

Application of SOUTHERN CALIFORNIA GAS)
COMPANY for authority to update its gas revenue)
requirement and base rates)
effective January 1, 2019 (U 904-G))

Application No. 17-10-___

Exhibit No.: (SCG-04-WP)

WORKPAPERS TO
PREPARED DIRECT TESTIMONY
OF GINA OROZCO-MEJIA
ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

OCTOBER 2017



**2019 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

Area:	GAS DISTRIBUTION
Witness:	Gina Orozco-Mejia

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Non-Shared Services	115,943	134,853	144,731	147,879
Shared Services	689	275	275	275
Total	116,632	135,128	145,006	148,154

Note: Totals may include rounding differences.

Southern California Gas Company
 2019 GRC - APP
 Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia

Summary of Non-Shared Services Workpapers:

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
A. Field Operations & Maintenance	98,667	115,282	125,132	129,116
B. Asset Management	8,171	8,415	8,150	6,965
C. Operations and Management	5,645	6,680	7,029	7,378
D. Regional Public Affairs	3,460	4,476	4,420	4,420
Total	115,943	134,853	144,731	147,879

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Workpaper: VARIOUS

Summary for Category: A. Field Operations & Maintenance

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	75,052	82,822	88,183	93,441
Non-Labor	23,616	32,461	36,950	35,675
NSE	0	0	0	0
Total	98,668	115,283	125,133	129,116
FTE	850.1	942.8	1,004.8	1,069.8

Workpapers belonging to this Category:

2GD000.002 Locate & Mark

Labor	12,669	13,408	13,999	14,590
Non-Labor	959	891	1,035	1,460
NSE	0	0	0	0
Total	13,628	14,299	15,034	16,050
FTE	151.8	159.5	165.8	172.2

2GD000.001 Leak Survey

Labor	7,073	7,883	7,914	10,705
Non-Labor	8	24	-2	6
NSE	0	0	0	0
Total	7,081	7,907	7,912	10,711
FTE	92.8	103.8	104.0	142.6

2GD002.000 Measurement & Regulation

Labor	11,092	11,253	11,568	12,147
Non-Labor	2,740	3,016	3,189	2,741
NSE	0	0	0	0
Total	13,832	14,269	14,757	14,888
FTE	121.5	122.6	125.6	131.9

2GD003.000 Cathodic Protection

Labor	8,623	8,941	9,678	10,542
Non-Labor	5,780	6,429	7,104	7,779
NSE	0	0	0	0
Total	14,403	15,370	16,782	18,321
FTE	99.0	102.7	111.2	121.5

2GD000.003 Main Maintenance

Labor	9,377	12,569	15,001	12,718
Non-Labor	2,006	8,838	11,308	8,054
NSE	0	0	0	0
Total	11,383	21,407	26,309	20,772
FTE	99.0	138.7	168.8	139.8

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Workpaper: VARIOUS

In 2016\$ (000) Incurred Costs			
Adjusted-Recorded	Adjusted-Forecast		
2016	2017	2018	2019

2GD000.004 Service Maintenance

Labor	9,881	10,962	11,981	14,410
Non-Labor	457	943	1,785	2,587
NSE	0	0	0	0
Total	10,338	11,905	13,766	16,997
FTE	106.9	119.5	131.1	160.7

2GD000.000 Field Support

Labor	16,337	17,806	18,042	18,329
Non-Labor	3,065	3,089	2,807	2,741
NSE	0	0	0	0
Total	19,402	20,895	20,849	21,070
FTE	179.1	196.0	198.3	201.1

2GD000.005 Tools Fittings & Materials

Labor	0	0	0	0
Non-Labor	8,601	9,231	9,724	10,307
NSE	0	0	0	0
Total	8,601	9,231	9,724	10,307
FTE	0.0	0.0	0.0	0.0

Note: Totals may include rounding differences.

Beginning of Workpaper
2GD000.002 - Locate & Mark

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 1. Locate & Mark
Workpaper: 2GD000.002 - 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, performing pothole operations, and performing depth checks.

Forecast Explanations:

Labor - 5-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. SoCalGas expects a rise in Locate and Mark activities due to SB 661 requiring any person who plans to conduct any excavation to contact the appropriate regional notification center before commencing excavation. For this reason, the Locate and Mark forecast is based on the linear trend observed the last five years (2012 through 2016). Using a five-year average or base forecast 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 five-year historical linear trend. Therefore, a five-year (2012 through 2016) linear trend funding was used to calculate the labor requested for this group.

See supplemental workpapers SCG-04-GOM-O&M-SUP-008 and SCG-04-GOM-O&M-SUP-009 for calculation details.

Non-Labor - 5-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. SoCalGas expects a rise in Locate and Mark due to SB 661 requiring any person who plans to conduct any excavation to contact the appropriate regional notification center before commencing excavation. For this reason, the Locate and Mark forecast is based on the linear trend observed the last five years (2012 through 2016). Using a five-year average or base forecast 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 five-year historical linear trend. Therefore, a five-year (2012 through 2016) linear trend plus the incremental funding was used to calculate the non-labor requested for this group.

See supplemental workpapers SCG-04-GOM-O&M-SUP-008 and SCG-04-GOM-O&M-SUP-009 for calculation details.

NSE - 5-YR Linear

NSE is not applicable to this workgroup.

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 1. Locate & Mark
 Workpaper: 2GD000.002 - Locate & Mark

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		10,390	11,114	11,531	12,467	12,669	13,408	13,999	14,589	
Non-Labor		939	676	821	698	959	891	1,035	1,460	
NSE		0	0	0	0	0	0	0	0	
Total		11,329	11,790	12,352	13,165	13,628	14,299	15,034	16,049	
FTE		127.5	135.1	138.6	149.8	151.8	159.6	165.9	172.2	

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 1. Locate & Mark
Workpaper: 2GD000.002 - Locate & Mark

Summary of Adjustments to Forecast:

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	5-YR Linear	13,408	13,999	14,590	0	0	0	13,408	13,999	14,590
Non-Labor	5-YR Linear	837	843	849	54	192	611	891	1,035	1,460
NSE	5-YR Linear	0	0	0	0	0	0	0	0	0
Total		14,245	14,842	15,439	54	192	611	14,299	15,034	16,050
FTE	5-YR Linear	159.5	165.8	172.2	0.0	0.0	0.0	159.5	165.8	172.2

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	0	27	0	27	0.0	1-Sided Adj	JLORTIZ20161122095659490	
Explanation:		i. USA Ticket Price Increase - SoCalGas costs will increase by \$0.15 per new ticket for the regional notification center covering the southern region of the service territory (DigAlert, also known as USA South). See Supplemental Workpaper SCG-04-GOM-O&M-SUP-009 for calculation details.							
2017	Other	0	17	0	17	0.0	1-Sided Adj	JLORTIZ20161122095910560	
Explanation:		ii. USA Ticket Price Increase - The regional notification center covering the northern part of the SoCalGas' service territory (USA North 811, also known as USA North) uses a membership fee structure, which will increase by 2% over the base year 2016 cost. See Supplemental Workpaper SCG-04-GOM-O&M-SUP-009 for calculation details.							
2017	Other	0	10	0	10	0.0	1-Sided Adj	JLORTIZ20161130111824120	
Explanation:		iii. Vacuum Technology for Potholing - The use of keyhole technology to excavate in order to find hard-to-locate underground pipelines. Provides accurate locating and marking of hard-to-find or un-locatable pipelines and reduce the risk of damage to its infrastructure and protect public safety. Non-labor cost will be 10 units x \$1,000 = \$10,000 beginning in 2017 Non-labor cost will be 100 units x \$1,000 = \$100,000 beginning in 2018 Non-labor cost will be 500 units x \$1,000 = \$500,000 beginning in TY 2019							
2017	RAMP Incremental	739	0	0	739	0.0	1-Sided Adj	MMCLARK20170303124620323	
Explanation:		RAMP Incremental costs within the base forecast methodology -RAMP - Ch 01 Dig ins - Locate and Mark Field Activities - reference RAMP Item #1							
2017	Other	-739	0	0	-739	0.0	1-Sided Adj	MMCLARK20170628153203360	
Explanation:		Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 01 Dig ins - Locate and Mark Field Activities - reference RAMP Item#1							

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 1. Locate & Mark
Workpaper: 2GD000.002 - Locate & Mark

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>
2017 Total		0	54	0	54	0.0		
2018 Other		0	58	0	58	0.0	1-Sided Adj	JLORTIZ20161122095727003
Explanation:	i. USA Ticket Price Increase - SoCalGas costs will increase by \$0.15 per new ticket for the regional notification center covering the southern region of the service territory (DigAlert, also known as USA South). See Supplemental Workpaper SCG-04-GOM-O&M-SUP-009 for calculation details.							
2018 Other		0	34	0	34	0.0	1-Sided Adj	JLORTIZ20161122100111813
Explanation:	ii. USA Ticket Price Increase - The regional notification center covering the northern part of the SoCalGas' service territory (USA North 811, also known as USA North) uses a membership fee structure, which will increase by 2% over the base year 2016 cost. See Supplemental Workpaper SCG-04-GOM-O&M-SUP-009 for calculation details.							
2018 Other		0	100	0	100	0.0	1-Sided Adj	JLORTIZ20161130111831137
Explanation:	iii. Vacuum Technology for Potholing - The use of keyhole technology to excavate in order to find hard-to-locate underground pipelines. Provides accurate locating and marking of hard-to-find or un-locatable pipelines and reduce the risk of damage to its infrastructure and protect public safety. Non-labor cost will be 10 units x \$1,000 = \$10,000 beginning in 2017 Non-labor cost will be 100 units x \$1,000 = \$100,000 beginning in 2018 Non-labor cost will be 500 units x \$1,000 = \$500,000 beginning in TY 2019							
2018 RAMP Incremental		1,330	0	0	1,330	0.0	1-Sided Adj	MMCLARK20170308150940973
Explanation:	RAMP Incremental costs within the base forecast methodology -RAMP - Ch 01 Dig ins - Locate and Mark Field Activities - reference RAMP Item #1							
2018 Other		-1,330	0	0	-1,330	0.0	1-Sided Adj	MMCLARK20170511163723697
Explanation:	Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 01 Dig ins - Locate and Mark Field Activities - reference RAMP Item#1							
2018 Total		0	192	0	192	0.0		
2019 Other		0	60	0	60	0.0	1-Sided Adj	JLORTIZ20161122095744690

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 1. Locate & Mark
 Workpaper: 2GD000.002 - Locate & Mark

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
Explanation:		i. USA Ticket Price Increase - SoCalGas costs will increase by \$0.15 per new ticket for the regional notification center covering the southern region of the service territory (DigAlert, also known as USA South). See Supplemental Workpaper SCG-04-GOM-O&M-SUP-009 for calculation details.						
2019	Other	0	51	0	51	0.0	1-Sided Adj	JLORTIZ20161122100126817
Explanation:		ii. USA Ticket Price Increase - The regional notification center covering the northern part of the SoCalGas' service territory (USA North 811, also known as USA North) uses a membership fee structure, which will increase by 2% over the base year 2016 cost. See Supplemental Workpaper SCG-04-GOM-O&M-SUP-009 for calculation details.						
2019	Other	0	500	0	500	0.0	1-Sided Adj	JLORTIZ20161130111839480
Explanation:		iii. Vacuum Technology for Potholing - The use of keyhole technology to excavate in order to find hard-to-locate underground pipelines. Provides accurate locating and marking of hard-to-find or un-locatable pipelines and reduce the risk of damage to its infrastructure and protect public safety. Non-labor cost will be 10 units x \$1,000 = \$10,000 beginning in 2017 Non-labor cost will be 100 units x \$1,000 = \$100,000 beginning in 2018 Non-labor cost will be 500 units x \$1,000 = \$500,000 beginning in TY 2019						
2019	RAMP Incremental	1,921	0	0	1,921	0.0	1-Sided Adj	MMCLARK20170308151740820
Explanation:		RAMP Incremental costs within the base forecast methodology -RAMP - Ch 01 Dig ins - Locate and Mark Field Activities - reference RAMP Item #1						
2019	Other	-1,921	0	0	-1,921	0.0	1-Sided Adj	MMCLARK20170511164044017
Explanation:		Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 01 Dig ins - Locate and Mark Field Activities - reference RAMP Item#1						
2019 Total		0	611	0	611	0.0		

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 1. Locate & Mark
Workpaper: 2GD000.002 - Locate & Mark

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	8,054	8,888	9,453	10,475	10,877
Non-Labor	328	280	178	190	395
NSE	0	0	0	0	0
Total	8,383	9,168	9,631	10,664	11,272
FTE	109.4	115.6	118.7	128.2	129.8
Adjustments (Nominal \$) **					
Labor	101	0	0	0	0
Non-Labor	584	388	646	506	564
NSE	0	0	0	0	0
Total	685	388	646	506	564
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	8,155	8,888	9,453	10,475	10,877
Non-Labor	912	668	823	696	959
NSE	0	0	0	0	0
Total	9,068	9,556	10,277	11,171	11,836
FTE	109.4	115.6	118.7	128.2	129.8
Vacation & Sick (Nominal \$)					
Labor	1,306	1,477	1,543	1,695	1,791
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1,306	1,477	1,543	1,695	1,791
FTE	18.1	19.5	19.9	21.5	22.0
Escalation to 2016\$					
Labor	929	749	535	298	0
Non-Labor	26	8	-3	2	0
NSE	0	0	0	0	0
Total	955	757	532	300	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	10,390	11,114	11,531	12,467	12,669
Non-Labor	939	676	821	698	959
NSE	0	0	0	0	0
Total	11,329	11,790	12,352	13,165	13,628
FTE	127.5	135.1	138.6	149.7	151.8

* 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
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 1. Locate & Mark
 Workpaper: 2GD000.002 - Locate & Mark

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	101	0	0	0	0
Non-Labor	584	388	646	506	564
NSE	0	0	0	0	0
Total	685	388	646	506	564
FTE	0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	0	584	0	0.0	1-Sided Adj	TP1MTC20161024103648290
Explanation:	To transfer USA fees to Locate & Mark work group for complete showing of L&M expense; reduced 2200-2144 accordingly.						
2012	Other	101	0	0	0.0	1-Sided Adj	TP1MTC20161024111925640
Explanation:	To transfer union retro pay out of 2GD000.005 - Tools Ftngs & Materials - and into impacted field work groups.						
2012 Total		101	584	0	0.0		
2013	Other	0	388	0	0.0	1-Sided Adj	TP1MTC20161024103717117
Explanation:	To transfer USA fees to Locate & Mark work group for complete showing of L&M expense; reduced 2200-2144 accordingly.						
2013 Total		0	388	0	0.0		
2014	Other	0	646	0	0.0	1-Sided Adj	TP1MTC20161024103811633
Explanation:	To transfer USA fees to Locate & Mark work group for complete showing of L&M expense; reduced 2200-2144 accordingly.						
2014 Total		0	646	0	0.0		
2015	Other	0	506	0	0.0	1-Sided Adj	TP1MTC20161024103839633
Explanation:	To transfer USA fees to Locate & Mark work group for complete showing of L&M expense; reduced 2200-2345 accordingly.						

Note: Totals may include rounding differences.

Southern California Gas Company
 2019 GRC - APP
 Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
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 Category-Sub: 1. Locate & Mark
 Workpaper: 2GD000.002 - Locate & Mark

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2015 Total		0	506	0	0.0		
2016	Other	0	564	0	0.0	1-Sided Adj	TP1MTC20161024103917950
Explanation:		To transfer USA fees to Locate & Mark work group for complete showing of L&M expense; reduced 2200-2345 accordingly.					
2016 Total		0	564	0	0.0		

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 1. Locate & Mark
 Workpaper: 2GD000.002 - Locate & Mark

RAMP Item # 1

Ref ID: MMCLARK20170303124620323

RAMP Chapter: SCG-1

Program Name: Locate & Mark Field Activities

Program Description: Prevention of damage to substructures due to unsafe excavation practices

Risk/Mitigation:

Risk: Catastrophic Damage Involving Gas Infrastructure (
 Mitigation: Locate & Mark Activities

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	17,942	18,417	18,892
High	19,831	20,356	20,881

Funding Source: CPUC-GRC

Forecast Method: Zero-Based

Work Type: Mandated

Work Type Citation: CFR Part 192.614. California Government Code 4216

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 12529

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. The dollars portray the base line activities within Locate & Mark. There are RAMP Incremental adjustments within the base forecast to show that the mitigation has been accurately accounted for in 2017, 2018, and TY 2019. The 'Other' adjustment accounts for the negation of the incremental adjustment.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 1. Locate & Mark
 Workpaper: 2GD000.002 - Locate & Mark

RAMP Item # 2

Ref ID: MMCLARK20170303134921397

RAMP Chapter: SCG-1

Program Name: Gas Operations Centralized Training

Program Description: Training, Certification and compliance of Federal and State laws

Risk/Mitigation:

Risk: Catastrophic Damage Involving Gas Infrastructure (

Mitigation: Locate & Mark Training

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	137	137	137
High	151	151	151

Funding Source: CPUC-GRC

Forecast Method: Average

Work Type: Mandated

Work Type Citation: CFR Part 192/GO 112F

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 140

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. These embedded costs account for Risk Ch-07 and RAMP Item #3. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 1. Locate & Mark
 Workpaper: 2GD000.002 - Locate & Mark

RAMP Item # 3

Ref ID: MMCLARK20170511162920347

RAMP Chapter: SCG-7

Program Name: Locate & Mark Training

Program Description: Skills training covered by the following risks: Dig-Ins (SCG-01); Employee, Contractor, Customer and Public Safety (SCG-02); High Pressure Pipeline Failure (SCG-04); Records Management (SCG-08); and Medium Pressure Pipeline Failure (SCG-10) (NOTE: Overlapping Trainings Removed)

Risk/Mitigation:

Risk: SCG Workforce Planning
 Mitigation: Training - Technical non-HR

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	0	0	0
High	0	0	0

Funding Source: CPUC-GRC

Forecast Method: Average

Work Type: Mandated

Work Type Citation: CPUC

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 0

Explanation: Dollars are already allocated in RAMP Risk Ch 01, RAMP Item #2. Created to document that the mitigation is incorporated within the workpaper.

Supplemental Workpapers for Workpaper 2GD000.002

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

SCG-04-GOM-O&M-SUP-008
Southern California Gas Company -- Gas Distribution -- Witness Gina Orozco-Mejia
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					
	2012	2013	2014	2015	2016
Number of USA Tickets ¹	534,174	577,524	640,677	650,858	627,116
Annual Expense (shown in Thousands) ²	\$ 11,355	\$ 11,818	\$ 12,371	\$ 13,194	\$ 13,788

¹ USA refers to the Underground Service Alert regional notification center for excavators to request locate & mark service. This table shows all SoCalGas Distribution USA tickets 2012 - 2016.

² Amounts are shown in thousands of 2016 dollars and include vacation and sick.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

SCG-04-GOM-O&M-SUP-009
Southern California Gas Company -- Gas Distribution -- Witness Gina Orozco-Mejia
Supplemental Workpaper USA Ticket Price Increase
Field O&M - Locate and Mark Workgroup

Assumptions: [A]: Table of historical new USA Tickets South for Distribution 2012-2016
[B]: Projected volume of USA South Tickets with a 10% increase in volume
[C]: Cost of USA South Ticket increase per ticket
[D]: Yearly factor of the USA South Ticket increase
[E]: Total Incremental cost for USA South Tickets
[F]: USA North 2016 Fees
[G]: Projected Fees for USA North Tickets provided by USA North 811
[H]: Total Incremental cost for USA North Tickets
[I]: Total combined incremental cost for USA North and USA South Ticket increase

[A]

	2012	2013	2014	2015	2016
New USA Tickets (South) – Distribution only	254874	276364	301172	315195	306464

USA South Projected Incremental Cost

	[B]	[C]	[D]	[E] : (BxCxD)
	Projected New Ticket Volume	Incremental Cost per ticket	Yearly Factor	Total Incremental Cost
2017	364063	\$ 0.15	0.5	\$ 27,305
2018	384025	\$ 0.15	1	\$ 57,604
2019	400222	\$ 0.15	1	\$ 60,033

USA North Projected Incremental Cost

	[G]	[H] (G-F)	[F]
	Projected Fees	Total Incremental Cost	2016 Fees
2017	\$ 95,614	\$ 17,032	\$ 78,582
2018	\$ 112,646	\$ 34,064	
2019	\$ 129,678	\$ 51,096	

Total Incremental Cost

	[I]
	Total Combined Incremental Cost
2017	\$ 44,337
2018	\$ 91,668
2019	\$ 111,129

Amounts are shown in thousands of 2016 dollars and include vacation and sick.

**Beginning of Workpaper
2GD000.001 - Leak Survey**

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 2. Leak Survey
Workpaper: 2GD000.001 - 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 100,586 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. New pipe installed in years 2012 through 2016 will continue to increase the survey footage requirements in the years 2017 through 2019. In addition, changes in work practices and use of more sensitive equipment will continue to impact the cost to complete leak survey work. Given these continuing upward pressures, SoCalGas chose the five-year (2012 through 2016) historical linear trend to forecast the base labor spending for the leak survey work. Using an average methodology would not capture the continued growth and change in work requirements and would underestimate a critical safety-related operations expense. Furthermore, the historical leak survey footage has been increasing over this period, further evidencing growth in this work element.

See Supplemental Workpaper SCG-04-GOM-O&M-SUP-004 and SCG-04-GOM-O&M-SUP-005 for calculation details.

Non-Labor - 5-YR Linear

As SoCalGas continues to experience growth of its pipeline system, survey requirements will increase. New pipe installed in years 2012 through 2016 will continue to increase the survey footage requirements in the years 2017 through 2019. In addition, changes in work practices and use of more sensitive equipment will continue to impact the cost to complete leak survey work. Given these continuing upward pressures, SoCalGas chose the five-year (2012 through 2016) historical linear trend to forecast the base non-labor spending for the leak survey work. Using an average methodology would not capture the continued growth and change in work requirements and would underestimate a critical safety-related operations expense. Furthermore, the historical leak survey footage has been increasing over this period, further evidencing growth in this work element.

See Supplemental Workpaper SCG-04-GOM-O&M-SUP-004 and SCG-04-GOM-O&M-SUP-005 for calculation details.

NSE - 5-YR Linear

NSE is not applicable to this workgroup.

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 2. Leak Survey
 Workpaper: 2GD000.001 - Leak Survey

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		5,969	6,688	7,990	7,140	7,073	7,883	7,913	10,706	
Non-Labor		13	16	10	33	8	23	-2	5	
NSE		0	0	0	0	0	0	0	0	
Total		5,982	6,704	8,000	7,172	7,080	7,906	7,911	10,711	
FTE		79.2	88.3	103.8	95.2	92.8	103.8	104.0	142.7	

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 2. Leak Survey
Workpaper: 2GD000.001 - Leak Survey

Summary of Adjustments to Forecast:

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	5-YR Linear	7,770	8,036	8,301	113	-122	2,404	7,883	7,914	10,705
Non-Labor	5-YR Linear	18	18	19	6	-20	-13	24	-2	6
NSE	5-YR Linear	0	0	0	0	0	0	0	0	0
Total		7,787	8,054	8,320	119	-142	2,391	7,906	7,912	10,711
FTE	5-YR Linear	102.1	105.5	108.9	1.7	-1.5	33.7	103.8	104.0	142.6

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	191	1	0	192	2.7	1-Sided Adj	FGALVAN20161122125221517	
Explanation:		i. Incremental 690 miles of leak survey due to revisions in GO 112-F. This effort will begin in 2017 and continue through 2018 and TY 2019. See Supplemental Workpaper SCG-04-GOM-O&M-SUP-005 for calculation details.							
2017	FOF-Implementation	0	10	0	10	0.0	1-Sided Adj	FGALVAN20170310194106207	
Explanation:		ii. FOF Implementation of 10k non-labor for FOF Idea #620 - Contractor Labor							
2017	FOF-Ongoing	-78	-5	0	-83	-1.0	1-Sided Adj	FGALVAN20170309130052933	
Explanation:		iii. Labor and FTE savings of -\$78k and -1.0 FTE respectively plus non-labor ongoing savings of -\$5k							
2017	RAMP Incremental	707	0	0	707	0.0	1-Sided Adj	MMCLARK20170307132820493	
Explanation:		RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline failure Project - Leak Survey-reference RAMP Item #1. RAMP Incremental also incorporates a similar mitigation from RAMP Item #1.							
2017	Other	-707	0	0	-707	0.0	1-Sided Adj	MMCLARK20170628155220513	
Explanation:		Adjustment to Identify RAMP Incremental costs within the base forecast methodology -RAMP - Ch 10 Medium Pressure Pipeline failure Project - Leak Survey - reference RAMP Item #1							
2017 Total		113	6	0	119	1.7			

2018 Other 191 1 0 192 2.7 1-Sided Adj FGALVAN20170511155414250

Explanation: i. Incremental 690 miles of leak survey due to revisions in GO 112-F. This effort will begin in 2017 and continue through 2018 and TY 2019.

See Supplemental Workpaper SCG-04-GOM-O&M-SUP-005 for calculation details.

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 2. Leak Survey
Workpaper: 2GD000.001 - Leak Survey

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2018	FOF-Ongoing	-313	-21	0	-334	-4.2	1-Sided Adj	FGALVAN20170309132221537
Explanation:		ii. Labor and FTE savings of -\$313k and -4.2 FTE respectively plus non-labor ongoing savings of -\$21k						
2018	RAMP Incremental	974	0	0	974	0.0	1-Sided Adj	MMCLARK20170628155253173
Explanation:		RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline failure Project - Leak Survey-reference RAMP Item #1. RAMP Incremental also incorporates a similar mitigation from RAMP Item #1.						
2018	Other	-974	0	0	-974	0.0	1-Sided Adj	MMCLARK20170628155311370
Explanation:		Adjustment to Identify RAMP Incremental costs within the base forecast methodology -RAMP - Ch 10 Medium Pressure Pipeline failure Project - Leak Survey - reference RAMP Item #1						
2018 Total		-122	-20	0	-142	-1.5		
2019	Other	1,032	3	0	1,035	14.4	1-Sided Adj	FGALVAN20161122125353340
Explanation:		i. Bi-Annual High-Pressure Leak Survey - Proposed change to inspect all high-pressure lines twice a year. Approximately 19 million feet of high-pressure lines would be inspected twice a year starting in TY 2019. See Supplemental Workpaper SCG-04-GOM-O&M-SUP-005 for calculation details.						
2019	FOF-Ongoing	-313	-21	0	-334	-4.2	1-Sided Adj	FGALVAN20170309132018130
Explanation:		ii. Labor and FTE savings of -\$313k and -4.2 FTE respectively plus non-labor ongoing savings of -\$21k						
2019	Other	1,685	5	0	1,690	23.5	1-Sided Adj	FGALVAN20170310163254470
Explanation:		iii. Enhanced Leak Survey - Early Vintage Plastic Pipe - SoCalGas plans to increase survey cycle requirements for all pre-1986 plastic pipe (Aldyl-A) from a five-year survey cycle to an annual cycle. This change adds a mitigation measure in support of RAMP risk: Catastrophic Damage Involving Medium-Pressure Pipeline Failure. Aldyl-A is a polyethylene plastic pipe material widely used in the gas industry. Early vintages of this material (1970s and 1980s) can experience brittleness as it ages increasing the risk for leakage. Approximately 32,202,720 million feet of pipe to be surveyed annually. See Supplemental Workpaper SCG-04-GOM-O&M-SUP-004 for calculation details.						
2019	Other	-1,240	0	0	-1,240	0.0	1-Sided Adj	MMCLARK20170628155356953
Explanation:		Adjustment to Identify RAMP Incremental costs within the base forecast methodology -RAMP - Ch 10 Medium Pressure Pipeline failure Project - Leak Survey - reference RAMP Item #1						

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 2. Leak Survey
 Workpaper: 2GD000.001 - Leak Survey

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>
2019	RAMP Incremental	1,240	0	0	1,240	0.0	1-Sided Adj	MMCLARK20170308194614060

Explanation: RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline failure Project - Leak Survey-reference RAMP Item #1.
 RAMP Incremental also incorporates a similar mitigation from RAMP Item #1.

2019 Total		2,404	-13	0	2,391	33.7		
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Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 2. Leak Survey
Workpaper: 2GD000.001 - Leak Survey

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	4,627	5,348	6,550	5,998	6,143
Non-Labor	13	16	10	32	8
NSE	0	0	0	0	0
Total	4,640	5,364	6,560	6,031	6,150
FTE	68.1	76.4	89.8	82.2	80.1
Adjustments (Nominal \$) **					
Labor	58	0	0	0	-70
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	58	0	0	0	-70
FTE	0.0	0.0	0.0	0.0	-0.6
Recorded-Adjusted (Nominal \$)					
Labor	4,685	5,348	6,550	5,998	6,073
Non-Labor	13	16	10	32	8
NSE	0	0	0	0	0
Total	4,698	5,364	6,560	6,031	6,080
FTE	68.1	76.4	89.8	82.2	79.5
Vacation & Sick (Nominal \$)					
Labor	750	889	1,069	971	1,000
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	750	889	1,069	971	1,000
FTE	11.0	11.9	14.0	13.0	13.3
Escalation to 2016\$					
Labor	534	451	371	171	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	534	451	371	171	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	5,969	6,688	7,990	7,140	7,073
Non-Labor	13	16	10	33	8
NSE	0	0	0	0	0
Total	5,982	6,704	8,000	7,172	7,080
FTE	79.1	88.3	103.8	95.2	92.8

* 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
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 2. Leak Survey
 Workpaper: 2GD000.001 - Leak Survey

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	58	0	0	0	-70
Non-Labor	0	0	0	0	-0.094
NSE	0	0	0	0	0
Total	58	0	0	0	-70
FTE	0.0	0.0	0.0	0.0	-0.6

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	58	0	0	0.0	1-Sided Adj	TP1MTC20161024111907580

Explanation: To transfer union retro pay out of 2GD000.005 - Tools Fittings & Materials - and into impacted field work groups.

2012 Total **58** **0** **0** **0.0**

2013 Total **0** **0** **0** **0.0**

2014 Total **0** **0** **0** **0.0**

2015 Total **0** **0** **0** **0.0**

2016	Aliso	-70	0	0	-0.6	1-Sided Adj	MMCLARK20170227121350490
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Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300776267, Wellhead Leak

2016 Total **-70** **0** **0** **-0.6**

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 2. Leak Survey
 Workpaper: 2GD000.001 - Leak Survey

RAMP Item # 1

Ref ID: MMCLARK20170307132820493

RAMP Chapter: SCG-10

Program Name: Leak Survey

Program Description: Leak surveys are performed to find any leaks in the system using state of the art technology and SAP leak reporting for tracking purposes. This is mandated by the Federal Code of Regulation (CFR) 49 Part 192 Subpart M.

Risk/Mitigation:

Risk: Catastrophic Damage Involving Medium-Pressure Pipe

Mitigation: Maintenance

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	11,400	12,112	12,825
High	12,600	13,387	14,175

Funding Source: FERC

Forecast Method: Trend

Work Type: Mandated

Work Type Citation: CFR 49 Subpart M

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 7080

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. The dollars portray the base line activities within Leak Survey. Embedded costs also accounts for Risk Ch-02, RAMP Item #2. There are RAMP Incremental adjustments within the base forecast to show that the mitigation has been accurately accounted for in 2017, 2018, and TY 2019. The 'Other' adjustment accounts for the negation of the incremental adjustment.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 2. Leak Survey
 Workpaper: 2GD000.001 - Leak Survey

RAMP Item # 2

Ref ID: MMCLARK20170308194357760

RAMP Chapter: SCG-2

Program Name: Leak Survey – Distribution

Program Description: Completion of the routine leak survey requirements.

Risk/Mitigation:

Risk: Employee, Contractor, Customer & Public, Project

Mitigation: Gas Facility and Pipeline Inspections

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	8,282	8,282	12,150
High	10,112	10,112	14,850

Funding Source: Other

Forecast Method: Other

Work Type: Mandated

Work Type Citation: Title 49 CFR, Part 192, DOT code 192.723. Gas Standard 223.0100 Leakage Survey.

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 0

Explanation: Dollars are already accounted for in RAMP Risk Ch 10, RAMP Item #1. Created to document that the mitigation is incorporated within the workpaper.

Supplemental Workpapers for Workpaper 2GD000.001

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

SCG-04-GOM-O&M-SUP-004

**Southern California Gas Company -- Gas Distribution -- Witness Gina Orozco-Mejia
Supplemental Workpaper Calculations for Enhanced Leak Survey - Early Vintage Plastic Pipe
Field O&M - Leak Survey Workgroup**

- Assumptions:
- [A]: Estimated Aldyl-A Main Survey Footage based on historical information
 - [B]: Survey Footage per day based on historical information
 - [C]: Total Labor hours for estimated survey footage [A]
 - [D]: Construction Tech 2016 rate
 - [E]: Incremental Labor Cost of Survey Footage
 - [F]: Calculated Vacation & Sick
 - [G]: Total Incremental Labor cost with Vacation & Sick
 - [H]: Estimated Non-Labor Expense per FTE
 - [I]: Incremental Non-Labor cost
 - [J]: Total Incremental Labor and Non-Labor cost with Vacation & Sick
 - [K]: Yearly hour rate
 - [L]: Number of FTEs
 - [M]: Vacation & Sick rate
 - [N]: Calculated Vacation & Sick Hours

	[A]	[B]	[C] ((B/A) x 8)	[D]	Labor [E] (CxD)	[F]	[G] (E+F)
	Annual Aldyl-A Survey Footage	Survey Footage Per Day	Total Hours	Represented Rate	Total Labor Cost	Calculated Vacation and Sick	Total Labor Cost with V&S
2019	32,202,720	6,114	42,136	\$ 34.35	\$ 1,447,384	\$ 238,384	\$ 1,685,768

Non-Labor			Vacation & Sick			
[H]	[I] (HxL)	[J] (G+I)	[M]	[N] (CxM)		
Non-Labor Cost per FTE	Total Non- Labor Cost	Total Labor and Non-Labor with V&S	V&S Rate	V&S Hours		
2019	\$ 226.00	\$ 5,312	\$ 1,691,080	2019	0.1647	6,940

FTEs				
[G]	[D]	[K]	[L] (G/D/K)	
Total Incremental Labor Cost with V&S	Wage Rate	Yearly Factor	FTEs	
2019	\$ 1,685,768	\$ 34.35	2,088	23.5

Amounts are shown in 2016 dollars and include vacation and sick.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

SCG-04-GOM-O&M-SUP-005

**Southern California Gas Company -- Gas Distribution -- Witness Gina Orozco-Mejia
Supplemental Workpaper Calculations for Incremental Bi-Annual High Pressure Leak Survey
Field O&M - Leak Survey Workgroup**

- Assumptions:
- [A]: Estimated High Pressure Bi-Annual Survey Footage per year based on historical information
 - [B]: Survey Footage per day based on historical information
 - [C]: Total Labor hours for estimated survey footage [A]
 - [D]: Construction Tech 2016 rate
 - [E]: Incremental Labor Cost of Survey Footage
 - [F]: Calculated Vacation & Sick
 - [G]: Total Incremental Labor Cost with Vacation & Sick
 - [H]: Estimated Non-Labor Expense per FTE
 - [I]: Incremental Non-Labor cost
 - [J]: Incremental Labor and Non-Labor cost with Vacation & Sick
 - [K]: Yearly hour rate
 - [L]: Number of FTEs
 - [M]: Vacation & Sick rate
 - [N]: Calculated Vacation & Sick Hours

	[A]	[B]	[C] ((B/A) x 8)	[D]	[E] (Cx D)	[F]	[G] (E+F)
	High Pressure Bi-Annual Survey Footage	Survey Footage Per Day	Total Hours	Represented Rate	Total Labor Cost	Calculated Vacation and Sick	Total Labor Cost with V&S
2017	3,643,200	6,114	4,767	\$ 34.35	\$ 163,747	\$ 26,969	\$ 190,717
2018	3,643,200	6,114	4,767	\$ 34.35	\$ 163,747	\$ 26,969	\$ 190,717
2019	19,721,179	6,114	25,805	\$ 34.35	\$ 886,389	\$ 145,988	\$ 1,032,377

Non-Labor			Vacation & Sick			
[H]	[I] (HxL)	[J] (G+I)	[M]	[N] (CxM)		
Non-Labor Cost per FTE	Total Non-Labor Cost	Total Labor and Non-Labor	V&S Rate	V&S Hours		
2017	\$ 226.00	\$ 603	\$ 191,320	2017	0.1647	785
2018	\$ 226.00	\$ 601	\$ 191,318	2018	0.1647	785
2019	\$ 226.00	\$ 3,253	\$ 1,035,630	2019	0.1647	4,250

FTEs				
[G]	[D]	[K]	[L] (G/D/K)	
Total Incremental Labor Cost	Wage Rate	Yearly Factor	FTE's	
2017	\$ 190,717	\$ 34.35	2,080	2.7
2018	\$ 190,717	\$ 34.35	2,088	2.7
2019	\$ 1,032,377	\$ 34.35	2,088	14.4

Amounts are shown in 2016 dollars and include vacation and sick.

Beginning of Workpaper
2GD002.000 - Measurement & Regulation

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 3. Measurement & Regulation
 Workpaper: 2GD002.000 - 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 1,975 regulator stations and approximately 102,000 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 Linear

SoCalGas evaluated the historical expenditures for 2012 through 2016 for the measurement and regulation workgroup. The level of work through this period has increased steadily as a reflection of the ongoing increased maintenance efforts throughout the system. SoCalGas expects these activities to continue trending upward in this workgroup due to increased regulatory requirements and increased maintenance due to system growth. SoCalGas used a historical five-year (2012 through 2016) linear trend plus incremental to adequately fund the labor activities in this workgroup through the forecasted years.

See Supplemental Workpaper SCG-04-GOM-O&M-SUP-010 for calculation details

Non-Labor - 5-YR Linear

SoCalGas evaluated the historical expenditures for 2012 through 2016 for the measurement and regulation workgroup. The level of work through this period has increased steadily as a reflection of the ongoing increased maintenance efforts throughout the system. SoCalGas expects these activities to continue trending upward in this workgroup due to increased regulatory requirements and increased maintenance due to system growth. SoCalGas used a historical five-year (2012 through 2016) linear trend plus incremental to adequately fund the non-labor activities in this workgroup through the forecasted years.

NSE - 5-YR Linear

NSE is not applicable to this workgroup.

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		9,753	10,099	10,286	10,571	11,092	11,253	11,568	12,147	
Non-Labor		2,085	2,339	2,608	2,758	2,740	3,016	3,189	2,742	
NSE		0	0	0	0	0	0	0	0	
Total		11,839	12,438	12,895	13,329	13,831	14,269	14,757	14,889	
FTE		109.6	109.8	112.7	116.2	121.4	122.6	125.6	131.9	

Note: Totals may include rounding differences.

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Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 3. Measurement & Regulation
Workpaper: 2GD002.000 - Measurement & Regulation

Summary of Adjustments to Forecast:

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	5-YR Linear	11,305	11,620	11,935	-52	-52	212	11,253	11,568	12,147
Non-Labor	5-YR Linear	3,024	3,197	3,370	-8	-8	-629	3,016	3,189	2,741
NSE	5-YR Linear	0	0	0	0	0	0	0	0	0
Total		14,330	14,817	15,305	-60	-60	-417	14,270	14,757	14,888
FTE	5-YR Linear	123.1	126.1	129.2	-0.5	-0.5	2.7	122.6	125.6	131.9

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	FOF-Ongoing	-52	-8	0	-60	-0.5	1-Sided Adj	FGALVAN20170309103756743	
Explanation:		i. Labor and FTE savings of -\$52k and -0.54 FTE respectively plus non-labor savings of -\$8k							
2017	RAMP Incremental	55	0	0	55	0.0	1-Sided Adj	MMCLARK20170307133835763	
Explanation:		RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline Failure - M&R and Maintenance - RAMP Item #1. RAMP Incremental also incorporates a similar mitigation from RAMP Item #3							
2017	Other	-55	0	0	-55	0.0	1-Sided Adj	MMCLARK20170628152347840	
Explanation:		Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline Failure - M&R and Maintenance - reference RAMP Item #1							
2017	RAMP Incremental	868	0	0	868	0.0	1-Sided Adj	MMCLARK20170308095104503	
Explanation:		RAMP incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline Failure - Meter Set Assembly - reference RAMP Item #2							
2017	Other	-868	0	0	-868	0.0	1-Sided Adj	MMCLARK20170511173642443	
Explanation:		Adjustment to identify RAMP incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline Failure - Meter Set Assembly - reference RAMP Item #2							
2017 Total		-52	-8	0	-60	-0.5			
2018	FOF-Ongoing	-52	-8	0	-60	-0.5	1-Sided Adj	FGALVAN20170309112037520	
Explanation:		i. Labor and FTE savings of -\$52k and -0.54 FTE respectively plus non-labor savings of -\$8k							
2018	RAMP Incremental	132	0	0	132	0.0	1-Sided Adj	MMCLARK20170308094149097	

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
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Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 3. Measurement & Regulation
 Workpaper: 2GD002.000 - Measurement & Regulation

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID
Explanation:		RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline Failure - M&R and Maintenance - RAMP Item #1. RAMP Incremental also incorporates a similar mitigation from RAMP Item #3						
2018	Other	-132	0	0	-132	0.0	1-Sided Adj	MMCLARK20170511173254183
Explanation:		Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline Failure - M&R and Maintenance - reference RAMP Item #1						
2018	RAMP Incremental	1,449	0	0	1,449	0.0	1-Sided Adj	MMCLARK20170308095348120
Explanation:		RAMP incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline Failure - Meter Set Assembly - reference RAMP Item #2						
2018	Other	-1,449	0	0	-1,449	0.0	1-Sided Adj	MMCLARK20170511173521190
Explanation:		Adjustment to identify RAMP incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline Failure - Meter Set Assembly - reference RAMP Item #2						
2018 Total		-52	-8	0	-60	-0.5		
2019	FOF-Ongoing	-52	-8	0	-60	-0.5	1-Sided Adj	FGALVAN20170309112208577
Explanation:		i. Labor and FTE savings of -\$52k and -0.54 FTE respectively plus non-labor savings of -\$8k						
2019	Other	0	120	0	120	0.0	1-Sided Adj	FGALVAN20170310184103847
Explanation:		ii. Meter Transmission Unit (MTU) Battery Replacements - Non-labor cost to capture the replacement of MTU batteries. Non-labor cost will be 3,000 orders x \$40 = \$120,000 beginning in TY 2019.						
2019	Other	264	0	0	264	3.2	1-Sided Adj	FGALVAN20170310165755593
Explanation:		iii. Advanced Metering Infrastructure (AMI) Remediation - Labor cost for Measurement & Regulation technicians to troubleshoot and replace approximately 1,900 AMI modules due to failure of the devices. See Supplemental Workpaper SCG-04-GOM-O&M-SUP-010 for calculation details.						
2019	RAMP Incremental	198	0	0	198	0.0	1-Sided Adj	MMCLARK20170308094619123
Explanation:		RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline Failure - M&R and Maintenance - RAMP Item #1. RAMP Incremental also incorporates a similar mitigation from RAMP Item #3						
2019	Other	-198	0	0	-198	0.0	1-Sided Adj	MMCLARK20170511172213497

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
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Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 3. Measurement & Regulation
 Workpaper: 2GD002.000 - Measurement & Regulation

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
Explanation:		Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline Failure - M&R and Maintenance - reference RAMP Item #1						
2019	RAMP Incremental	1,449	0	0	1,449	0.0	1-Sided Adj	MMCLARK20170308095642040
Explanation:		RAMP incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline Failure - Meter Set Assembly - reference RAMP Item #2						
2019	Other	-1,449	0	0	-1,449	0.0	1-Sided Adj	MMCLARK20170511172631817
Explanation:		Adjustment to identify RAMP incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline Failure - Meter Set Assembly - reference RAMP Item #2						
2019	Other	0	-741	0	-741	0.0	1-Sided Adj	MMCLARK20170831134609903
Explanation:		iv. Advanced metering Infrastructure (AMI) Benefits -SoCalGas will be moving approximately 2,058 Electronic Pressure Monitors (EPMs) to its Advanced Metering Infrastructure (AMI) communications network which will reduce the third party communication costs.						
2019 Total		212	-629	0	-417	2.7		

Note: Totals may include rounding differences.

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Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 3. Measurement & Regulation
Workpaper: 2GD002.000 - Measurement & Regulation

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	7,561	8,076	8,433	8,882	9,526
Non-Labor	2,027	2,310	2,617	2,751	2,740
NSE	0	0	0	0	0
Total	9,588	10,386	11,050	11,633	12,265
FTE	94.0	94.0	96.6	99.6	104.0
Adjustments (Nominal \$) **					
Labor	95	0	0	0	-2
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	95	0	0	0	-2
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	7,656	8,076	8,433	8,882	9,523
Non-Labor	2,027	2,310	2,617	2,751	2,740
NSE	0	0	0	0	0
Total	9,682	10,386	11,050	11,633	12,263
FTE	94.0	94.0	96.6	99.6	104.0
Vacation & Sick (Nominal \$)					
Labor	1,226	1,342	1,376	1,437	1,569
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1,226	1,342	1,376	1,437	1,569
FTE	15.6	15.8	16.1	16.7	17.5
Escalation to 2016\$					
Labor	872	681	477	253	0
Non-Labor	59	29	-9	7	0
NSE	0	0	0	0	0
Total	931	709	469	260	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	9,753	10,099	10,286	10,571	11,092
Non-Labor	2,085	2,339	2,608	2,758	2,740
NSE	0	0	0	0	0
Total	11,839	12,438	12,895	13,329	13,831
FTE	109.6	109.8	112.7	116.3	121.5

* 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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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 3. Measurement & Regulation
 Workpaper: 2GD002.000 - Measurement & Regulation

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	95	0	0	0	-2
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	95	0	0	0	-2
FTE	0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	95	0	0	0.0	1-Sided Adj	TP1MTC20161024112031397
Explanation:		To transfer union retro pay out of 2GD000.005 - Tools Fittings & Materials - and into impacted field work groups.					
2012 Total		95	0	0	0.0		
2013 Total		0	0	0	0.0		
2014 Total		0	0	0	0.0		
2015 Total		0	0	0	0.0		
2016	Aliso	-1	0	0	0.0	1-Sided Adj	FGALVAN20170227115333613
Explanation:		Aliso Canyon Incident - Exclude cost & associated FTEs 300776267, Wellhead Leak					
2016	Aliso	-2	0	0	0.0	1-Sided Adj	FGALVAN20170227120358590
Explanation:		Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak					
2016 Total		-2	0	0	0.0		

Note: Totals may include rounding differences.

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Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 3. Measurement & Regulation
 Workpaper: 2GD002.000 - Measurement & Regulation

RAMP Item # 1

Ref ID: MMCLARK20170307133835763

RAMP Chapter: SCG-10

Program Name: M&R and Maintenance

Program Description: Inspect meters, regulators, and gauges to evaluate and confirm overpressure protection is in place and maintained. Each pressure limiting station, relief device, signaling device, and pressure regulating station and its equipment must be inspected and tested at intervals not exceeding 15 months, but at least once each calendar year. This is mandated by CFR 49 Part 192 Subpart M.

Risk/Mitigation:

Risk: Catastrophic Damage Involving Medium-Pressure Pipe

Mitigation: Maintenance

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	1,187	1,272	1,358
High	1,312	1,406	1,501

Funding Source: FERC

Forecast Method: Trend

Work Type: Mandated

Work Type Citation: CFR 49 Subpart H

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 1191

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. These embedded costs account for Risk Ch-02, and RAMP Item #3. This is a RAMP Incremental adjustment within the base forecast to show that the mitigation has been accurately accounted for in 2017, 2018, and TY 2019. The 'Other' adjustment accounts for the negation of the incremental adjustment.

Southern California Gas Company
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Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 3. Measurement & Regulation
 Workpaper: 2GD002.000 - Measurement & Regulation

RAMP Item # 2

Ref ID: MMCLARK20170308095104503

RAMP Chapter: SCG-10

Program Name: MSA

Program Description: Maintenance and inspections of meter set assemblies in the system. This is mandated by CFR 49 Part 192 Subpart M.

Risk/Mitigation:

Risk: Catastrophic Damage Involving Medium-Pressure Pipe

Mitigation: Maintenance

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	4,465	5,700	5,700
High	4,935	6,300	6,300

Funding Source: FERC

Forecast Method: Trend

Work Type: Mandated

Work Type Citation: CFR 49 SubpartH

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 3550

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. This is a RAMP Incremental adjustment within the base forecast to show that the mitigation has been accurately accounted for in 2017, 2018, and TY 2019. The 'Other' adjustment accounts for the negation of the incremental adjustment.

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Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 3. Measurement & Regulation
 Workpaper: 2GD002.000 - Measurement & Regulation

RAMP Item # 3

Ref ID: MMCLARK20170308195425160

RAMP Chapter: SCG-2

Program Name: Meter & Regulator Station Inspections – Distribution

Program Description: Meter & Regulator Station Inspections – Distribution

Risk/Mitigation:

Risk: Employee, Contractor, Customer & Public, Project

Mitigation: Gas Facility and Pipeline Inspections

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	1,152	1,152	1,287
High	1,408	1,408	1,573

Funding Source: Other

Forecast Method: Other

Work Type: Mandated

Work Type Citation: Gas Standards

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 0

Explanation: Dollars for this mitigation have been accounted for a similar mitigation in Risk Ch-10, RAMP Item #1. The mitigation is incorporated within the workpaper.

Supplemental Workpapers for Workpaper 2GD002.000

Southern California Gas Company
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SCG-04-GOM-O&M-SUP-010

Southern California Gas Company -- Gas Distribution -- Witness Gina Orozco-Mejia

Supplemental Workpaper Calculations for Incremental Advanced Metering Infrastructure (AMI) Remediation

Field O&M - Measurement & Regulation Workgroup

- Assumptions:
- [A]: Estimated number of maintenance orders that will need Measurement & Regulation (M&R) inspection to address AMI Remediation.
 - [B]: Estimated M&R hours spent inspecting order. Estimates from Advanced Metering Infrastructure subject matter experts.
 - [C]: 2016 M&R Tech Labor rate
 - [D]: Total Labor Cost Per Year
 - [E]: Calculated Vacation & Sick Cost
 - [F]: Total Labor Cost with Vacation & Sick
 - [G]: Yearly hour factor
 - [H]: Calculated number of FTEs
 - [I]: Vacation & Sick rate
 - [J]: Calculated Vacation & Sick Hours

	[A]	[B]	[C]	[D] (AxBxC)	[E]	[F] (DxE)	[G]	[H] (F/C/G)
	Maintenance Orders	Estimated Troubleshooting Hours per Order	M&R Tech Labor Rate	Total Labor Per Year	Calculated Vacation and Sick	Total Labor Costs with V&S	Yearly Hour Factor	FTEs
2019	1,892	3	\$ 39.88	\$ 226,359	\$ 37,281	\$ 263,640	2088	3.2

	[I]	[J] (AxBxI)
	V&S Rate	V&S Hours
2019	0.1647	935

Amounts are shown in 2016 dollars and include vacation and sick.

Beginning of Workpaper
2GD003.000 - Cathodic Protection

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 4. Cathodic Protection
 Workpaper: 2GD003.000 - 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 Linear

CP maintenance work has increased for the period 2012 through 2016. This is driven by multiple CP activities covered in this workgroup as well as by several factors that influence the level of spending in a given year. These factors include increasing aging infrastructure, municipality requirements, and material degradation. SoCalGas is forecasting a five-year (2012 through 2016) linear trend plus incremental increases for labor as it best reflects the future requirements for this workgroup.

See Supplemental Workpaper SCG-04-GOM-O&M-SUP-003 for calculation details

Non-Labor - 5-YR Linear

CP maintenance work has increased for the period 2012 through 2016. This is driven by multiple CP activities covered in this workgroup as well as by several factors that influence the level of spending in a given year. These factors include increasing aging infrastructure, municipality requirements, and material degradation. SoCalGas is forecasting a five-year (2012 through 2016) linear trend plus incremental increases for non-labor as it best reflects the future requirements for this workgroup.

See Supplemental Workpaper SCG-04-GOM-O&M-SUP-003 for calculation details

NSE - 5-YR Linear

NSE is not applicable to this workgroup.

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		6,625	6,865	7,442	7,805	8,623	8,940	9,678	10,542	
Non-Labor		3,033	3,577	4,789	4,835	5,780	6,429	7,104	7,779	
NSE		0	0	0	0	0	0	0	0	
Total		9,659	10,442	12,232	12,640	14,403	15,369	16,782	18,321	
FTE		75.6	79.0	85.3	89.3	99.1	102.7	111.2	121.4	

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 4. Cathodic Protection
 Workpaper: 2GD003.000 - Cathodic Protection

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>	
2018	Other	-3,266	0	0	-3,266	0.0	1-Sided Adj	MMCLARK20170512084640180	
Explanation:		Adjustment to identify RAMP incremental costs within the base forecast methodology - RAMP Ch 10 Medium Pressure Pipeline Failure - Cathodic Protection (Per Region) - reference RAMP Item #2							
2018 Total		232	0	0	232	2.7			
2019	Other	650	0	0	650	7.8	1-Sided Adj	FGALVAN20161122123913277	
Explanation:		i. Incremental Cathodic Protection System Enhancement - Re-evaluation of existing 100 mV shift areas at least every 10 years to verify their effectiveness as a measurement for adequate cathodic protection of the area. SoCalGas will re-evaluate 75 CP packages in 2018 and 175 CP packages annually starting in TY 2019. See Supplemental Workpaper SCG-04-GOM-O&M-SUP-003 for calculation details.							
2019	FOF-Ongoing	-47	0	0	-47	-0.6	1-Sided Adj	FGALVAN20170309090035710	
Explanation:		ii. Labor and FTE savings of -\$47k and -0.65 FTE respectively							
2019	RAMP Incremental	5,056	0	0	5,056	0.0	1-Sided Adj	MMCLARK20170308101322380	
Explanation:		RAMP incremental costs within the base forecast methodology - RAMP - Ch 10 Medium Pressure Pipeline Failure - Cathodic Protection - reference RAMP Item #2							
2019	Other	-5,056	0	0	-5,056	0.0	1-Sided Adj	MMCLARK20170512085305500	
Explanation:		Adjustment to identify RAMP incremental costs within the base forecast methodology - RAMP Ch 10 Medium Pressure Pipeline Failure - Cathodic Protection (Per Region) - reference RAMP Item #2							
2019 Total		603	0	0	603	7.2			

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
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Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 4. Cathodic Protection
Workpaper: 2GD003.000 - Cathodic Protection

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	5,136	5,490	6,101	6,558	7,403
Non-Labor	2,948	3,533	4,805	4,822	5,780
NSE	0	0	0	0	0
Total	8,084	9,023	10,906	11,380	13,184
FTE	65.0	68.1	73.6	77.0	85.2
Adjustments (Nominal \$) **					
Labor	64	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	64	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	5,200	5,490	6,101	6,558	7,403
Non-Labor	2,948	3,533	4,805	4,822	5,780
NSE	0	0	0	0	0
Total	8,149	9,023	10,906	11,380	13,184
FTE	65.0	68.1	73.6	77.0	85.2
Vacation & Sick (Nominal \$)					
Labor	833	912	996	1,061	1,219
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	833	912	996	1,061	1,219
FTE	10.6	10.8	11.7	12.3	13.8
Escalation to 2016\$					
Labor	592	463	345	187	0
Non-Labor	85	44	-16	13	0
NSE	0	0	0	0	0
Total	678	507	330	199	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	6,625	6,865	7,442	7,805	8,623
Non-Labor	3,033	3,577	4,789	4,835	5,780
NSE	0	0	0	0	0
Total	9,659	10,442	12,232	12,640	14,403
FTE	75.6	78.9	85.3	89.3	99.0

* 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
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 4. Cathodic Protection
 Workpaper: 2GD003.000 - Cathodic Protection

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	64	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	64	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	64	0	0	0.0	1-Sided Adj	TP1MTC20161024112052643

Explanation: To transfer union retro pay out of 2GD000.005 - Tools Fittings & Materials - and into impacted field work groups.

2012 Total	64	0	0	0.0
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2013 Total	0	0	0	0.0
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2014 Total	0	0	0	0.0
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2015 Total	0	0	0	0.0
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2016 Total	0	0	0	0.0
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Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 4. Cathodic Protection
 Workpaper: 2GD003.000 - Cathodic Protection

RAMP Item # 1

Ref ID: MMCLARK20170307134417780

RAMP Chapter: SCG-10

Program Name: CP

Program Description: System protection requirements mandated by CFR 49 Part 192 Subpart I. This program maintains cathodically protected assets by repairing, replacing, or retrofitting components.

Risk/Mitigation:

Risk: Catastrophic Damage Involving Medium-Pressure Pipe

Mitigation: Requirements for Corrosion Control

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	11,643	14,493	19,243
High	12,868	16,018	21,268

Funding Source: FERC

Forecast Method: Trend

Work Type: Mandated

Work Type Citation: CFR 49 Subpart I

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 10519

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. The mitigation is incorporated within the workpaper. There are RAMP Incremental adjustments within the base forecast to show that the mitigation has been accurately accounted for in 2017, 2018, and TY 2019. The 'Other' adjustment accounts for the negation of the incremental adjustment.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 4. Cathodic Protection
 Workpaper: 2GD003.000 - Cathodic Protection

RAMP Item # 2

Ref ID: MMCLARK20170308194827330

RAMP Chapter: SCG-2

Program Name: CP 10% Reads - Inspections on Distribution system

Program Description: CP 10% Reads - Inspections on Distribution system

Risk/Mitigation:

Risk: Employee, Contractor, Customer & Public, Project

Mitigation: Gas Facility and Pipeline Inspections

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	770	770	846
High	942	942	1,034

Funding Source: Other

Forecast Method: Other

Work Type: Mandated

Work Type Citation: Part of compliance activities

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 879

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. The mitigation is incorporated within the workpaper.

Supplemental Workpapers for Workpaper 2GD003.000

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

SCG-04-GOM-O&M-SUP-003

**Southern California Gas Company -- Gas Distribution -- Witness Gina Orozco-Mejia
Supplemental Workpaper Calculations for Incremental Cathodic Protection System Enhancement
Field O&M - Cathodic Protection Workgroup**

- Assumptions: [A]: Total CP Packages that will be re-evaluated for 100mV shift
 [B]: Estimated System Protection Specialist (SPS) hours spent troubleshooting per package. Estimates from cathodic protection subject matter experts
 [C]: Total Labor hours
 [D]: 2016 System Protection Specialist Labor rate
 [E]: Total Labor Cost Per Year
 [F]: Calculated Vacation & Sick cost
 [G]: Total Labor with Vacation & Sick Cost
 [H]: Yearly Hour Factor
 [I]: Number of FTEs
 [J]: Vacation & Sick rate
 [K]: Calculated Vacation & Sick Hours

Labor & FTEs

	[A]	[B]	[C] (AxB)	[D]	[E] (CxD)	[F] (KxD)	[G] (E+F)	[H]	[I] (G/D/H)
	Total CP Packages	Estimated Troubleshooting Hours per Package	Total Labor Hours	SPS Labor Rate	Total Labor Per Year	Calculated Vacation and Sick	Total Labor per year with V&S	Yearly Hour Factor	FTEs
2018	75	80	6,000	\$ 39.88	\$ 239,280	\$ 39,409	\$ 278,689	2088	3.3
2019	175	80	14,000	\$ 39.88	\$ 558,320	\$ 91,955	\$ 650,275	2088	7.8

Vacation & Sick

	[J]	[K] (JxC)
	V&S Rate	V&S Hours
2018	0.1647	988
2019	0.1647	2,306

Amounts are shown in 2016 dollars and include vacation and sick.

Beginning of Workpaper
2GD000.003 - Main Maintenance

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 5. Main Maintenance
Workpaper: 2GD000.003 - 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-F, 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 (2012 through 2016) 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 2012 through 2016 was used to forecast the base level of funding plus the incremental funding needed for the leak repairs from the increased survey cycles addressing Enhanced Leak Survey - Early Vintage Plastic Pipe and High-Pressure was added to this forecast base.

See Supplemental Workpaper SCG-04-GOM-O&M-SUP-001 for calculation details.

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 (2012 through 2016) 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 (2012 through 2016) 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 (2012 through 2016) average for damage credits was applied. These non-labor components of this zero-based forecast are shown in Supplemental Workpaper SCG-04-GOM-O&M-SUP-002. Incremental funding for the leak repairs due to the increased leak survey cycles addressing Enhanced Leak Survey - Early Vintage Plastic Pipe and High-Pressure was added to this forecast base.

See Supplemental Workpaper SCG-04-GOM-O&M-SUP-001 for calculation details.

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 5. Main Maintenance
 Workpaper: 2GD000.003 - Main Maintenance

NSE - 5-YR Linear

NSE is not applicable to this workgroup.

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		8,314	8,747	10,163	8,491	9,377	12,569	15,001	12,717	
Non-Labor		4,988	1,026	5,940	4,517	2,006	8,838	11,308	8,054	
NSE		0	0	0	0	0	0	0	0	
Total		13,302	9,773	16,103	13,008	11,383	21,407	26,309	20,771	
FTE		89.9	91.7	107.1	90.7	99.0	138.7	168.8	139.9	

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 5. Main Maintenance
Workpaper: 2GD000.003 - Main Maintenance

Summary of Adjustments to Forecast:

		In 2016 \$(000) Incurred Costs								
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	5-YR Linear	9,580	9,767	9,954	2,989	5,234	2,764	12,569	15,001	12,718
Non-Labor	Zero-Based	0	0	0	8,838	11,308	8,054	8,838	11,308	8,054
NSE	5-YR Linear	0	0	0	0	0	0	0	0	0
Total		9,580	9,767	9,954	11,827	16,542	10,818	21,407	26,309	20,772
FTE	5-YR Linear	100.9	102.6	104.3	37.8	66.2	35.5	138.7	168.8	139.8

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	0	5,115	0	5,115	0.0	1-Sided Adj	JLORTIZ20161122104244400	
Explanation:		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-04-GOM-O&M-SUP-002 for calculation details.							
2017	Other	2,800	4,200	0	7,000	34.9	1-Sided Adj	JLORTIZ20161122112517637	
Explanation:		i. Leak Repairs - SoCalGas has forecasted in this TY 2019 GRC an increase in the number of incremental leak repairs in 2017 and 2018 to 2,800 and 4,870 respectively for a total of 7,670 over this two-year period.							
		Labor costs will be 2,800 leaks X \$1,000 = \$2,800K in 2017. Non-labor costs will be 2,800 leaks X \$1,500 = \$4,200K in 2017. Labor costs will be 4,870 leaks X \$1,000 = \$4,870K in 2018. Non-labor costs will be 4,870 leaks X \$1,500 = \$7,305K in 2018.							
		As a result of the accelerated leak survey cycles there is an estimated of 2,400 leaks that will be repaired in TY 2019. Labor costs will be 2,400 leaks X \$1,000 = \$2,400K in TY 2019. Non-labor costs will be 2,400 leaks X \$1,500 = \$3,600K in TY 2019.							
		See Supplemental Workpaper SCG-04-GOM-O&M-SUP-001 for calculation details.							
2017	RAMP Incremental	0	920	0	920	0.0	1-Sided Adj	MMCLARK20170901103510387	
Explanation:		RAMP incremental costs within the base forecast methodology - RAMP - Ch 02 Employee Contractor Customer & Public - Contracting for Traffic Control Delineation materials - reference RAMP Item #1							
2017	Other	0	-920	0	-920	0.0	1-Sided Adj	MMCLARK20170901104300847	

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 5. Main Maintenance
Workpaper: 2GD000.003 - Main Maintenance

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID
Explanation:		Adjustment to identify RAMP incremental costs within the base forecast methodology - RAMP - Ch 02 Employee Contractor Customer & Public - Contracting for Traffic Control Delineation materials - reference RAMP Item #1						
2017	FOF-Implementation	0	60	0	60	0.0	1-Sided Adj	FGALVAN20170309112709940
Explanation:		iii. Reduce paving costs by transferring the less complex paving repair work from contractor to company crews - FOF Idea #110.						
2017	FOF-Ongoing	189	-537	0	-348	2.9	1-Sided Adj	FGALVAN20170309113834877
Explanation:		ii. Labor and FTE cost of \$189 k and 2.9 FTE respectively plus non-labor ongoing savings of -\$537k.						
2017 Total		2,989	8,838	0	11,827	37.8		
2018	Other	0	5,589	0	5,589	0.0	1-Sided Adj	JLORTIZ20161122104301667
Explanation:		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-04-GOM-O&M-SUP-002 for calculation details.						
2018	Other	4,870	7,305	0	12,175	60.5	1-Sided Adj	JLORTIZ20161122112703653
Explanation:		i. Leak Repairs - SoCalGas has forecasted in this TY 2019 GRC an increase in the number of incremental leak repairs in 2017 and 2018 to 2,800 and 4,870 respectively for a total of 7,670 over this two-year period. Labor costs will be 2,800 leaks X \$1,000 = \$2,800K in 2017. Non-labor costs will be 2,800 leaks X \$1,500 = \$4,200K in 2017. Labor costs will be 4,870 leaks X \$1,000 = \$4,870K in 2018. Non-labor costs will be 4,870 leaks X \$1,500 = \$7,305K in 2018. As a result of the accelerated leak survey cycles there is an estimated of 2,400 leaks that will be repaired in TY 2019. Labor costs will be 2,400 leaks X \$1,000 = \$2,400K in TY 2019. Non-labor costs will be 2,400 leaks X \$1,500 = \$3,600K in TY 2019. See Supplemental Workpaper SCG-04-GOM-O&M-SUP-001 for calculation details.						
2018	RAMP Incremental	0	920	0	920	0.0	1-Sided Adj	MMCLARK20170901104324130
Explanation:		RAMP incremental costs within the base forecast methodology - RAMP - Ch 02 Employee Contractor Customer & Public - Contracting for Traffic Control Delineation materials - reference RAMP Item #1						

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 5. Main Maintenance
Workpaper: 2GD000.003 - Main Maintenance

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj_Type	RefID
2018	Other	0	-920	0	-920	0.0	1-Sided Adj	MMCLARK20170901104344947
Explanation:		Adjustment to identify RAMP incremental costs within the base forecast methodology - RAMP - Ch 02 Employee Contractor Customer & Public - Contracting for Traffic Control Delineation materials - reference RAMP Item #1						
2018	FOF-Ongoing	364	-1,586	0	-1,222	5.7	1-Sided Adj	FGALVAN20170309114033167
Explanation:		ii. Labor and FTE cost of \$364k and 5.7 FTE respectively plus non-labor ongoing savings of -\$1586k						
2018 Total		5,234	11,308	0	16,542	66.2		

2019	Other	0	6,062	0	6,062	0.0	1-Sided Adj	JLORTIZ20161122104318300
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Explanation: 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-04-GOM-O&M-SUP-002 for calculation details.

2019	Other	2,400	3,600	0	6,000	29.8	1-Sided Adj	JLORTIZ20161122113008873
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Explanation: i. Leak Repairs - SoCalGas has forecasted in this TY 2019 GRC an increase in the number of incremental leak repairs in 2017 and 2018 to 2,800 and 4,870 respectively for a total of 7,670 over this two-year period.

Labor costs will be 2,800 leaks X \$1,000 = \$2,800K in 2017.
Non-labor costs will be 2,800 leaks X \$1,500 = \$4,200K in 2017.
Labor costs will be 4,870 leaks X \$1,000 = \$4,870K in 2018.
Non-labor costs will be 4,870 leaks X \$1,500 = \$7,305K in 2018.

As a result of the accelerated leak survey cycles there is an estimated of 2,400 leaks that will be repaired in TY 2019.

Labor costs will be 2,400 leaks X \$1,000 = \$2,400K in TY 2019.
Non-labor costs will be 2,400 leaks X \$1,500 = \$3,600K in TY 2019.

See Supplemental Workpaper SCG-04-GOM-O&M-SUP-001 for calculation details.

2019	RAMP Incremental	0	920	0	920	0.0	1-Sided Adj	MMCLARK20170901104401963
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Explanation: RAMP incremental costs within the base forecast methodology - RAMP - Ch 02 Employee Contractor Customer & Public - Contracting for Traffic Control Delineation materials - reference RAMP Item #1

2019	Other	0	-920	0	-920	0.0	1-Sided Adj	MMCLARK20170901104421520
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Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 5. Main Maintenance
 Workpaper: 2GD000.003 - Main Maintenance

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
Explanation:		Adjustment to identify RAMP incremental costs within the base forecast methodology - RAMP - Ch 02 Employee Contractor Customer & Public - Contracting for Traffic Control Delineation materials - reference RAMP Item #1						
2019	FOF-Ongoing	364	-1,608	0	-1,244	5.7	1-Sided Adj	FGALVAN20170309114216890
Explanation:		ii. Labor and FTE cost of \$364k and 5.7 FTE respectively plus non-labor ongoing savings of -\$1608k						
2019 Total		2,764	8,054	0	10,818	35.5		

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 5. Main Maintenance
Workpaper: 2GD000.003 - Main Maintenance

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	6,445	6,995	8,332	7,134	8,054
Non-Labor	4,888	4,893	6,552	5,591	4,345
NSE	0	0	0	0	0
Total	11,333	11,888	14,884	12,725	12,399
FTE	77.1	78.9	92.2	78.1	84.9
Adjustments (Nominal \$) **					
Labor	81	0	0	0	-3
Non-Labor	-41	-3,880	-592	-1,086	-2,339
NSE	0	0	0	0	0
Total	40	-3,880	-592	-1,086	-2,342
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	6,526	6,995	8,332	7,134	8,051
Non-Labor	4,848	1,014	5,959	4,505	2,006
NSE	0	0	0	0	0
Total	11,373	8,008	14,291	11,639	10,057
FTE	77.1	78.9	92.2	78.1	84.9
Vacation & Sick (Nominal \$)					
Labor	1,045	1,163	1,360	1,154	1,326
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1,045	1,163	1,360	1,154	1,326
FTE	12.7	12.9	15.0	12.6	14.1
Escalation to 2016\$					
Labor	743	590	472	203	0
Non-Labor	140	13	-20	12	0
NSE	0	0	0	0	0
Total	883	602	452	215	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	8,314	8,747	10,163	8,491	9,377
Non-Labor	4,988	1,026	5,940	4,517	2,006
NSE	0	0	0	0	0
Total	13,302	9,773	16,103	13,008	11,383
FTE	89.8	91.8	107.2	90.7	99.0

* 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
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 5. Main Maintenance
 Workpaper: 2GD000.003 - Main Maintenance

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	81	0	0	0	-3
Non-Labor	-41	-3,880	-592	-1,086	-2,339
NSE	0	0	0	0	0
Total	40	-3,880	-592	-1,086	-2,342
FTE	0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	81	0	0	0.0	1-Sided Adj	TP1MTC20161024111943877
Explanation:		To transfer union retro pay out of 2GD000.005 - Tools Ftngs & Materials - and into impacted field work groups.					
2012	Other	0	-41	0	0.0	1-Sided Adj	TP1MTC20161025133746147
Explanation:		To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)					
2012 Total		81	-41	0	0.0		
2013	Other	0	-3,880	0	0.0	1-Sided Adj	TP1MTC20161025133837380
Explanation:		To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)					
2013 Total		0	-3,880	0	0.0		
2014	Other	0	-592	0	0.0	1-Sided Adj	TP1MTC20161025134412987
Explanation:		To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)					
2014 Total		0	-592	0	0.0		
2015	Other	0	-1,086	0	0.0	1-Sided Adj	TP1MTC20161025140234357
Explanation:		To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)					
2015 Total		0	-1,086	0	0.0		
2016	Other	0	-2,339	0	0.0	1-Sided Adj	TP1MTC20161025140301890
Explanation:		To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)					

Note: Totals may include rounding differences.

Southern California Gas Company
 2019 GRC - APP
 Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 5. Main Maintenance
 Workpaper: 2GD000.003 - Main Maintenance

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2016	Aliso	-3	0	0	0.0	1-Sided Adj	MMCLARK20170227121508920
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300776268, Wellhead Leak							
2016 Total		-3	-2,339	0	0.0		

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 5. Main Maintenance
 Workpaper: 2GD000.003 - Main Maintenance

RAMP Item # 1

Ref ID: MMCLARK20170901103510387

RAMP Chapter: SCG-2

Program Name: Contracting for Traffic Control Delineation materials

Program Description: Contracting for Traffic Control Delineation materials

Risk/Mitigation:

Risk: Employee, Contractor, Customer and Public Safety

Mitigation: Contracting for Traffic Control Delineation materials -- Distribution Only. Outside vendors

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	827	827	827
High	1,011	1,011	1,011

Funding Source: CPUC-GRC

Forecast Method: Base Year

Work Type: Non-Mandated

Work Type Citation: N/A

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 942

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. Created to document that the mitigation is incorporated within the workpaper. There are RAMP Incremental adjustments within the base forecast to show that the mitigation has been accurately accounted for in 2017, 2018, and TY 2019. The 'Other' adjustment accounts for the negation of the incremental adjustment.

Supplemental Workpapers for Workpaper 2GD000.003

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

SCG-04-GOM-O&M-SUP-001

**Southern California Gas Company -- Gas Distribution -- Witness Gina Orozco-Mejia
Supplemental Workpaper Calculations for incremental cost related to Leak Repairs
Field O&M - Main Maintenance Workgroup**

- Assumptions:
- [A]: Total leaks to be worked per year.
 - [B]: Labor Cost per order based on 2015 historical repair costs
 - [C]: Total Incremental Labor cost
 - [D]: Non-Labor Cost per order based on 2015 historical repair costs
 - [E]: Total Incremental Non-Labor cost
 - [F]: Total Labor and Non-Labor Cost
 - [G]: Total Incremental Labor cost
 - [H]: Lead Construction Tech and Construction Tech 2016 blended rate
 - [I]: Yearly hour factor

		[A]	[B]	[C] (AxB)	[D]	[E] (AxD)	[F]
		Estimated Total 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	2017	2,800	\$ 1,000	\$ 2,800,000	\$ 1,500	\$ 4,200,000	\$ 7,000,000
	2018	4,870	\$ 1,000	\$ 4,870,000	\$ 1,500	\$ 7,305,000	\$ 12,175,000
	2019	2,400	\$ 1,000	\$ 2,400,000	\$ 1,500	\$ 3,600,000	\$ 6,000,000

		(G)	(H)	(I)	(G/H/I)
		Total Incremental Labor Cost	Wage Rate	Yearly Factor	FTEs
Main Leaks	2017	\$ 2,800,000	\$ 38.54	2,080	34.9
	2018	\$ 4,870,000	\$ 38.54	2,088	60.5
	2019	\$ 2,400,000	\$ 38.54	2,088	29.8

Amounts are shown in 2016 dollars and include vacation and sick.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

SCG-04-GOM-O&M-SUP-002

Southern California Gas Company -- Gas Distribution -- Witness Gina Orozco-Mejia

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 2016\$)		2012	2013	2014	2015	2016
[A]	Field O&M - Main Maintenance - Labor	8,314	8,747	10,163	8,491	9,377
[B]	Field O&M - Main Maintenance - Non-Labor	4,988	1,026	5,940	4,517	2,006
[C]	Field O&M - Main Maintenance -- Non-Labor Damage Credits	-624	-3,909	-1,030	-3,877	-4,243
[D]	Field O&M - Main Maintenance -- Non-Labor Excluding Damage Credits ([B]-[C])	5,612	4,935	6,969	8,394	6,249

		5Yr Trend for Labor / Zero Base for Non-Labor			
		2017	2018	2019	
[E]	5-Year Trend of A	Labor	9,580	9,767	9,954
[F]	5-Year Trend of D	Non-Labor Excluding Damage Credits	7,852	8,325	8,798
[G]	5-Year Average of C	Non-Labor Damage Credits	-2,737	-2,737	-2,737
[H]	Sum of F and G	Non-Labor Subtotal	5,115	5,589	6,062
[I]	Sum of E and H	Total Base Forecast	14,695	15,355	16,016

Amounts are shown in thousands of 2016 dollars and include vacation and sick.

Beginning of Workpaper
2GD000.004 - Service Maintenance

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 6. Service Maintenance
Workpaper: 2GD000.004 - 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-F, 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 Linear

In developing the TY2019 forecast, historical expenditures and work units for 2012 through 2016 were evaluated. There are multiple service maintenance activities covered in this workgroup as well as a variety of factors that influence the level of work and associated spending for this workgroup, including an aging infrastructure, government regulations, public safety, customer requests, municipality requirements, material failure, infrastructure condition, and economic conditions. In addition, changes in work practices and use of new more sensitive equipment will continue to increase the cost to complete service leak repair work as well as work associated with clearing residual gas from house-line leaks. Given these continuing upward pressures from a variety of drivers, SoCalGas used a five-year (2012 through 2016) linear trend plus incremental to forecast the base level of labor funding needed for TY2019. Using an average 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 for this critical compliance and maintenance activity.

See Supplemental Workpapers SCG-04-GOM-O&M-SUP-011, SCG-04-GOM-O&M-SUP-007, and SCG-04-GOM-O&M-SUP-008 for calculation details.

Non-Labor - 5-YR Linear

In developing the TY2019 forecast, historical expenditures and work units for 2012 through 2016 were evaluated. There are multiple service maintenance activities covered in this workgroup as well as a variety of factors that influence the level of work and associated spending for this workgroup, including an aging infrastructure, government regulations, public safety, customer requests, municipality requirements, material failure, infrastructure condition, and economic conditions. In addition, changes in work practices and use of new more sensitive equipment will continue to increase the cost to complete service leak repair work as well as work associated with clearing residual gas from house-line leaks. Given these continuing upward pressures from a variety of drivers, SoCalGas used a five-year (2012 through 2016) linear trend plus incremental to forecast the base level of non-labor funding needed for TY2019. Using an average 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 for this critical compliance and maintenance activity.

See Supplemental Workpapers SCG-04-GOM-O&M-SUP-011, SCG-04-GOM-O&M-SUP-007, and SCG-04-GOM-O&M-SUP-008 for calculation details.

NSE - 5-YR Linear

NSE is not applicable to this workgroup.

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 6. Service Maintenance
 Workpaper: 2GD000.004 - Service Maintenance

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		8,890	8,674	9,972	10,119	9,881	10,963	11,981	14,409	
Non-Labor		1,243	-1,160	1,640	1,261	457	944	1,785	2,587	
NSE		0	0	0	0	0	0	0	0	
Total		10,133	7,514	11,613	11,379	10,339	11,907	13,766	16,996	
FTE		99.4	95.3	109.8	111.5	107.0	119.5	131.0	160.7	

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 6. Service Maintenance
Workpaper: 2GD000.004 - Service Maintenance

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>
2018	Other	317	0	0	317	3.9	1-Sided Adj	JLORTIZ20161130101334097
Explanation:		<p>ii. Meter Guard Activities - SoCalGas plans to address the continuing increase in maintenance work associated with meter guard activities, SoCalGas anticipates addressing approximately 500 orders in 2017, 1,000 in 2018, and 3,500 in TY 2019.</p> <p>Associated non-labor cost can be found under the workbook for Tools-Fittings and Materials.</p> <p>See Supplemental Workpaper SCG-04-GOM-O&M-SUP-006 for calculation details.</p>						
2018	Other	324	757	0	1,081	4.0	1-Sided Adj	FGALVAN20170512063934193
Explanation:		<p>iii. Chronically Inaccessible MSA's - Disconnect Services - SoCalGas continues to face the issue of chronically inaccessible MSAs. This refers to meters that Company personnel are unable to access after multiple attempts of communication. After Customer Services personnel attempts to reach the customer to gain access to the MSA using different communication options such as letter, phone and in person; a final notification is sent notifying the customer that service will be cut in the street if SoCalGas is unable to access the meter to complete the inspection work. Gas Distribution crews cut and cap the gas service line at the service to main connection. This effort will begin in 2018 by addressing approximately 364 services in 2018 and 709 in TY 2019.</p> <p>See Supplemental Workpaper SCG-04-GOM-O&M-SUP-011 for calculation details.</p>						
2018	FOF-Ongoing	-75	0	0	-75	-0.9	1-Sided Adj	FGALVAN20170309125634017
Explanation:		<p>iv. Labor and FTE savings of \$-75k and -.95 FTE respectively.</p>						
2018 Total		1,103	757	0	1,860	14.0		
2019	Other	1,523	0	0	1,523	19.7	1-Sided Adj	JLORTIZ20161130101250550
Explanation:		<p>i. MSA Maintenance Activities - SoCalGas plans to address the continuing increase in maintenance work associated with riser and service valve work, SoCalGas anticipates addressing approximately 1,500 orders in 2017, 3,000 in 2018, and 8,500 in TY 2019.</p> <p>Associated non-labor cost can be found under the workbook for Tools-Fittings and Materials.</p> <p>See Supplemental Workpaper SCG-04-GOM-O&M-SUP-007 for calculation details.</p>						
2019	Other	1,109	0	0	1,109	13.8	1-Sided Adj	JLORTIZ20161130101343987

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 6. Service Maintenance
 Workpaper: 2GD000.004 - Service Maintenance

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
Explanation: ii. Meter Guard Activities - address the continuing increase in maintenance work associated with meter guard activities, SoCalGas anticipates addressing approximately 500 orders in 2017, 1,000 in 2018, and 3,500 in TY 2019. Associated non-labor cost can be found under the workbook for Tools-Fittings and Materials. See Supplemental Workpaper SCG-04-GOM-O&M-SUP-006 for calculation details.								
2019	Other	632	1,474	0	2,106	7.9	1-Sided Adj	FGALVAN20170512064203670
Explanation: iii. Chronically Inaccessible MSA's - Disconnect Services - SoCalGas continues to face the issue of chronically inaccessible MSAs. This refers to meters that Company personnel are unable to access after multiple attempts of communication. After Customer Services personnel attempts to reach the customer to gain access to the MSA using different communication options such as letter, phone and in person; a final notification is sent notifying the customer that service will be cut in the street if SoCalGas is unable to access the meter to complete the inspection work. Gas Distribution crews cut and cap the gas service line at the service to main connection. This effort will begin in 2018 by addressing approximately 364 services in 2018 and 709 in TY 2019. See Supplemental Workpaper SCG-04-GOM-O&M-SUP-011 for calculation details.								
2019	FOF-Ongoing	-75	0	0	-75	-0.9	1-Sided Adj	FGALVAN20170309125716057
Explanation: iv. Labor and FTE savings of -\$75k and -.95 FTE respectively								
2019 Total		3,189	1,474	0	4,663	40.5		

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 6. Service Maintenance
Workpaper: 2GD000.004 - Service Maintenance

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	6,892	6,936	8,175	8,501	8,494
Non-Labor	1,583	1,680	2,289	3,002	3,718
NSE	0	0	0	0	0
Total	8,474	8,616	10,464	11,504	12,211
FTE	85.2	81.8	94.3	95.8	91.8
Adjustments (Nominal \$) **					
Labor	86	0	0	0	-10
Non-Labor	-375	-2,825	-643	-1,745	-3,260
NSE	0	0	0	0	0
Total	-289	-2,825	-643	-1,745	-3,270
FTE	0.0	0.0	0.0	0.0	-0.1
Recorded-Adjusted (Nominal \$)					
Labor	6,978	6,936	8,175	8,501	8,484
Non-Labor	1,208	-1,146	1,646	1,257	457
NSE	0	0	0	0	0
Total	8,186	5,791	9,821	9,759	8,941
FTE	85.2	81.8	94.3	95.8	91.7
Vacation & Sick (Nominal \$)					
Labor	1,117	1,153	1,334	1,375	1,397
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1,117	1,153	1,334	1,375	1,397
FTE	14.1	13.6	15.5	15.7	15.2
Escalation to 2016\$					
Labor	795	585	463	242	0
Non-Labor	35	-14	-5	3	0
NSE	0	0	0	0	0
Total	830	570	457	245	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	8,890	8,674	9,972	10,119	9,881
Non-Labor	1,243	-1,160	1,640	1,261	457
NSE	0	0	0	0	0
Total	10,133	7,514	11,613	11,379	10,339
FTE	99.3	95.4	109.8	111.5	106.9

* 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
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 6. Service Maintenance
Workpaper: 2GD000.004 - Service Maintenance

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	86	0	0	0	-10
Non-Labor	-375	-2,825	-643	-1,745	-3,260
NSE	0	0	0	0	0
Total	-289	-2,825	-643	-1,745	-3,270
FTE	0.0	0.0	0.0	0.0	-0.1

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	86	0	0	0.0	1-Sided Adj	TP1MTC20161024112000450
Explanation:		To transfer union retro pay out of 2GD000.005 - Tools Fittings & Materials - and into impacted field work groups.					
2012	Other	0	-375	0	0.0	1-Sided Adj	TP1MTC20161025140358493
Explanation:		To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)					
2012 Total		86	-375	0	0.0		
2013	Other	0	-2,825	0	0.0	1-Sided Adj	TP1MTC20161025140657927
Explanation:		To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)					
2013 Total		0	-2,825	0	0.0		
2014	Other	0	-643	0	0.0	1-Sided Adj	TP1MTC20161025140731797
Explanation:		To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)					
2014 Total		0	-643	0	0.0		
2015	Other	0	-1,745	0	0.0	1-Sided Adj	TP1MTC20161025140817050
Explanation:		To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)					
2015 Total		0	-1,745	0	0.0		
2016	Other	0	-3,260	0	0.0	1-Sided Adj	TP1MTC20161025140856720
Explanation:		To transfer damage credits to appropriate work group (from CC 2200-2092 in Ops Mgmt & Training)					

Note: Totals may include rounding differences.

Southern California Gas Company
 2019 GRC - APP
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Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 6. Service Maintenance
 Workpaper: 2GD000.004 - Service Maintenance

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2016	Aliso	-10	0	0	-0.1	1-Sided Adj	MMCLARK20170227121652623
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300776268, Wellhead Leak							
2016 Total		-10	-3,260	0	-0.1		

Note: Totals may include rounding differences.

Supplemental Workpapers for Workpaper 2GD000.004

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

SCG-04-GOM-O&M-SUP-006

Southern California Gas Company -- Gas Distribution -- Witness Gina Orozco-Mejia

Supplemental Workpaper Calculations for Meter Guard Activities

Field O&M - Service Maintenance Workgroup

- Assumptions:
- [A]: Estimated meter guard orders to be addressed per year
 - [B]: Labor Cost per order based on 2016 historical cost
 - [C]: Vacation & Sick rate (0.1647) applied to Labor Cost per order [B]
 - [D]: Total Labor cost of meter guard orders with Vacation & Sick
 - [E]: Total incremental Labor cost of meter guard orders with Vacation & Sick
 - [F]: Blended 2016 rate for Lead Construction Tech and Construction Tech
 - [G]: Yearly Factor
 - [H]: Calculated FTEs

		[A]	[B]	[C] (Bx0.1647)	[D] (B+C)	[E] (AxD)
		Estimated Total Meter Guards to be addressed	Labor Cost per Order	V&S Cost per order	Total Labor cost per order with V&S	Total Incremental Labor Cost with V&S
Meter Guard Activities	2017	500	\$ 272	\$ 45	\$ 317	\$ 158,399
	2018	1,000	\$ 272	\$ 45	\$ 317	\$ 316,798
	2019	3,500	\$ 272	\$ 45	\$ 317	\$ 1,108,794

		[F]	[E]	[G]	[H] (E/F/G)
		Represented Rate	Total Cost Per Year	Yearly Factor	FTEs
Meter Guard Activities	2017	\$ 38.54	\$ 158,399.20	2,080	2.0
	2018	\$ 38.54	\$ 316,798.40	2,088	3.9
	2019	\$ 38.54	\$ 1,108,794.40	2,088	13.8

Amounts are shown in 2016 dollars and include vacation and sick.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

SCG-04-GOM-O&M-SUP-007

Southern California Gas Company -- Gas Distribution -- Witness Gina Orozco-Mejia

Supplemental Workpaper Calculations for MSA Maintenance Activities

Field O&M - Service Maintenance Workgroup

Assumptions:

- [A]: Estimated MSA Maintenance orders to be addressed per year
- [B]: Labor Cost per order based on 2016 historical cost
- [C]: Vacation & Sick rate (0.1647) applied to Labor Cost per order [B]
- [D]: Total Labor cost of MSA Maintenance orders with Vacation & Sick
- [E]: Total incremental Labor cost of MSA Maintenance orders with Vacation & Sick
- [F]: 2016 Labor rate for Energy Technician Distribution
- [G]: Yearly Factor
- [H]: Calculated FTEs

		[A]	[B]	[C] (Bx0.1647)	[D] (B+C)	[E] (AxD)
		Estimated Total MSA orders to be addressed	Labor Cost per Order	V&S Cost per order	Total Labor cost per order with V&S	Total Incremental Labor Cost with V&S
MSA Maintenance Activities	2017	1,500	\$ 154	\$ 25	\$ 179	\$ 268,731
	2018	3,000	\$ 154	\$ 25	\$ 179	\$ 537,462
	2019	8,500	\$ 154	\$ 25	\$ 179	\$ 1,522,810

		[F]	[E]	[G]	[H] (E/F/G)
		Represented Rate	Total Cost Per Year	Yearly Factor	FTEs
MSA Maintenance Activities	2017	\$ 36.93	\$ 268,731.23	2,080	3.5
	2018	\$ 36.93	\$ 537,462.46	2,088	7.0
	2019	\$ 36.93	\$ 1,522,810.31	2,088	19.7

Amounts are shown in 2016 dollars and include vacation and sick.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

SCG-04-GOM-O&M-SUP-011

**Southern California Gas Company -- Gas Distribution -- Witness Gina Orozco-Mejia
Supplemental Workpaper Calculations for Chronically Inaccessible MSAs - Disconnect Services
Field O&M - Service Maintenance**

- Assumptions:
- [A]: Estimated number of service orders that need to be addressed
 - [B]: Estimated Labor cost per order
 - [C]: Total Labor Cost Per Year
 - [D]: Average Non-Labor Expense
 - [E]: Total Non-Labor Cost Per Year
 - [F]: Total Labor and Non-Labor Cost Per Year
 - [G]: Blended 2016 rate for Lead Construction Tech and Construction Tech
 - [H]: Yearly Factor
 - [I]: Calculated FTEs

	<u>Labor</u>			<u>Non-Labor</u>		[F] (C+E)
	[A]	[B]	[C] (AXB)	[D]	[E] (AXD)	
	Total Service Orders	Labor Cost per Order	Total Labor Per year	Average Non-Labor Expense	Total Non-Labor Per Year	Total Labor and Non-Labor
2017	-	\$ 891	\$ -	\$ 2,079	\$ -	\$ -
2018	364	\$ 891	\$ 324,324	\$ 2,079	\$ 756,756	\$ 1,081,080
2019	709	\$ 891	\$ 631,719	\$ 2,079	\$ 1,474,011	\$ 2,105,730

	<u>FTEs</u>			
	[C]	[G]	[H]	[I] (C/G/H)
	Total Labor Per Year	Wage Rate	Yearly Factor	FTEs
2017	\$ -	\$ 38.54	2,080	0.0
2018	\$ 324,324	\$ 38.54	2,088	4.0
2019	\$ 631,719	\$ 38.54	2,088	7.9

Amounts are shown in 2016 dollars and include vacation and sick.

Beginning of Workpaper
2GD000.000 - Field Support

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 7. Field Support
Workpaper: 2GD000.000 - 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 Average

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 dispatch, training, supervision and increase in leak survey and main repairs. SoCalGas also expects increased regulatory pressures such as CPUC audits, GO 112-F, and SB 661 to have impacts in this workbook. Given these upward pressures, SoCalGas determined that a five-year (2012 through 2016) historical average forecast best reflects future requirements for this workgroup. 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 was used to calculate the labor requested for this group.

Non-Labor - 5-YR Average

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 dispatch, training, supervision and increase in leak survey and main repairs. SoCalGas also expects increased regulatory pressures such as CPUC audits, GO 112-F, and SB 661 to have impacts in this workbook. Given these upward pressures, SoCalGas determined that a five-year (2012 through 2016) historical average forecast best reflects future requirements for this workgroup. 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 was used to calculate the non-labor requested for this group.

NSE - 5-YR Average

NSE is not applicable to this workgroup.

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		18,334	17,646	17,964	16,871	16,337	17,806	18,042	18,329	
Non-Labor		3,211	3,144	3,283	3,045	3,065	3,089	2,807	2,741	
NSE		0	0	0	0	0	0	0	0	
Total		21,545	20,791	21,247	19,916	19,402	20,895	20,849	21,070	
FTE		201.8	194.0	199.2	185.8	179.1	196.0	198.3	201.1	

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 7. Field Support
Workpaper: 2GD000.000 - Field Support

Summary of Adjustments to Forecast:

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	5-YR Average	17,431	17,431	17,431	375	611	898	17,806	18,042	18,329
Non-Labor	5-YR Average	3,150	3,150	3,150	-61	-343	-409	3,089	2,807	2,741
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		20,580	20,580	20,580	314	268	489	20,894	20,848	21,069
FTE	5-YR Average	192.0	192.0	192.0	4.0	6.3	9.1	196.0	198.3	201.1

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	50	2	0	52	0.5	1-Sided Adj	FGALVAN20170511125558857	
Explanation:	i. Office Instructor - Incremental Office Instructor to support Dispatch offices with on the job training Labor cost will be 0.5 FTE x \$100k = \$50k beginning in 2017. Associated non-labor expense is estimated to be 0.5 FTE x \$5k = \$2.5k also beginning in 2017.								
2017	Other	300	15	0	315	3.0	1-Sided Adj	FGALVAN20170512172300063	
Explanation:	ii. Field Operations Supervisors - Field Operations Supervisors to support incremental work related to Leak Survey, Main Maintenance, Service Maintenance, and Locate and Mark. Labor cost will be 3 FTE's x \$100k = \$300k beginning in 2017. Associated non-labor expense is estimated to be 3 FTE's x \$5k = \$15k also beginning in 2017.								
2017	FOF-Ongoing	25	-78	0	-53	0.5	1-Sided Adj	FGALVAN20170308100341583	
Explanation:	iii. Labor and FTE costs of \$25k and 0.5 FTE respectively plus non-labor savings of -\$78k								
2017	RAMP Incremental	14	0	0	14	0.0	1-Sided Adj	MMCLARK20170308090405997	
Explanation:	RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure - Bridge & Span Inspection- reference - RAMP Item #2. RAMP Incremental also incorporates a similar mitigation from RAMP Item #15								
2017	Other	-14	0	0	-14	0.0	1-Sided Adj	MMCLARK20170628153924627	
Explanation:	Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure - Bridge & Span Inspection: reference to RAMP Item #2.								
2017	RAMP Incremental	262	0	0	262	0.0	1-Sided Adj	MMCLARK20170309084758873	
Explanation:	RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure- Student Labor for attending Distribution-related training classes, reference to RAMP Item #13								

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 7. Field Support
Workpaper: 2GD000.000 - Field Support

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>
2017	Other	-262	0	0	-262	0.0	1-Sided Adj	MMCLARK20170628153603897
Explanation:		Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure- Student Labor for attending Distribution-related training classes, reference to RAMP Item #13						
2017	RAMP Incremental	13	0	0	13	0.0	1-Sided Adj	MMCLARK20170511155353297
Explanation:		RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure - Pipeline Patrol, reference – RAMP Item #16						
2017	Other	-13	0	0	-13	0.0	1-Sided Adj	MMCLARK20170628153446550
Explanation:		Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure - Pipeline Patrol, reference to RAMP Item #16						
2017 Total		375	-61	0	314	4.0		
2018	Other	100	5	0	105	1.0	1-Sided Adj	FGALVAN20170310154336160
Explanation:		i. Office Instructor - Incremental Office Instructor to support Dispatch offices with on the job training Labor cost will be 1 FTE x \$100k = \$100k beginning in 2018. Associated non-labor expense is estimated to be 1 FTE x \$5k = \$5k also beginning in 2018.						
2018	Other	600	30	0	630	6.0	1-Sided Adj	FGALVAN20170512172324297
Explanation:		ii. Field Operations Supervisors - Field Operations Supervisors to support incremental work related to Leak Survey, Main Maintenance, Service Maintenance, and Locate and Mark. Labor cost will be 6 FTE's x \$100k = \$600k beginning in 2018. Associated non-labor expense is estimated to be 6 FTE's x \$5k = \$30k also beginning in 2018.						
2018	FOF-Ongoing	-91	-403	0	-494	-0.7	1-Sided Adj	FGALVAN20170308101500220
Explanation:		iii. Labor and FTE savings of -\$91k and -.7 FTE respectively plus non-labor ongoing savings of -\$403k						
2018	Other	2	5	0	7	0.0	1-Sided Adj	FGALVAN20170627133514690

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 7. Field Support
Workpaper: 2GD000.000 - Field Support

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID
Explanation: iv. Hydraulic Valve Maintenance - Maintenance for installation of hydraulic valves due to PSEP Valve Enhancement Plan. Upgraded valve infrastructure provides automatic and remote isolation and depressurization of the distribution supply line system in 30 minutes or less in the event of a pipeline rupture. PSEP plans to install six valves in 2018 and four in TY 2019.								
Labor cost 6 x \$400 = \$2,400 in 2018. Associated non-labor cost of 6 x \$800 = \$4,800 in 2018.								
Labor cost 4 x \$400 = \$1,600 in TY 2019. Associated non-labor cost of 4 x \$800 = \$3,200 in TY 2019.								
2018	RAMP Incremental	32	0	0	32	0.0	1-Sided Adj	MMCLARK20170628143441170
Explanation: RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure - Bridge & Span Inspection- reference - RAMP Item #2. RAMP Incremental also incorporates a similar mitigation from RAMP Item #15								
2018	Other	-32	0	0	-32	0.0	1-Sided Adj	MMCLARK20170628143521340
Explanation: Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure - Bridge & Span Inspection: reference to RAMP Item #2.								
2018	RAMP Incremental	0	20	0	20	0.0	1-Sided Adj	MMCLARK20170511144050443
Explanation: RAMP - Ch 02 Employee Contractor Customer Public Safety Project - Confined Space air Monitoring System for Field Personnel. Adjustment created to document that this RAMP mitigation to link the RAMP incremental costs in 2018 and TY2019 within this workpaper, reference – RAMP Item #10.								
2018	RAMP Incremental	484	0	0	484	0.0	1-Sided Adj	MMCLARK20170309084916447
Explanation: RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure- Student Labor for attending Distribution-related training classes, reference to RAMP Item #13								
2018	Other	-484	0	0	-484	0.0	1-Sided Adj	MMCLARK20170308192309377
Explanation: Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure- Student Labor for attending Distribution-related training classes, reference to RAMP Item #13								
2018	RAMP Incremental	25	0	0	25	0.0	1-Sided Adj	MMCLARK20170628143546547
Explanation: RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure - Pipeline Patrol, reference – RAMP Item #16								
2018	Other	-25	0	0	-25	0.0	1-Sided Adj	MMCLARK20170628143602530
Explanation: Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure - Pipeline Patrol, reference to RAMP Item #16								

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>
2018 Total		611	-343	0	268	6.3		

2019 Other 100 5 0 105 1.0 1-Sided Adj FGALVAN20161122124522103

Explanation: i. Office Instructor - Incremental Office Instructor to support Dispatch offices with on the job training

Labor cost will be 1 FTE x \$100k = \$100k beginning in TY 2019. Associated non-labor expense is estimated to be 1 FTE x \$5k = \$5k also beginning in TY 2019.

2019 Other 900 45 0 945 9.0 1-Sided Adj FGALVAN20170512172402070

Explanation: ii. Field Operations Supervisors - Field Operations Supervisors to support incremental work related to Leak Survey, Main Maintenance, Service Maintenance, and Locate and Mark.

Labor cost will be 1 FTE x \$100k = \$100k beginning in TY 2019. Associated non-labor expense is estimated to be 1 FTE x \$5k = \$5k also beginning in TY 2019.

2019 FOF-Ongoing -104 -482 0 -586 -0.9 1-Sided Adj FGALVAN20170308103026767

Explanation: iii. Labor and FTE savings of -\$104k and -.9 FTE respectively plus non-labor ongoing savings of \$482k

2019 Other 2 3 0 5 0.0 1-Sided Adj FGALVAN20170627133717400

Explanation: iv. Hydraulic Valve Maintenance - Maintenance for installation of hydraulic valves due to PSEP Valve Enhancement Plan. Upgraded valve infrastructure provides automatic and remote isolation and depressurization of the distribution supply line system in 30 minutes or less in the event of a pipeline rupture. PSEP plans to install six valves in 2018 and four in TY 2019.

Labor cost 6 x \$400 = \$2,400 in 2018. Associated Non Labor cost of 6 x \$800 = \$4,800 in 2018.

Labor cost 4 x \$400 = \$1,600 in TY 2019. Associated non-labor cost of 4 x \$800 = \$3,200 in TY 2019.

2019 RAMP Incremental 32 0 0 32 0.0 1-Sided Adj MMCLARK20170628143753497

Explanation: RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure - Bridge & Span Inspection- reference - RAMP Item #2.
RAMP Incremental also incorporates a similar mitigation from RAMP Item #15

2019 Other -32 0 0 -32 0.0 1-Sided Adj MMCLARK20170511144400080

Explanation: Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure - Bridge & Span Inspection: reference to RAMP Item #2.

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2019	RAMP Incremental	0	20	0	20	0.0	1-Sided Adj	MMCLARK20170511144700193
Explanation:		RAMP - Ch 02 Employee Contractor Customer Public Safety Project - Confined Space air Monitoring System for Field Personnel. Adjustment created to document that this RAMP mitigation to link the RAMP incremental costs in 2018 and TY2019 within this workpaper, reference – RAMP Item #10.						
2019	RAMP Incremental	652	0	0	652	0.0	1-Sided Adj	MMCLARK20170628144130753
Explanation:		RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure- Student Labor for attending Distribution-related training classes, reference to RAMP Item #13						
2019	Other	-652	0	0	-652	0.0	1-Sided Adj	MMCLARK20170628144146280
Explanation:		Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure- Student Labor for attending Distribution-related training classes, reference to RAMP Item #13						
2019	RAMP Incremental	38	0	0	38	0.0	1-Sided Adj	MMCLARK20170628143909330
Explanation:		RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure - Pipeline Patrol, reference – RAMP Item #16						
2019	Other	-38	0	0	-38	0.0	1-Sided Adj	MMCLARK20170628143927703
Explanation:		Adjustment to Identify RAMP Incremental costs within the base forecast methodology - RAMP - Ch 10 Medium-Pressure Pipeline Failure - Pipeline Patrol, reference to RAMP Item #16						
2019 Total		898	-409	0	489	9.1		

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 7. Field Support
Workpaper: 2GD000.000 - Field Support

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	14,391	14,112	14,917	14,359	14,328
Non-Labor	3,121	3,107	3,313	3,060	3,082
NSE	0	0	0	0	0
Total	17,512	17,220	18,230	17,419	17,410
FTE	173.2	166.0	173.1	161.5	156.6
Adjustments (Nominal \$) **					
Labor	0	-1	-190	-184	-300
Non-Labor	0	-2	-19	-23	-17
NSE	0	0	0	0	0
Total	0	-2	-209	-207	-318
FTE	0.0	0.0	-2.4	-2.3	-3.3
Recorded-Adjusted (Nominal \$)					
Labor	14,391	14,112	14,727	14,174	14,027
Non-Labor	3,121	3,106	3,294	3,037	3,065
NSE	0	0	0	0	0
Total	17,512	17,217	18,021	17,212	17,092
FTE	173.2	166.0	170.7	159.2	153.3
Vacation & Sick (Nominal \$)					
Labor	2,304	2,345	2,403	2,293	2,310
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	2,304	2,345	2,403	2,293	2,310
FTE	28.7	28.0	28.5	26.6	25.9
Escalation to 2016\$					
Labor	1,639	1,189	834	403	0
Non-Labor	90	39	-11	8	0
NSE	0	0	0	0	0
Total	1,729	1,228	823	411	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	18,334	17,646	17,964	16,871	16,337
Non-Labor	3,211	3,144	3,283	3,045	3,065
NSE	0	0	0	0	0
Total	21,545	20,791	21,247	19,916	19,402
FTE	201.9	194.0	199.2	185.8	179.2

* 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
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 7. Field Support
Workpaper: 2GD000.000 - Field Support

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	-0.788	-190	-184	-300
Non-Labor	0	-2	-19	-23	-17
NSE	0	0	0	0	0
Total	0	-2	-209	-207	-318
FTE	0.0	0.0	-2.4	-2.3	-3.3

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012 Total		0	0	0	0.0		

2013 Other -1 0 0 0.0 CCTR Transf To 2200-0604.000 JLORTIZ20161107100839493

Explanation: Transfer cost to appropriate work group. From Field Support to Asset Management.

2013 Other 0 -1 0 0.0 CCTR Transf To 2200-0005.019 JLORTIZ20161107123331113

Explanation: Transfer cost from Gas Distribution CC 2200-0583 to Corp Center Compensation and Benefits CC 2200-0005.019.

2013 Total		-1	-2	0	0.0		
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2014 Other -190 -19 0 -2.4 CCTR Transf To 2200-0604.000 JLORTIZ20161107101327267

Explanation: Transfer cost to appropriate work group. From Field Support to Asset Management.

2014 Total		-190	-19	0	-2.4		
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2015 Aliso 0 0 0 0.0 1-Sided Adj JLORTIZ20161026140221397

Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak

2015 Other -184 -22 0 -2.3 CCTR Transf To 2200-0604.000 JLORTIZ20161107101450507

Explanation: Transfer cost to appropriate work group. From Field Support to Asset Management.

2015 Total		-184	-23	0	-2.3		
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2016 Aliso -1 0 0 0.0 1-Sided Adj JLORTIZ20161026140607107

Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2016	Other	-213	-16	0	-2.3	CCTR Transf To 2200-0486.000	FGALVAN20170227131349007
Explanation: Transferring CC 2200-2191 from Workgroup 2GD000 to CC 2200-0486 Workgroup 2GD001 to better align with the work type.							
2016	Aliso	0	0	0	0.0	1-Sided Adj	MMCLARK20170227120059897
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300777009, Wellhead Leak							
2016	Aliso	-65	-1	0	-0.8	1-Sided Adj	MMCLARK20170227120259343
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	-4	0	0	0.0	1-Sided Adj	MMCLARK20170227120410020
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	-1	0	0	0.0	1-Sided Adj	MMCLARK20170227120619737
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	0	0	0	0.0	1-Sided Adj	MMCLARK20170227120731200
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	-8	0	0	-0.1	1-Sided Adj	MMCLARK20170227120916320
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	-1	0	0	0.0	1-Sided Adj	MMCLARK20170227120951387
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	-8	0	0	-0.1	1-Sided Adj	MMCLARK20170227121029223
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016 Total		-300	-17	0	-3.3		

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

RAMP Item # 1

Ref ID: MMCLARK20170306162020900

RAMP Chapter: SCG-1

Program Name: Pipeline Observation (Standby)

Program Description: Surveillance of excavations in the vicinity of high pressure gas lines to prevent damage

Risk/Mitigation:

Risk: Catastrophic Damage involving Third Party Dig-Ins

Mitigation: Maintenance

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	3,472	3,472	3,472
High	3,838	3,838	3,838

Funding Source: CPUC-GRC

Forecast Method: Trend

Work Type: Mandated

Work Type Citation: CFR Part 192.614. California Government Code 4216

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 3476.13

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

RAMP Item # 2

Ref ID: MMCLARK20170308090405997

RAMP Chapter: SCG-10

Program Name: Bridge & Span Inspections

Program Description: Inspect pipelines which cross bridges or spans. Inspections of natural gas pipeline over bridges and land crossings at least once every 2 calendar years, but with intervals not exceeding 27 months. This is mandated by CFR 49 Part 192 Subpart M.

Risk/Mitigation:

Risk: Catastrophic Damage Involving Medium-Pressure Pipe

Mitigation: Maintenance

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	0	0	0
High	0	0	0

Funding Source: CPUC-GRC

Forecast Method: Trend

Work Type: Mandated

Work Type Citation: O&M

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 89

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. These embedded costs account for Risk Ch-02, RAMP Item #15. There are RAMP Incremental adjustments within the base forecast to show that the mitigation has been accurately accounted for in 2017, 2018, and TY 2019. The 'Other' adjustment accounts for the negation of the incremental adjustment.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

RAMP Item # 3

Ref ID: MMCLARK20170308092411597

RAMP Chapter: SCG-10

Program Name: Unstable Earth Inspection

Program Description: Mitigation of pipeline rupture due to environmental conditions of soil. This is usually completed at the same time of the valve inspection and maintenance cycle.

Risk/Mitigation:

Risk: Catastrophic Damage Involving Medium-Pressure Pipe

Mitigation: Maintenance

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	7	7	7
High	8	8	8

Funding Source: CPUC-GRC

Forecast Method: Trend

Work Type: Mandated

Work Type Citation: CFR 49 Subpart P

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 8

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

RAMP Item # 4

Ref ID: MMCLARK20170308184244437

RAMP Chapter: SCG-2

Program Name: Formal Skills Training - Distribution Employee Time

Program Description: Distribution employee skills training, base safety meeting and annual documents review

Risk/Mitigation:

Risk: Employee, Contractor, Customer & Public, Project

Mitigation: Employee Skills Training

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	4,734	4,734	4,734
High	6,229	6,229	6,229

Funding Source: Other

Forecast Method: Other

Work Type: Mandated

Work Type Citation: Gas Standard

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 0

Explanation: Dollars for this mitigation have been accounted for a similar mitigation in Risk Ch-10, RAMP Item #13. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

RAMP Item # 5

Ref ID: MMCLARK20170308184747230

RAMP Chapter: SCG-2

Program Name: Medium Pressure Contractor Inspections

Program Description: These inspections are completed on capital jobs by the Contractor Inspectors plus support from the area Field Operations Supervisor and Team Leads. Inspectors to complete a Field Audit Collection Tool form to record their findings - both performance overall and work elements

Risk/Mitigation:

Risk: Employee, Contractor, Customer & Public, Project

Mitigation: Contractor Management and Traffic Control

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	1,350	1,350	1,350
High	1,650	1,650	1,650

Funding Source: CPUC-GRC

Forecast Method: Other

Work Type: Mandated

Work Type Citation: PHMSA

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 1541

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

RAMP Item # 6

Ref ID: MMCLARK20170308185343710

RAMP Chapter: SCG-2

Program Name: High Pressure Standby – Distribution

Program Description: This is review at the 3rd party job site to ensure safety of SoCalGas system. The locations are often result of Locate & Mark tickets

Risk/Mitigation:

Risk: Employee, Contractor, Customer & Public, Project

Mitigation: QA, Job Observations, Field Rides, and Job Monitoring

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	1,444	1,444	1,444
High	1,764	1,764	1,764

Funding Source: CPUC-GRC

Forecast Method: Other

Work Type: Mandated

Work Type Citation: 1541(b)1(B)

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 1647

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

RAMP Item # 7

Ref ID: MMCLARK20170308185907080

RAMP Chapter: SCG-2

Program Name: Medium Pressure Company Crew Inspections

Program Description: The Field Operations Supervisor and Team Leads will complete inspections on company crew work. Supervisors will complete the Field Audit Collection Tool form to record their findings

Risk/Mitigation:

Risk: Employee, Contractor, Customer & Public, Project

Mitigation: QA, Job Observations, Field Rides, and Job Monitoring

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	1,350	1,350	1,350
High	1,650	1,650	1,650

Funding Source: CPUC-GRC

Forecast Method: Other

Work Type: Mandated

Work Type Citation: Gas Standard

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 60

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 7. Field Support
Workpaper: 2GD000.000 - Field Support

RAMP Item # 8

Ref ID: MMCLARK20170308190519110

RAMP Chapter: SCG-2

Program Name: Company wide purchases of personal protective equipment (PPE)

Program Description: Cost basis of the purchases for inventory replenishment of PPE materials

Risk/Mitigation:

Risk: Employee, Contractor, Customer & Public, Project

Mitigation: PPE and Safety Equipment

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	608	608	608
High	743	743	743

Funding Source: CPUC-GRC

Forecast Method: Other

Work Type: Mandated

Work Type Citation: N/A

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 693

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 7. Field Support
Workpaper: 2GD000.000 - Field Support

RAMP Item # 9

Ref ID: MMCLARK20170308191251133

RAMP Chapter: SCG-2

Program Name: Uniform Expenses - Distribution, Transmission, Storage

Program Description: Uniform rentals for employees - both protective and for security

Risk/Mitigation:

Risk: Employee, Contractor, Customer & Public, Project

Mitigation: PPE and Safety Equipment

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	905	905	905
High	1,106	1,106	1,106

Funding Source: Other

Forecast Method: Other

Work Type: Mandated

Work Type Citation: N/A

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 1032

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

RAMP Item # 10

Ref ID: MMCLARK20170308192003013

RAMP Chapter: SCG-2

Program Name: Confined space air monitoring system for field personnel

Program Description: Replace 280 confined space monitors in 2018. Replace 380 personal monitors in 2018. 100 calibration gas cylinders purchased per year

Risk/Mitigation:

Risk: Employee, Contractor, Customer & Public, Project

Mitigation: PPE and Safety Equipment

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	18	18	18
High	22	22	22

Funding Source: CPUC-GRC

Forecast Method: Other

Work Type: Mandated

Work Type Citation: Gas Standards

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 0

Explanation: 2016 embedded costs based on historicals. This is a proposed mitigation where the incremental costs will occur in 2018 and TY 2019.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

RAMP Item # 11

Ref ID: MMCLARK20170308193346527

RAMP Chapter: SCG-10

Program Name: Valve Inspection and Maintenance (Per Region)

Program Description: Valves are checked and serviced at intervals not exceeding 15 months, but at least once each calendar year. (CFR 192.747). This is mandated by CFR 49 Part 192 Subpart M.

Risk/Mitigation:

Risk: Catastrophic Damage Involving Medium-Pressure Pipeline Failure

Mitigation: Maintenance

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	804	813	823
High	889	899	909

Funding Source: FERC

Forecast Method: Trend

Work Type: Mandated

Work Type Citation: CFR 49 Subpart P

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 862

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 7. Field Support
Workpaper: 2GD000.000 - Field Support

RAMP Item # 12

Ref ID: MMCLARK20170309081601140

RAMP Chapter: SCG-4

Program Name: Valve Maintenance and Installation (Distribution High Pressure)

Program Description: Maintain valves and replace or install valves required for compliance

Risk/Mitigation:

Risk: High-Pressure Pipeline Failure, Project

Mitigation: Maintenance

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	58	58	58
High	64	64	64

Funding Source: Other

Forecast Method: Other

Work Type: Mandated

Work Type Citation: DOT

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 59

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

RAMP Item # 13

Ref ID: MMCLARK20170309084758873

RAMP Chapter: SCG-10

Program Name: Student Labor for attending Distribution-related training classes

Program Description: Certification and training that is required for all distribution employees to work on company assets. This is mandated by CFR 49 Part 192 Subpart N.

Risk/Mitigation:

Risk: Medium-Pressure Pipeline Failure

Mitigation: Qualifications of Pipeline Personnel

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	2,012	2,357	2,695
High	2,234	2,606	2,978

Funding Source: FERC

Forecast Method: Average

Work Type: Mandated

Work Type Citation: CFR 49 Part 192 Subpart N.

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 1821

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. These embedded costs account for Risk Ch-07 and Ch-02, and RAMP Item #14 and #4, respectively. There are RAMP Incremental adjustments within the base forecast to show that the mitigation has been accurately accounted for in 2017, 2018, and TY 2019. The 'Other' adjustment accounts for the negation of the incremental adjustment.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

RAMP Item # 14

Ref ID: MMCLARK20170511151616190

RAMP Chapter: SCG-7

Program Name: Formal Skills Training - Distribution Employee Time

Program Description: Skills training covered by the following risks: Dig-Ins (SCG-01); Employee, Contractor, Customer and Public Safety (SCG-02); High Pressure Pipeline Failure (SCG-04); Records Management (SCG-08); and Medium Pressure Pipeline Failure (SCG-10) (NOTE: Overlapping training removed)

Risk/Mitigation:

Risk: SCG Workforce Planning
 Mitigation: Training - Technical non-HR

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	0	0	0
High	0	0	0

Funding Source: CPUC-GRC

Forecast Method: Other

Work Type: Mandated

Work Type Citation: CPUC

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 0

Explanation: Dollars for this mitigation have been accounted for a similar mitigation in Risk Ch-10, RAMP Item #13. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

RAMP Item # 15

Ref ID: MMCLARK20170511152842147

RAMP Chapter: SCG-2

Program Name: Bridge and Span Inspections - Distribution

Program Description: Bridge and Span Inspections - Distribution

Risk/Mitigation:

Risk: SCG Employee, Contractor, Customer & Public Safety

Mitigation: Gas Facility and Pipeline Inspections

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	1,243	1,243	1,094
High	1,519	1,519	1,338

Funding Source: CPUC-GRC

Forecast Method: Base Year

Work Type: Mandated

Work Type Citation: CPUC

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 0

Explanation: Dollars for this mitigation have been accounted for a similar mitigation in Risk Ch-10, RAMP Item #2. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 7. Field Support
 Workpaper: 2GD000.000 - Field Support

RAMP Item # 16

Ref ID: MMCLARK20170511155353297

RAMP Chapter: SCG-10

Program Name: Pipeline Patrol

Program Description: Pipeline patrol performed to look for any broken terraces, exposed pipe, erosion, sunken back fill, etc. Any remedial action discovered must be issued within 30 days and completed in 90 days. This is mandated by CFR 49 Part 192 Subpart M.

Risk/Mitigation:

Risk: SCG Medium-Pressure Pipeline Failure

Mitigation: Maintenance

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	166	181	200
High	184	200	221

Funding Source: FERC

Forecast Method: Trend

Work Type: Mandated

Work Type Citation: CFR 49 Part 192 Subpart M.

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 160

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. There are RAMP Incremental adjustments within the base forecast to show that the mitigation has been accurately accounted for in 2017, 2018, and TY 2019. The 'Other' adjustment accounts for the negation of the incremental adjustment.

Beginning of Workpaper
2GD000.005 - Tools Fittings & Materials

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 8. Tools Fittings & Materials
 Workpaper: 2GD000.005 - 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 - 5-YR Linear

There is no labor funding required for this workgroup

Non-Labor - 5-YR Linear

Spending on Tools, Fittings, and Materials is driven by the increase in construction and maintenance work reflected in other workgroups of this testimony, as well as the increase in workforce needed to complete this work. Given the requirement to support an overall increase in construction and maintenance activities, increased regulatory pressures, as well as the Gas Distribution workforce, and an assessment of historical expense in this workgroup, SoCalGas used a five-year (2012 through 2016) historical linear trend plus incremental increases to forecast the non-labor needs for tools, fittings and materials.

NSE - 5-YR Linear

NSE is not applicable to this workgroup.

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
		2012	2013	2014	2015	2016	2017	2018	2019	
Years										
Labor		0	0	0	0	0	0	0	0	0
Non-Labor		8,218	8,068	8,426	9,157	8,601	9,231	9,724	10,307	
NSE		0	0	0	0	0	0	0	0	
Total		8,218	8,068	8,426	9,157	8,601	9,231	9,724	10,307	
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
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 8. Tools Fittings & Materials
Workpaper: 2GD000.005 - Tools Fittings & Materials

Summary of Adjustments to Forecast:

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	5-YR Linear	0	0	0	0	0	0	0	0	0
Non-Labor	5-YR Linear	9,050	9,236	9,421	181	488	886	9,231	9,724	10,307
NSE	5-YR Linear	0	0	0	0	0	0	0	0	0
Total		9,050	9,236	9,421	181	488	886	9,231	9,724	10,307
FTE	5-YR Linear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	0	100	0	100	0.0	1-Sided Adj	JLORTIZ20161130113713500	
Explanation:		<p>i. Calibrated Tools - This project will build up an adequate stock of tools available for immediate swap out when equipment is sent in for maintenance or calibration. The project will also replace tools that are at the end of their useful life or that are damaged and no longer useful.</p> <p>Total project cost of \$850k to build up adequate stock of calibrated tools and replace aging stock. Non-labor cost of \$100k in 2017, \$250k in 2018, and \$500k in 2019.</p>							
2017	Other	0	48	0	48	0.0	1-Sided Adj	JLORTIZ20161130113907860	
Explanation:		<p>ii. OMD Cages - The purchase and installation of protective cages around vehicle mounted Optical Methane Detectors (OMD). The cages will be built specifically for OMDs to provide protection from damage in case of contact with objects or other vehicles while allowing easy access to the equipment.</p> <p>Unit cost of \$3,000 x 16 units = \$48k in 2017 Unit cost of \$3,000 x 25 units = \$75k in 2018 Unit cost of \$3,000 x 25 units = \$75k in TY 2019</p>							
2017	Other	0	15	0	15	0.0	1-Sided Adj	JLORTIZ20161130134350037	
Explanation:		<p>iii. MSA Maintenance Activities - SoCalGas will address an increased amount of riser and service valve orders regenerated by the MSA Inspection program SoCalGas anticipates addressing approximately 1,500 orders in 2017, 3,000 in 2018, and 8,500 in TY 2019. Associated labor cost can be found under the workbook for Service Maintenance.</p> <p>Non-labor costs will be 1,500 orders X \$10 = \$15K beginning in 2017. Beginning in 2018, the work effort will increase from the previous year. Total non-labor for 2018 is 3,000 orders X \$10 = \$30K in non-labor. For TY 2019, MSA activities will more than double to 8,500 orders. Non-labor cost will be 8,500 orders x \$10 = \$85K.</p>							
2017	Other	0	18	0	18	0.0	1-Sided Adj	JLORTIZ20161130134448233	

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 8. Tools Fittings & Materials
 Workpaper: 2GD000.005 - Tools Fittings & Materials

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
Explanation:		iv. Meter Guard Activities - SoCalGas will address an increased amount of meter guard orders regenerated by the MSA Inspection program. SoCalGas anticipates addressing approximately 500 orders in 2017, 1,000 in 2018, and 3,500 in TY 2019. This section covers the non-labor cost for this activity. Associated labor cost can be found under the workbook for Service Maintenance. Non-labor costs will be 500 orders X \$37 = \$18K beginning in 2017. Beginning in 2018, the meter guard effort will increase from the previous year. Total non labor for 2018 is 1,000 orders X \$37 = \$37K. For TY 2019, the meter guard effort will more than double to 3,500 orders. Non-labor cost will be 3,500 orders x \$37 = \$129K.						
2018	Other	0	96	0	96	0.0	1-Sided Adj	FGALVAN20170627083336907
Explanation:		v. OMD Maintenance - Regular maintenance of SoCalGas owned Optical Methane Detectors (OMD). Maintenance is required every three months by a certified technician. Cost for manufacturer to maintain and service these devices. Non-labor cost of 16 units x \$6k = \$96k starting in 2018 and continuing through TY 2019.						
2018 Total		0	488	0	488	0.0		
2019	Other	0	500	0	500	0.0	1-Sided Adj	JLORTIZ20161130113748653
Explanation:		i. Calibrated Tools - This project will build up an adequate stock of tools available for immediate swap out when equipment is sent in for maintenance or calibration. The project will also replace tools that are at the end of their useful life or that are damaged and no longer useful. Total project cost of \$850k to build up adequate stock of calibrated tools and replace aging stock. Non-labor cost of \$100k in 2017, \$250k in 2018, and \$500k in TY 2019.						
2019	Other	0	75	0	75	0.0	1-Sided Adj	FGALVAN20170512065001123
Explanation:		ii. OMD Cages - The purchase and installation of protective cages around vehicle mounted Optical Methane Detectors (OMD). The cages will be built specifically for OMDs to provide protection from damage in case of contact with objects or other vehicles while allowing easy access to the equipment. Unit cost of \$3,000 x 16 units = \$48k in 2017 Unit cost of \$3,000 x 25 units = \$75k in 2018 Unit cost of \$3,000 x 25 units = \$75k in TY 2019						
2019	Other	0	85	0	85	0.0	1-Sided Adj	JLORTIZ20161130134406177

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 8. Tools Fittings & Materials
 Workpaper: 2GD000.005 - Tools Fittings & Materials

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
<p>Explanation: iii. MSA Maintenance Activities - SoCalGas will address an increased amount of riser and service valve orders regenerated by the MSA Inspection program SoCalGas anticipates addressing approximately 1,500 orders in 2017, 3,000 in 2018, and 8,500 in TY 2019. Associated labor cost can be found under the workbook for Service Maintenance.</p> <p>Non-labor costs will be 1,500 orders X \$10 = \$15K beginning in 2017. Beginning in 2018, the work effort will increase from the previous year. Total non-labor for 2018 is 3,000 orders X \$10 = \$30K in non-labor. For TY 2019, MSA activities will more than double to 8,500 orders. Non-labor cost will be 8,500 orders x \$10 = \$85K.</p>								
2019 Other		0	130	0	130	0.0	1-Sided Adj	JLORTIZ20161130134509097
<p>Explanation: iv. Meter Guard Activities - SoCalGas will address an increased amount of meter guard orders regenerated by the MSA Inspection program. SoCalGas anticipates addressing approximately 500 orders in 2017, 1,000 in 2018, and 3,500 in TY 2019. This section covers the non-labor cost for this activity. Associated labor cost can be found under the workbook for Service Maintenance.</p> <p>Non-labor costs will be 500 orders X \$37 = \$18K beginning in 2017. Beginning in 2018, the meter guard effort will increase from the previous year. Total non labor for 2018 is 1,000 orders X \$37 = \$37K. For TY 2019, the meter guard effort will more than double to 3,500 orders. Non-labor cost will be 3,500 orders x \$37 = \$129K.</p>								
2019 Other		0	96	0	96	0.0	1-Sided Adj	FGALVAN20170627083418723
<p>Explanation: v. OMD Maintenance - Regular maintenance of SoCalGas owned Optical Methane Detectors (OMD). Maintenance is required every three months by a certified technician. Cost for manufacturer to maintain and service these devices.</p> <p>Non-labor cost of 16 units x \$6k = \$96k starting in 2018 and continuing through TY 2019.</p>								
2019 Total		0	886	0	886	0.0		

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: A. Field Operations & Maintenance
Category-Sub: 8. Tools Fittings & Materials
Workpaper: 2GD000.005 - Tools Fittings & Materials

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	486	0	0	0	0
Non-Labor	7,987	7,969	8,454	9,133	8,601
NSE	0	0	0	0	0
Total	8,473	7,969	8,454	9,133	8,601
FTE	0.0	0.0	0.0	0.0	0.0
Adjustments (Nominal \$) **					
Labor	-486	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	-486	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	0	0	0	0	0
Non-Labor	7,987	7,969	8,454	9,133	8,601
NSE	0	0	0	0	0
Total	7,987	7,969	8,454	9,133	8,601
FTE	0.0	0.0	0.0	0.0	0.0
Vacation & Sick (Nominal \$)					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Escalation to 2016\$					
Labor	0	0	0	0	0
Non-Labor	231	99	-28	24	0
NSE	0	0	0	0	0
Total	231	99	-28	24	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	0	0	0	0	0
Non-Labor	8,218	8,068	8,426	9,157	8,601
NSE	0	0	0	0	0
Total	8,218	8,068	8,426	9,157	8,601
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
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Field Operations & Maintenance
 Category-Sub: 8. Tools Fittings & Materials
 Workpaper: 2GD000.005 - Tools Fittings & Materials

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-486	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	-486	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-486	0	0	0.0	1-Sided Adj	TP1MTC20161024111844403

Explanation: To transfer union retro pay out of 2GD000.005 - Tools Fittings & Materials - and into impacted field work groups.

2012 Total		-486	0	0	0.0		
2013 Total		0	0	0	0.0		
2014 Total		0	0	0	0.0		
2015 Total		0	0	0	0.0		
2016 Total		0	0	0	0.0		

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: B. Asset Management
Workpaper: 2GD001.000

Summary for Category: B. Asset Management

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	7,243	7,511	7,403	6,321
Non-Labor	929	904	747	643
NSE	0	0	0	0
Total	8,172	8,415	8,150	6,964
FTE	83.6	87.3	80.3	65.0

Workpapers belonging to this Category:

2GD001.000 Asset Management

Labor	7,243	7,511	7,403	6,321
Non-Labor	929	904	747	643
NSE	0	0	0	0
Total	8,172	8,415	8,150	6,964
FTE	83.6	87.3	80.3	65.0

Note: Totals may include rounding differences.

Beginning of Workpaper
2GD001.000 - Asset Management

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: B. 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. 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 (2012 through 2016) linear trend best reflects future requirements for the labor activity in 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 leakage clerks 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. 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 (2012 through 2016) linear trend best reflects future requirements for the non-labor activity in 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 leakage clerks and Administrative Control Clerks for records management was used to calculate the non-labor for this group.

NSE - 5-YR Linear

NSE is not applicable to this workgroup.

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: B. Asset Management
 Category-Sub: 1. Asset Management
 Workpaper: 2GD001.000 - Asset Management

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		7,211	7,426	8,058	7,305	7,243	7,511	7,403	6,321	
Non-Labor		887	774	1,437	971	929	905	747	643	
NSE		0	0	0	0	0	0	0	0	
Total		8,098	8,201	9,494	8,276	8,171	8,416	8,150	6,964	
FTE		82.9	86.7	93.4	84.7	83.6	87.3	80.3	65.0	

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: B. Asset Management
Category-Sub: 1. Asset Management
Workpaper: 2GD001.000 - Asset Management

Summary of Adjustments to Forecast:

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	5-YR Linear	7,431	7,425	7,419	80	-22	-1,098	7,511	7,403	6,321
Non-Labor	5-YR Linear	1,083	1,111	1,139	-179	-364	-496	904	747	643
NSE	5-YR Linear	0	0	0	0	0	0	0	0	0
Total		8,514	8,536	8,559	-99	-386	-1,594	8,415	8,150	6,965
FTE	5-YR Linear	86.1	86.0	86.0	1.2	-5.7	-21.0	87.3	80.3	65.0

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	67	5	0	72	1.0	1-Sided Adj	JLORTIZ20161122113530267	
Explanation:		<p>i. Administrative Control Clerks for Pipeline Records Management - Administrative Control Clerks to support record-keeping and document quality control driven by an increase in level of construction as discussed throughout the Gas Distribution testimony. Continuous improvement of documentation practices that provide for the development and retention of reliable, traceable, and verifiable records.</p> <p>Labor cost will be 1 FTE x \$67k = \$67k beginning in 2017. Associated non-labor cost is estimated to be 1 FTE x \$5k = \$5k also beginning in 2017.</p> <p>Beginning in 2018, an additional Administrative Control Clerk will be hired. Total labor for 2018 is 2 FTE's X \$67k = \$134k. Total non-labor for 2018 is 2 FTE's X \$5k = \$10k.</p> <p>For TY 2019, the total labor will be 3 FTE's X \$67k = \$202k. Total non-labor for TY 2019 is 3 FTE's X \$5k = \$15k.</p>							
2017	FOF-Ongoing	-48	-184	0	-232	-0.5	1-Sided Adj	FGALVAN20170308105338617	
Explanation:		<p>ii. Labor and FTE savings of -\$48k and -.51 FTE respectively plus non-labor ongoing savings of -\$184.3k</p>							
2017	Other	61	0	0	61	0.7	1-Sided Adj	FGALVAN20170310181659993	
Explanation:		<p>iii. Resumption of Routine Operations - Some management employees in this workgroup provided customer support during the Aliso Canyon natural gas leak incident that required a reprioritization of company resources. The labor provided for that project has been excluded from GRC historical recorded costs used in preparation of forecasts. In order to adequately resume routine asset management operations activities, adding \$61,162.63 labor dollars with an equivalent 0.783 FTE.</p>							
2017 Total		80	-179	0	-99	1.2			

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: B. Asset Management
Category-Sub: 1. Asset Management
Workpaper: 2GD001.000 - Asset Management

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>	
2018	Other	134	10	0	144	2.0	1-Sided Adj	JLORTIZ20161122113600077	
Explanation:		<p>i. Administrative Control Clerks for Pipeline Records Management - Administrative Control Clerks to support record-keeping and document quality control driven by an increase in level of construction as discussed throughout the Gas Distribution testimony. Continuous improvement of documentation practices that provide for the development and retention of reliable, traceable, and verifiable records.</p> <p>Labor cost will be 1 FTE x \$67k = \$67k beginning in 2017. Associated non-labor cost is estimated to be 1 FTE x \$5k = \$5k also beginning in 2017.</p> <p>Beginning in 2018, an additional Administrative Control Clerk will be hired. Total labor for 2018 is 2 FTE's X \$67k = \$134k. Total non-labor for 2018 is 2 FTE's X \$5k = \$10k.</p> <p>For TY 2019, the total labor will be 3 FTE's X \$67k = \$202k. Total non-labor for TY 2019 is 3 FTE's X \$5k = \$15k.</p>							
2018	Other	61	0	0	61	0.7	1-Sided Adj	FGALVAN20170310181716993	
Explanation:		<p>iii. Resumption of Routine Operations - Some management employees in this workgroup provided customer support during the Aliso Canyon natural gas leak incident that required a reprioritization of company resources. The labor provided for that project has been excluded from GRC historical recorded costs used in preparation of forecasts. In order to adequately resume routine asset management operations activities, adding \$61,162.63 labor dollars with an equivalent 0.783 FTE.</p>							
2018	FOF-Ongoing	-284	-379	0	-663	-9.4	1-Sided Adj	FGALVAN20170308110150797	
Explanation:		<p>ii. Labor and FTE savings of -\$284k and -9.4 FTE respectively plus non-labor ongoing savings of -\$379k</p>							
2018	Other	67	5	0	72	1.0	1-Sided Adj	FGALVAN20170512070239853	
Explanation:		<p>iv. Administrative Control Clerk for Leak Survey and Repairs - Administrative Control Clerks to support with recording work history and maintenance of records due to increase in leak survey cycles for pre-1986 plastic pipe and high-pressure pipe.</p> <p>Labor cost will be 1 FTE x \$67k = \$67k beginning in 2018. Associated non-labor expense is estimated to be 1 FTE x \$5k = \$5k also beginning in 2018.</p> <p>Beginning in TY 2019, an additional five Administrative Control Clerks will be hired. Total labor for TY 2019 is 6 FTE's x \$67k = \$402k. Total non-labor for TY 2019 is 6 FTE's x \$5k = \$30k.</p>							
2018 Total		-22	-364	0	-386	-5.7			

2019	Other	202	15	0	217	3.0	1-Sided Adj	JLORTIZ20161122113610310
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Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: B. Asset Management
 Category-Sub: 1. Asset Management
 Workpaper: 2GD001.000 - Asset Management

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
<p>Explanation: i. Administrative Control Clerks for Pipeline Records Management - Administrative Control Clerks to support record-keeping and document quality control driven by an increase in level of construction as discussed throughout the Gas Distribution testimony. Continuous improvement of documentation practices that provide for the development and retention of reliable, traceable, and verifiable records.</p> <p>Labor cost will be 1 FTE x \$67k = \$67k beginning in 2017. Associated non-labor cost is estimated to be 1 FTE x \$5k = \$5k also beginning in 2017.</p> <p>Beginning in 2018, an additional Administrative Control Clerk will be hired. Total labor for 2018 is 2 FTE's X \$67k = \$134k. Total non-labor for 2018 is 2 FTE's X \$5k = \$10k.</p> <p>For TY 2019, the total labor will be 3 FTE's X \$67k = \$202k. Total non-labor for TY 2019 is 3 FTE's X \$5k = \$15k.</p>								
2019 Other		403	30	0	433	6.0	1-Sided Adj	JLORTIZ20161122113854767
<p>Explanation: iv. Administrative Control Clerk for Leak Survey and Repairs - Administrative Control Clerks to support with recording work history and maintenance of records due to increase in leak survey cycles for pre-1986 plastic pipe and high-pressure pipe.</p> <p>Labor cost will be 1 FTE x \$67k = \$67k beginning in 2018. Associated non-labor expense is estimated to be 1 FTE x \$5k = \$5k also beginning in 2018.</p> <p>Beginning in TY 2019, an additional five Administrative Control Clerks will be hired. Total labor for TY 2019 is 6 FTE's x \$67k = \$402k. Total non-labor for TY 2019 is 6 FTE's x \$5k = \$30k.</p>								
2019 FOF-Ongoing		-1,764	-541	0	-2,305	-30.7	1-Sided Adj	FGALVAN20170308120014630
<p>Explanation: ii. Labor and FTE savings of -\$1,764k and -30.7 FTE respectively plus non-labor ongoing savings of -\$541k</p>								
2019 Other		61	0	0	61	0.7	1-Sided Adj	FGALVAN20170310181733493
<p>Explanation: iii. Resumption of Routine Operations - Some management employees in this workgroup provided customer support during the Aliso Canyon natural gas leak incident that required a reprioritization of company resources. The labor provided for that project has been excluded from GRC historical recorded costs used in preparation of forecasts. In order to adequately resume routine asset management operations activities, adding \$61,162.63 labor dollars with an equivalent 0.783 FTE.</p>								
2019 Total		-1,098	-496	0	-1,594	-21.0		

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: B. Asset Management
Category-Sub: 1. Asset Management
Workpaper: 2GD001.000 - Asset Management

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	5,660	5,938	6,415	5,953	6,066
Non-Labor	862	765	1,422	946	915
NSE	0	0	0	0	0
Total	6,522	6,703	7,838	6,899	6,981
FTE	71.1	74.2	77.6	70.2	69.9
Adjustments (Nominal \$) **					
Labor	0	1	190	184	152
Non-Labor	0	0	19	22	13
NSE	0	0	0	0	0
Total	0	1	209	206	165
FTE	0.0	0.0	2.4	2.3	1.6
Recorded-Adjusted (Nominal \$)					
Labor	5,660	5,939	6,606	6,138	6,218
Non-Labor	862	765	1,442	968	929
NSE	0	0	0	0	0
Total	6,522	6,703	8,047	7,106	7,147
FTE	71.1	74.2	80.0	72.5	71.5
Vacation & Sick (Nominal \$)					
Labor	906	987	1,078	993	1,024
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	906	987	1,078	993	1,024
FTE	11.8	12.5	13.4	12.2	12.1
Escalation to 2016\$					
Labor	645	501	374	175	0
Non-Labor	25	10	-5	3	0
NSE	0	0	0	0	0
Total	670	510	369	177	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	7,211	7,426	8,058	7,305	7,243
Non-Labor	887	774	1,437	971	929
NSE	0	0	0	0	0
Total	8,098	8,201	9,494	8,276	8,171
FTE	82.9	86.7	93.4	84.7	83.6

* 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
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: B. Asset Management
Category-Sub: 1. Asset Management
Workpaper: 2GD001.000 - Asset Management

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0.788	190	184	152
Non-Labor	0	0.164	19	22	13
NSE	0	0	0	0	0
Total	0	0.952	209	206	165
FTE	0.0	0.0	2.4	2.3	1.6

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012 Total		0	0	0	0.0		
2013	Other	1	0	0	0.0	CCTR Transf From 2200-2191.000	JLORTIZ20161107100839493
2013 Total		1	0	0	0.0		
2014	Other	190	19	0	2.4	CCTR Transf From 2200-2191.000	JLORTIZ20161107101327267
2014 Total		190	19	0	2.4		
2015	Other	184	22	0	2.3	CCTR Transf From 2200-2191.000	JLORTIZ20161107101450507
2015 Total		184	22	0	2.3		
2016	Aliso	-17	0	0	-0.2	1-Sided Adj	FGALVAN20170227112155797
2016 Total		-17	0	0	-0.2		
2016	Other	213	16	0	2.3	CCTR Transf From 2200-2191.000	FGALVAN20170227131349007
2016 Total		213	16	0	2.3		
2016	Aliso	0	-2	0	0.0	1-Sided Adj	FGALVAN20170506125811453
2016 Total		0	-2	0	0.0		

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: B. Asset Management
 Category-Sub: 1. Asset Management
 Workpaper: 2GD001.000 - Asset Management

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2016	Aliso	-30	0	0	-0.3	1-Sided Adj	FGALVAN20170227112304263
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	-8	0	0	-0.1	1-Sided Adj	FGALVAN20170227113112070
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	-5	0	0	-0.1	1-Sided Adj	FGALVAN20170227113304100
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	-1	0	0	0.0	1-Sided Adj	FGALVAN20170227113527033
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	-1	0	0	0.0	1-Sided Adj	FGALVAN20170227113644237
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	0	0	0	0.0	1-Sided Adj	FGALVAN20170227114022223
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	0	-1	0	0.0	1-Sided Adj	FGALVAN20170227114320067
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016 Total		152	13	0	1.6		

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: C. Operations and Management
Workpaper: 2GD004.000

Summary for Category: C. Operations and Management

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	2,126	3,404	3,501	3,597
Non-Labor	3,520	3,276	3,529	3,781
NSE	0	0	0	0
Total	5,646	6,680	7,030	7,378
FTE	16.5	27.2	27.6	28.0

Workpapers belonging to this Category:

2GD004.000 Operations and Management

Labor	2,126	3,404	3,501	3,597
Non-Labor	3,520	3,276	3,529	3,781
NSE	0	0	0	0
Total	5,646	6,680	7,030	7,378
FTE	16.5	27.2	27.6	28.0

Note: Totals may include rounding differences.

Beginning of Workpaper
2GD004.000 - Operations and Management

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: C. Operations and Management
Category-Sub: 1. Operations and Management
Workpaper: 2GD004.000 - Operations and Management

Activity Description:

This work category includes costs for operations leadership, field management and operations support; all of which are necessary for SoCalGas' 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.

Forecast Explanations:

Labor - 5-YR Linear

In projecting the future expense requirements for these functions, SoCalGas reviewed the 2012 through 2016 historical spending for this workgroup. In general, operations leadership and field management 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 five-year (2012 through 2016) linear trend expense plus incremental increases as the forecast for the level of leadership and management necessary to maintain current operations. Using an average or base year forecasting method would not be appropriate for this workgroup, as it would not properly fund future labor demands in this workgroup.

Non-Labor - 5-YR Linear

In projecting the future expense requirements for these functions, SoCalGas reviewed the 2012 through 2016 historical spending for this workgroup. In general, operations leadership and field management 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 five-year (2012 through 2016) linear trend expense plus incremental increases as the forecast for the level of leadership and management necessary to maintain current operations. Using an average or base year forecasting method would not be appropriate for this workgroup, as it would not properly fund future non-labor demands in this workgroup.

NSE - 5-YR Linear

NSE is not applicable to this workgroup.

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: C. Operations and Management
 Category-Sub: 1. Operations and Management
 Workpaper: 2GD004.000 - Operations and Management

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		1,864	2,365	2,539	2,809	2,126	3,405	3,501	3,598	
Non-Labor		2,313	2,229	1,961	2,337	3,520	3,277	3,529	3,780	
NSE		0	0	0	0	0	0	0	0	
Total		4,177	4,594	4,500	5,147	5,645	6,682	7,030	7,378	
FTE		17.0	18.5	20.9	23.7	16.5	27.2	27.6	28.0	

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: C. Operations and Management
Category-Sub: 1. Operations and Management
Workpaper: 2GD004.000 - Operations and Management

Summary of Adjustments to Forecast:

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	5-YR Linear	2,631	2,728	2,824	773	773	773	3,404	3,501	3,597
Non-Labor	5-YR Linear	3,228	3,481	3,733	48	48	48	3,276	3,529	3,781
NSE	5-YR Linear	0	0	0	0	0	0	0	0	0
Total		5,859	6,208	6,557	821	821	821	6,680	7,029	7,378
FTE	5-YR Linear	20.6	21.0	21.4	6.6	6.6	6.6	27.2	27.6	28.0

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	280	18	0	298	2.4	1-Sided Adj	JLORTIZ20161122123656820	
Explanation:		<p>i. Project Advisors - Leak Repairs - Incremental project advisors responsible for implementing leak analysis and process strategy to the leak inventory reduction effort. They will schedule work and coordinate with field crews and contractors to verify that repairs and service replacements are completed on time. The project advisors will develop reports to track cost, set up performance metrics, manage contractors, and coordinate material and fleet needs.</p> <p>Labor cost will be 3.5 FTE's x \$80k = \$280k beginning in 2017 and continuing through TY 2019. Associated non-labor expense is estimated to be 3.5 FTE's x \$5k = \$17.5k beginning in 2017 and continuing through TY 2019.</p>							
2017	Other	96	5	0	101	0.8	1-Sided Adj	JLORTIZ20161130135720837	
Explanation:		<p>ii. Project Manager - Leak Repairs - Incremental support to manage the Leak inventory reduction effort and communicate with key stakeholders, provide work direction to the project advisors, implement best practices, negotiate contractual agreements, and work with the finance team to develop key financial metrics.</p> <p>Labor cost will be 1 FTE x \$96k = \$96k beginning in 2017 and continuing through TY 2019. Associated non-labor expense is estimated to be 1 FTE x \$5k = \$5k also beginning in 2017 and continuing through TY 2019.</p>							
2017	Other	165	20	0	185	1.0	1-Sided Adj	FGALVAN20170310193222393	

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: C. Operations and Management
 Category-Sub: 1. Operations and Management
 Workpaper: 2GD004.000 - Operations and Management

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
Explanation:		iii. Director of Workforce Planning & Resource Management - Incremental Director position responsible for directing and providing strategy, vision and leadership for an organization accountable for the planning, scheduling, resource management, engineering, design and special projects of the entire SoCalGas distribution pipeline infrastructure. The director provides strategic direction and leadership in optimizing resource management across all distribution functions including pipeline maintenance, construction and special project work across company and contractor crews. Labor cost will be 1 FTE x \$165k beginning in 2017 and continuing through TY 2019. Associated non-labor expense is estimated to be 1 FTE x \$20k = \$20k also beginning in 2017 and continuing through TY 2019.						
2017	Other	120	5	0	125	1.0	1-Sided Adj	FGALVAN20170512173726523
Explanation:		iv. Continuous Improvement Operations Manager - Incremental position responsible for providing the focus to review work processes that determine efficiency, safety and compliance improvement opportunities. This position identifies and implements opportunities to reduce or avoid operating cost through efficiency initiatives and improvements that strengthen business processes and internal controls. Labor cost will be 1 FTE x \$120k beginning in 2017 and continuing through TY 2019. Associated non-labor expense is estimated to be 1 FTE x \$5k = \$5k also beginning in 2017 and continuing through TY 2019.						
2017	Other	112	0	0	112	1.4	1-Sided Adj	FGALVAN20170303154229130
Explanation:		v. Resumption of Routine Operations. Some management employees in this workgroup provided customer support during the Aliso Canyon natural gas leak incident that required a reprioritization of company resources. The labor provided for that project has been excluded from GRC historical recorded costs used in preparation of forecasts. In order to adequately resume routine operations and management activities, adding \$112,974.46 labor dollars with an equivalent 1.402 FTE.						
2017 Total		773	48	0	821	6.6		

2018 Other 280 18 0 298 2.4 1-Sided Adj JLORTIZ20161122123706423

Explanation: i. Project Advisors - Leak Repairs - Incremental project advisors responsible for implementing leak analysis and process strategy to the leak inventory reduction effort. They will schedule work and coordinate with field crews and contractors to verify that repairs and service replacements are completed on time. The project advisors will develop reports to track cost, set up performance metrics, manage contractors, and coordinate material and fleet needs.

 Labor cost will be 3.5 FTE's x \$80k = \$280k beginning in 2017 and continuing through TY 2019. Associated non labor expense is estimated to be 3.5 FTE's x \$5k = \$17.5k beginning in 2017 and continuing through TY 2019.

Note: Totals may include rounding differences.

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Southern California Gas Company
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 Category: C. Operations and Management
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 Workpaper: 2GD004.000 - Operations and Management

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>	
2018	Other	96	5	0	101	0.8	1-Sided Adj	JLORTIZ20161130135736477	
Explanation:		<p>ii. Project Manager - Leak Repairs - Incremental support to manage the Leak inventory reduction effort and communicate with key stakeholders, provide work direction to the project advisors, implement best practices, negotiate contractual agreements, and work with the finance team to develop key financial metrics.</p> <p>Labor cost will be 1 FTE x \$96k = \$96k beginning in 2017 and continuing through TY 2019. Associated non-labor expense is estimated to be 1 FTE x \$5k = \$5k also beginning in 2017 and continuing through TY 2019.</p>							
2018	Other	165	20	0	185	1.0	1-Sided Adj	FGALVAN20170310193240317	
Explanation:		<p>iii. Director of Workforce Planning & Resource Management - Incremental Director position responsible for directing and providing strategy, vision and leadership for an organization accountable for the planning, scheduling, resource management, engineering, design and special projects of the entire SoCalGas distribution pipeline infrastructure. The director provides strategic direction and leadership in optimizing resource management across all distribution functions including pipeline maintenance, construction and special project work across company and contractor crews.</p> <p>Labor cost will be 1 FTE x \$165k beginning in 2017 and continuing through TY 2019. Associated non-labor expense is estimated to be 1 FTE x \$20k = \$20k also beginning in 2017 and continuing through TY 2019.</p>							
2018	Other	120	5	0	125	1.0	1-Sided Adj	FGALVAN20170512173750757	
Explanation:		<p>iv. Continuous Improvement Operations Manager - Incremental position responsible for providing the focus to review work processes that determine efficiency, safety and compliance improvement opportunities. This position identifies and implements opportunities to reduce or avoid operating cost through efficiency initiatives and improvements that strengthen business processes and internal controls.</p> <p>Labor cost will be 1 FTE x \$120k beginning in 2017 and continuing through TY 2019. Associated non-labor expense is estimated to be 1 FTE x \$5k = \$5k also beginning in 2017 and continuing through TY 2019.</p>							
2018	Other	112	0	0	112	1.4	1-Sided Adj	FGALVAN20170303154250317	
Explanation:		<p>v. Resumption of Routine Operations - Some management employees in this workgroup provided customer support during the Aliso Canyon natural gas leak incident that required a reprioritization of company resources. The labor provided for that project has been excluded from GRC historical recorded costs used in preparation of forecasts. In order to adequately resume routine operations and management activities, adding \$112,974.46 labor dollars with an equivalent 1.402 FTE.</p>							
2018 Total		773	48	0	821	6.6			

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: C. Operations and Management
 Category-Sub: 1. Operations and Management
 Workpaper: 2GD004.000 - Operations and Management

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>	
2019	Other	280	18	0	298	2.4	1-Sided Adj	JLORTIZ20161122123719293	
Explanation:		<p>i. Project Advisors - Leak Repairs - Incremental project advisors responsible for implementing leak analysis and process strategy to the leak inventory reduction effort. They will schedule work and coordinate with field crews and contractors to verify that repairs and service replacements are completed on time. The project advisors will develop reports to track cost, set up performance metrics, manage contractors, and coordinate material and fleet needs.</p> <p>Labor cost will be 3.5 FTE's x \$80k = \$280k beginning in 2017 and continuing through TY 2019. Associated non labor expense is estimated to be 3.5 FTE's x \$5k = \$17.5k beginning in 2017 and continuing through TY 2019.</p>							
2019	Other	96	5	0	101	0.8	1-Sided Adj	JLORTIZ20161130135851893	
Explanation:		<p>ii. Project Manager - Leak Repairs - Incremental support to manage the Leak inventory reduction effort and communicate with key stakeholders, provide work direction to the project advisors, implement best practices, negotiate contractual agreements, and work with the finance team to develop key financial metrics.</p> <p>Labor cost will be 1 FTE x \$96k = \$96k beginning in 2017 and continuing through TY 2019. Associated non-labor expense is estimated to be 1 FTE x \$5k = \$5k also beginning in 2017 and continuing through TY 2019.</p>							
2019	Other	165	20	0	185	1.0	1-Sided Adj	FGALVAN20170310193309350	
Explanation:		<p>iii. Director of Workforce Planning & Resource Management - Incremental Director position responsible for directing and providing strategy, vision and leadership for an organization accountable for the planning, scheduling, resource management, engineering, design and special projects of the entire SoCalGas distribution pipeline infrastructure. The director provides strategic direction and leadership in optimizing resource management across all distribution functions including pipeline maintenance, construction and special project work across company and contractor crews.</p> <p>Labor cost will be 1 FTE x \$165k beginning in 2017 and continuing through TY 2019. Associated non-labor expense is estimated to be 1 FTE x \$20k = \$20k also beginning in 2017 and continuing through TY 2019.</p>							
2019	Other	120	5	0	125	1.0	1-Sided Adj	FGALVAN20170512173833007	
Explanation:		<p>iv. Continuous Improvement Operations Manager - Incremental position responsible for providing the focus to review work processes that determine efficiency, safety and compliance improvement opportunities. This position identifies and implements opportunities to reduce or avoid operating cost through efficiency initiatives and improvements that strengthen business processes and internal controls.</p> <p>Labor cost will be 1 FTE x \$120k beginning in 2017 and continuing through TY 2019. Associated non-labor expense is estimated to be 1 FTE x \$5k = \$5k also beginning in 2017 and continuing through TY 2019.</p>							

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: C. Operations and Management
 Category-Sub: 1. Operations and Management
 Workpaper: 2GD004.000 - Operations and Management

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>	
2019	Other	112	0	0	112	1.4	1-Sided Adj	FGALVAN20170303154358333	
Explanation:		v. Resumption of Routine Operations - Some management employees in this workgroup provided customer support during the Aliso Canyon natural gas leak incident that required a reprioritization of company resources. The labor provided for that project has been excluded from GRC historical recorded costs used in preparation of forecasts. In order to adequately resume routine operations and management activities, adding \$112,974.46 labor dollars with an equivalent 1.402 FTE.							
2019 Total		773	48	0	821	6.6			

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
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Area: GAS DISTRIBUTION
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Category: C. Operations and Management
Category-Sub: 1. Operations and Management
Workpaper: 2GD004.000 - Operations and Management

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	3,413	4,293	4,765	4,289	4,284
Non-Labor	2,732	-4,116	1,326	-66	-1,705
NSE	0	0	0	0	0
Total	6,145	177	6,091	4,224	2,578
FTE	37.0	41.9	48.0	42.1	42.0
Adjustments (Nominal \$) **					
Labor	-1,950	-2,402	-2,684	-1,929	-2,459
Non-Labor	-483	6,318	642	2,397	5,225
NSE	0	0	0	0	0
Total	-2,433	3,915	-2,042	468	2,766
FTE	-22.4	-26.1	-30.1	-21.8	-27.9
Recorded-Adjusted (Nominal \$)					
Labor	1,463	1,891	2,081	2,360	1,825
Non-Labor	2,248	2,201	1,968	2,331	3,520
NSE	0	0	0	0	0
Total	3,711	4,093	4,049	4,692	5,345
FTE	14.6	15.8	17.9	20.3	14.1
Vacation & Sick (Nominal \$)					
Labor	234	314	340	382	301
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	234	314	340	382	301
FTE	2.4	2.7	3.0	3.4	2.4
Escalation to 2016\$					
Labor	167	159	118	67	0
Non-Labor	65	27	-6	6	0
NSE	0	0	0	0	0
Total	232	187	111	73	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	1,864	2,365	2,539	2,809	2,126
Non-Labor	2,313	2,229	1,961	2,337	3,520
NSE	0	0	0	0	0
Total	4,177	4,594	4,500	5,147	5,645
FTE	17.0	18.5	20.9	23.7	16.5

* 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.

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Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
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Category-Sub: 1. Operations and Management
Workpaper: 2GD004.000 - Operations and Management

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-1,950	-2,402	-2,684	-1,929	-2,459
Non-Labor	-483	6,318	642	2,397	5,225
NSE	0	0	0	0	0
Total	-2,433	3,915	-2,042	468	2,766
FTE	-22.4	-26.1	-30.1	-21.8	-27.9

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	0	416	0	0.0	1-Sided Adj	TP1MTC20161025133123763
Explanation: To transfer damage credits to Main and Service Maintenance work groups							
2012	Other	-84	-1	0	-0.9	CCTR Transf To 2200-0331.000	FGALVAN20161202085659580
Explanation: Transferring operational planners labor and non labor who moved to financial planning from CC 2200-0571 to CC 2200-0331.							
2012	Other	-47	-1	0	-0.9	CCTR Transf To 2200-0307.000	MGONZALX20161202151424060
Explanation: Adjustment to transfer the ESS Governance (2200-2322) to Gas Engineering witness area cost center 2200-0307.							
2012	Other	-792	-725	0	-8.9	CCTR Transf To 2200-0307.000	MGONZALX20161202152356240
Explanation: Adjustment to transfer the ESS Field Force(2200-2317) to Gas Engineering witness area cost center 2200-0307.							
2012	Other	-72	-15	0	-0.7	CCTR Transf To 2200-0307.000	MGONZALX20161202153751333
Explanation: Adjustment to transfer the ESS Implementation Support (2200-2323) to Gas Engineering witness area cost center 2200-0307.							
2012	Other	-241	-26	0	-3.4	CCTR Transf To 2200-0307.000	MGONZALX20161202153911397
Explanation: Adjustment to transfer the ESS Mobile App (2200-2324) to Gas Engineering witness area cost center 2200-0307.							
2012	Other	-293	-81	0	-3.5	CCTR Transf To 2200-0307.000	MGONZALX20161202161930607
Explanation: Adjustment to transfer the ESS Mobile (2200-2375) to Gas Engineering witness area cost center 2200-0307.							
2012	Other	-174	-9	0	-1.5	CCTR Transf To 2200-7216.000	FGALVAN20170511112459363
Explanation: Transferring cost and FTE s from Gas Distribution to Gas Operations System Integrity.							

Note: Totals may include rounding differences.

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 Workpaper: 2GD004.000 - Operations and Management

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2012	Other	-247	-41	0	-2.6	CCTR Transf To 2200-7210.000	FGALVAN20170512082949847
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2012 Total		-1,950	-483	0	-22.4		
2013	Other	0	6,705	0	0.0	1-Sided Adj	TP1MTC20161025133205693
Explanation: To transfer damage credits to Main and Service Maintenance work groups							
2013	Other	-39	0	0	-0.4	CCTR Transf To 2200-0331.000	FGALVAN20161202090436020
Explanation: Transferring operational planners labor and non-labor cost who moved to Financial Planning from CC 2200-0571 to CC 2200-0331.							
2013	Other	-225	-11	0	-2.8	CCTR Transf To 2200-0307.000	MGONZALX20161202145617130
Explanation: Adjustment to transfer the historical expenditures in the ESS Mobile group (Cost Center 2200-2375) to the Gas Engineering witness group cost center 2200-0307. The ESS Mobile group will be sponsored by the Gas Engineering witness area because the work associated with this group is best represented as an enterprise group supporting different operations groups.							
2013	Other	-47	0	0	-0.8	CCTR Transf To 2200-0307.000	MGONZALX20161202151519500
Explanation: Adjustment to transfer the ESS Governance (2200-2322) to Gas Engineering witness area cost center 2200-0307.							
2013	Other	-1,057	-271	0	-11.7	CCTR Transf To 2200-0307.000	MGONZALX20161202152451347
Explanation: Adjustment to transfer the ESS Field Force(2200-2317) to Gas Engineering witness area cost center 2200-0307.							
2013	Other	-324	-24	0	-4.3	CCTR Transf To 2200-0307.000	MGONZALX20161202154104053
Explanation: Adjustment to transfer the ESS Mobile App Support (2200-2324) to Gas Engineering witness area cost center 2200-0307.							
2013	Other	-120	-17	0	-1.2	CCTR Transf To 2200-0307.000	MGONZALX20161203073535510
Explanation: Adjustment to transfer the ESS Implementation team from cost center 2200-2323 in the Gas Distribution witness area to cost center 2200-0307 to the Gas Engineering witness area.							
2013	Other	-276	-11	0	-2.2	CCTR Transf To 2200-7216.000	FGALVAN20170511122143233
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity.							
2013	Other	-287	-51	0	-3.0	CCTR Transf To 2200-7210.000	FGALVAN20170512083313070
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2013	Other	-28	0	0	0.3	CCTR Transf To 2200-7218.000	FGALVAN20170512083429860
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							

Note: Totals may include rounding differences.

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 Category-Sub: 1. Operations and Management
 Workpaper: 2GD004.000 - Operations and Management

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2013	Other	0	0	0	0.0	CCTR Transf To 2200-7217.000	FGALVAN20170512083537353
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2013	Other	0	0	0	0.0	CCTR Transf To 2200-7219.000	FGALVAN20170512084459473
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2013	Other	0	-2	0	0.0	1-Sided Adj	FGALVAN20170719154953503
Explanation: Transferring Cost from Gas Distribution to Gas Operations System Integrity							
2013 Total		-2,402	6,318	0	.26.1		
2014	Other	0	1,205	0	0.0	1-Sided Adj	TP1MTC20161025133303443
Explanation: To transfer damage credits to Main and Service Maintenance work groups							
2014	Other	0	-171	0	0.0	CCTR Transf To 2200-8000.002	JLORTIZ20161107122857317
Explanation: Transfer cost from Gas Distribution CC 2200-0223 to Corp Center Compensation and Benefits CC 2200-8000.002.							
2014	Other	-337	-15	0	-4.0	CCTR Transf To 2200-0307.000	MGONZALX20161202145710430
Explanation: Adjustment to transfer the historical expenditures in the ESS Mobile group (Cost Center 2200-2375) to the Gas Engineering witness group cost center 2200-0307. The ESS Mobile group will be sponsored by the Gas Engineering witness area because the work associated with this group is best represented as an enterprise group supporting different operations groups.							
2014	Other	-50	-1	0	-0.9	CCTR Transf To 2200-0307.000	MGONZALX20161202151632880
Explanation: Adjustment to transfer the ESS Governance (2200-2322) to Gas Engineering witness area cost center 2200-0307.							
2014	Other	-1,312	-245	0	-14.5	1-Sided Adj	MGONZALX20161202152607120
Explanation: Adjustment to transfer the ESS Field Force(2200-2317) to Gas Engineering witness area cost center 2200-0307.							
2014	Other	-498	-18	0	-6.0	CCTR Transf To 2200-0307.000	MGONZALX20161202153606380
Explanation: Adjustment to transfer the ESS Implementation Support (2200-2323) to Gas Engineering witness area cost center 2200-0307.							
2014	Other	-338	-33	0	-4.4	CCTR Transf To 2200-0307.000	MGONZALX20161202154208927
Explanation: Adjustment to transfer the ESS Mobile App Support (2200-2324) to Gas Engineering witness area cost center 2200-0307.							
2014	Other	-83	-6	0	-0.8	CCTR Transf To 2200-7216.000	FGALVAN20170511122522413
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity.							

Note: Totals may include rounding differences.

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 Workpaper: 2GD004.000 - Operations and Management

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2014	Other	0	-9	0	0.0	CCTR Transf To 2200-7217.000	FGALVAN20170512085458103
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2014	Other	-59	-1	0	0.6	CCTR Transf To 2200-7218.000	FGALVAN20170512085559137
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2014	Other	-1	-2	0	0.0	CCTR Transf To 2200-7219.000	FGALVAN20170512085713663
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2014	Other	-6	-63	0	-0.1	CCTR Transf To 2200-7210.000	FGALVAN20170512085845160
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2014	Other	0	0	0	0.0	1-Sided Adj	FGALVAN20170719155050183
Explanation: Transferring Cost from Gas Distribution to Gas Operations System Integrity							
2014 Total		-2,684	642	0	-30.1		
2015	Other	0	2,654	0	0.0	1-Sided Adj	TP1MTC20161025133358593
Explanation: To transfer damage credits to Main and Service Maintenance work groups							
2015	Aliso	0	-4	0	0.0	1-Sided Adj	JLORTIZ20161026140732780
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2015	Other	-379	-13	0	-4.3	CCTR Transf To 2200-0307.000	MGONZALX20161202145820250
Explanation: Adjustment to transfer the historical expenditures in the ESS Mobile group (Cost Center 2200-2375) to the Gas Engineering witness group cost center 2200-0307. The ESS Mobile group will be sponsored by the Gas Engineering witness area because the work associated with this group is best represented as an enterprise group supporting different operations groups.							
2015	Other	-54	0	0	-0.9	CCTR Transf To 2200-0307.000	MGONZALX20161202151734727
Explanation: Adjustment to transfer the ESS Governance (2200-2322) to Gas Engineering witness area cost center 2200-0307.							
2015	Other	-87	-17	0	-0.8	CCTR Transf To 2200-0307.000	MGONZALX20161202152749347
Explanation: Adjustment to transfer the ESS Field Force(2200-2317) to Gas Engineering witness area cost center 2200-0307.							
2015	Other	-700	-14	0	-8.0	CCTR Transf To 2200-0307.000	MGONZALX20161202153452100
Explanation: Adjustment to transfer the ESS Field Force(2200-2317) to Gas Engineering witness area cost center 2200-0307.							

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: C. Operations and Management
 Category-Sub: 1. Operations and Management
 Workpaper: 2GD004.000 - Operations and Management

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2015	Other	-348	-144	0	-4.3	CCTR Transf To 2200-0307.000	MGONZALX20161202154305720
Explanation: Adjustment to transfer the ESS Mobile App Support (2200-2324) to Gas Engineering witness area cost center 2200-0307.							
2015	Other	101	58	0	0.7	CCTR Transf From 2200-2563.000	TPRER20161028131244233
Explanation: Tsfr of costs from 2HR001 2200-2563 (Strategic Initiative) IO 300771747 SI Distribution Efficiency to cost center 2200-2092.							
2015	Other	-162	-9	0	-1.6	CCTR Transf To 2200-7216.000	FGALVAN20170511122905720
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity.							
2015	Other	-191	-78	0	-1.6	CCTR Transf To 2200-7210.000	FGALVAN20170512090059437
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2015	Other	-83	-18	0	-0.9	CCTR Transf To 2200-7217.000	FGALVAN20170512090158377
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2015	Other	-19	-11	0	-0.1	CCTR Transf To 2200-7218.000	FGALVAN20170512090335977
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2015	Other	-7	-7	0	0.0	CCTR Transf To 2200-7219.000	FGALVAN20170512090653080
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2015 Total		-1,929	2,397	0	-21.8		
2016	Other	0	5,599	0	0.0	1-Sided Adj	TP1MTC20161025133655050
Explanation: To transfer damage credits to Main and Service Maintenance work groups							
2016	Aliso	0	-5	0	0.0	1-Sided Adj	JLORTIZ20161026140805873
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Other	-125	-7	0	-1.5	CCTR Transf To 2200-0302.000	FGALVAN20170228114721530
Explanation: Adjustment to transfer the historical expenditures in the ESS Field Force (Cost Center 2200-2317) to the Gas Engineering witness group cost center 2200-0302.							
2016	Other	-53	0	0	-0.9	CCTR Transf To 2200-0302.000	FGALVAN20170228130626980
Explanation: Adjustment to transfer the historical expenditures in the ESS Governance (Cost Center 2200-2322) to the Gas Engineering witness group cost center 2200-0302.							
2016	Aliso	-22	-1	0	-0.3	1-Sided Adj	FGALVAN20170227103908610
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: C. Operations and Management
 Category-Sub: 1. Operations and Management
 Workpaper: 2GD004.000 - Operations and Management

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2016	Aliso	-30	0	0	-0.3	1-Sided Adj	FGALVAN20170227104152643
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Other	-5	55	0	0.0	CCTR Transf From 2200-2563.000	TPRER20170301091935333
Explanation: Transfer Strategic Initiative costs from 2HR001 2200-2563 to 2200-2092. IO 300771747 SI Distribution Efficiency. FTE -.03 too small to refelct.							
2016	Other	-35	-11	0	-0.5	CCTR Transf To 2200-7218.000	FGALVAN20170512092819123
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2016	Other	-2	-8	0	0.0	CCTR Transf To 2200-7219.000	FGALVAN20170512092940953
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2016	Other	-438	-14	0	-4.7	CCTR Transf To 2200-0302.000	FGALVAN20170228120157150
Explanation: Adjustment to transfer the historical expenditures in the ESS Implementation Support (Cost Center 2200-2323) to the Gas Engineering witness group cost center 2200-0302.							
2016	Other	-334	-289	0	-4.0	CCTR Transf To 2200-0302.000	FGALVAN20170228120731117
Explanation: Adjustment to transfer the historical expenditures in the ESS Mobile App (Cost Center 2200-2324) to the Gas Engineering witness group cost center 2200-0302.							
2016	Other	-278	-14	0	-3.3	CCTR Transf To 2200-0302.000	FGALVAN20170228121006780
Explanation: Adjustment to transfer the historical expenditures in the ESS Mobile Group (Cost Center 2200-2375) to the Gas Engineering witness group cost center 2200-0302.							
2016	Other	-281	-3	0	-3.2	CCTR Transf To 2200-0302.000	FGALVAN20170301075709913
Explanation: Adjustment to transfer the historical expenditures in the ESS CPD Work Management System Support Group (Cost Center 2200-2584) to the Gas Engineering witness group cost center 2200-0302.							
2016	Other	-477	-17	0	-5.2	CCTR Transf To 2200-7216.000	FGALVAN20170511123205853
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity.							
2016	Other	-107	-35	0	-1.1	CCTR Transf To 2200-7210.000	FGALVAN20170512092129853
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2016	Other	-271	-24	0	-2.9	CCTR Transf To 2200-7217.000	FGALVAN20170512092354367
Explanation: Transferring cost from Gas Distribution to Gas Operations System Integrity							
2016 Total		-2,459	5,225	0	-27.9		

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: C. Operations and Management
Category-Sub: 1. Operations and Management
Workpaper: 2GD004.000 - Operations and Management

RAMP Item # 1

Ref ID: MMCLARK20170308155650717

RAMP Chapter: SCG-1

Program Name: Staff Support

Program Description: Staff to translate federal and state regulations into company Gas Standards

Risk/Mitigation:

Risk: Catastrophic Damage Involving Gas Infrastructure (

Mitigation: Locate & Mark Activities

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	411	924	924
High	455	1,022	1,022

Funding Source: CPUC-GRC

Forecast Method: Zero-Based

Work Type: Mandated

Work Type Citation: CFR Part 192/GO 112F

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 111

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: C. Operations and Management
 Category-Sub: 1. Operations and Management
 Workpaper: 2GD004.000 - Operations and Management

RAMP Item # 2

Ref ID: MMCLARK20170308173431483

RAMP Chapter: SCG-2

Program Name: Development and management of formal gas standards, procedures and processes for Gas Distribution,

Program Description: Evaluation includes the time of the Standard Owner to complete initial review, coordinate inputs, make changes and complete processing

Risk/Mitigation:

Risk: Employee, Contractor, Customer and Public Safety

Mitigation: Policy, Procedures, Standards, and ESCMP

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	1,350	1,350	1,350
High	1,650	1,650	1,650

Funding Source: Other

Forecast Method: Other

Work Type: Mandated

Work Type Citation: Gas Standard

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 1540

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: C. Operations and Management
Category-Sub: 1. Operations and Management
Workpaper: 2GD004.000 - Operations and Management

RAMP Item # 3

Ref ID: MMCLARK20170308175944190

RAMP Chapter: SCG-2

Program Name: Formal Skills Training - Instructor Time

Program Description: Formal Skills Training - Instructor Time

Risk/Mitigation:

Risk: Employee, Contractor, Customer & Public, Project

Mitigation: Employee Skills Training

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	574	574	544
High	755	755	755

Funding Source: Other

Forecast Method: Other

Work Type: Mandated

Work Type Citation: Gas Standard

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 552

Explanation: Assumed 2016 actuals on adjusted 2015 dollars. Created to document that the mitigation is incorporated within the workpaper.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: D. Regional Public Affairs
Workpaper: 2GD005.000

Summary for Category: D. Regional Public Affairs

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	2,779	3,617	3,523	3,523
Non-Labor	681	859	897	897
NSE	0	0	0	0
Total	3,460	4,476	4,420	4,420
FTE	27.0	33.3	32.4	32.4

Workpapers belonging to this Category:

2GD005.000 Regional Public Affairs

Labor	2,779	3,617	3,523	3,523
Non-Labor	681	859	897	897
NSE	0	0	0	0
Total	3,460	4,476	4,420	4,420
FTE	27.0	33.3	32.4	32.4

Note: Totals may include rounding differences.

Beginning of Workpaper
2GD005.000 - Regional Public Affairs

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: D. 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 - 5-YR Average

The level of construction, repair and maintenance activities drives costs for this workgroup. Regional Public Affairs focus is facilitating these activities in a timely and cost-effective manner so SoCalGas can maintain safe and reliable service for its customers. 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. Given these activities, SoCalGas determined that a five-year (2012 through 2016) historical average best reflects the future requirements for this workgroup.

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 2012 through 2016 was determined to be most representative of ongoing non-labor requirements. To this foundation, additional funding is necessary to meet the projected future staffing levels.

NSE - 5-YR Average

NSE is not applicable to this workgroup.

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: D. Regional Public Affairs
 Category-Sub: 1. Regional Public Affairs
 Workpaper: 2GD005.000 - Regional Public Affairs

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		3,631	3,387	3,383	3,326	2,779	3,616	3,522	3,522	
Non-Labor		1,086	895	725	772	681	859	897	897	
NSE		0	0	0	0	0	0	0	0	
Total		4,717	4,282	4,108	4,099	3,460	4,475	4,419	4,419	
FTE		33.1	31.0	31.3	31.2	27.0	33.4	32.5	32.5	

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: D. Regional Public Affairs
Category-Sub: 1. Regional Public Affairs
Workpaper: 2GD005.000 - Regional Public Affairs

Summary of Adjustments to Forecast:

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	5-YR Average	3,301	3,301	3,301	316	222	222	3,617	3,523	3,523
Non-Labor	5-YR Average	832	832	832	27	65	65	859	897	897
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		4,133	4,133	4,133	343	287	287	4,476	4,420	4,420
FTE	5-YR Average	30.7	30.7	30.7	2.6	1.7	1.7	33.3	32.4	32.4

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	FOF-Ongoing	-31	-4	0	-35	-0.3	1-Sided Adj	FGALVAN20170310094917120	
Explanation:		i. Labor and FTE savings of -\$31k and -0.31 FTE respectively plus non-labor savings of -\$4k							
2017	Other	347	31	0	378	2.9	1-Sided Adj	FGALVAN20170303154704273	
Explanation:		ii. Regional Public Affairs Resumption of Routine Operations - Some management employees in this workgroup provided customer support during the Aliso Canyon natural gas leak incident that required a reprioritization of company resources. The labor and non-labor provided for that project has been excluded from GRC historical recorded costs used in preparation of forecasts. In order to adequately resume routine asset management operations activities, adding \$347,092.03 labor dollars, \$31,196.09 non-labor with an equivalent 2.976 FTE over the base forecast							
2017 Total		316	27	0	343	2.6			
2018	FOF-Ongoing	-125	34	0	-91	-1.2	1-Sided Adj	FGALVAN20170310095037437	
Explanation:		i. Labor and FTE savings of -\$125k and -1.25 FTE respectively plus non-labor cost of \$34k							
2018	Other	347	31	0	378	2.9	1-Sided Adj	FGALVAN20170303154747390	
Explanation:		ii. Regional Public Affairs Resumption of Routine Operations - Some management employees in this workgroup provided customer support during the Aliso Canyon natural gas leak incident that required a reprioritization of company resources. The labor and non-labor provided for that project has been excluded from GRC historical recorded costs used in preparation of forecasts. In order to adequately resume routine asset management operations activities, adding \$347,092.03 labor dollars, \$31,196.09 non-labor with an equivalent 2.976 FTE over the base forecast							
2018 Total		222	65	0	287	1.7			

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: D. Regional Public Affairs
 Category-Sub: 1. Regional Public Affairs
 Workpaper: 2GD005.000 - Regional Public Affairs

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>
2019	FOF-Ongoing	-125	34	0	-91	-1.2	1-Sided Adj	FGALVAN20170310095058067
Explanation:		i. Labor and FTE savings of -\$125k and -1.25 FTE respectively plus non-labor cost of \$34k						
2019	Other	347	31	0	378	2.9	1-Sided Adj	FGALVAN20170310172620193
Explanation:		ii. Regional Public Affairs Resumption of Routine Operations - Some management employees in this workgroup provided customer support during the Aliso Canyon natural gas leak incident that required a reprioritization of company resources. The labor and non-labor provided for that project has been excluded from GRC historical recorded costs used in preparation of forecasts. In order to adequately resume routine asset management operations activities, adding \$347,092.03 labor dollars, \$31,196.09 non-labor with an equivalent 2.976 FTE over the base forecast.						
2019 Total		222	65	0	287	1.7		

Note: Totals may include rounding differences.

SCG/GAS DISTRIBUTION/Exh No:SCG-04-WP/Witness: G. Orozco-Mejia

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia
Category: D. Regional Public Affairs
Category-Sub: 1. Regional Public Affairs
Workpaper: 2GD005.000 - Regional Public Affairs

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	2,850	2,708	2,774	2,928	2,733
Non-Labor	1,056	884	727	777	1,847
NSE	0	0	0	0	0
Total	3,906	3,593	3,501	3,705	4,581
FTE	28.4	26.5	26.8	27.9	25.9
Adjustments (Nominal \$) **					
Labor	0	0	0	-133	-347
Non-Labor	0	0	0	-6	-1,167
NSE	0	0	0	0	0
Total	0	0	0	-140	-1,514
FTE	0.0	0.0	0.0	-1.2	-2.8
Recorded-Adjusted (Nominal \$)					
Labor	2,850	2,708	2,774	2,794	2,386
Non-Labor	1,056	884	727	770	681
NSE	0	0	0	0	0
Total	3,906	3,593	3,501	3,565	3,067
FTE	28.4	26.5	26.8	26.7	23.1
Vacation & Sick (Nominal \$)					
Labor	456	450	453	452	393
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	456	450	453	452	393
FTE	4.7	4.5	4.5	4.5	3.9
Escalation to 2016\$					
Labor	325	228	157	79	0
Non-Labor	31	11	-2	2	0
NSE	0	0	0	0	0
Total	355	239	155	82	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	3,631	3,387	3,383	3,326	2,779
Non-Labor	1,086	895	725	772	681
NSE	0	0	0	0	0
Total	4,717	4,282	4,108	4,099	3,460
FTE	33.1	31.0	31.3	31.2	27.0

* 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
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: D. 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	2012	2013	2014	2015	2016
Labor	0	0	0	-133	-347
Non-Labor	0	0	0	-6	-1,167
NSE	0	0	0	0	0
Total	0	0	0	-140	-1,514
FTE	0.0	0.0	0.0	-1.2	-2.8

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012 Total		0	0	0	0.0		
2013 Total		0	0	0	0.0		
2014 Total		0	0	0	0.0		
2015	Aliso	-8	0	0	-0.1	1-Sided Adj	JLORTIZ20161026141158127
Explanation:		Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak					
2015	Aliso	-12	0	0	-0.1	1-Sided Adj	JLORTIZ20161026140954063
Explanation:		Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak					
2015	Aliso	-75	-6	0	-0.7	1-Sided Adj	JLORTIZ20161026141255957
Explanation:		Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak					
2015	Aliso	-15	0	0	-0.1	1-Sided Adj	JLORTIZ20161026141718747
Explanation:		Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak					
2015	Aliso	-24	0	0	-0.2	1-Sided Adj	JLORTIZ20161026141830023
Explanation:		Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak					
2015 Total		-133	-6	0	-1.2		
2016	Other	0	49	0	0.0	CCTR Transf From 2200-2441.000	JKCHHUOR20161110163502630
Explanation:		Transfer season event tickets used by Regional Public Affairs group (cost center 2200-2208).					

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: D. Regional Public Affairs
 Category-Sub: 1. Regional Public Affairs
 Workpaper: 2GD005.000 - Regional Public Affairs

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2016	Aliso	-41	-3	0	-0.3	1-Sided Adj	JLORTIZ20161026141923753
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	-161	-23	0	-1.5	1-Sided Adj	JLORTIZ20161026142010703
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	-10	0	0	-0.1	1-Sided Adj	JLORTIZ20161026142047587
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	-17	-5	0	-0.1	1-Sided Adj	JLORTIZ20161026142126747
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016	Aliso	-118	-1,184	0	-0.8	1-Sided Adj	JLORTIZ20161026143105997
Explanation: Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak							
2016 Total		-347	-1,167	0	-2.8		

Note: Totals may include rounding differences.

Southern California Gas Company
 2019 GRC - APP
 Shared Services Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia

Summary of Shared Services Workpapers:

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
		2016	2017	2018
A. Operations Leadership & Support	689	275	275	275
Total	689	275	275	275

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Operations Leadership & Support
 Cost Center: 2200-0431.000

Summary for Category: A. Operations Leadership & Support

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	614	230	230	230
Non-Labor	75	45	45	45
NSE	0	0	0	0
Total	689	275	275	275
FTE	3.6	1.0	1.0	1.0

Cost Centers belonging to this Category:

2200-0431.000 FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT

Labor	614	230	230	230
Non-Labor	75	45	45	45
NSE	0	0	0	0
Total	689	275	275	275
FTE	3.6	1.0	1.0	1.0

Note: Totals may include rounding differences.

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

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Operations Leadership & Support
 Category-Sub: 1. 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 of gas field operations organization. Also charged are one-time expenses that benefit the entire organization.

Forecast Explanations:

Labor - Zero-Based

The level of spending for this workbook is best represented using a zero based forecast as the level of spending for this workbook will reflect the salary of the Vice Presidents of gas field operations and one-time expenses.

Non-Labor - Zero-Based

The level of spending for this workbook is best represented using a zero based forecast as the level of spending for this workbook will reflect the non labor expenses of the Vice Presidents of gas field operations and one-time expenses.

NSE - Zero-Based

N/A

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		481	359	343	341	614	230	230	230	
Non-Labor		45	39	82	138	75	45	45	45	
NSE		0	0	0	0	0	0	0	0	
Total		526	398	425	479	689	275	275	275	
FTE		2.0	2.1	2.1	2.1	3.6	1.0	1.0	1.0	

Note: Totals may include rounding differences.

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Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Operations Leadership & Support
 Category-Sub: 1. Field Services Leadership & Operations Assessment
 Cost Center: 2200-0431.000 - FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT

Cost Center Allocations (Incurred Costs):

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	162	47	0	209	1.1	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	452	28	0	480	2.5	230	45	0	275	1.0
Total Incurred	614	75	0	689	3.6	230	45	0	275	1.0
% Allocation										
Retained	84.75%	84.75%				85.60%	85.60%			
SEU	15.25%	15.25%				14.40%	14.40%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	230	45	0	275	1.0	230	45	0	275	1.0
Total Incurred	230	45	0	275	1.0	230	45	0	275	1.0
% Allocation										
Retained	85.60%	85.60%				85.60%	85.60%			
SEU	14.40%	14.40%				14.40%	14.40%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

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Witness: Gina Orozco-Mejia
Category: A. Operations Leadership & Support
Category-Sub: 1. 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 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 SDG&E.

Cost Center Allocation Percentage for 2017

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 SDG&E.

Cost Center Allocation Percentage for 2018

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 SDG&E.

Cost Center Allocation Percentage for 2019

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 SDG&E.

Note: Totals may include rounding differences.

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Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Operations Leadership & Support
 Category-Sub: 1. Field Services Leadership & Operations Assessment
 Cost Center: 2200-0431.000 - FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT

Summary of Adjustments to Forecast:

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Zero-Based	0	0	0	230	230	230	230	230	230
Non-Labor	Zero-Based	0	0	0	45	45	45	45	45	45
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	275	275	275	275	275	275
FTE	Zero-Based	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	230	45	0	275	1.0	1-Sided Adj	FGALVAN20161130082451253	
Explanation:		Labor and non-labor for Vice President of Gas Operations Distribution only.							
2017 Total		230	45	0	275	1.0			
2018	Other	230	45	0	275	1.0	1-Sided Adj	FGALVAN20161130082514987	
Explanation:		Labor and non-labor for Vice President of Gas Operations Distribution only.							
2018 Total		230	45	0	275	1.0			
2019	Other	230	45	0	275	1.0	1-Sided Adj	FGALVAN20161130082553800	
Explanation:		Labor and non-labor for Vice President of Gas Operations Distribution only.							
2019 Total		230	45	0	275	1.0			

Note: Totals may include rounding differences.

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Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Operations Leadership & Support
 Category-Sub: 1. Field Services Leadership & Operations Assessment
 Cost Center: 2200-0431.000 - FIELD SERVICES LEADERSHIP & OPERATIONS ASSESSMENT

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	391	296	289	290	544
Non-Labor	42	37	80	136	75
NSE	0	0	0	0	0
Total	434	333	369	426	619
FTE	1.7	1.8	1.8	1.8	3.1
Adjustments (Nominal \$) **					
Labor	0	0	0	0	-17
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	-17
FTE	0.0	0.0	0.0	0.0	-0.1
Recorded-Adjusted (Nominal \$)					
Labor	391	296	289	290	527
Non-Labor	42	37	80	136	75
NSE	0	0	0	0	0
Total	434	333	369	426	602
FTE	1.7	1.8	1.8	1.8	3.0
Vacation & Sick (Nominal \$)					
Labor	63	49	47	47	87
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	63	49	47	47	87
FTE	0.3	0.3	0.3	0.3	0.5
Escalation to 2016\$					
Labor	27	14	7	4	0
Non-Labor	3	1	2	2	0
NSE	0	0	0	0	0
Total	30	15	9	6	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	481	359	343	341	614
Non-Labor	45	39	82	138	75
NSE	0	0	0	0	0
Total	526	398	425	479	689
FTE	2.0	2.1	2.1	2.1	3.5

* 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
2019 GRC - APP
Shared Services Workpapers

Area: GAS DISTRIBUTION
 Witness: Gina Orozco-Mejia
 Category: A. Operations Leadership & Support
 Category-Sub: 1. 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	2012	2013	2014	2015	2016
Labor	0	0	0	0	-17
Non-Labor	0	0	0	0	-0.048
NSE	0	0	0	0	0
Total	0	0	0	0	-17
FTE	0.0	0.0	0.0	0.0	-0.1

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012 Total		0	0	0	0.0		
2013 Total		0	0	0	0.0		
2014 Total		0	0	0	0.0		
2015 Total		0	0	0	0.0		
2016	Aliso	-17	0	0	-0.1	1-Sided Adj	FGALVAN20170507133628527
Explanation:		Aliso Canyon Incident - Exclude cost & associated FTEs 300775156, Wellhead Leak					
2016 Total		-17	0	0	-0.1		

Note: Totals may include rounding differences.

Supplemental Workpapers for Workpaper 2200-0431.000

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

SCG-04-GOM-USS-SUP-001
Southern California Gas Company -- Gas Distribution -- Witness Gina Orozco-Mejia
Supplemental Workpaper for Shared Services Allocation Percentage for Zero-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 SDG&E. The same allocation percentage is used for both labor and non-labor.

2017 - 2019 Allocation Percentage for Zero Base Forecast

		[A]	[B]	[C]	([A]/[C])	([B]/[C])
Concept	Source	SoCalGas	SDG&E	Total ([A]+[B])	% SoCalGas	% SDG&E
Gas Residential Customers	2016 FERC Form 2/Forecasting Advisor	5,641,340	875,462	6,516,802	86.57%	13.43%
Miles of Distribution Main	2016 DOT Report	50,356	8,071	58,427	86.19%	13.81%
Miles of Transmission Main	2016 DOT Report	3,455	225	3,680	93.89%	6.11%
Total Miles of Main		53,811	8,296	62,107	86.64%	13.36%
Employee Count	2016 Gas Distribution Headcount	1,955	384	2,339	83.58%	16.42%
Weighted Concepts	Average of Company Percentages for Gas Residential Customers, Total Miles of Main, and Employee Count				85.59%	14.40%

Southern California Gas Company
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2200-0223	000	SVP GAS OPS & SYSTEM INTEGRITY
2200-0254	000	GAS TRANSMISSION SKILLS TRAINING
2200-0433	000	GD SE PLANNING AND ENGINEERING MGR
2200-0434	000	GD SE TSS-REDLANDS 3
2200-0435	000	GD SE SYST PROT SUPV-REDLANDS
2200-0436	000	GD SE TSS-REDLANDS 2
2200-0437	000	GD SE RGN DIRECTOR
2200-0438	000	GD SE REG ENGINEER-REDLANDS
2200-0439	000	GD SE M&R-REDLANDS
2200-0441	000	GD SE WORK ORDER CONTROL-REDLANDS
2200-0443	000	GD SOUTHEAST ARM
2200-0444	000	GD SE AREA MGR INLAND EAST
2200-0446	000	GD SE CREW SAN BERNARDINO
2200-0447	000	GD SE CREW CORONA
2200-0450	000	GD SE CREW CHINO
2200-0453	000	GD SE CREW FONTANA
2200-0456	000	GD SE CREW PALM DESERT
2200-0459	000	GD SE CREW RIVERSIDE
2200-0460	000	GD SE LEAKAGE-REDLANDS
2200-0461	000	GD SE CREW RAMONA
2200-0465	000	GD SE CREW EL CENTRO
2200-0466	000	GD SE LEAKAGE-ANAHEIM
2200-0468	000	GD SE CREW RIM FOREST
2200-0469	000	GD SE AREA MGR SAN GABRIEL VALLEY
2200-0471	000	GD SE CREW ALHAMBRA
2200-0472	000	GD SE RGN SPEC PROJ 5 (FKA AZU DOM)
2200-0474	000	GD SE CREW AZUSA
2200-0478	000	GD SE CREW PASADENA
2200-0480	000	GD NW PLANNING AND ENGINEERING MGR
2200-0481	000	GD NW SYS PROT SUPV - CHATSWORTH
2200-0482	000	GD NW WORK ORDER CONTROL - CHATSWORTH
2200-0483	000	GD NW M&R - SATICOY
2200-0484	000	GD NW REG PIPELINE PLNG DISTRICTS
2200-0485	000	GD NW REG ENGINEER - CHATSWORTH
2200-0486	000	GD NW TECH SUPV - CHATSWORTH 1
2200-0487	000	GD NW TECH SUPV - GOLETA
2200-0488	000	GD NW TECH SUPV - VISALIA
2200-0489	000	GD NW ASSET M&I MGR
2200-0490	000	GD NW HP CONSTRUCTION
2200-0491	000	GD NW AREA MGR SAN JOAQUIN
2200-0492	000	GD NW CREW VISALIA
2200-0496	000	GD NW CREW BAKERSFIELD
2200-0499	000	GD NORTHWEST ARM
2200-0500	000	GD NW AREA MGR NORTH COAST
2200-0501	000	GD NW RGN CREW SLO/TEMPLETON

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Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2200-0504	000	GD NW CREW SANTA MARIA
2200-0510	000	GD NW CREW VENTURA
2200-0511	000	GD NW AREA MGR CENTRAL COAST
2200-0512	000	GD NW CREW SANTA BARBARA
2200-0517	000	GD NW CREW CANOGA
2200-0518	000	GD NW LEAKAGE-CHATSWORTH
2200-0520	000	GD NW CREW SIMI VALLEY
2200-0521	000	GD NW AREA MGR SFV
2200-0523	000	GD NW CREW SATICOY
2200-0524	000	GD NW RGN SPEC PROJ 5 (FKA DOM)
2200-0526	000	GD NW CREW BRANFORD
2200-0527	000	GD NW RGN SPEC PROJ 4 (FKA DOM)
2200-0528	000	GD NW CREW GLENDALE
2200-0532	000	GD NW CREW VALENCIA
2200-0533	000	GD NW AREA MGR NORTH VALLEY
2200-0535	000	GD NW CREW LANCASTER
2200-0537	000	GD SE ENVIRONMENTAL
2200-0538	000	GD SE REG ENGINEER-ANAHEIM
2200-0539	000	GD SE TSS-ANAHEIM 3
2200-0540	000	GD SE TSS (PPA SUP)-ANAHEIM 1
2200-0541	000	GD SE SYST PROT SUPV-ANAHEIM
2200-0542	000	GD SE M&R ANAHEIM
2200-0543	000	GD SE WORK ORDER CONTROL-ANAHEIM
2200-0544	000	GD SE RGN FIELD OPERATIONS MGR
2200-0545	000	GD SE AREA MGR ORANGE NORTH
2200-0547	000	GD SE CREW DOWNEY
2200-0549	000	GD SE CREW WHITTIER
2200-0553	000	GD SE CREW ANAHEIM
2200-0555	000	GD SE CREW LA JOLLA
2200-0558	000	GD SE AREA MGR ORANGE COUNTY COAST
2200-0559	000	GD SE CREW ALISO VIEJO
2200-0562	000	GD SE CREW GARDEN GROVE
2200-0565	000	GD SE CREW SANTA ANA
2200-0567	000	GD NW TECH SUPV - CHATSWORTH 2
2200-0569	000	GD SE CREW INDUSTRY
2200-0571	000	GD NW REGION DIRECTOR
2200-0572	000	GD NW REGION FIELD OPERATIONS MGR
2200-0575	000	GD NW CREW BELVEDERE
2200-0576	000	GD NW AREA MGR MID CITY LA
2200-0577	000	GD NW CREW JUANITA
2200-0580	000	GD SE RPPM-ANAHEIM
2200-0581	000	GD NW M&R - DO NOT USE
2200-0583	000	GD NW CREW HUNTINGTON PARK
2200-0586	000	GD NW CREW COMPTON
2200-0588	000	GD NW CREW CRENSHAW

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Area: GAS DISTRIBUTION
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Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2200-0590	000	GD NW AREA MGR SOUTH COAST
2200-0592	000	GD NW CREW SANTA MONICA
2200-0593	000	GD NW AREA MGR HARBOR CORRIDOR
2200-0595	000	GD NW CREW REDONDO BEACH
2200-0598	000	GD NW CREW SAN PEDRO
2200-0601	000	GD NW CREW HOLLYWOOD
2200-0604	000	GD NW PLNG OFFICE MGR/TECH SUPV - C2
2200-0605	000	GD NW SYS PROT SUPV - COMPTON
2200-0606	000	GD NW REG ENGINEER - COMPTON
2200-0608	000	GD NW M&R - COMPTON
2200-0609	000	GD NW WORK ORDER CONTROL - COMPTON
2200-0614	000	GAS OP'S TRAINING AND DEVELOPMENT
2200-0615	000	NEW BUSINESS
2200-0616	000	DART TECH ADVISORS
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
2200-1182	000	GD SE AREA MGR DESERT VALLEY
2200-1210	000	GD SE TSS (PPA SUP)-REDLANDS 1
2200-1340	000	GD SE PLANNING AND ENGINEERING PI
2200-1829	000	NO DISTRICT MANAGER 4
2200-1830	000	NO DISTRICT MANAGER 5
2200-1831	000	NO DISTRICT MANAGER 6
2200-2079	000	GD SE CREW MURRIETA
2200-2080	000	GD SE CREW BEAUMONT
2200-2084	000	GD NW TECH SUPV - COMPTON 1
2200-2085	000	GD SE TSS-ANAHEIM 2
2200-2092	000	VP GAS OPERATIONS NSS
2200-2107	000	GD SE HIGH PRESSURE CONST (EAST)
2200-2110	000	BUSINESS PLANNING & BUDGETS - CO
2200-2122	000	FIBRE IN GAS ADMIN COSTS & REVENUE
2200-2138	000	FRANCHISE AND FEES MANAGER - BPS
2200-2141	000	GD SE ASSET M&I MANAGER
2200-2149	000	GD NW RGN SPEC PROJ 3 (FKA DOM)
2200-2150	000	GD NW RGN SPEC PROJ 1 (FKA DOM)
2200-2191	000	GD NW TECH SUPV - CHATS/COMP
2200-2192	000	GD NW LEAKAGE-COMPTON
2200-2208	000	DIRECTOR PUBLIC AFFAIRS
2200-2218	000	GD SE AREA MGR MOUNTAIN PASS
2200-2219	000	GD SE RGN SPEC PROJ 9 (FKA BEAUM DOM)
2200-2220	000	GD SE RGN SPEC PROJ 6 (FKA CHINO DOM)
2200-2221	000	GD SE AREA MGR INLAND SOUTH
2200-2222	000	GD SE RGN SPEC PROJ 8 (FKA RAM DOM)

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Area: GAS DISTRIBUTION
Witness: Gina Orozco-Mejia

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2200-2232	000	GD SE RGN SPEC PROJ 7 (FKA YUCCA DOM)
2200-2233	000	GD SE CREW YUCCA
2200-2236	000	GD SE RPPM-REDLANDS
2200-2259	000	GD NW REG PIPELINE PLNG - DO NOT USE
2200-2317	000	FIELD FORCE CONSTRUCTION
2200-2322	000	ESS GOVERNANCE & SERVICIE 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
2200-2381	000	MHP PLANNING AND CONSTRUCTION
2200-2409	000	COMPLIANCE ASSURANCE
2200-2438	000	GD NW HP CONST - DO NOT USE
2200-2439	000	GD SE HIGH PRESSURE CONST (SOUTH)
2200-2479	000	HIGH PRESSURE TRAINING
2200-2500	000	TRAINING - OFFICE
2200-2501	000	TRAINING - TRANSMISSION/STORAGE/HP/M&R
2200-2502	000	TRAINING - WELDING
2200-2531	000	GAS DISTR. PLANNING & CAPITAL STRATEGY
2200-2541	000	MHP CUST PRG PMO MGR
2200-2545	000	MHP OUTREACH
2200-2546	000	MHP SUPPORT
2200-2584	000	ESS CPD PROD SUPPORT