support**

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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Field Operations & Maintenance  
Category-Sub: 7. Field Support  
Workpaper: 2GD000.000 - Field O&M - Field Support

**Activity Description:**

Recorded to this work group are labor expenses for field supervision, operating district clerical employees, dispatch employees, and time of field employees attending meetings and skills training. Also included are non-labor expenses for office supplies, communication devices and materials, and other elements for field maintenance work. These labor activities and non-labor materials are necessary support costs for completing field operations' maintenance and construction work.

**Forecast Explanations:**

**Labor - 5-YR Linear**

With the projected incremental work in Gas Distribution field O&M categories; there will be an increase in work activities within this workgroup, such as clerical, dispatch, training, supervision and increase in requests to remove abandoned pipe. SoCalGas also expects that employee training will increase due to additional Operator Qualification requirements. In addition, increased regulatory pressures such as CPUC Audits and pipeline safety enhancement efforts have impact this workgroup. Given these upward pressures, SoCalGas determined that a five-year (2009 through 2013) historical linear trend best reflects future requirements for this workgroup. Using an average forecasting method would not be appropriate for this workgroup as it would not properly fund future work demands. Therefore, a five-year linear trend plus the incremental funding required for Field Instructors, Administrative Advisors, Operator Qualification Training, and Leak Survey Tracker Training was used to calculate the labor requested for this group.

**Non-Labor - 5-YR Linear**

With the projected incremental work in Gas Distribution field O&M categories; there will be an increase in work activities within this workgroup, such as clerical, dispatch, training, supervision and an increase in requests to remove abandoned pipe. SoCalGas also expects that employee training will increase due to additional Operator Qualification requirements. In addition, the increased regulatory pressures such as CPUC Audits and Pipeline Safety Enhancement Programs have impacted this workgroup. Given these upward pressures, SoCalGas determined that a five-year (2009 through 2013) historical linear trend best reflects future requirements for this workgroup. Using an average forecasting method would not be appropriate for this workgroup as it would not properly fund future work demands. Therefore, a five-year linear trend plus the incremental funding required for Field Instructors and Administrative Advisors was used to calculate the non-labor requested for this group.

**NSE - Zero-Based**

NSE is not applicable to this workgroup.

*Note: Totals may include rounding differences.*

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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 7. Field Support  
 Workpaper: 2GD000.000 - Field O&M - Field Support

**Summary of Results:**

		<b>In 2013\$ (000) Incurred Costs</b>								
		<b>Adjusted-Recorded</b>					<b>Adjusted-Forecast</b>			
<b>Years</b>		<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	
Labor		13,438	14,825	15,347	16,302	15,494	17,037	19,650	21,012	
Non-Labor		2,206	2,225	2,585	3,024	3,043	3,359	3,618	3,883	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>15,643</b>	<b>17,049</b>	<b>17,932</b>	<b>19,325</b>	<b>18,537</b>	<b>20,395</b>	<b>23,268</b>	<b>24,895</b>	
FTE		154.3	172.5	180.4	189.8	179.7	198.3	223.7	238.5	

*Note: Totals may include rounding differences.*

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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 7. Field Support  
 Workpaper: 2GD000.000 - Field O&M - Field Support

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Linear	16,758	17,317	17,876	279	2,333	3,136	17,037	19,650	21,012
Non-Labor	5-YR Linear	3,359	3,606	3,853	0	12	30	3,359	3,618	3,883
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>20,116</b>	<b>20,923</b>	<b>21,729</b>	<b>279</b>	<b>2,345</b>	<b>3,166</b>	<b>20,395</b>	<b>23,268</b>	<b>24,895</b>
FTE	5-YR Linear	195.8	202.6	209.4	2.5	21.1	29.1	198.3	223.7	238.5

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2014	279	0	0	279	2.5	1-Sided Adj

iii. Field Operator Qualification Training - Incremental Operator Qualification (OQ) training required for Distribution Field employees to address additional OQ work elements.

Labor costs will be 5,168 hours X \$54.02 = \$279K. beginning in 2014.  
 Labor costs will be 35,785 hours X \$54.02 = \$1,993K beginning in 2015.  
 Total labor for TY2016 is 36,062 hours X \$54.02 = \$1,948K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-001 for calculation details.

<b>2014 Total</b>	<b>279</b>	<b>0</b>	<b>0</b>	<b>279</b>	<b>2.5</b>	
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2015	200	6	0	206	2.0	1-Sided Adj
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i. Administrative Advisors - Incremental Administrative Advisors to support local Supervisors with compliance duties. These supervisors will also provide support to comply with CFR 192.615 which requires utilities to maintain liaison with fire, police, and other public officials California Public Utility Code 956.5 (AB 56- Hill).

Labor costs will be 2 FTEs X \$100K = \$200K beginning in 2015. Associated non-labor expense is estimated to be 2 FTEs X \$3K = \$6K also beginning in 2015.

Beginning in TY2016, an additional four Administrative Advisors will be hired. Total labor for TY2016 is 6 FTEs X \$100K = \$600K. Total non-labor for TY2016 is 6 FTEs X \$3K = \$18K.

2015	200	6	0	206	2.0	1-Sided Adj
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*Note: Totals may include rounding differences.*

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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 7. Field Support  
 Workpaper: 2GD000.000 - Field O&M - Field Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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ii. Field Instructors - Incremental Field Instructors needed to provide SAP and Graphic Information System (GIS) support to new Distribution employees. These Instructors will provide local Mobile Data Terminal training and assistance, mentoring, guidance on new policies and procedures and construction safety inspections.

Labor costs will be 2 FTEs X \$100K = \$200K beginning in 2015. Associated non-labor expense is estimated to be 2 FTEs X \$3K = \$6K also beginning in 2015.

Beginning in TY2016, an additional two Field Instructors will be hired. Total labor for TY2016 is 4 FTEs X \$100K = \$400K. Total non-labor for TY2016 is 4 FTEs X \$3K = \$12K.

2015	1,933	0	0	1,933	17.1	1-Sided Adj
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iii. Field Operator Qualification Training - Incremental Operator Qualification (OQ) training required for Distribution Field employees to address additional OQ work elements.

Labor costs will be 5,168 hours X \$54.02 = \$279K. beginning in 2014.  
 Labor costs will be 35,785 hours X \$54.02 = \$1,933K beginning in 2015.  
 Total labor for TY2016 is 36,062 hours X \$54.02 = \$1,948K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-001 for calculation details.

<b>2015 Total</b>	<b>2,333</b>	<b>12</b>	<b>0</b>	<b>2,345</b>	<b>21.1</b>	
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2016	600	18	0	618	6.0	1-Sided Adj
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i. Administrative Advisors - Incremental Administrative Advisors to support local Supervisors with compliance duties. These supervisors will also provide support to comply with CFR 192.615 which requires utilities to maintain liaison with fire, police and other public officials California Public Utility Code 956.5 (AB 56- Hill).

Labor costs will be 2 FTEs X \$100K = \$200K beginning in 2015. Associated non-labor expense is estimated to be 2 FTEs X \$3K = \$6K also beginning in 2015.

Beginning in TY2016, an additional four Administrative Advisors will be hired. Total labor for TY2016 is 6 FTEs X \$100K = \$600K. Total non-labor for TY2016 is 6 FTEs X \$3K = \$18K.

2016	400	12	0	412	4.0	1-Sided Adj
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Note: Totals may include rounding differences.

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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 7. Field Support  
 Workpaper: 2GD000.000 - Field O&M - Field Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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ii. Field Instructors - Incremental Field Instructors needed to provide SAP and Graphic Information System (GIS) support to new Distribution employees. These Instructors will provide local Mobile Data Terminal training and assistance, mentoring, guidance on new policies and procedures and construction safety inspections.

Labor costs will be 2 FTEs X \$100K = \$200K beginning in 2015. Associated non-labor expense is estimated to be 2 FTEs X \$3K = \$6K also beginning in 2015.

Beginning in TY2016, an additional two Field Instructors will be hired. Total labor for TY2016 is 4 FTEs X \$100K = \$400K. Total non-labor for TY2016 is 4 FTEs X \$3K = \$12K.

2016	1,948	0	0	1,948	17.3	1-Sided Adj
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iii. Field Operator Qualification Training - Incremental Operator Qualification (OQ) training required for Distribution Field employees to address additional OQ work elements.

Labor costs will be 5,168 hours X \$54.02 = \$279K. beginning in 2014.  
 Labor costs will be 35,785 hours X \$54.02 = \$1,933K beginning in 2015.  
 Total labor for TY2016 is 36,062 hours X \$54.02 = \$1,948K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-001 for calculation details.

2016	188	0	0	188	1.8	1-Sided Adj
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iv. Electronic Leak Survey Tracker - Incremental training is needed for the implementation of the GIS based leak survey hand held tracker device.

Total Labor cost for TY2016 is 3,720 hours X \$50.43 hourly rate = \$188K.  
 Total FTEs for TY2016 are 3,720 hours / (2,088 hours per year) = 1.8 FTEs.

<b>2016 Total</b>	<b>3,136</b>	<b>30</b>	<b>0</b>	<b>3,166</b>	<b>29.1</b>	
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Note: Totals may include rounding differences.

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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Field Operations & Maintenance  
Category-Sub: 7. Field Support  
Workpaper: 2GD000.000 - Field O&M - Field Support

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	9,964	12,240	13,418	14,550	14,935
Non-Labor	1,978	2,054	2,485	2,971	3,043
NSE	0	0	0	0	0
<b>Total</b>	<b>11,942</b>	<b>14,294</b>	<b>15,903</b>	<b>17,521</b>	<b>17,977</b>
FTE	124.9	154.5	167.1	175.1	175.9
<b>Adjustments (Nominal \$) **</b>					
Labor	362	-495	-851	-828	-1,649
Non-Labor	13	4	1	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>374</b>	<b>-491</b>	<b>-850</b>	<b>-828</b>	<b>-1,649</b>
FTE	4.8	-8.4	-13.0	-12.3	-22.1
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	10,326	11,744	12,567	13,722	13,286
Non-Labor	1,991	2,059	2,486	2,971	3,043
NSE	0	0	0	0	0
<b>Total</b>	<b>12,317</b>	<b>13,803</b>	<b>15,053</b>	<b>16,693</b>	<b>16,329</b>
FTE	129.7	146.1	154.1	162.8	153.7
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	1,866	2,053	2,087	2,197	2,208
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>1,866</b>	<b>2,053</b>	<b>2,087</b>	<b>2,197</b>	<b>2,208</b>
FTE	24.5	26.4	26.4	27.0	26.0
<b>Escalation to 2013\$</b>					
Labor	1,246	1,027	692	383	0
Non-Labor	215	166	99	52	0
NSE	0	0	0	0	0
<b>Total</b>	<b>1,460</b>	<b>1,194</b>	<b>791</b>	<b>435</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	13,438	14,825	15,347	16,302	15,494
Non-Labor	2,206	2,225	2,585	3,024	3,043
NSE	0	0	0	0	0
<b>Total</b>	<b>15,643</b>	<b>17,049</b>	<b>17,932</b>	<b>19,325</b>	<b>18,537</b>
FTE	154.2	172.5	180.5	189.8	179.7

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 7. Field Support  
 Workpaper: 2GD000.000 - Field O&M - Field Support

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	362	-495	-851	-828	-1,649
Non-Labor	13	4	0.863	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>374</b>	<b>-491</b>	<b>-850</b>	<b>-828</b>	<b>-1,649</b>
FTE	4.8	-8.4	-13.0	-12.3	-22.1

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	200	0	0	2.9	1-Sided Adj	N/A	SVELASQU20131 114111626793
To transfer Dispatch costs to Field Support work group.							
2009	162	13	0	1.9	1-Sided Adj	N/A	TP1MTC2013111 5145019530
Transfer labor and non labor for former shared service cost center to align with current charging							
<b>2009 Total</b>	<b>362</b>	<b>13</b>	<b>0</b>	<b>4.8</b>			
2010	-590	0	0	-9.5	1-Sided Adj	N/A	RHFLAMIN20140 217210619267
Transfer District Operations Clerks DOCs labor and FTE from GOGD to CSFC in order to align history with forecast. Typically there are 2 DOCs located at each district base, 1 supporting CSFC and 1 supporting GOGD. This adjustment reflects the proper allocation of DOCs to the 2 operational areas. See offsetting adjustment in CSFC workgroup 2FC004.000.							
2010	95	4	0	1.1	1-Sided Adj	N/A	TP1MTC2013111 5145056500
Transfer labor and non labor for former shared service cost center to align with current charging							
<b>2010 Total</b>	<b>-495</b>	<b>4</b>	<b>0</b>	<b>-8.4</b>			

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 7. Field Support  
 Workpaper: 2GD000.000 - Field O&M - Field Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2011	-865	0	0	-13.2	1-Sided Adj	N/A	RHFLAMIN20140 217210728370
<p>Transfer District Operations Clerks DOCs labor and FTE from GOGD to CSFC in order to align history with forecast. Typically there are 2 DOCs located at each district base, 1 supporting CSFC and 1 supporting GOGD. This adjustment reflects the proper allocation of DOCs to the 2 operational areas. See offsetting adjustment in CSFC workgroup 2FC004.000.</p>							
2011	14	0.863	0	0.2	1-Sided Adj	N/A	TP1MTC2013111 5145132437
<p>Transfer labor and non labor for former shared service cost center to align with current charging</p>							
<b>2011 Total</b>	<b>-851</b>	<b>0.863</b>	<b>0</b>	<b>-13.0</b>			
2012	-828	0	0	-12.3	1-Sided Adj	N/A	RHFLAMIN20140 217210847753
<p>Transfer District Operations Clerks DOCs labor and FTE from GOGD to CSFC in order to align history with forecast. Typically there are 2 DOCs located at each district base, 1 supporting CSFC and 1 supporting GOGD. This adjustment reflects the proper allocation of DOCs to the 2 operational areas. See offsetting adjustment in CSFC workgroup 2FC004.000.</p>							
<b>2012 Total</b>	<b>-828</b>	<b>0</b>	<b>0</b>	<b>-12.3</b>			
2013	-954	0	0	-13.6	1-Sided Adj	N/A	RHFLAMIN20140 217211017467
<p>Transfer District Operations Clerks DOCs labor and FTE from GOGD to CSFC in order to align history with forecast. Typically there are 2 DOCs located at each district base, 1 supporting CSFC and 1 supporting GOGD. This adjustment reflects the proper allocation of DOCs to the 2 operational areas. See offsetting adjustment in CSFC workgroup 2FC004.000.</p>							
2013	-695	0	0	-8.5	1-Sided Adj	N/A	RHFLAMIN20140 217212457567
<p>Transfer customer service field dispatch FTEs and labor dollars from Gas Distribution to Customer Service Field Dispatch workgroup 2FO003.000 in order to align history with the forecast. Offsetting adjustment is found in CSFC workpaper for workgroup 2FC003.000.</p>							
<b>2013 Total</b>	<b>-1,649</b>	<b>0</b>	<b>0</b>	<b>-22.1</b>			

Note: Totals may include rounding differences.

**Supplemental Workpapers for Workpaper 2GD000.000**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

**SCG-FBA-O&M-SUP-001**

Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala

**Supplemental Workpaper Calculations for Costs Related to Incremental Operator Qualification Requirements**

**Field O&M - Field Support Workgroup  
Field O&M - Measurement & Regulation (M&R) Workgroup  
Field O&M - Cathodic Protection (CP) Workgroup**

Assumptions: [A]: Incremental Operator Qualification hours required in 2014  
 [B]: Incremental Operator Qualification hours required in 2015  
 [C]: Incremental Operator Qualification hours required in 2016  
 [D]: 2013 Weighted Average Overtime Rate for Employees from each respective Distribution department

	[A]	[B]	[C]	[D]	<u>Labor</u>			<u>FTEs</u>			
					[AxD]	[BxD]	[CxD]	[E]	[A/E]	[B/E]	[C/E]
	2014 Hours	2015 Hours	2016 Hours	Weighted Average Overtime Rate	2014 Labor Forecast	2015 Labor Forecast	2016 Labor Forecast	Yearly Hour Factor	2014 FTEs	2015 FTEs	2016 FTEs
Field Support	5,168	35,785	36,062	\$ 54.02	\$ 279,175	\$ 1,933,106	\$ 1,948,069	2088	2.5	17.1	17.3
M&R	404	808	1,212	\$ 56.94	\$ 23,004	\$ 46,008	\$ 69,011	2088	0.2	0.4	0.6
CP	284	426	3,408	\$ 58.38	\$ 16,580	\$ 24,870	\$ 198,959	2088	0.1	0.2	1.6

Amounts are shown in 2013 dollars and include vacation and sick.

**Beginning of Workpaper**  
**2GD000.005 - Field O&M - Tools Fittings & Materials**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 8. Tools, Fittings & Materials  
 Workpaper: 2GD000.005 - Field O&M - Tools Fittings & Materials

**Activity Description:**

Recorded to this workgroup is the purchase of small tools, small pipe fittings, miscellaneous pipeline materials, and miscellaneous installation materials used during construction and maintenance activities and those held in inventory as vehicle truck stock. These materials are necessary to obtaining complete and safe work results. Included within each category of materials are items such as small tools – screw drivers, wrenches, etc., small pipe fittings – couplings, ells, nipples, etc., miscellaneous pipeline materials – bolts, stakes, pipe straps, traffic vests, etc., and miscellaneous installation materials – cold patch asphalt, pre-mixed concrete, etc. Also recorded to this workgroup are expenses for the rental and laundering of uniforms.

**Forecast Explanations:**

**Labor - Zero-Based**

There is no labor funding required for this workgroup.

**Non-Labor - 5-YR Linear**

The rate of consumption of these materials is highly influenced by the construction activity and workforce numbers. SoCalGas' forecast of expenses for this workgroup is driven by expectations of increasing construction activity. Also, increased work in maintaining the integrity of the gas distribution system, municipality activities such as Franchise, increased regulatory pressures, and an increase in workforce will result in additional expenditures to this workgroup. Given the requirement to support an overall increase in construction and maintenance activities as well as the Gas Distribution workforce, and an assessment of historical expense in this workgroup, SoCalGas used a five-year (2009 through 2013) historical linear trend to forecast future needs for tools, fittings, and materials.

**NSE - Zero-Based**

NSE is not applicable to this workgroup.

**Summary of Results:**

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		0	0	0	0	0	0	0	0	
Non-Labor		6,844	6,182	6,352	7,258	7,087	7,213	7,370	7,526	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>6,844</b>	<b>6,182</b>	<b>6,352</b>	<b>7,258</b>	<b>7,087</b>	<b>7,213</b>	<b>7,370</b>	<b>7,526</b>	
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 8. Tools, Fittings & Materials  
 Workpaper: 2GD000.005 - Field O&M - Tools Fittings & Materials

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Zero-Based	0	0	0	0	0	0	0	0	0
Non-Labor	5-YR Linear	7,213	7,370	7,526	0	0	0	7,213	7,370	7,526
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>7,213</b>	<b>7,370</b>	<b>7,526</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7,213</b>	<b>7,370</b>	<b>7,526</b>
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2016 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Field Operations & Maintenance  
Category-Sub: 8. Tools, Fittings & Materials  
Workpaper: 2GD000.005 - Field O&M - Tools Fittings & Materials

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	382	0	102	498	0
Non-Labor	6,177	6,138	6,912	7,989	7,965
NSE	0	0	0	0	0
<b>Total</b>	<b>6,559</b>	<b>6,138</b>	<b>7,015</b>	<b>8,487</b>	<b>7,965</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	-382	0	-102	-498	0
Non-Labor	0	-418	-804	-857	-878
NSE	0	0	0	0	0
<b>Total</b>	<b>-382</b>	<b>-418</b>	<b>-906</b>	<b>-1,354</b>	<b>-878</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	6,177	5,720	6,109	7,133	7,087
NSE	0	0	0	0	0
<b>Total</b>	<b>6,177</b>	<b>5,720</b>	<b>6,109</b>	<b>7,133</b>	<b>7,087</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Escalation to 2013\$</b>					
Labor	0	0	0	0	0
Non-Labor	667	462	243	126	0
NSE	0	0	0	0	0
<b>Total</b>	<b>667</b>	<b>462</b>	<b>243</b>	<b>126</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	0	0	0	0	0
Non-Labor	6,844	6,182	6,352	7,258	7,087
NSE	0	0	0	0	0
<b>Total</b>	<b>6,844</b>	<b>6,182</b>	<b>6,352</b>	<b>7,258</b>	<b>7,087</b>
FTE	0.0	0.0	0.0	0.0	0.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 8. Tools, Fittings & Materials  
 Workpaper: 2GD000.005 - Field O&M - Tools Fittings & Materials

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	-382	0	-102	-498	0
Non-Labor	0	-418	-804	-857	-878
NSE	0	0	0	0	0
<b>Total</b>	<b>-382</b>	<b>-418</b>	<b>-906</b>	<b>-1,354</b>	<b>-878</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	-382	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145651447
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							
<b>2009 Total</b>	<b>-382</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
2010	0	-418	0	0.0	1-Sided Adj	N/A	SVELASQU20140 210145240120
Transfer of non-labor tools expense from GOGD workpaper to CSFC workpaper, in order to align history with forecast; tools expense recorded to internal order number 300000008 are split 50/50 to Customer Service Field and Gas Distribution; see offsetting adjustment in CSFC workgroup 2FC001.000							
<b>2010 Total</b>	<b>0</b>	<b>-418</b>	<b>0</b>	<b>0.0</b>			
2011	0	-804	0	0.0	1-Sided Adj	N/A	SVELASQU20140 210145359663
Transfer of non-labor tools expense from GOGD workpaper to CSFC workpaper, in order to align history with forecast; tools expense recorded to internal order number 300000008 are split 50/50 to Customer Service Field and Gas Distribution; see offsetting adjustment in CSFC workgroup 2FC001.000							
2011	-102	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145717840
To transfer union retro pay out of 2GD000.005 - Tools, Ftngs & Materials - and into impacted field work groups							

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Field Operations & Maintenance  
 Category-Sub: 8. Tools, Fittings & Materials  
 Workpaper: 2GD000.005 - Field O&M - Tools Fittings & Materials

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
<b>2011 Total</b>	<b>-102</b>	<b>-804</b>	<b>0</b>	<b>0.0</b>			
2012	0	-857	0	0.0	1-Sided Adj	N/A	SVELASQU20140 210145534020
<p>Transfer of non-labor tools expense from GOGD workpaper to CSFC workpaper, in order to align history with forecast; tools expense recorded to internal order number 300000008 are split 50/50 to Customer Service Field and Gas Distribution; see offsetting adjustment in CSFC workgroup 2FC001.000</p>							
2012	-498	0	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1145759670
<p>To transfer union retro pay out of 2GD000.005 - Tools, Ftngs &amp; Materials - and into impacted field work groups</p>							
<b>2012 Total</b>	<b>-498</b>	<b>-857</b>	<b>0</b>	<b>0.0</b>			
2013	0	-878	0	0.0	1-Sided Adj	N/A	SVELASQU20140 210145709230
<p>Transfer of non-labor tools expense from GOGD workpaper to CSFC workpaper, in order to align history with forecast; tools expense recorded to internal order number 300000008 are split 50/50 to Customer Service Field and Gas Distribution; see offsetting adjustment in CSFC workgroup 2FC001.000</p>							
<b>2013 Total</b>	<b>0</b>	<b>-878</b>	<b>0</b>	<b>0.0</b>			

Note: Totals may include rounding differences.

Southern California Gas Company  
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: C. Asset Management  
Workpaper: 2GD001.000

**Summary for Category: C. Asset Management**

	In 2013\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	6,779	7,837	8,956	9,820
Non-Labor	770	895	957	1,007
NSE	0	0	0	0
<b>Total</b>	<b>7,549</b>	<b>8,732</b>	<b>9,913</b>	<b>10,827</b>
FTE	85.0	96.3	109.4	118.5

**Workpapers belonging to this Category:**

**2GD001.000 Asset Management**

Labor	6,779	7,837	8,956	9,820
Non-Labor	770	895	957	1,007
NSE	0	0	0	0
<b>Total</b>	<b>7,549</b>	<b>8,732</b>	<b>9,913</b>	<b>10,827</b>
FTE	85.0	96.3	109.4	118.5

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2GD001.000 - Asset Management**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: C. Asset Management  
Category-Sub 1. Asset Management  
Workpaper: 2GD001.000 - Asset Management

**Activity Description:**

SoCalGas' technical office provides many of the technical and administrative services needed for the successful and timely completion of the O&M activities in Gas Distribution. This workgroup records the labor and non-labor costs for services provided by the Technical Office. Activities performed by this office include items such as identifying construction design requirements, evaluating pressure specifications, conducting pipeline planning, providing project drawings, identifying material selection, preparing work order estimates, acquiring third-party contract services, and obtaining permits for construction from city, county, state, and federal agencies.

**Forecast Explanations:**

**Labor - 5-YR Linear**

As the level of maintenance work, general construction, municipality work and customer generated activity increases so will the support provided by the Technical Office. This office is also performing more alterations due to additional work in the public right-of-way. The increase in construction and maintenance work requires additional processing of paving orders including permitting. Given these upward pressures and a review of historical costs and underlying cost drivers, SoCalGas determined that a five-year (2009 through 2013) linear trend best reflects future requirements for this workgroup. Using an average or base year forecasting method would not be appropriate for this workgroup, as it would not properly fund future work demands. Therefore, a five-year linear trend plus the incremental funding required for the Compliance Technical Advisors and Administrative Control Clerks for records management was used to calculate the labor for this group.

**Non-Labor - 5-YR Linear**

As the level of maintenance work, general construction, municipality work and customer generated activity increases so will the support provided by the Technical Office. This office is also performing more alterations due to additional work in the public right-of-way. The increase in construction and maintenance work requires additional processing of paving orders including permitting. Given these upward pressures and a review of historical costs and underlying cost drivers, SoCalGas determined that a five-year (2009 through 2013) linear trend best reflects future requirements for this workgroup. Using an average or base year forecasting method would not be appropriate for this workgroup, as it would not properly fund future work demands. Therefore, a five-year linear trend plus the incremental funding required for the Compliance Technical Advisors and Administrative Control Clerks for records management was used to calculate the non-labor for this group.

**NSE - Zero-Based**

NSE is not applicable to this workgroup.

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: C. Asset Management  
 Category-Sub: 1. Asset Management  
 Workpaper: 2GD001.000 - Asset Management

**Summary of Results:**

		<b>In 2013\$ (000) Incurred Costs</b>								
		<b>Adjusted-Recorded</b>					<b>Adjusted-Forecast</b>			
<b>Years</b>		<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	
Labor		4,526	4,819	6,157	6,949	6,779	7,837	8,956	9,820	
Non-Labor		647	730	740	924	770	895	957	1,007	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>5,173</b>	<b>5,548</b>	<b>6,896</b>	<b>7,873</b>	<b>7,549</b>	<b>8,731</b>	<b>9,913</b>	<b>10,827</b>	
FTE		60.0	64.1	79.6	85.5	85.0	96.3	109.4	118.5	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: C. Asset Management  
Category-Sub: 1. Asset Management  
Workpaper: 2GD001.000 - Asset Management

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Linear	7,837	8,500	9,164	0	456	656	7,837	8,956	9,820
Non-Labor	5-YR Linear	895	939	983	0	18	24	895	957	1,007
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>8,731</b>	<b>9,439</b>	<b>10,147</b>	<b>0</b>	<b>474</b>	<b>680</b>	<b>8,731</b>	<b>9,913</b>	<b>10,827</b>
FTE	5-YR Linear	96.3	103.4	110.5	0.0	6.0	8.0	96.3	109.4	118.5

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	

2015                      200                      6                      0                      206                      2.0      1-Sided Adj

a. Compliance Technical Advisors - To meet continued compliance with the changing laws, regulations and rules, SoCalGas is requesting the addition of four Compliance Technical Advisors (one per each main technical office). These Compliance Technical Advisors will support daily compliance monitoring, record keeping, reporting and implementation of compliance programs.

Labor costs will be 2 FTEs X \$100K = \$200K beginning in 2015. Associated non-labor expense is estimated to be 2 FTEs X \$3K = \$6K also beginning in 2015.

An additional two Advisors will be hired in TY2016. Total labor for TY2016 is 4 FTEs X \$100K = \$400K. Total non-labor for TY2016 is 4 FTEs X \$3K = \$12K.

2015                      256                      12                      0                      268                      4.0      1-Sided Adj

b. Administrative Control Clerk for Pipeline Records Management - To adequately maintain pipeline system records, SoCalGas is requesting the addition of four Administrative Control Clerks (one per technical office). These Administrative Control Clerks will be responsible for daily record filing; keeping track of records being checked out to verify those documents are returned to archives, and reconciling and tracking high pressure project packages after new construction is completed.

Labor costs will be 4 FTEs X \$30.64 X 2088 = \$256K beginning in 2015. Associated non-labor expense is estimated to be 4 FTEs X \$3K = \$12K also beginning in 2015.

Total labor for TY2016 is 4 FTEs X \$30.64 X 2088 = \$256K. Total non-labor for TY2016 is 4 FTEs X \$3K = \$12K.

*Note: Totals may include rounding differences.*

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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: C. Asset Management  
 Category-Sub: 1. Asset Management  
 Workpaper: 2GD001.000 - Asset Management

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2015 Total</b>	<b>456</b>	<b>18</b>	<b>0</b>	<b>474</b>	<b>6.0</b>	

2016 400 12 0 412 4.0 1-Sided Adj

a. Compliance Technical Advisors - To meet continued compliance with the changing laws, regulations and rules, SoCalGas is requesting the addition of four Compliance Technical Advisors (one per each main technical office). These Compliance Technical Advisors will support daily compliance monitoring, record keeping, reporting and implementation of compliance programs.

Labor costs will be 2 FTEs X \$100K = \$200K beginning in 2015. Associated non-labor expense is estimated to be 2 FTEs X \$3K = \$6K also beginning in 2015.

An additional two Advisors will be hired in TY2016. Total labor for TY2016 is 4 FTEs X \$100K = \$400K. Total non-labor for TY2016 is 4 FTEs X \$3K = \$12K.

2016 256 12 0 268 4.0 1-Sided Adj

b. Administrative Control Clerk for Pipeline Records Management - To adequately maintain pipeline system records, SoCalGas is requesting the addition of four Administrative Control Clerks (one per technical office). These Administrative Control Clerks will be responsible for daily record filing; keeping track of records being checked out to verify those documents are returned to archives, and reconciling and tracking high pressure project packages after new construction is completed.

Labor costs will be 4 FTEs X \$30.64 X 2088 = \$256K beginning in 2015. Associated non-labor expense is estimated to be 4 FTEs X \$3K = \$12K also beginning in 2015.

Total labor for TY2016 is 4 FTEs X \$30.64 X 2088 = \$256K. Total non-labor for TY2016 is 4 FTEs X \$3K = \$12K.

<b>2016 Total</b>	<b>656</b>	<b>24</b>	<b>0</b>	<b>680</b>	<b>8.0</b>	
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Note: Totals may include rounding differences.

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Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: C. Asset Management  
Category-Sub: 1. Asset Management  
Workpaper: 2GD001.000 - Asset Management

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	3,737	3,887	5,096	5,905	5,813
Non-Labor	585	676	712	910	770
NSE	0	0	0	0	0
<b>Total</b>	<b>4,321</b>	<b>4,563</b>	<b>5,808</b>	<b>6,815</b>	<b>6,583</b>
FTE	54.1	55.0	68.7	74.0	72.7
<b>Adjustments (Nominal \$) **</b>					
Labor	-258	-69	-54	-56	0
Non-Labor	-1	-1	-1	-2	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-259</b>	<b>-70</b>	<b>-55</b>	<b>-58</b>	<b>0</b>
FTE	-3.6	-0.7	-0.7	-0.7	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	3,478	3,817	5,042	5,849	5,813
Non-Labor	584	675	711	908	770
NSE	0	0	0	0	0
<b>Total</b>	<b>4,062</b>	<b>4,493</b>	<b>5,753</b>	<b>6,758</b>	<b>6,583</b>
FTE	50.5	54.3	68.0	73.3	72.7
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	628	667	837	936	966
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>628</b>	<b>667</b>	<b>837</b>	<b>936</b>	<b>966</b>
FTE	9.5	9.8	11.6	12.2	12.3
<b>Escalation to 2013\$</b>					
Labor	420	334	278	163	0
Non-Labor	63	55	28	16	0
NSE	0	0	0	0	0
<b>Total</b>	<b>483</b>	<b>388</b>	<b>306</b>	<b>179</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	4,526	4,819	6,157	6,949	6,779
Non-Labor	647	730	740	924	770
NSE	0	0	0	0	0
<b>Total</b>	<b>5,173</b>	<b>5,548</b>	<b>6,896</b>	<b>7,873</b>	<b>7,549</b>
FTE	60.0	64.1	79.6	85.5	85.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

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 Category-Sub: 1. Asset Management  
 Workpaper: 2GD001.000 - Asset Management

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	-258	-69	-54	-56	0
Non-Labor	-0.973	-0.839	-1	-2	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-259</b>	<b>-70</b>	<b>-55</b>	<b>-58</b>	<b>0</b>
FTE	-3.6	-0.7	-0.7	-0.7	0.0

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	-200	0	0	-2.9	1-Sided Adj	N/A	SVELASQU20131 114111303857
To transfer Dispatch costs to Field Support work group.							
2009	-59	-0.973	0	-0.7	CCTR Transf	To 2200-2475.000	SVELASQU20131 127113110573
Transfer historical costs related to environmental employees to cost center 2200-2475.							
<b>2009 Total</b>	<b>-258</b>	<b>-0.973</b>	<b>0</b>	<b>-3.6</b>			
2010	-69	-0.839	0	-0.7	CCTR Transf	To 2200-2475.000	SVELASQU20131 127113342467
Transfer historical costs related to environmental employees to cost center 2200-2475.							
<b>2010 Total</b>	<b>-69</b>	<b>-0.839</b>	<b>0</b>	<b>-0.7</b>			
2011	-54	-1	0	-0.7	CCTR Transf	To 2200-2475.000	SVELASQU20131 127113605530
Transfer historical costs related to environmental employees to cost center 2200-2475.							
<b>2011 Total</b>	<b>-54</b>	<b>-1</b>	<b>0</b>	<b>-0.7</b>			
2012	-0.340	0	0	0.0	1-Sided Adj	N/A	SVELASQU20131 114112801660
Pursuant to CPUC decision 12-12-037 Compression Service Tariff activities are excluded from base rates.							

Note: Totals may include rounding differences.

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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2012	-56	-2	0	-0.7	CCTR Transf	To 2200-2475.000	SVELASQU20131 127113823563

Transfer historical costs related to environmental employees to cost center 2200-2475.

<b>2012 Total</b>	<b>-56</b>	<b>-2</b>	<b>0</b>	<b>-0.7</b>			
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<b>2013 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
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*Note: Totals may include rounding differences.*

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Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: D. Operations Management & Training  
Workpaper: 2GD004.000

**Summary for Category: D. Operations Management & Training**

	In 2013\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	8,278	9,464	10,444	13,144
Non-Labor	1,674	1,795	1,904	2,501
NSE	0	0	0	0
<b>Total</b>	<b>9,952</b>	<b>11,259</b>	<b>12,348</b>	<b>15,645</b>
FTE	85.9	98.3	109.3	136.3

**Workpapers belonging to this Category:**

**2GD004.000 Operations Management & Training**

Labor	8,278	9,464	10,444	13,144
Non-Labor	1,674	1,795	1,904	2,501
NSE	0	0	0	0
<b>Total</b>	<b>9,952</b>	<b>11,259</b>	<b>12,348</b>	<b>15,645</b>
FTE	85.9	98.3	109.3	136.3

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2GD004.000 - Operations Management & Training**

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Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: D. Operations Management & Training  
Category-Sub: 1. Operations Management & Training  
Workpaper: 2GD004.000 - Operations Management & Training

**Activity Description:**

This work category includes costs for operations leadership, field management, operations support, and field technical skills training; all of which are necessary for SoCalGas' ability to provide customers with safe and reliable service.

- Operations leadership covers costs for Company leaders responsible for setting the tone and direction of their organization.
- Field management is responsible for overall management of the workforce dedicated to the planning and completion of gas distribution pipeline maintenance and installation activities.
- Operations support consists of a variety of general operational services necessary for the field operations' employees to complete their daily tasks.
- The field technical skills training team provides training services necessary to make certain the Company follows applicable regulations and standards and to help maintain the safety of the workforce and the public.

**Forecast Explanations:**

**Labor - Base YR Rec**

In projecting the future expense requirements for these functions, SoCalGas reviewed the 2009 through 2013 historical spending for this workgroup. In general, operations leadership, field management, operations support, and personnel training increase as levels of work and workforce increase; as new programs, processes and technologies are implemented; and as regulatory or compliance requirements change. The review of the historical costs in this work category shows a generally consistent upward trend. As a foundational forecast, SoCalGas used the 2013 adjusted recorded expense, which represents the base level of leadership, management, support, training personnel, and associated non-labor necessary to maintain current operations. Added to this base are incremental work elements not reflected in the base forecast that are necessary to adequately fund Operations Management and Training activities in the forecast years.

**Non-Labor - Base YR Rec**

In projecting the future expense requirements for these functions, SoCalGas reviewed the 2009 through 2013 historical spending for this workgroup. In general, operations leadership, field management, operations support, and personnel training increase as levels of work and workforce increase; as new programs, processes and technologies are implemented; and as regulatory or compliance requirements change. The review of the historical costs in this work category shows a generally consistent upward trend. As a foundational forecast, SoCalGas used the 2013 adjusted recorded expense, which represents the base level of leadership, management, support, training personnel, and associated non-labor necessary to maintain current operations. Added to this base are incremental work elements not reflected in the base forecast that are necessary to adequately fund Operations Management and Training activities in the forecast years.

**NSE - Zero-Based**

NSE is not applicable to this workgroup.

*Note: Totals may include rounding differences.*

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 Workpaper: 2GD004.000 - Operations Management & Training

**Summary of Results:**

		<b>In 2013\$ (000) Incurred Costs</b>								
		<b>Adjusted-Recorded</b>					<b>Adjusted-Forecast</b>			
<b>Years</b>		<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	
Labor		5,728	4,692	5,425	6,303	8,278	9,464	10,444	13,144	
Non-Labor		2,275	2,685	2,526	3,326	1,674	1,795	1,904	2,501	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>8,003</b>	<b>7,377</b>	<b>7,951</b>	<b>9,629</b>	<b>9,951</b>	<b>11,258</b>	<b>12,347</b>	<b>15,644</b>	
FTE		58.7	49.4	61.7	71.0	85.9	98.3	109.3	136.3	

*Note: Totals may include rounding differences.*

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 Workpaper: 2GD004.000 - Operations Management & Training

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Base YR Rec	8,278	8,278	8,278	1,186	2,166	4,866	9,464	10,444	13,144
Non-Labor	Base YR Rec	1,674	1,674	1,674	121	230	827	1,795	1,904	2,501
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>9,951</b>	<b>9,951</b>	<b>9,951</b>	<b>1,307</b>	<b>2,396</b>	<b>5,693</b>	<b>11,258</b>	<b>12,347</b>	<b>15,644</b>
FTE	Base YR Rec	86.0	86.0	86.0	12.3	23.3	50.3	98.3	109.3	136.3

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2014	561	0	0	561	6.0	1-Sided Adj

d.v. CPD Instructors - In 2014 CPD will be rolled out to approximately 1,500 more employees. Three additional FTEs are needed to provide make up and refresher training sessions. Make up sessions are required for employees who miss training sessions scheduled for each rollout due to illness, disability leave, or untimely change of job position. An additional three FTEs are needed to provide end user phone support. The support team answers end user questions and resolves issues, logs defects to be resolved by the IT team, tests defect fixes before IT finalizes system fixes, and communicates changes to the training team.

Labor costs will be 6 FTEs X \$93.5 = \$561K in 2014.

2014	25	1	0	26	0.3	1-Sided Adj
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d.ii. Gas Operations Pipeline Maintenance - Technical Advisor - Technical Advisor II hired under Gas Operations Pipeline Maintenance Staff after the first quarter of 2013 base year. This Advisor provides process support to ClickSchedule end users in the Area Resource Scheduling Organization, and Distribution Field Operations.

Labor costs will be 0.25 FTE X \$100K = \$25K beginning in 2014. Associated non-labor expense is estimated to be 0.25 FTE X \$3K = \$1K also beginning in 2014.

Total labor for TY2016 is 0.25 FTE X \$100K = \$25K. Total non-labor for TY2016 is 0.25 FTE X \$3K = \$1K.

2014	600	120	0	720	6.0	1-Sided Adj
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*Note: Totals may include rounding differences.*

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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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a.i. Operator Qualification Program Enhancement in Training Services - Technical Specialists, Training Instructors, Administrators. Additional instructors required by Training Services to address incremental operator qualification elements.

Labor costs for these additional Instructors will be 6 FTEs X \$100K = \$600K beginning in 2014. Associated non-labor expense is estimated to be 6 FTEs X \$20K = \$120K also beginning in 2014.

Beginning in 2015, an additional 3 Instructors will be hired for a total of 9 FTEs. Total labor for 2015 and TY2016 is 9 FTEs X \$100K = \$900K. Total non-labor for 2015 and TY2016 is 9 FTEs X \$20K = \$180K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-006 for calculation details.

<b>2014 Total</b>	<b>1,186</b>	<b>121</b>	<b>0</b>	<b>1,307</b>	<b>12.3</b>	
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2015	600	30	0	630	6.0	1-Sided Adj
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d.iv. Gas Operations Enterprise Systems Solutions - Business Systems Analyst and Manager - Incremental Business System Analysts needed to provide live help desk support to over 1,200 users of the Distribution field applications in Field Operations and Area Resource Scheduling Organization (ARSO). These Analysts will also conduct detail analysis, planning and implementation of these field applications over the next several years.

Labor costs will be 6 FTEs X \$100K = \$600K beginning in 2015. Associated non-labor expense is estimated to be 6 FTEs X \$5K = \$30K also beginning in 2015.

Beginning in TY2016, an additional 2 Business Systems Analysts will be hired. Total labor for TY2016 is 8 FTEs X \$100K = \$800K. Total non-labor for TY2016 is 8 FTEs X \$5K = \$40K.

2015	25	1	0	26	0.3	1-Sided Adj
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d.ii. Gas Operations Pipeline Maintenance - Technical Advisor - Technical Advisor II hired under Gas Operations Pipeline Maintenance Staff after the first quarter of 2013 base year. This Advisor provides process support to ClickSchedule end users in the Area Resource Scheduling Organization, and Distribution Field Operations.

Labor costs will be 0.25 FTE X \$100K = \$25K beginning in 2014. Associated non-labor expense is estimated to be 0.25 FTE X \$3K = \$1K also beginning in 2014.

Total labor for TY2016 is 0.25 FTE X \$100K = \$25K. Total non-labor for TY2016 is 0.25 FTE X \$3K = \$1K.

Note: Totals may include rounding differences.

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 Witness: Frank B. Ayala  
 Category: D. Operations Management & Training  
 Category-Sub: 1. Operations Management & Training  
 Workpaper: 2GD004.000 - Operations Management & Training

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2015	100	3	0	103	1.0	1-Sided Adj

c.ii. Gas Operations Pipeline Maintenance - Cathodic Protection Technical Advisor - Due to long term deterioration of coating on older pipeline systems, CP systems are requiring additional analysis and improvements to maintain and improve corrosion control. Two CP Technical Advisors will be hired to support this increased work effort.

Labor costs will be 1 FTE X \$100K = \$100K beginning in 2015. Associated non-labor expense is estimated to be 1 FTE X \$3K = \$3K also beginning in 2015.

In TY2016, an additional CP Technical Advisor will be hired. Total labor for TY2016 is 2 FTEs X \$100K = \$200K. Total non-labor for TY2016 is 2 FTEs X \$3K = \$6K.

2015	100	5	0	105	1.0	1-Sided Adj
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d.iii. Gas Operations Construction Planning and Design - Process Advisors - Upon full SAP Construction Planning Design (CPD) module deployment, additional staff is necessary to support all facets of the construction and planning process including construction project estimation and planning; construction package execution and closure; as-built and mapping updates, gas policy/procedure development, reporting requirements, and developing business requirements for changes/enhancements to SAP, Click Mobile or GWD.

These positions support O&M and capital planning; therefore, a 50/50 split is used for the labor forecast. 2 FTEs X 50% X \$100K = \$100K beginning in 2015. Associated non-labor expense is estimated to be 2 FTEs X 50% X \$5K = \$5K also beginning in 2015.

Beginning in TY2016, an additional two process advisors will be hired. Total labor for TY2016 is 4 FTEs X 50% X \$100K = \$200K. Total non-labor for TY2016 is 4 FTEs X 50% X \$5K = \$10K.

2015	900	180	0	1,080	9.0	1-Sided Adj
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a.i. Operator Qualification Program Enhancement in Training Services - Technical Specialists, Training Instructors, Administrators. Additional instructors required by Training Services to address incremental operator qualification elements.

Labor costs for these additional Instructors will be 6 FTEs X \$100K = \$600K beginning in 2014. Associated non-labor expense is estimated to be 6 FTEs X \$20K = \$120K also beginning in 2014.

Beginning in 2015, an additional 3 Instructors will be hired for a total of 9 FTEs. Total labor for 2015 and TY2016 is 9 FTEs X \$100K = \$900K. Total non-labor for 2015 and TY2016 is 9 FTEs X \$20K = \$180K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-006 for calculation details.

*Note: Totals may include rounding differences.*

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 Category: D. Operations Management & Training  
 Category-Sub: 1. Operations Management & Training  
 Workpaper: 2GD004.000 - Operations Management & Training

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2015	341	8	0	349	5.0	1-Sided Adj

a.ii. Operator Qualification Program Enhancement in Training Services - Operations Training Administrator Clerks - An expanded Operator Qualification program will require Training Services to process an increased amount of documents. Training Services will need to hire additional Administrative Control Clerks to handle the new paperwork requirement.

Labor costs will be 5 FTEs X \$32.69 per hour X 2,088 hours per year = \$341K beginning in 2015. Associated non-labor expense is estimated to be 5 FTEs X \$1.5K = \$7.5K also beginning in 2015.

Total Labor for TY2016 will be 5 FTEs X \$32.69 per hour X 2,088 hours per year = \$341K. Total non-labor for TY2016 is 5 FTEs X \$1.5K = \$7.5K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-006 for calculation details.

2015	100	3	0	103	1.0	1-Sided Adj
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d.i. Gas Operations Pipeline Maintenance - Business Systems Advisors - SoCalGas is developing a Gas Distribution data warehouse (data repository) that will consolidate information from the current Distribution Maintenance and Inspection (M&I) applications and provide dashboards and reports for District, Region, Company, and Executive Views. Gas Operations Pipeline Maintenance Staff will need to add one Business Systems Advisors to develop, test, and implement this reporting tool.

Labor costs will be 1 FTE X \$100K = \$100K beginning in 2015. Associated non-labor expense is estimated to be 1 FTE X \$3K = \$3K also beginning in 2015.

Beginning in 2016, an additional Business Systems Advisor will be hired. Total labor for TY2016 is 2 FTEs X \$100K = \$200K. Total non-labor for TY2016 is 2 FTEs X \$3K = \$6K.

<b>2015 Total</b>	<b>2,166</b>	<b>230</b>	<b>0</b>	<b>2,396</b>	<b>23.3</b>	
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2016	800	40	0	840	8.0	1-Sided Adj
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Note: Totals may include rounding differences.

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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: D. Operations Management & Training  
 Category-Sub: 1. Operations Management & Training  
 Workpaper: 2GD004.000 - Operations Management & Training

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<p>d.iv. Gas Operations Enterprise Systems Solutions - Business Systems Analyst and Manager - Incremental Business System Analysts needed to provide live help desk support to over 1,200 users of the Distribution field applications in Field Operations and Area Resource Scheduling Organization (ARSO). These Analysts will also conduct detail analysis, planning and implementation of these field applications over the next several years.</p>						

Labor costs will be 6 FTEs X \$100K = \$600K beginning in 2015. Associated non-labor expense is estimated to be 6 FTEs X \$5K = \$30K also beginning in 2015.

Beginning in TY2016, an additional 2 Business Systems Analysts will be hired. Total labor for TY2016 is 8 FTEs X \$100K = \$800K. Total non-labor for TY2016 is 8 FTEs X \$5K = \$40K.

2016	25	1	0	26	0.3	1-Sided Adj
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d.ii. Gas Operations Pipeline Maintenance - Technical Advisor - Technical Advisor II hired under Gas Operations Pipeline Maintenance Staff after the first quarter of 2013 base year. This Advisor provides process support to ClickSchedule end users in the Area Resource Scheduling Organization, and Distribution Field Operations.

Labor costs will be 0.25 FTE X \$100K = \$25K beginning in 2014. Associated non-labor expense is estimated to be 0.25 FTE X \$3K = \$1K also beginning in 2014.

Total labor for TY2016 is 0.25 FTE X \$100K = \$25K. Total non-labor for TY2016 is 0.25 FTE X \$3K = \$1K.

2016	200	6	0	206	2.0	1-Sided Adj
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d.i. Gas Operations Pipeline Maintenance - Business Systems Advisors - SoCalGas is developing a Gas Distribution data warehouse (data repository) that will consolidate information from the current Distribution Maintenance and Inspection (M&I) applications and provide dashboards and reports for District, Region, Company, and Executive Views. Gas Operations Pipeline Maintenance Staff will need to add one Business Systems Advisors to develop, test, and implement this reporting tool.

Labor costs will be 1 FTE X \$100K = \$100K beginning in 2015. Associated non-labor expense is estimated to be 1 FTE X \$3K = \$3K also beginning in 2015.

Beginning in 2016, an additional Business Systems Advisor will be hired. Total labor for TY2016 is 2 FTEs X \$100K = \$200K. Total non-labor for TY2016 is 2 FTEs X \$3K = \$6K.

2016	200	6	0	206	2.0	1-Sided Adj
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*Note: Totals may include rounding differences.*

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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
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c.ii. Gas Operations Pipeline Maintenance - Cathodic Protection Technical Advisor - Due to long term deterioration of coating on older pipeline systems, CP systems are requiring additional analysis and improvements to maintain and improve corrosion control. Two CP Technical Advisors will be hired to support this increased work effort.

Labor costs will be 1 FTE X \$100K = \$100K beginning in 2015. Associated non-labor expense is estimated to be 1 FTE X \$3K = \$3K also beginning in 2015.

In TY2016, an additional CP Technical Advisor will be hired. Total labor for TY2016 is 2 FTEs X \$100K = \$200K. Total non-labor for TY2016 is 2 FTEs X \$3K = \$6K.

2016	1,300	39	0	1,339	13.0	1-Sided Adj
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c.i. Gas Operations Pipeline Maintenance - Quality Assurance Program - The Centralized Quality Assurance program will perform audits for Leak Survey, Pipeline Patrol, Bridge and Span, Locate and Mark, and Valve Inspections. These QA Specialists will bring consistency across the company with respect to the elements that are being examined, and the follow-up corrective action that must be completed, documented, and verified.

13 QA specialists X \$100K = \$1,300K beginning in 2016. Associated non-labor expense is estimated to be 13 FTEs X \$3K = \$39K also beginning in 2016. Total labor for TY2016 is \$1,300K. Total non-labor for TY2016 is 13 X \$3K = \$39K.

2016	200	10	0	210	2.0	1-Sided Adj
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d.iii. Gas Operations Construction Planning and Design - Process Advisors - Upon full SAP Construction Planning Design (CPD) module deployment, additional staff is necessary to support all facets of the construction and planning process including construction project estimation and planning; construction package execution and closure; as-built and mapping updates, gas policy/procedure development, reporting requirements, and developing business requirements for changes/enhancements to SAP, Click Mobile or GWD.

These positions support O&M and capital planning; therefore, a 50/50 split is used for the labor forecast. 2 FTEs X 50% X \$100K = \$100K beginning in 2015. Associated non-labor expense is estimated to be 2 FTEs X 50% X \$5K = \$5K also beginning in 2015.

Beginning in TY2016, an additional two process advisors will be hired. Total labor for TY2016 is 4 FTEs X 50% X \$100K = \$200K. Total non-labor for TY2016 is 4 FTEs X 50% X \$5K = \$10K.

2016	200	6	0	206	2.0	1-Sided Adj
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*Note: Totals may include rounding differences.*

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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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b.i. Gas Distribution - High Pressure Technical Advisors - Two Technical Advisors are required to support high pressure training. They will develop new and refine existing training modules, and will assume delivery of initial Operator Qualification technical training to managers and supervisors involved with high pressure pipeline construction. These Technical Advisors will be the responsible document owners for the various high pressure field procedures.

Labor costs will be 2 FTEs X \$100 = \$200K beginning in 2016. Associated non-labor expense is estimated to be 2 FTEs X \$3K = \$6K also beginning in 2016.

2016	900	180	0	1,080	9.0	1-Sided Adj
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a.i. Operator Qualification Program Enhancement in Training Services - Technical Specialists, Training Instructors, Administrators. Additional instructors required by Training Services to address incremental operator qualification elements.

Labor costs for these additional Instructors will be 6 FTEs X \$100K = \$600K beginning in 2014. Associated non-labor expense is estimated to be 6 FTEs X \$20K = \$120K also beginning in 2014.

Beginning in 2015, an additional 3 Instructors will be hired for a total of 9 FTEs. Total labor for 2015 and TY2016 is 9 FTEs X \$100K = \$900K. Total non-labor for 2015 and TY2016 is 9 FTEs X \$20K = \$180K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-006 for calculation details.

2016	100	3	0	103	1.0	1-Sided Adj
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c.iii. Gas Operations Pipeline Maintenance - Compliance Assurance Technical Advisor - An incremental Technical Advisor will be needed to extract information from SAP and create comprehensive data validation tools. This position will also assist in the preparation of reports for the CPUC audits and supports region management during audits to address data requests.

1 FTE X \$100K = \$100K beginning in 2016. Associated non-labor expense is estimated to be 1 FTE X \$3K = \$3K also beginning in 2016.

2016	341	8	0	349	5.0	1-Sided Adj
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*Note: Totals may include rounding differences.*

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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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a.ii. Operator Qualification Program Enhancement in Training Services - Operations Training Administrator Clerks - An expanded Operator Qualification program will require Training Services to process an increased amount of documents. Training Services will need to hire additional Administrative Control Clerks to handle the new paperwork requirement.

Labor costs will be 5 FTEs X \$32.69 per hour X 2,088 hours per year = \$341K beginning in 2015. Associated non-labor expense is estimated to be 5 FTEs X \$1.5K = \$7.5K also beginning in 2015.

Total Labor for TY2016 will be 5 FTEs X \$32.69 per hour X 2,088 hours per year = \$341K. Total non-labor for TY2016 is 5 FTEs X \$1.5K = \$7.5K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-006 for calculation details.

2016	0	363	0	363	0.0	1-Sided Adj
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a.iii. SAP Enhancement for Operator Qualifications - A new electronic system will be required to process the large amount of paperwork as a result of the expanded Operator Qualification program. The cost of this new electronic system is estimated at \$363K and it is estimated that it will be implemented in 2016.

See Supplemental Workpaper SCG-FBA-O&M-SUP-006 for calculation details.

2016	300	50	0	350	3.0	1-Sided Adj
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b.iii. Technical Specialist for Modernization of Training Materials - Incremental Technical Specialists needed for modernization of training materials to enhance the employee learning experience.

Labor costs for these additional Technical Specialists will be 3 FTEs X \$100K = \$300K beginning in TY2016. Total non-labor for TY2016 is \$50K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-005 for calculation details.

2016	0	84	0	84	0.0	1-Sided Adj
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b.iv. Classroom Technology - Modernization of classroom technology is needed in Training Services to enhance the employee training experience. The enhancement will include the installation of flat screens in 12 classrooms. Included are the mounting hardware, cables, and installation costs. The total non-labor for TY2016 is \$84K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-005 for calculation details.

2016	0	10	0	10	0.0	1-Sided Adj
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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
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b.v. Situation City Enhancement - Metal Canopy - The installation of a new metal canopy is needed in Situation City to enhance the training experience for both the instructors and students. The total non-labor for TY2016 is \$10K.

See Supplemental Workpaper SCG-FBA-O&M-SUP-005 for calculation details.

2016	300	21	0	321	3.0	1-Sided Adj
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b.ii. Instructors for Formal Clerical Training - Instructors are needed in Training Services to provide training to Distribution Office employees such as Leakage clerks and Work Order Control clerks.

Labor costs for these additional Instructors will be 3 FTEs X \$100K = \$300K beginning in TY2016. Total non-labor for TY2016 is 3 FTEs X \$7,000 = \$21K.

<b>2016 Total</b>	<b>4,866</b>	<b>827</b>	<b>0</b>	<b>5,693</b>	<b>50.3</b>	
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*Note: Totals may include rounding differences.*

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**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	3,133	2,481	2,626	2,865	4,033
Non-Labor	1,143	-357	397	2,116	-4,255
NSE	0	0	0	0	0
<b>Total</b>	<b>4,276</b>	<b>2,124</b>	<b>3,023</b>	<b>4,982</b>	<b>-222</b>
FTE	33.9	26.2	30.3	31.3	39.1
<b>Adjustments (Nominal \$) **</b>					
Labor	1,268	1,236	1,816	2,440	3,065
Non-Labor	910	2,842	2,033	1,152	5,928
NSE	0	0	0	0	0
<b>Total</b>	<b>2,179</b>	<b>4,077</b>	<b>3,849</b>	<b>3,592</b>	<b>8,993</b>
FTE	15.5	15.6	22.4	29.6	34.4
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	4,402	3,717	4,442	5,306	7,098
Non-Labor	2,053	2,485	2,430	3,268	1,674
NSE	0	0	0	0	0
<b>Total</b>	<b>6,455</b>	<b>6,202</b>	<b>6,872</b>	<b>8,574</b>	<b>8,771</b>
FTE	49.4	41.8	52.7	60.9	73.5
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	795	650	738	849	1,180
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>795</b>	<b>650</b>	<b>738</b>	<b>849</b>	<b>1,180</b>
FTE	9.3	7.6	9.0	10.1	12.4
<b>Escalation to 2013\$</b>					
Labor	531	325	245	148	0
Non-Labor	222	201	97	58	0
NSE	0	0	0	0	0
<b>Total</b>	<b>753</b>	<b>526</b>	<b>341</b>	<b>206</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	5,728	4,692	5,425	6,303	8,278
Non-Labor	2,275	2,685	2,526	3,326	1,674
NSE	0	0	0	0	0
<b>Total</b>	<b>8,003</b>	<b>7,377</b>	<b>7,951</b>	<b>9,629</b>	<b>9,951</b>
FTE	58.7	49.4	61.7	71.0	85.9

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

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**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	1,268	1,236	1,816	2,440	3,065
Non-Labor	910	2,842	2,033	1,152	5,928
NSE	0	0	0	0	0
<b>Total</b>	<b>2,179</b>	<b>4,077</b>	<b>3,849</b>	<b>3,592</b>	<b>8,993</b>
FTE	15.5	15.6	22.4	29.6	34.4

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	-69	0	0	-1.0	CCTR Transf	From 2200-2186.000	CYANO20140219 114209977
	Transfer labor costs due to business function transfer (Executive Assistant).						
2009	0	3	0	0.0	CCTR Transf	From 2200-2317.000	LBROUGH201402 27143310850
	Transfer of CPD costs from IT to SCG Ops						
2009	-66	-11	0	-0.8	CCTR Transf	To 2200-2475.000	RHFLAMIN20131 127110014037
	Transfer historical costs related to environmental employees to cost center 2200-2475.						
2009	1,463	440	0	18.0	1-Sided Adj	N/A	RHFLAMIN20131 206100600983
	Transfer Distribution Field Training Costs from CSFC 2200-0442. Corresponding adjustment made on CSFC side.						
2009	-60	-1	0	-0.7	CCTR Transf	To 2200-2475.000	SVELASQU20131 127111225200
	Transfer historical costs related to environmental employees to cost center 2200-2475.						
2009	0	1,721	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1140128770
	To transfer damage credits to Main and Service Maintenance work groups						
2009	0	-749	0	0.0	CCTR Transf	To 2200-0294.000	TP1MTC2013110 1140814697
	Transfer 2008 Aliso Canyon Firestorm costs and associated insurance reimbursement to Storage						
2009	0	-492	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1141617450
	To transfer USA fees to Locate & Mark work group for complete showing of L&M expense						

Note: Totals may include rounding differences.

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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
<b>2009 Total</b>	<b>1,268</b>	<b>910</b>	<b>0</b>	<b>15.5</b>			
2010	-73	0	0	-1.0	CCTR Transf	From 2200-2186.000	CYANO20140219 114139297
							This adjustment is to transfer labor costs due to business function transfer for the Executive Assistant.
2010	0	55	0	0.0	CCTR Transf	From 2200-2317.000	LBROUGH201402 27143242257
							Transfer of CPD costs from IT to SCG Ops
2010	-74	-18	0	-0.4	CCTR Transf	To 2200-2475.000	RHFLAMIN20131 127110243590
							Transfer historical costs related to environmental employees to cost center 2200-2475.
2010	1,445	337	0	17.7	1-Sided Adj	N/A	RHFLAMIN20131 206100718030
							Transfer Distribution Field Training Costs from CSFC 2200-0442. Corresponding adjustment made on CSFC side.
2010	-63	-7	0	-0.7	CCTR Transf	To 2200-2475.000	SVELASQU20131 127111538420
							Transfer historical costs related to environmental employees to cost center 2200-2475.
2010	0	2,300	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1140219600
							To transfer damage credits to Main and Service Maintenance work groups
2010	0	734	0	0.0	CCTR Transf	To 2200-0294.000	TP1MTC2013110 1141303160
							Transfer 2008 Aliso Canyon Firestorm insurance reimbursement to Storage
2010	0	-559	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1141738723
							To transfer USA fees to Locate & Mark work group for complete showing of L&M expense
<b>2010 Total</b>	<b>1,236</b>	<b>2,842</b>	<b>0</b>	<b>15.6</b>			
2011	156	380	0	1.7	CCTR Transf	From 2200-2317.000	LBROUGH201402 27143207167
							Transfer of CPD costs from IT to SCG Ops
2011	-70	-18	0	-0.3	CCTR Transf	To 2200-2475.000	RHFLAMIN20131 127110413590
							Transfer historical costs related to environmental employees to cost center 2200-2475.

Note: Totals may include rounding differences.

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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2011	1,795	450	0	21.6	1-Sided Adj	N/A	RHFLAMIN20131 206102607670
Transfer Distribution Field Training Costs from CSFC 2200-0442. Corresponding adjustment made on CSFC side.							
2011	-64	-14	0	-0.6	CCTR Transf	To 2200-2475.000	SVELASQU20131 127111914180
Transfer historical costs related to environmental employees to cost center 2200-2475.							
2011	0	1,234	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1140304990
To transfer damage credits to Main and Service Maintenance work groups							
<b>2011 Total</b>	<b>1,816</b>	<b>2,033</b>	<b>0</b>	<b>22.4</b>			

2012	794	725	0	8.9	CCTR Transf	From 2200-2317.000	LBROUGH201402 27143059620
Transfer of CPD costs from IT to SCG Ops							
2012	-68	-24	0	-0.4	CCTR Transf	To 2200-2475.000	RHFLAMIN20131 127110515020
Transfer historical costs related to environmental employees to cost center 2200-2475.							
2012	1,795	450	0	21.6	1-Sided Adj	N/A	RHFLAMIN20131 206100936990
Transfer Distribution Field Training Costs from CSFC 2200-0442. Corresponding adjustment made on CSFC side.							
2012	-81	-19	0	-0.5	CCTR Transf	To 2200-2475.000	SVELASQU20131 127112246440
Transfer historical costs related to environmental employees to cost center 2200-2475.							
2012	0	21	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 1140352267
To transfer damage credits to Main and Service Maintenance work groups							
<b>2012 Total</b>	<b>2,440</b>	<b>1,152</b>	<b>0</b>	<b>29.6</b>			

2013	1,057	271	0	11.7	CCTR Transf	From 2200-2317.000	LBROUGH201402 27142832373
Transfer of CPD costs from IT to SCG Ops							

Note: Totals may include rounding differences.

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<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2013	-98	0	0	-1.0	CCTR Transf	From 2200-0331.000	RMCHRIST20140 423110406410
Budget Planner Transfers in 2013. Transfer 2013 Budget Planner dollars from cost center 2200-0617 in work paper group 2GD004 to cost center 2200-0331 in work paper group 200006. Field Service Region Planning and Analysis (40,378 in Labor and .4 FTE), Support Service Planning and Analysis (34,134 in Labor and .3 FTE). Fleet Planning & Analysis (23,698 in Labor and .3 FTE).							
2013	0	4,848	0	0.0	1-Sided Adj	N/A	TP1MTC2014020 9114651703
To transfer damage credits to Main and Service work groups.							
2013	2,106	809	0	23.7	1-Sided Adj	N/A	TP1MTC2014021 0105545143
Transfer Distribution Field Training costs from CSFC 2200-0442. Corresponding adjustment made on CSFC side.							
<b>2013 Total</b>	<b>3,065</b>	<b>5,928</b>	<b>0</b>	<b>34.4</b>			

Note: Totals may include rounding differences.

**Supplemental Workpapers for Workpaper 2GD004.000**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

**SCG-FBA-O&M-SUP-005**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**  
**Supplemental Workpaper Calculations for incremental cost related to**  
**Incremental Training Services Modernizations**  
**Operations Management and Training Workgroup**

**Modernization of Training Materials**

Assumptions: [A]: Incremental FTEs required:  
                   1 FTE for Technical aspects  
                   1 FTE for Content Development/ Instructional Design  
                   1 FTE for Content Support  
 [B]: Estimated Management Salary  
 [C]: Total Labor cost per year  
 [D]: Non-Labor cost for Modernization of Training Materials Includes Camera, Lenses, Lighting, Computer/Software, Mileage Reimbursement

	<u>Labor</u>				<u>Non-Labor</u>		<u>Total</u>
	[A] FTEs	[B] Salary	[C] (AxB) Total Labor per Year		[D] Modernization of Training Materials		(C+D) Total Labor and Non-Labor
<b>2014</b>	0.0	\$ 100,000	\$ -	<b>2014</b>		<b>2014</b>	
<b>2015</b>	0.0	\$ 100,000	\$ -	<b>2015</b>		<b>2015</b>	
<b>2016</b>	3.0	\$ 100,000	\$ 300,000	<b>2016</b>	\$ 50,000	<b>2016</b>	\$ 350,000

Incremental Technical Specialist for modernization of training materials

**Classroom Technology**

Non-Labor Assumptions: [E]: Number of Classrooms  
 [F]: Cost of Flat Screen, Mounting Hardware, and Cables

	<u>Non-Labor</u>		
	[E] Classrooms	[F] Cost per Classroom	(ExF) Classroom Technology
<b>2014</b>			
<b>2015</b>			
<b>2016</b>	12	\$ 7,000	\$ 84,000

**Hard Top Canopy in Situation City**

Non-Labor

	Situation City Enhancement
<b>2014</b>	
<b>2015</b>	
<b>2016</b>	\$ 10,000

Amounts are shown in 2013 dollars and include vacation and sick.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

**SCG-FBA-O&M-SUP-006**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**  
**Supplemental Workpaper Calculations for incremental cost related to**  
**Incremental Operator Qualification (OpQual) requirements**  
**Operations Management and Training Workgroup**

**Centralized Training**

Assumptions: [A]: Required incremental Training Instructors, Technical Specialists, Administrator to meet the new Operator Qualification requirements  
[F]: Required Administrative Clerks to meet the new Operator Qualification requirements  
[G]: 20103 Administrative Clerk Hourly Rate

Management Labor

	[A] FTEs	[B] Estimated Management Annual Rate	[C] [AxB] Total Labor per Year
<b>2014</b>	6.0	\$ 100,000	\$ 600,000
<b>2015</b>	9.0	\$ 100,000	\$ 900,000
<b>2016</b>	9.0	\$ 100,000	\$ 900,000

Non-Labor

	[A] Non-Labor	[D] FTEs	[E] [AxC] Estimated Non-Labor per FTE	Total Non-Labor per Year
<b>2014</b>	6.0	\$ 20,000	\$ 120,000	
<b>2015</b>	9.0	\$ 20,000	\$ 180,000	
<b>2016</b>	9.0	\$ 20,000	\$ 180,000	

Total  
(C+E)

Total
\$ 720,000
\$ 1,080,000
\$ 1,080,000

Labor for Clerks

Labor	[F] FTEs	[G] Admin Clerk Rate	[H] Yearly Factor	[I] (FxGxH) Total Labor per Year
<b>2014</b>	0.0	\$ 32.69	2088	\$ -
<b>2015</b>	5.0	\$ 32.69	2088	\$ 341,284
<b>2016</b>	5.0	\$ 32.69	2088	\$ 341,284

Non-Labor

	[F] Non-Labor	[J] FTEs	[K] [FxJ] Estimated Non-Labor per FTE	Total Non-Labor per Year
<b>2014</b>	0.0	\$ 1,500	\$ -	
<b>2015</b>	5.0	\$ 1,500	\$ 7,500	
<b>2016</b>	5.0	\$ 1,500	\$ 7,500	

Total  
(I+K)

Total
\$ -
\$ 348,784
\$ 348,784

**2016 Non-Labor for Centralized Training SAP / Vision Learning System enhancement for OpQual**

Table 1: Vision Learning System

Vision Learning System	Units	Cost per unit	Cost
Base application / Server with Adobe CF "Standard"	1	\$ 45,000	\$45,000
Personal Stations	150	\$ 52.50	\$7,875
Maintenance - Renew Annually	52,878	\$ 0.18	\$9,518
Services to assist with integrating the data records with SAP			\$5,000
<b>Sub Total</b>			<b>\$67,393</b>

Table 2: Total Non-Labor for OpQual System Enhancements

<u>Software</u>	Hours	Hourly Rate (Contractor)	Cost
IT costs to set-up/integrate software enhancements into SoCalGas' systems	3,740	\$ 50.00	\$187,000
Vision Learning System (See Table 1 above)			\$67,393
<u>Hardware</u>	Units	Cost per Unit	
G1 Tablets	25	\$ 4,350.62	\$108,766
<b>Grand Total Non-Labor for 2016</b>			<b>\$363,159</b>

Amounts are shown in 2013 dollars and include vacation and sick.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: E. Regional Public Affairs  
Workpaper: 2GD005.000

**Summary for Category: E. Regional Public Affairs**

	In 2013\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	3,158	3,275	3,381	3,381
Non-Labor	884	924	934	934
NSE	0	0	0	0
<b>Total</b>	<b>4,042</b>	<b>4,199</b>	<b>4,315</b>	<b>4,315</b>
FTE	30.9	32.3	33.5	33.5

**Workpapers belonging to this Category:**

**2GD005.000 Regional Public Affairs**

Labor	3,158	3,275	3,381	3,381
Non-Labor	884	924	934	934
NSE	0	0	0	0
<b>Total</b>	<b>4,042</b>	<b>4,199</b>	<b>4,315</b>	<b>4,315</b>
FTE	30.9	32.3	33.5	33.5

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2GD005.000 - Regional Public Affairs**

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: E. Regional Public Affairs  
Category-Sub: 1. Regional Public Affairs  
Workpaper: 2GD005.000 - Regional Public Affairs

**Activity Description:**

Regional Public Affairs (RPA) primarily supports field operations through its work with regional and local governments on issues regarding proposed regulations, franchises, permitting, and emergency preparedness and response. RPA also educates officials at the county and city levels about SoCalGas issues that could impact customers. RPA further serves as the point of contact in the communities SoCalGas serves, educating stakeholders about SoCalGas activities, programs and services, responding to customer and media inquiries, and resolving customer complaints.

**Forecast Explanations:**

**Labor - Base YR Rec**

The staffing level at the end of the 2013 base year represents the ongoing requirements necessary to provide a base level of support to Gas Distribution. Therefore, the 2013 adjusted recorded labor plus labor expenses related to the vacancies experienced earlier in the year are necessary to maintain current operations. Added to this base are incremental work elements not reflected in the base forecast that are necessary to adequately fund RPA activities in the forecast years.

The level of construction, repair and maintenance activities drives costs for this workgroup. RPA's focus is facilitating these activities in a timely and cost-effective manner so SoCalGas can maintain safe and reliable service for its customers at a reasonable cost. As the level of these activities increases over the rate case period, the need for increased RPA interaction with regional and local governments to facilitate these activities will increase accordingly.

Since operational activities impact the communities SoCalGas serves, an increase in these activities will similarly require increased RPA interaction with these communities. RPA provides stakeholders with project details and addresses heightened stakeholder concerns about safety and environmental impacts related to SoCalGas' operations.

Further driving RPA costs are the actions of local governments as they propose new and often more stringent and costly operating conditions. Local governments are also drawing out franchise negotiations, hoping to secure concessions from SoCalGas. When local governments attempt to impose conditions that increase operating costs, RPA must increasingly engage with them to help mitigate these costs. Consequently, SoCalGas expects to see costs in this workgroup increase.

**Non-Labor - 5-YR Average**

The services provided by employees within this workgroup fluctuate from year-to-year. For this reason, a historical five-year average of the recorded non-labor expenditures for the years 2009 through 2013 was determined to be most representative ongoing non-labor requirements. To this foundation, additional funding is necessary to meet the projected future staffing levels.

**NSE - Zero-Based**

N/A.

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: E. Regional Public Affairs  
 Category-Sub: 1. Regional Public Affairs  
 Workpaper: 2GD005.000 - Regional Public Affairs

**Summary of Results:**

		<b>In 2013\$ (000) Incurred Costs</b>								
		<b>Adjusted-Recorded</b>					<b>Adjusted-Forecast</b>			
<b>Years</b>		<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	
Labor		3,194	3,114	3,280	3,386	3,158	3,275	3,381	3,381	
Non-Labor		820	778	1,060	1,074	884	924	934	934	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>4,014</b>	<b>3,892</b>	<b>4,340</b>	<b>4,460</b>	<b>4,043</b>	<b>4,200</b>	<b>4,316</b>	<b>4,316</b>	
FTE		31.2	30.5	32.5	33.1	30.9	32.3	33.5	33.5	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: E. Regional Public Affairs  
 Category-Sub: 1. Regional Public Affairs  
 Workpaper: 2GD005.000 - Regional Public Affairs

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Base YR Rec	3,158	3,158	3,158	117	223	223	3,275	3,381	3,381
Non-Labor	5-YR Average	923	923	923	1	11	11	924	934	934
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>4,082</b>	<b>4,082</b>	<b>4,082</b>	<b>118</b>	<b>234</b>	<b>234</b>	<b>4,200</b>	<b>4,316</b>	<b>4,316</b>
FTE	Base YR Rec	30.9	30.9	30.9	1.4	2.6	2.6	32.3	33.5	33.5

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2014	100	0	0	100	1.0	1-Sided Adj

a. Regional Public Affairs Vacancies in Base Year -- Added 1 FTE to cover vacancies throughout the 2013 base year.

2014	17	1	0	18	0.4	1-Sided Adj
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c. Regional Public Affairs Intern -- New Public Affairs Intern to start in 2014.  
 \$20/hr \* 840 hours = \$17k.  
 5% Non-Labor for employee expenses = \$1k.  
 840 hours / 2088 hours per year = 0.4 FTEs

<b>2014 Total</b>	<b>117</b>	<b>1</b>	<b>0</b>	<b>118</b>	<b>1.4</b>	
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2015	100	0	0	100	1.0	1-Sided Adj
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a. Regional Public Affairs Vacancies in Base Year -- Added 1 FTE to cover vacancies throughout the 2013 base year.

2015	23	1	0	24	0.6	1-Sided Adj
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c. Regional Public Affairs Intern -- New Public Affairs Intern to start in 2014.  
 \$20/hr \* 1,160 hours = \$23k.  
 5% Non-Labor for employee expenses = \$1k.  
 1,160 hours / 2088 hours per year = 0.6 FTEs

2015	100	10	0	110	1.0	1-Sided Adj
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b. Regional Public Affairs Manager -- Incremental Regional Public Affairs Manager to be hired by 2015. \$100k Labor and 10% Non-Labor for Employee Expenses. The non-labor percentage is based on historical ratios.

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: E. Regional Public Affairs  
 Category-Sub: 1. Regional Public Affairs  
 Workpaper: 2GD005.000 - Regional Public Affairs

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2015 Total</b>	<b>223</b>	<b>11</b>	<b>0</b>	<b>234</b>	<b>2.6</b>	
2016	100	0	0	100	1.0	1-Sided Adj
a. Regional Public Affairs Vacancies in Base Year -- Added 1 FTE to cover vacancies throughout the 2013 base year.						
2016	23	1	0	24	0.6	1-Sided Adj
c. Regional Public Affairs Intern -- New Public Affairs Intern to start in 2014. \$20/hr * 1,160 hours = \$23k. 5% Non-Labor for employee expenses = \$1k. 1,160 hours / 2088 hours per year = 0.6 FTEs.						
2016	100	10	0	110	1.0	1-Sided Adj
b. Regional Public Affairs Manager -- Incremental Regional Public Affairs Manager to be hired by 2015. \$100k Labor and 10% Non-Labor for Employee Expenses. The non-labor percentage is based on historical ratios.						
<b>2016 Total</b>	<b>223</b>	<b>11</b>	<b>0</b>	<b>234</b>	<b>2.6</b>	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: E. Regional Public Affairs  
Category-Sub: 1. Regional Public Affairs  
Workpaper: 2GD005.000 - Regional Public Affairs

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	2,454	2,467	2,686	2,850	2,708
Non-Labor	740	720	1,020	1,056	884
NSE	0	0	0	0	0
<b>Total</b>	<b>3,194</b>	<b>3,187</b>	<b>3,705</b>	<b>3,906</b>	<b>3,593</b>
FTE	26.2	25.8	27.8	28.4	26.5
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	2,454	2,467	2,686	2,850	2,708
Non-Labor	740	720	1,020	1,056	884
NSE	0	0	0	0	0
<b>Total</b>	<b>3,194</b>	<b>3,187</b>	<b>3,705</b>	<b>3,906</b>	<b>3,593</b>
FTE	26.2	25.8	27.8	28.4	26.5
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	444	431	446	456	450
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>444</b>	<b>431</b>	<b>446</b>	<b>456</b>	<b>450</b>
FTE	5.0	4.7	4.7	4.7	4.5
<b>Escalation to 2013\$</b>					
Labor	296	216	148	80	0
Non-Labor	80	58	41	19	0
NSE	0	0	0	0	0
<b>Total</b>	<b>376</b>	<b>274</b>	<b>189</b>	<b>98</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	3,194	3,114	3,280	3,386	3,158
Non-Labor	820	778	1,060	1,074	884
NSE	0	0	0	0	0
<b>Total</b>	<b>4,014</b>	<b>3,892</b>	<b>4,340</b>	<b>4,460</b>	<b>4,043</b>
FTE	31.2	30.5	32.5	33.1	31.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: E. Regional Public Affairs  
 Category-Sub: 1. Regional Public Affairs  
 Workpaper: 2GD005.000 - Regional Public Affairs

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
<b>2009 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2010 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2011 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2012 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2013 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			

*Note: Totals may include rounding differences.*

Southern California Gas Company  
 2016 GRC - APP  
 Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala

**Summary of Shared Services Workpapers:**

<b>Description</b>	<b>In 2013 \$ (000) Incurred Costs</b>			
	<b>Adjusted-Recorded</b>	<b>Adjusted-Forecast</b>		
	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
B. Operations Leadership & Support	3,409	3,409	3,409	7,909
<b>Total</b>	<b>3,409</b>	<b>3,409</b>	<b>3,409</b>	<b>7,909</b>

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Operations Leadership & Support  
Cost Center: VARIOUS

**Summary for Category: B. Operations Leadership & Support**

	In 2013\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	2,984	2,984	2,984	3,434
Non-Labor	428	428	428	4,478
NSE	0	0	0	0
<b>Total</b>	<b>3,412</b>	<b>3,412</b>	<b>3,412</b>	<b>7,912</b>
FTE	28.9	28.9	28.9	33.9

**Cost Centers belonging to this Category:**

**2200-0305.000 ESS PRODUCTION SUPPORT**

Labor	724	724	724	724
Non-Labor	189	189	189	189
NSE	0	0	0	0
<b>Total</b>	<b>913</b>	<b>913</b>	<b>913</b>	<b>913</b>
FTE	8.1	8.1	8.1	8.1

**2200-0431.000 FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT**

Labor	345	345	345	795
Non-Labor	38	38	38	4,088
NSE	0	0	0	0
<b>Total</b>	<b>383</b>	<b>383</b>	<b>383</b>	<b>4,883</b>
FTE	2.1	2.1	2.1	7.1

**2200-2023.000 FIELD TECHNOLOGIES**

Labor	323	323	323	323
Non-Labor	33	33	33	33
NSE	0	0	0	0
<b>Total</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
FTE	3.3	3.3	3.3	3.3

**2200-2144.000 GAS OPERATIONS SERVICES**

Labor	267	267	267	267
Non-Labor	12	12	12	12
NSE	0	0	0	0
<b>Total</b>	<b>279</b>	<b>279</b>	<b>279</b>	<b>279</b>
FTE	2.1	2.1	2.1	2.1

**2200-2344.000 OPERATOR QUALIFICATION**

Labor	190	190	190	190
Non-Labor	88	88	88	88
NSE	0	0	0	0
<b>Total</b>	<b>278</b>	<b>278</b>	<b>278</b>	<b>278</b>
FTE	2.0	2.0	2.0	2.0

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Cost Center: VARIOUS

In 2013\$ (000) Incurred Costs			
Adjusted-Recorded	Adjusted-Forecast		
2013	2014	2015	2016

**2200-2345.000 DISTRIBUTION FIELD SERVICES**

Labor	724	724	724	724
Non-Labor	50	50	50	50
NSE	0	0	0	0
<b>Total</b>	<b>774</b>	<b>774</b>	<b>774</b>	<b>774</b>
FTE	7.4	7.4	7.4	7.4

**2200-2360.000 MAINTENANCE PROCESS**

Labor	411	411	411	411
Non-Labor	18	18	18	18
NSE	0	0	0	0
<b>Total</b>	<b>429</b>	<b>429</b>	<b>429</b>	<b>429</b>
FTE	3.9	3.9	3.9	3.9

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2200-0305.000 - ESS PRODUCTION SUPPORT**

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 1. Enterprise Systems Solutions Production Support  
 Cost Center: 2200-0305.000 - ESS PRODUCTION SUPPORT

**Activity Description:**

Recorded to this cost center are the labor, employee expenses, and non-labor materials and services required to provide support to users of enterprise computer applications that are utilized by the field operations technicians and staff in Gas Operations. The Enterprise Systems Solutions (ESS) department provides technical assistance through live Help Desk from 6:00 AM to 6:00 PM Monday through Friday, monitors and resolves systems interfaces, configures and maintains testing and training environments, receives and analyzes change requests, coordinates software Quality Assurance, coordinates and prioritizes activities with the Information Technology organization, and deploys software changes to production.

**Forecast Explanations:**

**Labor - Base YR Rec**

The 2013 base is the most accurate representation of the base level of current and ongoing staffing requirements and associated expenses.

**Non-Labor - Base YR Rec**

The 2013 base is the most accurate representation of the base level of current and ongoing staffing requirements and associated expenses.

**NSE - Base YR Rec**

N/A.

**Summary of Results:**

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		571	707	742	785	724	724	724	724	
Non-Labor		47	25	299	-23	189	189	189	189	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>618</b>	<b>732</b>	<b>1,041</b>	<b>762</b>	<b>912</b>	<b>912</b>	<b>912</b>	<b>912</b>	
FTE		6.6	8.7	8.1	9.0	8.1	8.1	8.1	8.1	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
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Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 1. Enterprise Systems Solutions Production Support  
 Cost Center: 2200-0305.000 - ESS PRODUCTION SUPPORT

**Cost Center Allocations (Incurred Costs):**

	2013 Adjusted-Recorded					2014 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	5	1	0	6	0.00	5	1	0	6	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	719	188	0	907	8.07	719	188	0	907	8.08
<b>Total Incurred</b>	<b>724</b>	<b>189</b>	<b>0</b>	<b>913</b>	<b>8.07</b>	<b>724</b>	<b>189</b>	<b>0</b>	<b>913</b>	<b>8.08</b>
<b>% Allocation</b>										
Retained	72.10%	72.10%				72.10%	72.10%			
SEU	27.90%	27.90%				27.90%	27.90%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2015 Adjusted-Forecast					2016 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	5	1	0	6	0.00	5	1	0	6	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	719	188	0	907	8.08	719	188	0	907	8.08
<b>Total Incurred</b>	<b>724</b>	<b>189</b>	<b>0</b>	<b>913</b>	<b>8.08</b>	<b>724</b>	<b>189</b>	<b>0</b>	<b>913</b>	<b>8.08</b>
<b>% Allocation</b>										
Retained	72.10%	72.10%				72.10%	72.10%			
SEU	27.90%	27.90%				27.90%	27.90%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2013**

The labor allocations are based on the employees assessment of the activities performed for each company. Non-labor allocation based upon number of activities completed for each company.

**Cost Center Allocation Percentage for 2014**

The labor allocations are based on the employees assessment of the activities performed for each company. Non-labor allocation based upon number of activities completed for each company.

**Cost Center Allocation Percentage for 2015**

The labor allocations are based on the employees assessment of the activities performed for each company. Non-labor allocation based upon number of activities completed for each company.

**Cost Center Allocation Percentage for 2016**

The labor allocations are based on the employees assessment of the activities performed for each company. Non-labor allocation based upon number of activities completed for each company.

Note: Totals may include rounding differences.

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Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 1. Enterprise Systems Solutions Production Support  
 Cost Center: 2200-0305.000 - ESS PRODUCTION SUPPORT

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Base YR Rec	724	724	724	0	0	0	724	724	724
Non-Labor	Base YR Rec	189	189	189	0	0	0	189	189	189
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>912</b>	<b>912</b>	<b>912</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>912</b>	<b>912</b>	<b>912</b>
FTE	Base YR Rec	8.1	8.1	8.1	0.0	0.0	0.0	8.1	8.1	8.1

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2016 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Operations Leadership & Support  
Category-Sub: 1. Enterprise Systems Solutions Production Support  
Cost Center: 2200-0305.000 - ESS PRODUCTION SUPPORT

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	440	561	609	662	621
Non-Labor	43	23	286	-23	189
NSE	0	0	0	0	0
<b>Total</b>	<b>483</b>	<b>584</b>	<b>895</b>	<b>639</b>	<b>809</b>
FTE	5.5	7.4	6.9	7.7	6.9
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	440	561	609	662	621
Non-Labor	43	23	286	-23	189
NSE	0	0	0	0	0
<b>Total</b>	<b>483</b>	<b>584</b>	<b>895</b>	<b>639</b>	<b>809</b>
FTE	5.5	7.4	6.9	7.7	6.9
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	80	98	101	106	103
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>80</b>	<b>98</b>	<b>101</b>	<b>106</b>	<b>103</b>
FTE	1.0	1.3	1.2	1.3	1.2
<b>Escalation to 2013\$</b>					
Labor	51	48	32	17	0
Non-Labor	4	2	13	-1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>56</b>	<b>50</b>	<b>44</b>	<b>17</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	571	707	742	785	724
Non-Labor	47	25	299	-23	189
NSE	0	0	0	0	0
<b>Total</b>	<b>618</b>	<b>732</b>	<b>1,041</b>	<b>762</b>	<b>912</b>
FTE	6.5	8.7	8.1	9.0	8.1

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 1. Enterprise Systems Solutions Production Support  
 Cost Center: 2200-0305.000 - ESS PRODUCTION SUPPORT

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
<b>2009 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2010 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2011 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2012 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2013 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			

*Note: Totals may include rounding differences.*

**Supplemental Workpapers for Workpaper 2200-0305.000**

Southern California Gas Company  
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Shared Services Workpapers

**SCG-FBA-USS-SUP-001**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**  
**Supplemental Workpaper for Shared Services Allocation Percentage**  
**Enterprise Systems Solutions (ESS) Production Support**

The calculations below show how the overall allocation percentage was calculated, since the labor and non-labor percentages were different. Amounts are shown in 2013 dollars with vacation and sick.

	Forecast Dollars (Equal to 2013 Base Year Historical Dollars)	SoCalGas Allocation Percentage for 2013	SoCalGas Allocation Percentage for 2014 - 2016
Labor Subject to % Allocation	\$ 718,528 [A]	75.00% [C]	75.00% [E]
Non-Labor Subject to % Allocation	\$ 188,068 [B]	61.00% [D]	61.00% [F]
Weighted Average Percentage Allocation		<b>72.10%</b> $\frac{([A]*[C]+[B]*[D])}{([A]+[B])}$	<b>72.10%</b> $\frac{([A]*[E]+[B]*[F])}{([A]+[B])}$

**Beginning of Workpaper**  
**2200-0431.000 - FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT**

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 2. Field Services Leadership & Operations Assessment  
 Cost Center: 2200-0431.000 - FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT

**Activity Description:**

Recorded to this cost center are the salary and employee non-labor expenses for the Vice President and their assistant for the gas field operations organization. Also charged are one-time expenses that benefit the entire organization.

**Forecast Explanations:**

**Labor - Base YR Rec**

The 2013 base is the most accurate representation of the base level of current and ongoing staffing requirements and associated expenses. Added to this base is the labor associated with designing and developing a comprehensive Gas Distribution Monitoring and Control Management Program which will enhance SoCalGas' and SDG&E's capability to remotely monitor and control the gas distribution system, providing the ability to more quickly and effectively respond to emergencies.

See Supplemental Workpaper SCG-FBA-USS-SUP-006 for calculations related to the Gas Distribution Monitoring and Control Program Assessment and Blueprint Development.

**Non-Labor - Base YR Rec**

The 2013 base is the most accurate representation of the base level of current and ongoing staffing requirements and associated expenses. Added to this base is the non-labor associated with designing and developing a comprehensive Gas Distribution Monitoring and Control Management Program which will enhance SoCalGas' and SDG&E's capability to remotely monitor and control the gas distribution system, providing the ability to more quickly and effectively respond to emergencies.

See Supplemental Workpaper SCG-FBA-USS-SUP-006 for calculations related to the Gas Distribution Monitoring and Control Program Assessment and Blueprint Development.

**NSE - Base YR Rec**

N/A.

**Summary of Results:**

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		391	370	791	500	345	345	345	795	
Non-Labor		113	36	72	47	38	38	38	4,088	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>503</b>	<b>406</b>	<b>863</b>	<b>547</b>	<b>383</b>	<b>383</b>	<b>383</b>	<b>4,883</b>	
FTE		3.1	2.7	6.0	2.5	2.1	2.1	2.1	7.1	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 2. Field Services Leadership & Operations Assessment  
 Cost Center: 2200-0431.000 - FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT

**Cost Center Allocations (Incurred Costs):**

	2013 Adjusted-Recorded					2014 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	11	0	11	0.00	0	11	0	11	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	345	27	0	372	2.13	345	27	0	372	2.13
<b>Total Incurred</b>	<b>345</b>	<b>38</b>	<b>0</b>	<b>383</b>	<b>2.13</b>	<b>345</b>	<b>38</b>	<b>0</b>	<b>383</b>	<b>2.13</b>
<b>% Allocation</b>										
Retained	85.33%	85.33%				85.68%	85.68%			
SEU	14.67%	14.67%				14.32%	14.32%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2015 Adjusted-Forecast					2016 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	11	0	11	0.00	410	3,697	0	4,107	4.60
Directly Allocated	0	0	0	0	0.00	40	364	0	404	0.40
Subj. To % Alloc.	345	27	0	372	2.13	345	27	0	372	2.13
<b>Total Incurred</b>	<b>345</b>	<b>38</b>	<b>0</b>	<b>383</b>	<b>2.13</b>	<b>795</b>	<b>4,088</b>	<b>0</b>	<b>4,883</b>	<b>7.13</b>
<b>% Allocation</b>										
Retained	85.68%	85.68%				85.68%	85.68%			
SEU	14.32%	14.32%				14.32%	14.32%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Operations Leadership & Support  
Category-Sub: 2. Field Services Leadership & Operations Assessment  
Cost Center: 2200-0431.000 - FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2013**

The allocation method is based upon oversight of services that benefit customers, general management of the pipeline asset, and leadership to the employee base within Field Services. An equally weighted ratio of customers, miles of main and employee count is used for the allocation between SoCalGas and SDGE.

**Cost Center Allocation Percentage for 2014**

The allocation method is based upon oversight of services that benefit customers, general management of the pipeline asset, and leadership to the employee base within Field Services. An equally weighted ratio of customers, miles of main and employee count is used for the allocation between SoCalGas and SDGE.

**Cost Center Allocation Percentage for 2015**

The allocation method is based upon oversight of services that benefit customers, general management of the pipeline asset, and leadership to the employee base within Field Services. An equally weighted ratio of customers, miles of main and employee count is used for the allocation between SoCalGas and SDGE.

**Cost Center Allocation Percentage for 2016**

The allocation method is based upon oversight of services that benefit customers, general management of the pipeline asset, and leadership to the employee base within Field Services. An equally weighted ratio of customers, miles of main and employee count is used for the allocation between SoCalGas and SDGE.

*Note: Totals may include rounding differences.*

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Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 2. Field Services Leadership & Operations Assessment  
 Cost Center: 2200-0431.000 - FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Base YR Rec	345	345	345	0	0	450	345	345	795
Non-Labor	Base YR Rec	38	38	38	0	0	4,050	38	38	4,088
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>383</b>	<b>383</b>	<b>383</b>	<b>0</b>	<b>0</b>	<b>4,500</b>	<b>383</b>	<b>383</b>	<b>4,883</b>
FTE	Base YR Rec	2.1	2.1	2.1	0.0	0.0	5.0	2.1	2.1	7.1

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	

2016                      410              3,686              0              4,096              4.6      1-Sided Adj

a. Gas Distribution Monitoring and Control Program Assessment and Blueprint Development

SoCalGas and SDG&E propose to design and develop a comprehensive Gas Distribution Monitoring and Control Management Program to significantly enhance their capability to remotely monitor and control their gas distribution system, providing the ability to more quickly and effectively respond to emergencies. The overall objective of this program is to enhance public and employee safety and system reliability.

See Supplemental Workpaper SCG-FBA-USS-SUP-006 for calculation details.

2016                      40              364              0              404              0.4      1-Sided Adj

a. Gas Distribution Monitoring and Control Program Assessment and Blueprint Development

SoCalGas and SDG&E propose to design and develop a comprehensive Gas Distribution Monitoring and Control Management Program to significantly enhance their capability to remotely monitor and control their gas distribution system, providing the ability to more quickly and effectively respond to emergencies. The overall objective of this program is to enhance public and employee safety and system reliability.

See Supplemental Workpaper SCG-FBA-USS-SUP-006 for calculation details.

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
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Category: B. Operations Leadership & Support  
Category-Sub: 2. Field Services Leadership & Operations Assessment  
Cost Center: 2200-0431.000 - FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2016 Total</b>	<b>450</b>	<b>4,050</b>	<b>0</b>	<b>4,500</b>	<b>5.0</b>	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 2. Field Services Leadership & Operations Assessment  
 Cost Center: 2200-0431.000 - FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	223	228	602	391	296
Non-Labor	84	28	59	42	37
NSE	0	0	0	0	0
<b>Total</b>	<b>307</b>	<b>256</b>	<b>661</b>	<b>434</b>	<b>333</b>
FTE	1.0	1.0	4.2	1.7	1.8
<b>Adjustments (Nominal \$) **</b>					
Labor	80	66	48	31	0
Non-Labor	18	6	9	4	1
NSE	0	0	0	0	0
<b>Total</b>	<b>99</b>	<b>73</b>	<b>57</b>	<b>34</b>	<b>1</b>
FTE	1.7	1.3	0.9	0.5	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	303	294	650	422	296
Non-Labor	103	34	69	46	38
NSE	0	0	0	0	0
<b>Total</b>	<b>405</b>	<b>328</b>	<b>719</b>	<b>468</b>	<b>334</b>
FTE	2.7	2.3	5.1	2.2	1.8
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	53	50	107	67	49
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>53</b>	<b>50</b>	<b>107</b>	<b>67</b>	<b>49</b>
FTE	0.5	0.4	0.9	0.4	0.3
<b>Escalation to 2013\$</b>					
Labor	35	25	34	11	0
Non-Labor	10	2	3	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>45</b>	<b>28</b>	<b>37</b>	<b>12</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	391	370	791	500	345
Non-Labor	113	36	72	47	38
NSE	0	0	0	0	0
<b>Total</b>	<b>503</b>	<b>406</b>	<b>863</b>	<b>547</b>	<b>383</b>
FTE	3.2	2.7	6.0	2.6	2.1

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
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Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 2. Field Services Leadership & Operations Assessment  
 Cost Center: 2200-0431.000 - FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	80	66	48	31	0
Non-Labor	18	6	9	4	0.569
NSE	0	0	0	0	0
<b>Total</b>	<b>99</b>	<b>73</b>	<b>57</b>	<b>34</b>	<b>0.569</b>
FTE	1.7	1.3	0.9	0.5	0.0

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	80	18	0	1.7	CCTR Transf	From 2100-3400.000	DBENTLEY20140 227103325430

These charges were for VP Field Services USS Admin support for San Diego that are now captured in CC 2100-0431.

<b>2009 Total</b>	<b>80</b>	<b>18</b>	<b>0</b>	<b>1.7</b>			
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2010	66	6	0	1.3	CCTR Transf	From 2100-3400.000	DBENTLEY20140 227103004737
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These charges were for VP Field Services USS Admin support for San Diego that are now captured in CC 2100-0431.

<b>2010 Total</b>	<b>66</b>	<b>6</b>	<b>0</b>	<b>1.3</b>			
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2011	48	9	0	0.9	CCTR Transf	From 2100-3400.000	DBENTLEY20140 227102803820
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These charges were for VP Field Services USS Admin support for San Diego that are now captured in CC 2100-0431.

<b>2011 Total</b>	<b>48</b>	<b>9</b>	<b>0</b>	<b>0.9</b>			
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2012	31	4	0	0.5	CCTR Transf	From 2100-3400.000	DBENTLEY20140 227102515333
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These charges were for VP Field Services USS Admin support for San Diego that are now captured in CC 2100-0431.

*Note: Totals may include rounding differences.*

Southern California Gas Company  
 2016 GRC - APP  
 Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 2. Field Services Leadership & Operations Assessment  
 Cost Center: 2200-0431.000 - FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
<b>2012 Total</b>	<b>31</b>	<b>4</b>	<b>0</b>	<b>0.5</b>			
2013	0	0.569	0	0.0	CCTR Transf	From 2100-3400.000	DBENTLEY20140 227101913993
These charges were for VP Field Services USS Admin support for San Diego that are now captured in CC 2100-0431.							
<b>2013 Total</b>	<b>0</b>	<b>0.569</b>	<b>0</b>	<b>0.0</b>			

*Note: Totals may include rounding differences.*

**Supplemental Workpapers for Workpaper 2200-0431.000**

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

**SCG-FBA-USS-SUP-002**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**  
**Supplemental Workpaper for Shared Services Allocation Percentage for Base Forecast**  
**Field Services Leadership & Operations Assessment**

The allocation method is based upon oversight of services that benefit customers, general management of the pipeline asset, and leadership to the employee base within Field Services. An equally weighted ratio of customers, miles of main and employee count is used for the allocation between SoCalGas and SDGE. The same allocation percentage is used for both labor and non-labor.

2013 Allocation Percentage

		[A]	[B]	[C] ([A]+[B])	([A]/[C])	([B]/[C])
Concept	Source	SCG	SDG&E	Total	% SoCalGas	% SDG&E
<b>Gas Residential Customers</b>	2011 FERC Form 2/Forecasting Advisor	5,355,762	821,600	6,177,362	86.70%	13.30%
Miles of Distribution Main	2011 DOT Report	49,008	8,417	57,425	85.34%	14.66%
Miles of Transmission Main	2011 DOT Report	3,640	245	3,885	93.69%	6.31%
<b>Total Miles of Main</b>		<b>52,648</b>	<b>8,662</b>	<b>61,310</b>	<b>85.87%</b>	<b>14.13%</b>
<b>Full-Time Workforce Count</b>	HR Employee Listing	<b>3,335</b>	<b>662</b>	<b>3,997</b>	<b>83.44%</b>	<b>16.56%</b>
<b>Weighted Concepts</b>	Average of Company Percentages for Gas Residential Customers, Total Miles of Main, and Full-Time Workforce Count				<b>85.33%</b>	<b>14.66%</b>

2014 - 2016 Allocation Percentage for Base Forecast

		[D]	[E]	[F] ([D]+[E])	([D]/[F])	([E]/[F])
Concept	Source	SCG	SDG&E	Total	% SoCalGas	% SDG&E
<b>Gas Residential Customers</b>	2012 FERC Form 2/Forecasting Advisor	5,370,370	826,574	6,196,944	86.66%	13.34%
Miles of Distribution Main	2012 DOT Report	49,715	7,966	57,681	86.19%	13.81%
Miles of Transmission Main	2012 DOT Report	3,526	234	3,760	93.78%	6.22%
<b>Total Miles of Main</b>		<b>53,241</b>	<b>8,200</b>	<b>61,441</b>	<b>86.65%</b>	<b>13.35%</b>
<b>Full-Time Workforce Count</b>	HR Employee Listing	<b>3,306</b>	<b>642</b>	<b>3,948</b>	<b>83.74%</b>	<b>16.26%</b>
<b>Weighted Concepts</b>	Average of Company Percentages for Gas Residential Customers, Total Miles of Main, and Full-Time Workforce Count				<b>85.68%</b>	<b>14.32%</b>

**SCG-FBA-USS-SUP-006**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**  
**Supplemental Workpaper for Gas Distribution Monitoring and Control Program Assessment and Blueprint Development**  
**Field Services Leadership & Operations Assessment**

Project	Project Duration (Months)	Personnel			Hours <sup>1</sup>			Cost (Thousands of 2013\$)				FTEs <sup>2</sup>	
		Internal Labor	Contractor	Consultant	Internal Labor	Contractor	Consultant	Labor (\$45/hr)	Non-Labor		Total		
									Contractor (\$150/hr)	Consultant (\$300/hr)			Subtotal
[A]	[B]	[C]	[D]	[E] ([A]x[B] x174)	[F] ([A]x[C] x174)	[G] ([A]x[D] x174)	[H] ([E]x\$45)	[I] ([F]x\$150)	[J] ([G]x\$300)	[K] ([I]+[J])	[L] ([H]+[K])	[M] ([E]/ 2088)	
Benchmarking	3	4	4	3	2,088	2,088	1,566	\$ 93	\$ 313	\$ 470	\$ 783	\$ 876	1
Remote Monitoring and Control Plan	6	4	4	3	4,176	4,176	3,132	\$ 186	\$ 626	\$ 940	\$ 1,566	\$ 1,752	2
Enhancement of Current Business Processes Plan	3	4	4	3	2,088	2,088	1,566	\$ 93	\$ 313	\$ 470	\$ 783	\$ 876	1
Implementation and Ongoing Support Team	1	10	4	3	1,740	696	522	\$ 78	\$ 104	\$ 157	\$ 261	\$ 339	1
<b>Subtotal</b>	<b>13</b>	<b>22</b>	<b>16</b>	<b>12</b>	<b>10,092</b>	<b>9,048</b>	<b>6,786</b>	<b>\$ 450</b>	<b>\$ 1,356</b>	<b>\$ 2,037</b>	<b>\$ 3,393</b>	<b>\$ 3,843</b>	<b>5</b>
Miscellaneous Non-Labor Expenses <sup>3</sup> (17% of Labor and Non-Labor Subtotal, Column [L])								\$ -	\$ 657		\$ 657	\$ 657	0
<b>Total</b>							[N]	<b>\$ 450</b>	<b>\$ 4,050</b>		<b>\$ 4,500</b>	<b>\$ 4,500</b>	<b>5</b>

Company	Miles of Supply Lines	Supply Line Percentage in Each Company	Cost (Thousands of 2013\$)			FTEs
			Labor	Non-Labor	Total	
[O]	[P] ([O]/Sum of [O])	[Q] ([P]x[N])	[R] ([P]x[N])	[S] ([Q]+[R])	[T] ([P]x[N])	
<b>SoCalGas Portion of Total</b> (IO Directly Retained)	3,749	91%	\$ 410	\$ 3,686	\$ 4,096	<b>4.6</b>
<b>SDG&amp;E Portion of Total</b> (IO Directly Allocated)	362	9%	\$ 40	\$ 364	\$ 404	<b>0.4</b>
<b>Total</b>	<b>4,111</b>	<b>100%</b>	<b>\$ 450</b>	<b>\$ 4,050</b>	<b>\$ 4,500</b>	<b>5.0</b>

- Hour calculations are based on 2,088 hours per year, or 174 hours per month.
- FTE calculations are based on 2,088 hours per year.
- Miscellaneous non-labor expenses include employee reimbursable expenses, office supplies, software, equipment.

**Beginning of Workpaper**  
**2200-2023.000 - FIELD TECHNOLOGIES**

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 3. Field Technologies  
 Cost Center: 2200-2023.000 - FIELD TECHNOLOGIES

**Activity Description:**

Recorded to this cost center are the labor, employee expense and non-labor materials and services required to research and evaluate new tools and technology that enhance or replace existing processes or tools and provide benefits in the form of improved safety. This team helps mitigate risks associated with potential failure of field technologies or the use of obsolete equipment. Field Technologies supports field operations by conducting tool and equipment instruction and training to help clients become proficient in the use of new and existing tools and equipment.

**Forecast Explanations:**

**Labor - Base YR Rec**

The 2013 base is the most accurate representation of the base level of current and ongoing staffing requirements and associated expenses.

**Non-Labor - Base YR Rec**

The 2013 base is the most accurate representation of the base level of current and ongoing staffing requirements and associated expenses.

**NSE - Base YR Rec**

N/A.

**Summary of Results:**

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		606	516	496	338	323	323	323	323	
Non-Labor		78	33	47	32	33	33	33	33	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>685</b>	<b>549</b>	<b>543</b>	<b>370</b>	<b>355</b>	<b>355</b>	<b>355</b>	<b>355</b>	
FTE		5.9	5.2	5.0	3.5	3.3	3.3	3.3	3.3	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 3. Field Technologies  
 Cost Center: 2200-2023.000 - FIELD TECHNOLOGIES

**Cost Center Allocations (Incurred Costs):**

	2013 Adjusted-Recorded					2014 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	5	0	5	0.00	0	5	0	5	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	323	28	0	351	3.31	323	28	0	351	3.31
<b>Total Incurred</b>	<b>323</b>	<b>33</b>	<b>0</b>	<b>356</b>	<b>3.31</b>	<b>323</b>	<b>33</b>	<b>0</b>	<b>356</b>	<b>3.31</b>
<b>% Allocation</b>										
Retained	75.00%	75.00%				75.00%	75.00%			
SEU	25.00%	25.00%				25.00%	25.00%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2015 Adjusted-Forecast					2016 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	5	0	5	0.00	0	5	0	5	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	323	28	0	351	3.31	323	28	0	351	3.31
<b>Total Incurred</b>	<b>323</b>	<b>33</b>	<b>0</b>	<b>356</b>	<b>3.31</b>	<b>323</b>	<b>33</b>	<b>0</b>	<b>356</b>	<b>3.31</b>
<b>% Allocation</b>										
Retained	75.00%	75.00%				75.00%	75.00%			
SEU	25.00%	25.00%				25.00%	25.00%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2013**

Labor and non labor allocations are based upon the Cost Center Managers and / or Team Leads assessment of the activities and contributions performed for each company.

**Cost Center Allocation Percentage for 2014**

Labor and non labor allocations are based upon the Cost Center Managers and / or Team Leads assessment of the activities and contributions performed for each company.

**Cost Center Allocation Percentage for 2015**

Labor and non labor allocations are based upon the Cost Center Managers and / or Team Leads assessment of the activities and contributions performed for each company.

**Cost Center Allocation Percentage for 2016**

Labor and non labor allocations are based upon the Cost Center Managers and / or Team Leads assessment of the activities and contributions performed for each company.

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 3. Field Technologies  
 Cost Center: 2200-2023.000 - FIELD TECHNOLOGIES

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Base YR Rec	323	323	323	0	0	0	323	323	323
Non-Labor	Base YR Rec	33	33	33	0	0	0	33	33	33
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>355</b>	<b>355</b>	<b>355</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>355</b>	<b>355</b>	<b>355</b>
FTE	Base YR Rec	3.3	3.3	3.3	0.0	0.0	0.0	3.3	3.3	3.3

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2016 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Operations Leadership & Support  
Category-Sub: 3. Field Technologies  
Cost Center: 2200-2023.000 - FIELD TECHNOLOGIES

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	467	409	407	285	277
Non-Labor	71	30	45	31	33
NSE	0	0	0	0	0
<b>Total</b>	<b>539</b>	<b>440</b>	<b>452</b>	<b>317</b>	<b>309</b>
FTE	5.0	4.4	4.3	3.0	2.8
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	467	409	407	285	277
Non-Labor	71	30	45	31	33
NSE	0	0	0	0	0
<b>Total</b>	<b>539</b>	<b>440</b>	<b>452</b>	<b>317</b>	<b>309</b>
FTE	5.0	4.4	4.3	3.0	2.8
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	84	72	68	46	46
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>84</b>	<b>72</b>	<b>68</b>	<b>46</b>	<b>46</b>
FTE	0.9	0.8	0.7	0.5	0.5
<b>Escalation to 2013\$</b>					
Labor	55	35	21	7	0
Non-Labor	7	2	2	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>62</b>	<b>37</b>	<b>23</b>	<b>8</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	606	516	496	338	323
Non-Labor	78	33	47	32	33
NSE	0	0	0	0	0
<b>Total</b>	<b>685</b>	<b>549</b>	<b>543</b>	<b>370</b>	<b>355</b>
FTE	5.9	5.2	5.0	3.5	3.3

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 3. Field Technologies  
 Cost Center: 2200-2023.000 - FIELD TECHNOLOGIES

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
<b>2009 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2010 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2011 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2012 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2013 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2200-2144.000 - GAS OPERATIONS SERVICES**

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 4. Gas Operations Services  
 Cost Center: 2200-2144.000 - GAS OPERATIONS SERVICES

**Activity Description:**

Recorded to this cost center are the salaries for the Gas Operations Services Director and the Administrative Associate who supports this organization. Also recorded to this cost center are the associated employee expenses and miscellaneous supplies and materials.

**Forecast Explanations:**

**Labor - Base YR Rec**

The 2013 base is the most accurate representation of the labor funding required for the future as the historical expenses represent other charges not anticipated to be recorded to this cost center.

**Non-Labor - Base YR Rec**

The 2013 base is the most accurate representation of the funding required for the future as the historical expenses represent other charges not anticipated to be recorded to this cost center.

**NSE - Base YR Rec**

N/A.

**Summary of Results:**

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		56	299	399	373	267	267	267	267	
Non-Labor		16	17	29	112	12	12	12	12	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>72</b>	<b>316</b>	<b>429</b>	<b>485</b>	<b>279</b>	<b>279</b>	<b>279</b>	<b>279</b>	
FTE		0.4	1.9	2.9	3.3	2.1	2.1	2.1	2.1	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 4. Gas Operations Services  
 Cost Center: 2200-2144.000 - GAS OPERATIONS SERVICES

**Cost Center Allocations (Incurred Costs):**

	2013 Adjusted-Recorded					2014 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	7	0	0	7	0.00	7	0	0	7	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	260	12	0	272	2.15	260	12	0	272	2.15
<b>Total Incurred</b>	<b>267</b>	<b>12</b>	<b>0</b>	<b>279</b>	<b>2.15</b>	<b>267</b>	<b>12</b>	<b>0</b>	<b>279</b>	<b>2.15</b>
<b>% Allocation</b>										
Retained	87.32%	87.32%				83.70%	83.70%			
SEU	12.68%	12.68%				16.30%	16.30%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2015 Adjusted-Forecast					2016 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	7	0	0	7	0.00	7	0	0	7	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	260	12	0	272	2.15	260	12	0	272	2.15
<b>Total Incurred</b>	<b>267</b>	<b>12</b>	<b>0</b>	<b>279</b>	<b>2.15</b>	<b>267</b>	<b>12</b>	<b>0</b>	<b>279</b>	<b>2.15</b>
<b>% Allocation</b>										
Retained	83.70%	83.70%				83.70%	83.70%			
SEU	16.30%	16.30%				16.30%	16.30%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2013**

Labor and non labor allocations are based upon the portion of funding allocated to each company for this organization.

**Cost Center Allocation Percentage for 2014**

Labor and non labor allocations are based upon the portion of funding allocated to each company for this organization.

**Cost Center Allocation Percentage for 2015**

Labor and non labor allocations are based upon the portion of funding allocated to each company for this organization.

**Cost Center Allocation Percentage for 2016**

Labor and non labor allocations are based upon the portion of funding allocated to each company for this organization.

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 4. Gas Operations Services  
 Cost Center: 2200-2144.000 - GAS OPERATIONS SERVICES

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Base YR Rec	267	267	267	0	0	0	267	267	267
Non-Labor	Base YR Rec	12	12	12	0	0	0	12	12	12
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>279</b>	<b>279</b>	<b>279</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>279</b>	<b>279</b>	<b>279</b>
FTE	Base YR Rec	2.1	2.1	2.1	0.0	0.0	0.0	2.1	2.1	2.1

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2016 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
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Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 4. Gas Operations Services  
 Cost Center: 2200-2144.000 - GAS OPERATIONS SERVICES

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	43	237	328	285	229
Non-Labor	15	16	389	615	400
NSE	0	0	0	0	0
<b>Total</b>	<b>58</b>	<b>253</b>	<b>717</b>	<b>900</b>	<b>629</b>
FTE	0.4	1.6	2.5	2.4	1.8
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	29	0
Non-Labor	0	0	-361	-505	-388
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>-361</b>	<b>-476</b>	<b>-388</b>
FTE	0.0	0.0	0.0	0.4	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	43	237	328	314	229
Non-Labor	15	16	28	110	12
NSE	0	0	0	0	0
<b>Total</b>	<b>58</b>	<b>253</b>	<b>356</b>	<b>424</b>	<b>241</b>
FTE	0.4	1.6	2.5	2.8	1.8
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	8	41	54	50	38
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>8</b>	<b>41</b>	<b>54</b>	<b>50</b>	<b>38</b>
FTE	0.1	0.3	0.4	0.5	0.3
<b>Escalation to 2013\$</b>					
Labor	5	20	17	8	0
Non-Labor	1	1	1	2	0
NSE	0	0	0	0	0
<b>Total</b>	<b>7</b>	<b>22</b>	<b>18</b>	<b>11</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	56	299	399	373	267
Non-Labor	16	17	29	112	12
NSE	0	0	0	0	0
<b>Total</b>	<b>72</b>	<b>316</b>	<b>429</b>	<b>485</b>	<b>279</b>
FTE	0.5	1.9	2.9	3.3	2.1

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 4. Gas Operations Services  
 Cost Center: 2200-2144.000 - GAS OPERATIONS SERVICES

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	0	0	0	29	0
Non-Labor	0	0	-361	-505	-388
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>-361</b>	<b>-476</b>	<b>-388</b>
FTE	0.0	0.0	0.0	0.4	0.0

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
<b>2009 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2010 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
2011	0	-361	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 4105104170
To transfer USA fees to Locate & Mark work group for complete showing of L&M expense.							
<b>2011 Total</b>	<b>0</b>	<b>-361</b>	<b>0</b>	<b>0.0</b>			
2012	29	79	0	0.4	1-Sided Adj	N/A	RHFLAMIN20131 206101648773
Transfer Distribution Field Training Costs from CSFC 2200-0442. Corresponding adjustment made on CSFC side.							
2012	0	-584	0	0.0	1-Sided Adj	N/A	TP1MTC2013110 4105210167
To transfer USA fees to Locate & Mark work group for a complete showing of L&M expense.							
<b>2012 Total</b>	<b>29</b>	<b>-505</b>	<b>0</b>	<b>0.4</b>			
2013	0	-388	0	0.0	1-Sided Adj	N/A	TP1MTC2014020 9115532193
To transfer USA fees to Locate & Mark work group for complete showing of L&M expense.							

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Operations Leadership & Support  
Category-Sub: 4. Gas Operations Services  
Cost Center: 2200-2144.000 - GAS OPERATIONS SERVICES

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
<b>2013 Total</b>	<b>0</b>	<b>-388</b>	<b>0</b>	<b>0.0</b>			

*Note: Totals may include rounding differences.*

**Supplemental Workpapers for Workpaper 2200-2144.000**

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

**SCG-FBA-USS-SUP-003**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**  
**Supplemental Workpaper for Shared Services Allocation Percentage**  
**Gas Operations Services**

The calculations below show how the overall allocation percentage was calculated, since the labor and non-labor percentages were different. Amounts are shown in 2013 dollars with vacation and sick.

	Forecast Dollars (Equal to 2013 Base Year Historical Dollars)	SoCalGas Allocation Percentage for 2013	SoCalGas Allocation Percentage for 2014 - 2016
Labor Subject to % Allocation	\$ 260,206 [A]	87.41% [C]	83.70% [E]
Non-Labor Subject to % Allocation	\$ 11,515 [B]	85.41% [D]	83.70% [F]
Weighted Average Percentage Allocation		<b>87.33%</b> $\frac{([A]*[C]+[B]*[D])}{([A]+[B])}$	<b>83.70%</b> $\frac{([A]*[E]+[B]*[F])}{([A]+[B])}$

**Beginning of Workpaper**  
**2200-2344.000 - OPERATOR QUALIFICATION**

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 5. Operator Qualification  
 Cost Center: 2200-2344.000 - OPERATOR QUALIFICATION

**Activity Description:**

Recorded to this cost center are the labor, employee expense, and non-labor materials and services required to manage the company's Operator Qualification (OQ) program and the compliance of employees who perform OQ covered tasks. This team helps to mitigate the risks associated with personnel that otherwise would not have the appropriate level of qualification to safely complete work on gas pipelines. The department provides technical assistance and support, conducts audits, provides guidance and assistance in the development of new and refresher training, provides technical support for issues and concerns arising from rule interpretations, provides assistance prior to and during CPUC audits, performs audits on pipeline contractors to verify compliance with the OQ rules, and manages the process to confirm that all impacted employees are evaluated within the required time frame.

**Forecast Explanations:**

**Labor - Base YR Rec**

The 2013 base is the most accurate representation of the base level of current and ongoing staffing requirements and associated expenses.

**Non-Labor - Base YR Rec**

The 2013 base is the most accurate representation of the base level of current and ongoing staffing requirements and associated expenses.

**NSE - Base YR Rec**

N/A.

**Summary of Results:**

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		0	183	131	156	190	190	190	190	
Non-Labor		0	0	44	46	88	88	88	88	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>0</b>	<b>184</b>	<b>176</b>	<b>203</b>	<b>278</b>	<b>278</b>	<b>278</b>	<b>278</b>	
FTE		0.0	2.0	1.5	1.7	2.0	2.0	2.0	2.0	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 5. Operator Qualification  
 Cost Center: 2200-2344.000 - OPERATOR QUALIFICATION

**Cost Center Allocations (Incurred Costs):**

	2013 Adjusted-Recorded					2014 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	190	88	0	278	1.99	190	88	0	278	1.99
<b>Total Incurred</b>	<b>190</b>	<b>88</b>	<b>0</b>	<b>278</b>	<b>1.99</b>	<b>190</b>	<b>88</b>	<b>0</b>	<b>278</b>	<b>1.99</b>
<b>% Allocation</b>										
Retained	80.00%	80.00%				80.00%	80.00%			
SEU	20.00%	20.00%				20.00%	20.00%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2015 Adjusted-Forecast					2016 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	190	88	0	278	1.99	190	88	0	278	1.99
<b>Total Incurred</b>	<b>190</b>	<b>88</b>	<b>0</b>	<b>278</b>	<b>1.99</b>	<b>190</b>	<b>88</b>	<b>0</b>	<b>278</b>	<b>1.99</b>
<b>% Allocation</b>										
Retained	80.00%	80.00%				80.00%	80.00%			
SEU	20.00%	20.00%				20.00%	20.00%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2013**

Labor and non labor allocations are based upon the assessment of the activities performed in support of each company.

**Cost Center Allocation Percentage for 2014**

Labor and non labor allocations are based upon the assessment of the activities performed in support of each company.

**Cost Center Allocation Percentage for 2015**

Labor and non labor allocations are based upon the assessment of the activities performed in support of each company.

**Cost Center Allocation Percentage for 2016**

Labor and non labor allocations are based upon the assessment of the activities performed in support of each company.

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 5. Operator Qualification  
 Cost Center: 2200-2344.000 - OPERATOR QUALIFICATION

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Base YR Rec	190	190	190	0	0	0	190	190	190
Non-Labor	Base YR Rec	88	88	88	0	0	0	88	88	88
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>278</b>	<b>278</b>	<b>278</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>278</b>	<b>278</b>	<b>278</b>
FTE	Base YR Rec	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2016 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Operations Leadership & Support  
Category-Sub: 5. Operator Qualification  
Cost Center: 2200-2344.000 - OPERATOR QUALIFICATION

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	1	1	1
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	0	145	108	132	163
Non-Labor	0	0	41	44	87
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>145</b>	<b>149</b>	<b>176</b>	<b>250</b>
FTE	0.0	1.7	1.3	1.5	1.7
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	145	108	132	163
Non-Labor	0	0	43	45	88
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>146</b>	<b>150</b>	<b>177</b>	<b>251</b>
FTE	0.0	1.7	1.3	1.5	1.7
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	25	18	21	27
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>25</b>	<b>18</b>	<b>21</b>	<b>27</b>
FTE	0.0	0.3	0.2	0.2	0.3
<b>Escalation to 2013\$</b>					
Labor	0	12	6	3	0
Non-Labor	0	0	2	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>12</b>	<b>7</b>	<b>4</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	0	183	131	156	190
Non-Labor	0	0	44	46	88
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>184</b>	<b>176</b>	<b>203</b>	<b>278</b>
FTE	0.0	2.0	1.5	1.7	2.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 5. Operator Qualification  
 Cost Center: 2200-2344.000 - OPERATOR QUALIFICATION

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	0	145	108	132	163
Non-Labor	0	0.229	41	44	87
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>145</b>	<b>149</b>	<b>176</b>	<b>250</b>
FTE	0.0	1.7	1.3	1.5	1.7

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
<b>2009 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
2010	145	0.229	0	1.7	1-Sided Adj	N/A	RHFLAMIN20131 206101924357
Transfer Distribution Field Training Costs from CSFC 2200-0442. Corresponding adjustment made on CSFC side.							
<b>2010 Total</b>	<b>145</b>	<b>0.229</b>	<b>0</b>	<b>1.7</b>			
2011	108	41	0	1.3	1-Sided Adj	N/A	RHFLAMIN20131 206102037390
Transfer Distribution Field Training Costs from CSFC 2200-0442. Corresponding adjustment made on CSFC side.							
<b>2011 Total</b>	<b>108</b>	<b>41</b>	<b>0</b>	<b>1.3</b>			
2012	132	44	0	1.5	1-Sided Adj	N/A	RHFLAMIN20131 206102201040
Transfer Distribution Field Training Costs from CSFC 2200-0442. Corresponding adjustment made on CSFC side.							
<b>2012 Total</b>	<b>132</b>	<b>44</b>	<b>0</b>	<b>1.5</b>			

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 5. Operator Qualification  
 Cost Center: 2200-2344.000 - OPERATOR QUALIFICATION

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2013	163	87	0	1.7	1-Sided Adj	N/A	TP1MTC2014021 0105350133

Transfer Distribution Field Training costs from CSFC 2200-0442. Corresponding adjustment made on CSFC side.

<b>2013 Total</b>	<b>163</b>	<b>87</b>	<b>0</b>	<b>1.7</b>			
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2200-2345.000 - DISTRIBUTION FIELD SERVICES**

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 6. Distribution Field Services  
 Cost Center: 2200-2345.000 - DISTRIBUTION FIELD SERVICES

**Activity Description:**

SoCalGas recognizes that an important risk mitigation measure is developing, maintaining, and communicating high quality written standards that employees can follow to safely complete work on the gas system. Recorded to this cost center are the labor and associated non-labor expenses required to manage the maintenance of existing company gas standards and the authoring of new standards. Distribution Field Services updates gas standards with the applicable industry standards and regulatory mandates; and performs compliance reviews per a predetermined schedule. Also recorded to this cost center is the labor and associated non-labor expenses required to manage the administration of the company's Supervisor Resource site, a one-stop-shop intranet site which provides on-demand reference tools and documents used by supervisors. Another area recorded to this cost center is the labor and associated non-labor expenses required for the administration of various alliance pipeline contractors. Staff members act as liaison to the contractors and are responsible to communicate and address issues.

**Forecast Explanations:**

**Labor - Base YR Rec**

The 2013 base is the most accurate representation of the base level of current and ongoing staffing requirements and associated expenses.

**Non-Labor - Base YR Rec**

The 2013 base is the most accurate representation of the base level of current and ongoing staffing requirements and associated expenses.

**NSE - Base YR Rec**

N/A.

**Summary of Results:**

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		0	254	571	740	724	724	724	724	
Non-Labor		0	9	47	71	50	50	50	50	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>0</b>	<b>263</b>	<b>618</b>	<b>811</b>	<b>774</b>	<b>774</b>	<b>774</b>	<b>774</b>	
FTE		0.0	3.0	6.1	7.8	7.4	7.4	7.4	7.4	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 6. Distribution Field Services  
 Cost Center: 2200-2345.000 - DISTRIBUTION FIELD SERVICES

**Cost Center Allocations (Incurred Costs):**

	2013 Adjusted-Recorded					2014 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	10	2	0	12	0.00	10	2	0	12	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	714	48	0	762	7.40	714	48	0	762	7.40
<b>Total Incurred</b>	<b>724</b>	<b>50</b>	<b>0</b>	<b>774</b>	<b>7.40</b>	<b>724</b>	<b>50</b>	<b>0</b>	<b>774</b>	<b>7.40</b>
<b>% Allocation</b>										
Retained	89.79%	89.79%				89.79%	89.79%			
SEU	10.21%	10.21%				10.21%	10.21%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2015 Adjusted-Forecast					2016 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	10	2	0	12	0.00	10	2	0	12	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	714	48	0	762	7.40	714	48	0	762	7.40
<b>Total Incurred</b>	<b>724</b>	<b>50</b>	<b>0</b>	<b>774</b>	<b>7.40</b>	<b>724</b>	<b>50</b>	<b>0</b>	<b>774</b>	<b>7.40</b>
<b>% Allocation</b>										
Retained	89.79%	89.79%				89.79%	89.79%			
SEU	10.21%	10.21%				10.21%	10.21%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Operations Leadership & Support  
Category-Sub: 6. Distribution Field Services  
Cost Center: 2200-2345.000 - DISTRIBUTION FIELD SERVICES

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2013**

Labor allocations are based upon the Cost Center Managers and/or Team Leads assessment of the activities and contributions performed for each company. Non-labor allocations are based upon the individual employees assessment of their expenses which are incurred in support of each company.

**Cost Center Allocation Percentage for 2014**

Labor allocations are based upon the Cost Center Managers and/or Team Leads assessment of the activities and contributions performed for each company. Non-labor allocations are based upon the individual employees assessment of their expenses which are incurred in support of each company.

**Cost Center Allocation Percentage for 2015**

Labor allocations are based upon the Cost Center Managers and/or Team Leads assessment of the activities and contributions performed for each company. Non-labor allocations are based upon the individual employees assessment of their expenses which are incurred in support of each company.

**Cost Center Allocation Percentage for 2016**

Labor allocations are based upon the Cost Center Managers and/or Team Leads assessment of the activities and contributions performed for each company. Non-labor allocations are based upon the individual employees assessment of their expenses which are incurred in support of each company.

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 6. Distribution Field Services  
 Cost Center: 2200-2345.000 - DISTRIBUTION FIELD SERVICES

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Base YR Rec	724	724	724	0	0	0	724	724	724
Non-Labor	Base YR Rec	50	50	50	0	0	0	50	50	50
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>774</b>	<b>774</b>	<b>774</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>774</b>	<b>774</b>	<b>774</b>
FTE	Base YR Rec	7.4	7.4	7.4	0.0	0.0	0.0	7.4	7.4	7.4

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2016 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Operations Leadership & Support  
Category-Sub: 6. Distribution Field Services  
Cost Center: 2200-2345.000 - DISTRIBUTION FIELD SERVICES

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	202	469	624	621
Non-Labor	0	8	45	69	50
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>210</b>	<b>514</b>	<b>693</b>	<b>671</b>
FTE	0.0	2.6	5.2	6.7	6.3
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	202	469	624	621
Non-Labor	0	8	45	69	50
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>210</b>	<b>514</b>	<b>693</b>	<b>671</b>
FTE	0.0	2.6	5.2	6.7	6.3
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	35	78	100	103
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>35</b>	<b>78</b>	<b>100</b>	<b>103</b>
FTE	0.0	0.5	0.9	1.1	1.1
<b>Escalation to 2013\$</b>					
Labor	0	17	24	16	0
Non-Labor	0	1	2	2	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>18</b>	<b>26</b>	<b>18</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	0	254	571	740	724
Non-Labor	0	9	47	71	50
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>263</b>	<b>618</b>	<b>811</b>	<b>774</b>
FTE	0.0	3.1	6.1	7.8	7.4

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 6. Distribution Field Services  
 Cost Center: 2200-2345.000 - DISTRIBUTION FIELD SERVICES

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
<b>2009 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2010 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2011 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2012 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2013 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			

*Note: Totals may include rounding differences.*

**Supplemental Workpapers for Workpaper 2200-2345.000**

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

**SCG-FBA-USS-SUP-004**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**  
**Supplemental Workpaper for Shared Services Allocation Percentage**  
**Distribution Field Services**

The calculations below show how the overall allocation percentage was calculated, since the labor and non-labor percentages were different. Amounts are shown in 2013 dollars with vacation and sick.

	Forecast Dollars (Equal to 2013 Base Year Historical Dollars)	SoCalGas Allocation Percentage for 2013	SoCalGas Allocation Percentage for 2014 - 2016
Labor Subject to % Allocation	\$ 714,388 [A]	89.44% [C]	89.44% [E]
Non-Labor Subject to % Allocation	\$ 48,063 [B]	95.00% [D]	95.00% [F]
Weighted Average Percentage Allocation		<b>89.79%</b> $\frac{([A]*[C]+[B]*[D])}{([A]+[B])}$	<b>89.79%</b> $\frac{([A]*[E]+[B]*[F])}{([A]+[B])}$

**Beginning of Workpaper**  
**2200-2360.000 - MAINTENANCE PROCESS**

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 7. Maintenance Process  
 Cost Center: 2200-2360.000 - MAINTENANCE PROCESS

**Activity Description:**

Recorded to this cost center are the labor and employee expense related to business processes supporting gas maintenance and inspection activities. Included is ownership of associated gas standards, which are reviewed and modified as necessary according to changing regulations or CPUC Audit results. This department develops and modifies electronic forms supporting requirements from Pipeline Integrity and Compliance Assurance, including design, testing, and targeted end-user training for successful release into production. Field business processes are reviewed, modified, and implemented as data collection requirements change. Training updates are communicated to ensure new or modified processes are incorporated into the centralized training program. Process improvements are identified for the Area Resource Scheduling Organization (ARSO). Communication with the ARSO includes answering complex questions, defining new requirements, and solving scheduling issues. District specific Quality Assurance audits are performed.

**Forecast Explanations:**

**Labor - Base YR Rec**

The 2013 base is the most accurate representation of the base level of current and ongoing staffing requirements and associated expenses.

**Non-Labor - Base YR Rec**

The 2013 base is the most accurate representation of the base level of current and ongoing staffing requirements and associated expenses.

**NSE - Base YR Rec**

N/A.

**Summary of Results:**

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		0	0	415	433	411	411	411	411	
Non-Labor		0	0	45	23	18	18	18	18	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>0</b>	<b>0</b>	<b>460</b>	<b>456</b>	<b>428</b>	<b>428</b>	<b>428</b>	<b>428</b>	
FTE		0.0	0.0	4.0	4.2	3.9	3.9	3.9	3.9	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 7. Maintenance Process  
 Cost Center: 2200-2360.000 - MAINTENANCE PROCESS

**Cost Center Allocations (Incurred Costs):**

	2013 Adjusted-Recorded					2014 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	411	18	0	429	3.89	411	18	0	429	3.89
<b>Total Incurred</b>	<b>411</b>	<b>18</b>	<b>0</b>	<b>429</b>	<b>3.89</b>	<b>411</b>	<b>18</b>	<b>0</b>	<b>429</b>	<b>3.89</b>
<b>% Allocation</b>										
Retained	86.11%	86.11%				94.68%	94.68%			
SEU	13.89%	13.89%				5.32%	5.32%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2015 Adjusted-Forecast					2016 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	0	0	0	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	411	18	0	429	3.89	411	18	0	429	3.89
<b>Total Incurred</b>	<b>411</b>	<b>18</b>	<b>0</b>	<b>429</b>	<b>3.89</b>	<b>411</b>	<b>18</b>	<b>0</b>	<b>429</b>	<b>3.89</b>
<b>% Allocation</b>										
Retained	94.68%	94.68%				94.68%	94.68%			
SEU	5.32%	5.32%				5.32%	5.32%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Operations Leadership & Support  
Category-Sub: 7. Maintenance Process  
Cost Center: 2200-2360.000 - MAINTENANCE PROCESS

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2013**

Labor allocations are based upon the Cost Center Managers and/or Team Leads assessment of the activities and contributions performed for each company. Non-labor allocations are based upon the individual employees assessment of their expenses which are incurred in support of each company.

**Cost Center Allocation Percentage for 2014**

Labor allocations are based upon the Cost Center Managers and/or Team Leads assessment of the activities and contributions performed for each company. Non-labor allocations are based upon the individual employees assessment of their expenses which are incurred in support of each company.

**Cost Center Allocation Percentage for 2015**

Labor allocations are based upon the Cost Center Managers and/or Team Leads assessment of the activities and contributions performed for each company. Non-labor allocations are based upon the individual employees assessment of their expenses which are incurred in support of each company.

**Cost Center Allocation Percentage for 2016**

Labor allocations are based upon the Cost Center Managers and/or Team Leads assessment of the activities and contributions performed for each company. Non-labor allocations are based upon the individual employees assessment of their expenses which are incurred in support of each company.

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 7. Maintenance Process  
 Cost Center: 2200-2360.000 - MAINTENANCE PROCESS

**Forecast Summary:**

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Base YR Rec	411	411	411	0	0	0	411	411	411
Non-Labor	Base YR Rec	18	18	18	0	0	0	18	18	18
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>428</b>	<b>428</b>	<b>428</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>428</b>	<b>428</b>	<b>428</b>
FTE	Base YR Rec	3.9	3.9	3.9	0.0	0.0	0.0	3.9	3.9	3.9

**Forecast Adjustment Details:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	
<b>2016 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala  
Category: B. Operations Leadership & Support  
Category-Sub: 7. Maintenance Process  
Cost Center: 2200-2360.000 - MAINTENANCE PROCESS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	0	341	365	352
Non-Labor	0	0	43	22	18
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>384</b>	<b>388</b>	<b>370</b>
FTE	0.0	0.0	3.5	3.6	3.3
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	0	341	365	352
Non-Labor	0	0	43	22	18
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>384</b>	<b>388</b>	<b>370</b>
FTE	0.0	0.0	3.5	3.6	3.3
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	0	57	58	59
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>57</b>	<b>58</b>	<b>59</b>
FTE	0.0	0.0	0.6	0.6	0.6
<b>Escalation to 2013\$</b>					
Labor	0	0	18	9	0
Non-Labor	0	0	2	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>10</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2013\$)</b>					
Labor	0	0	415	433	411
Non-Labor	0	0	45	23	18
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>460</b>	<b>456</b>	<b>428</b>
FTE	0.0	0.0	4.1	4.2	3.9

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

Area: GAS DISTRIBUTION  
 Witness: Frank B. Ayala  
 Category: B. Operations Leadership & Support  
 Category-Sub: 7. Maintenance Process  
 Cost Center: 2200-2360.000 - MAINTENANCE PROCESS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
<b>2009 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2010 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2011 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2012 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2013 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			

*Note: Totals may include rounding differences.*

**Supplemental Workpapers for Workpaper 2200-2360.000**

Southern California Gas Company  
2016 GRC - APP  
Shared Services Workpapers

**SCG-FBA-USS-SUP-005**  
**Southern California Gas Company -- Gas Distribution -- Witness Frank Ayala**  
**Supplemental Workpaper for Shared Services Allocation Percentage**  
**Maintenance Process**

The calculations below show how the overall allocation percentage was calculated, since the labor and non-labor percentages were different. Amounts are shown in 2013 dollars with vacation and sick.

	Forecast Dollars (Equal to 2013 Base Year Historical Dollars)	SoCalGas Allocation Percentage for 2013	SoCalGas Allocation Percentage for 2014 - 2016
Labor Subject to % Allocation	\$ 410,671 [A]	85.83% [C]	94.67% [E]
Non-Labor Subject to % Allocation	\$ 17,535 [B]	92.50% [D]	95.00% [F]
Weighted Average Percentage Allocation		<b>86.11%</b> $\frac{([A]*[C]+[B]*[D])}{([A]+[B])}$	<b>94.68%</b> $\frac{([A]*[E]+[B]*[F])}{([A]+[B])}$

Southern California Gas Company  
2016 GRC - APP  
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION  
Witness: Frank B. Ayala

**Appendix A: List of Non-Shared Cost Centers**

<b>Cost Center</b>	<b>Sub</b>	<b>Description</b>
2200-0223	000	SVP GAS OPS & SYSTEM INTEGRITY
2200-0254	000	GAS TRANSMISSION SKILLS TRAINING
2200-0433	000	SOUTH INLAND REGION TSM
2200-0434	000	SOUTH INLAND REGION TECH SERV SUPV 1
2200-0435	000	SOUTH INLAND REGION SYS PROT SUPV
2200-0436	000	SOUTH INLAND REGION TECH SERV SUPV 2
2200-0438	000	SOUTH INLAND REGION REG ENG
2200-0439	000	SOUTH INLAND REGION MEAS SUPV NQ
2200-0441	000	SOUTH INLAND REGION A&C SUPV
2200-0443	000	SOUTH INLAND REGION DISPATCH SUPV
2200-0444	000	SO INL DS DOM FONTANA
2200-0446	000	SO INL CREW SAN BERNARDINO
2200-0447	000	SO INL CREW CORONA
2200-0448	000	SO INL DS DOM CORONA
2200-0450	000	SO INL CREW CHINO
2200-0453	000	SO INL CREW FONTANA
2200-0456	000	SO INL CREW PALM DESERT
2200-0457	000	SO INL DS DOM MURRIETA
2200-0459	000	SO INL CREW RIVERSIDE
2200-0461	000	SO INL CREW RAMONA
2200-0463	000	SO INL DS DOM EL CENTRO
2200-0465	000	SO INL CREW EL CENTRO
2200-0468	000	SO INL CREW RIM FOREST
2200-0469	000	OC REGION DOM ALHAMBRA
2200-0471	000	OC REGION CREW ALHAMBRA
2200-0472	000	SO INL DOM AZUSA
2200-0474	000	SO INL CREW AZUSA
2200-0478	000	OC REGION CREW PASADENA
2200-0479	000	NORTH REGN DIRECTOR
2200-0480	000	NORTH REGION TSM
2200-0481	000	NORTH REGION SYS PROT SUPV
2200-0482	000	NORTH REGION A & C SUPV
2200-0483	000	NORTH REGION MEASUREMENT
2200-0484	000	NORTHERN TS PLANNING MGR
2200-0485	000	NORTH REGION REG ENG
2200-0486	000	NORTH REGION TECH SUPV SOUTH
2200-0487	000	NORTH REGION TECH SUPV WEST
2200-0488	000	NORTH REGION TECH SUPV EAST
2200-0489	000	NORTH REGION FOM
2200-0490	000	NORTHERN PIPELINE OPS MGR
2200-0491	000	NORTH REGION DOM VISALIA
2200-0492	000	NORTH REGION CREW VISALIA/HANFORD
2200-0496	000	NORTH REGION CREW BAKERSFIELD
2200-0499	000	NORTH REGION DISPATCH SUPV
2200-0500	000	NORTH REGION DOM SLO, STA MARIA, TEMPLE

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<b>Cost Center</b>	<b>Sub</b>	<b>Description</b>
2200-0501	000	NORTH REGION CREW SLO/TEMPLETON
2200-0504	000	NORTH REGION CREW SANTA MARIA
2200-0508	000	NORTHERN REGION DOM VENTURA & SIMI
2200-0510	000	NORTH REGION CREW VENTURA
2200-0512	000	NORTH REGION CREW STA BARBARA
2200-0514	000	FIELD OP MGR NORTHERN CHATSWORTH
2200-0515	000	NORTH REGION DOM CANOGA & SATICOY
2200-0517	000	NORTH REGION CREW CANOGA
2200-0520	000	NORTH REGION CREW SIMI VALLEY
2200-0523	000	NORTH REGION CREW SATICOY
2200-0524	000	NORTH REGION DOM BRANFORD & GLENDALE
2200-0526	000	NORTH REGION CREW BRANFORD
2200-0528	000	NORTH REGION CREW GLENDALE
2200-0530	000	NORTH REGION DOM VALENCIA
2200-0532	000	NORTH REGION CREW VALENCIA
2200-0535	000	NORTH REGION CREW LANCASTER
2200-0536	000	OC REGION DIRECTOR
2200-0537	000	OC REGION ENVIRN MANAGER
2200-0538	000	OC REGION ENG
2200-0539	000	OC REGION TSS1
2200-0540	000	OC REGION SPEC PROJ
2200-0541	000	OC REGION SYS PROT SUPV
2200-0542	000	OC REGION M&R ANAHIEM
2200-0543	000	OC REGION A & C SUPV
2200-0544	000	OC REGION FOM
2200-0545	000	OC REGION DOM DOWNEY
2200-0547	000	OC REGION CREW DOWNEY
2200-0548	000	OC REGION DOM WHITTIER
2200-0549	000	OC REGION CREW WHITTIER
2200-0551	000	OC REGION DOM ANAHEIM
2200-0553	000	OC REGION CREW ANAHEIM
2200-0555	000	OC RGN CREW LA JOLLA
2200-0557	000	OC REGION ARSO ANAHEIM
2200-0559	000	OC REGION CREW ALISO VIEJO
2200-0562	000	OC REGION CREW G GROVE
2200-0564	000	OC REGION DOM SANTA ANA
2200-0565	000	OC REGION CREW STA ANA
2200-0567	000	NORTH REGION TECH SUPV - SOUTHEAST
2200-0569	000	OC REGION CREW INDUSTRY
2200-0575	000	PACIFIC COAST REGION CREW BELVEDERE
2200-0576	000	PACIFIC COAST DOM JUANITA & CRENSHAW
2200-0577	000	PACIFIC COAST REGION CREW JUANITA
2200-0580	000	OC PROJECT MGR
2200-0581	000	PACIFIC COAST DISTRIB MEAS SUPV JUANITA
2200-0583	000	PACIFIC COAST REGION CREW HUNTINGTN PRK

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<b>Cost Center</b>	<b>Sub</b>	<b>Description</b>
2200-0586	000	PACIFIC COAST REGION CREW COMPTON
2200-0588	000	PACIFIC COAST REGION CREW CRENSHAW
2200-0590	000	PACIFIC DOM SANTA MONICA & HOLLYWOOD
2200-0592	000	PACIFIC COAST REGION CREW SANTA MONICA
2200-0593	000	PACIFIC COAST DOM REDONDO & SAN PEDRO
2200-0595	000	PACIFIC COAST REGION CREW REDONDO
2200-0598	000	PACIFIC COAST REGION CREW SAN PEDRO
2200-0601	000	PACIFIC COAST REGION CREW HOLLYWOOD
2200-0603	000	TSM - GAS DISTRIBUTION PACIFIC COAST
2200-0604	000	PACIFIC COAST REG TECH SERV SUPV - COM
2200-0605	000	PACIFIC COAST REGION SYS PROT SUPV - COM
2200-0606	000	PACIFIC COAST REG ENG - COM
2200-0608	000	PACIFIC COAST REGION MEAS SUPV COM
2200-0609	000	PACIFIC COAST REGION A & C SUPV - COM
2200-0614	000	GAS DISTRIBUTION SKILLS TRAINING
2200-0615	000	NEW BUSINESS
2200-0616	000	DART REPORTING - DISTRIBUTION
2200-0617	000	BUSINESS SERVICES MANAGER
2200-0804	000	VP REGIONAL/EXTERNAL RELATIONS
2200-0805	000	PUBLIC AFFAIRS MANAGER - OC
2200-0811	000	PUBLIC AFFAIRS MANAGER - LA
2200-0818	000	PUBLIC AFFAIRS MANAGER -INLAND
2200-0825	000	PUBLIC AFFAIRS MANAGER -NORTH
2200-1174	000	NORTH REGION PL PRJ MGR
2200-1182	000	SO INL DS DOM PALM DESERT
2200-1210	000	SOUTH INLAND REGION MAPPING
2200-1340	000	SOUTH INLAND REGION PL PRJ MGR
2200-1544	000	OC REGION OPS QUALITY
2200-1829	000	NO DISTRICT MANAGER 4
2200-1830	000	NO DISTRICT MANAGER 5
2200-1831	000	NO DISTRICT MANAGER 6
2200-2079	000	SO INL CREW MURRIETA
2200-2080	000	SO INL CREW BEAUMONT
2200-2084	000	PACIFIC COAST REG TECH SERV SUPV 2 COM
2200-2085	000	OC REGION TSS2
2200-2092	000	VP FIELD SERVICES NSS
2200-2098	000	LEGISLATIVE ANALYSIS & POLICY MANAGER
2200-2107	000	INLAND PIPELINE OPS MGR
2200-2110	000	BUSINESS PLANNING & BUDGETS - CO
2200-2116	000	OC REGION TECHNICAL SERVICES MANAGER
2200-2122	000	FIBRE IN GAS ADMIN COSTS & REVENUE
2200-2138	000	FRANCHISE AND FEES MANAGER - BPS
2200-2149	000	NORTH REGION DOM SANTA BARBARA
2200-2191	000	NORTHERN RGN - SPEC PROJ 4
2200-2208	000	DIRECTOR PUBLIC AFFAIRS

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<b>Cost Center</b>	<b>Sub</b>	<b>Description</b>
2200-2217	000	SO INL DS DOM SAN BERNARDINO
2200-2218	000	SO INL DS DOM RIM FOREST
2200-2219	000	SO INL DS DOM BEAUMONT
2200-2220	000	SO INL DS DOM CHINO
2200-2221	000	SO INL DS DOM RIVERSIDE
2200-2222	000	SO INL DS DOM RAMONA
2200-2232	000	SO INL DS DOM YUCCA VLY
2200-2233	000	SO INL CREW YUCCA VLY
2200-2236	000	INLAND TS PLANNING MGR
2200-2259	000	PACIFIC PROJECT MGR
2200-2311	000	SOUTH INLAND CREW BLYTHE
2200-2322	000	ESS GOVERNANCE & SERVCIE IMPROVEMENT
2200-2323	000	ESS IMPLEMENTATION SUPPORT
2200-2324	000	ESS MOBILE HARDWARE & APPLICATIONS TEAM
2200-2361	000	AREA RESOURCE PROCESS MANAGER
2200-2375	000	ESS MOBILE APPS
2200-2409	000	COMPLIANCE ASSURANCE
2200-2438	000	PACIFIC REGION HIGH PRESSURE PL OPS
2200-2439	000	ORANGE COAST REGION HIGH PRESSURE PIPELI
2200-2479	000	HIGH PRESSURE TRAINING
2200-2501	000	TRAINING - TRANSMISSION & STORAGE
2200-2502	000	TRAINING - WELDING