

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-13-WP)

WORKPAPERS TO  
PREPARED DIRECT TESTIMONY  
OF DEVIN K. ZORNIZER  
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-13-WP - GAS CONTROL & SYSTEM OPERATIONS/PLANNING**

DOCUMENT	PAGE
<b>Overall Summary For Exhibit No. SCG-13-WP</b>	<b>1</b>
<b><i>Summary of Non-Shared Services Workpapers</i></b>	<b>2</b>
Category: A. Storage Products Manager	3
..2GS000.000 - STORAGE PRODUCTS MANAGER	4
Category: B. Emergency Services	10
..2GS001.000 - EMERGENCY SERVICES	11
<b><i>Summary of Shared Services Workpapers</i></b>	<b>22</b>
Category: A. Energy Markets & Capacity Products	23
..2200-0246.000 - ENERGY MARKETS & CAPACITY PRODUCTS - DIRECTOR	24
..2200-0330.000 - ENERGY MARKETS & CAPACITY PRODUCTS - MANAGER	31
..2200-0328.000 - ENERGY MARKETS & CAPACITY PRODUCTS - SUPPORT	38
Category: B. Gas Scheduling	45
..2200-2158.000 - GAS SCHEDULING	46
Category: C. Gas Transmission Planning	53
..2200-2329.000 - GAS TRANSMISSION PLANNING	54
Category: D. GAS CONTROL & SCADA OPERATION	62
..2200-2289.000 - GAS CONTROL & SCADA OPERATION GROUP - USS	63
<b><i>Appendix A: List of Non-Shared Cost Centers</i></b>	<b>75</b>

**Overall Summary For Exhibit No. SCG-13-WP**

<b>Area:</b>	<b>GAS CONTROL &amp; SYSTEM OPERATIONS/PLANNING</b>
<b>Witness:</b>	<b>Devin K. Zornizer</b>

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
<i>Non-Shared Services</i>	786	1,322	2,027	2,972
<i>Shared Services</i>	5,241	5,320	5,911	5,986
<b>Total</b>	<b>6,027</b>	<b>6,642</b>	<b>7,938</b>	<b>8,958</b>

*Note: Totals may include rounding differences.*

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer

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

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded 2016	Adjusted-Forecast		
		2017	2018	2019
A. Storage Products Manager	146	156	156	156
B. Emergency Services	640	1,166	1,871	2,816
<b>Total</b>	<b>786</b>	<b>1,322</b>	<b>2,027</b>	<b>2,972</b>

*Note: Totals may include rounding differences.*

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Storage Products Manager  
 Workpaper: 2GS000.000

**Summary for Category: A. Storage Products Manager**

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	116	113	113	113
Non-Labor	30	44	44	44
NSE	0	0	0	0
<b>Total</b>	<b>146</b>	<b>157</b>	<b>157</b>	<b>157</b>
FTE	0.9	1.0	1.0	1.0

**Workpapers belonging to this Category:**

**2GS000.000 Storage Products Manager**

Labor	116	113	113	113
Non-Labor	30	44	44	44
NSE	0	0	0	0
<b>Total</b>	<b>146</b>	<b>157</b>	<b>157</b>	<b>157</b>
FTE	0.9	1.0	1.0	1.0

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2GS000.000 - Storage Products Manager**

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Storage Products Manager  
 Category-Sub: 1. Storage Products Manager  
 Workpaper: 2GS000.000 - Storage Products Manager

**Activity Description:**

Storage Products and Balancing operates the California Energy Hub to provide unbundled natural gas storage and parking services. The group manages the business relationship with unbundled storage and hub service customers and purchases natural gas to maintain system integrity.

**Forecast Explanations:**

**Labor - 5-YR Average**

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

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

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

**NSE - Zero-Based**

Not Applicable

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		111	112	112	113	116	113	113	113	
Non-Labor		57	40	55	37	30	43	43	43	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>167</b>	<b>151</b>	<b>167</b>	<b>150</b>	<b>146</b>	<b>156</b>	<b>156</b>	<b>156</b>	
FTE		1.0	0.9	0.9	0.9	0.9	1.0	1.0	1.0	

*Note: Totals may include rounding differences.*

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Storage Products Manager  
 Category-Sub: 1. Storage Products Manager  
 Workpaper: 2GS000.000 - Storage Products Manager

**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	113	113	113	0	0	0	113	113	113
Non-Labor	5-YR Average	44	44	44	0	0	0	44	44	44
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>156</b>	<b>156</b>	<b>156</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>156</b>	<b>156</b>	<b>156</b>
FTE	5-YR Average	1.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0

<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>
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*Note: Totals may include rounding differences.*



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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Storage Products Manager  
 Category-Sub: 1. Storage Products Manager  
 Workpaper: 2GS000.000 - Storage Products Manager

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

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	268	213	218	223	228
Non-Labor	75	58	72	56	45
NSE	0	0	0	0	0
<b>Total</b>	<b>344</b>	<b>271</b>	<b>290</b>	<b>280</b>	<b>273</b>
FTE	2.2	1.6	1.6	1.6	1.6
<b>Adjustments (Nominal \$) **</b>					
Labor	-181	-124	-126	-128	-128
Non-Labor	-20	-19	-17	-19	-15
NSE	0	0	0	0	0
<b>Total</b>	<b>-202</b>	<b>-143</b>	<b>-143</b>	<b>-148</b>	<b>-143</b>
FTE	-1.3	-0.8	-0.8	-0.8	-0.8
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	87	89	92	95	100
Non-Labor	55	39	55	37	30
NSE	0	0	0	0	0
<b>Total</b>	<b>142</b>	<b>128</b>	<b>147</b>	<b>132</b>	<b>130</b>
FTE	0.9	0.8	0.8	0.8	0.8
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	14	15	15	15	16
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>14</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>16</b>
FTE	0.1	0.1	0.1	0.1	0.1
<b>Escalation to 2016\$</b>					
Labor	10	8	5	3	0
Non-Labor	2	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>11</b>	<b>8</b>	<b>5</b>	<b>3</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	111	112	112	113	116
Non-Labor	57	40	55	37	30
NSE	0	0	0	0	0
<b>Total</b>	<b>167</b>	<b>151</b>	<b>167</b>	<b>150</b>	<b>146</b>
FTE	1.0	0.9	0.9	0.9	0.9

\* 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 CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Storage Products Manager  
 Category-Sub: 1. Storage Products Manager  
 Workpaper: 2GS000.000 - Storage Products Manager

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-181	-124	-126	-128	-128
Non-Labor	-20	-19	-17	-19	-15
NSE	0	0	0	0	0
<b>Total</b>	<b>-202</b>	<b>-143</b>	<b>-143</b>	<b>-148</b>	<b>-143</b>
FTE	-1.3	-0.8	-0.8	-0.8	-0.8

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	0	-15	0	0.0	1-Sided Adj	TP1RYM20161128071136963
<b>Explanation:</b> Cost exclusion to remove non-labor costs for Montebello Storage expenses not supported by GRC							
2012	Other	-120	-5	0	-0.8	1-Sided Adj	TP2RXL20170503160904360
<b>Explanation:</b> Exclusion of expense reduced through attrition							
2012	Other	-62	0	0	-0.5	1-Sided Adj	TP2RXL20170503161127293
<b>Explanation:</b> Exclusion of expense reduced through attrition							
2012	Other	0	0	0	0.0	1-Sided Adj	TP2RXL20170503161254310
<b>Explanation:</b> exclusion of expense reduced through attrition							
<b>2012 Total</b>		<b>-181</b>	<b>-20</b>	<b>0</b>	<b>-1.3</b>		
2013	Other	0	-16	0	0.0	1-Sided Adj	TP1RYM20170328122000040
<b>Explanation:</b> Cost to be excluded to remove non-labor costs from Montebello storage expenses not supported through GRC.							
2013	Other	-124	-3	0	-0.8	1-Sided Adj	TP2RXL20170503161401287
<b>Explanation:</b> Exclusion of expense reduced through attrition							
2013	Other	0	0	0	0.0	1-Sided Adj	TP2RXL20170503161500170
<b>Explanation:</b> Exclusion of expense reduced through attrition							
<b>2013 Total</b>		<b>-124</b>	<b>-19</b>	<b>0</b>	<b>-0.8</b>		
2014	Other	-126	-3	0	-0.8	1-Sided Adj	TP2RXL20170503162754703
<b>Explanation:</b> Exclusion of expense reduced through attrition							

Note: Totals may include rounding differences.

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Storage Products Manager  
 Category-Sub: 1. Storage Products Manager  
 Workpaper: 2GS000.000 - Storage Products Manager

<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	-14	0	0.0	1-Sided Adj	TP2RXL20170503162614907
<b>Explanation:</b> Cost to be excluded to remove non-labor costs for Montebello storage expenses not supported by GRC.							
<b>2014 Total</b>		<b>-126</b>	<b>-17</b>	<b>0</b>	<b>-0.8</b>		
2015	Other	0	-14	0	0.0	1-Sided Adj	TP1RYM20161128113454470
<b>Explanation:</b> Cost to be excluded to remove non-labor costs for Montebello Storage expenses not supported by GRC.							
2015	Other	-128	-5	0	-0.8	1-Sided Adj	TP2RXL20170503162957890
<b>Explanation:</b> Exclusion of expense reduced through attrition							
2015	Other	0	0	0	0.0	1-Sided Adj	TP2RXL20170503163044110
<b>Explanation:</b> Exclusion of expense reduced through attrition							
<b>2015 Total</b>		<b>-128</b>	<b>-19</b>	<b>0</b>	<b>-0.8</b>		
2016	Other	-128	-1	0	-0.8	1-Sided Adj	TP2RXL20170503163210560
<b>Explanation:</b> Exclusion of expense reduced through attrition							
2016	Other	0	-14	0	0.0	1-Sided Adj	TP2RXL20170503163240180
<b>Explanation:</b> Cost to be excluded to remove non-labor costs for Montebello storage expenses not supported by GRC.							
<b>2016 Total</b>		<b>-128</b>	<b>-15</b>	<b>0</b>	<b>-0.8</b>		

Note: Totals may include rounding differences.

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: B. Emergency Services  
 Workpaper: 2GS001.000

**Summary for Category: B. Emergency Services**

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	567	1,018	1,298	1,718
Non-Labor	73	147	572	1,097
NSE	0	0	0	0
<b>Total</b>	<b>640</b>	<b>1,165</b>	<b>1,870</b>	<b>2,815</b>
FTE	5.2	8.5	12.5	18.5

**Workpapers belonging to this Category:**

**2GS001.000 Emergency Services**

Labor	567	1,018	1,298	1,718
Non-Labor	73	147	572	1,097
NSE	0	0	0	0
<b>Total</b>	<b>640</b>	<b>1,165</b>	<b>1,870</b>	<b>2,815</b>
FTE	5.2	8.5	12.5	18.5

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2GS001.000 - Emergency Services**

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: B. Emergency Services  
 Category-Sub: 1. Emergency Services  
 Workpaper: 2GS001.000 - Emergency Services

**Activity Description:**

Emergency Services is responsible for facilitating emergency preparedness by ensuring effective, comprehensive, and responsive recovery programs. The department is responsible for developing, implementing, and managing comprehensive Business Continuity & Resumption Planning, and Emergency Action Plan Programs.

**Forecast Explanations:**

**Labor - 5-YR Average**

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

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

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

**NSE - Zero-Based**

Not Applicable

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		557	676	670	571	567	1,018	1,298	1,718	
Non-Labor		99	230	188	147	73	147	572	1,097	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>656</b>	<b>905</b>	<b>858</b>	<b>717</b>	<b>640</b>	<b>1,165</b>	<b>1,870</b>	<b>2,815</b>	
FTE		4.9	6.0	6.2	5.2	5.1	8.5	12.5	18.5	

*Note: Totals may include rounding differences.*

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: B. Emergency Services  
 Category-Sub: 1. Emergency Services  
 Workpaper: 2GS001.000 - Emergency Services

**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	608	608	608	410	690	1,110	1,018	1,298	1,718
Non-Labor	5-YR Average	147	147	147	0	425	950	147	572	1,097
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>756</b>	<b>756</b>	<b>756</b>	<b>410</b>	<b>1,115</b>	<b>2,060</b>	<b>1,166</b>	<b>1,871</b>	<b>2,816</b>
FTE	5-YR Average	5.5	5.5	5.5	3.0	7.0	13.0	8.5	12.5	18.5

**Forecast Adjustment Details:**

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID
2017	RAMP Incremental	410	0	0	410	3.0	1-Sided Adj	TP2RXL20170503170243427
<b>Explanation:</b> RAMP-2 Incremental _ Management staffing (Director and 2 Manager assignments)								
<b>2017 Total</b>		<b>410</b>	<b>0</b>	<b>0</b>	<b>410</b>	<b>3.0</b>		

2018 RAMP Incremental 410 0 0 410 3.0 1-Sided Adj TP2RXL20170503170330720

**Explanation:** RAMP-2 Incremental Management staffing placements (Director and 2 Manager assignments)

2018 RAMP Incremental 280 80 0 360 4.0 1-Sided Adj TP2RXL20170503170716440

**Explanation:** RAMP-2 Incremental Management staffing placements (4 Emergency Services/Response Advisor assignments)

2018 RAMP Incremental 0 345 0 345 0.0 1-Sided Adj TP2RXL20170503170902193

**Explanation:** RAMP-2 Incremental Emergency Exercise Plan Development

**2018 Total** 690 425 0 1,115 7.0

2019 RAMP Incremental 410 0 0 410 3.0 1-Sided Adj TP2RXL20170503170349660

**Explanation:** RAMP-2 Incremental Management staffing placements (Director and 2 Manager assignments)

2019 RAMP Incremental 280 80 0 360 4.0 1-Sided Adj TP2RXL20170503170735020

**Explanation:** RAMP-2 Incremental Management staffing placements (4 Emergency Services/Response Advisor assignments)

2019 RAMP Incremental 420 120 0 540 6.0 1-Sided Adj TP2RXL20170503171026833

Note: Totals may include rounding differences.

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: B. Emergency Services  
 Category-Sub: 1. Emergency Services  
 Workpaper: 2GS001.000 - Emergency Services

<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>
<b>Explanation:</b>		RAMP-2 Incremental Management staffing placements (6 Emergency Services/Response Advisor assignments)						
2019	RAMP Incremental	0	750	0	750	0.0	1-Sided Adj	TP2RXL20170503171529490
<b>Explanation:</b>		RAMP-2 Incremental Three Annual System-wide Emergency Exercises with Physical Field Response, Monitoring and Post Exercise Assessment.						
<b>2019 Total</b>		<b>1,110</b>	<b>950</b>	<b>0</b>	<b>2,060</b>	<b>13.0</b>		

Note: Totals may include rounding differences.



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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: B. Emergency Services  
Category-Sub: 1. Emergency Services  
Workpaper: 2GS001.000 - Emergency Services

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

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	438	540	549	479	499
Non-Labor	96	227	189	147	368
NSE	0	0	0	0	0
<b>Total</b>	<b>534</b>	<b>767</b>	<b>738</b>	<b>626</b>	<b>867</b>
FTE	4.2	5.1	5.3	4.5	4.5
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	-13
Non-Labor	0	0	0	0	-295
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-307</b>
FTE	0.0	0.0	0.0	0.0	-0.1
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	438	540	549	479	487
Non-Labor	96	227	189	146	73
NSE	0	0	0	0	0
<b>Total</b>	<b>534</b>	<b>767</b>	<b>738</b>	<b>626</b>	<b>560</b>
FTE	4.2	5.1	5.3	4.5	4.4
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	70	90	90	78	80
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>70</b>	<b>90</b>	<b>90</b>	<b>78</b>	<b>80</b>
FTE	0.7	0.9	0.9	0.7	0.7
<b>Escalation to 2016\$</b>					
Labor	50	46	31	14	0
Non-Labor	3	3	-1	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>53</b>	<b>48</b>	<b>30</b>	<b>14</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	557	676	670	571	567
Non-Labor	99	230	188	147	73
NSE	0	0	0	0	0
<b>Total</b>	<b>656</b>	<b>905</b>	<b>858</b>	<b>717</b>	<b>640</b>
FTE	4.9	6.0	6.2	5.2	5.1

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

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

Note: Totals may include rounding differences.

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: B. Emergency Services  
 Category-Sub: 1. Emergency Services  
 Workpaper: 2GS001.000 - Emergency Services

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	-0.022	-13
Non-Labor	0	0	0	-0.070	-295
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-0.092</b>	<b>-307</b>
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
<b>2012 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2013 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
2015	Aliso	0	0	0	0.0	1-Sided Adj	TPRER20161021102715863
<b>Explanation:</b> Aliso leak mitigation exclude costs captured in IO 300775156. FTE in Grid s/a 0.000							
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
2016	Aliso	-11	-295	0	-0.1	1-Sided Adj	TPRER20161021105739647
<b>Explanation:</b> Aliso Leak Mitigation actual 2016 costs under 2HR006 2200-0613 IO 300775156.							
2016	Aliso	-2	0	0	0.0	1-Sided Adj	TPRER20170301091031750
<b>Explanation:</b> Aliso Storage Facility actual 2016 costs under from 2HR006 2200-0613. FTE of .009 too small to reflect. IO 300777009.							
<b>2016 Total</b>		<b>-13</b>	<b>-295</b>	<b>0</b>	<b>-0.1</b>		

Note: Totals may include rounding differences.

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: B. Emergency Services  
Category-Sub: 1. Emergency Services  
Workpaper: 2GS001.000 - Emergency Services

**RAMP Item # 1**

Ref ID: RHOWELL20170628122459933

RAMP Chapter: SCG-2

Program Name: Emergency Services

Program Description: Emergency Services

**Risk/Mitigation:**

Risk: #2 \_ Employees, Contractor, Customer and Public Safety

Mitigation: Safety, Wellness and Emergency Services Support

**Forecast CPUC Cost Estimates (\$000)**

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	1,789	1,789	1,789
High	2,186	2,186	2,186

Funding Source: CPUC-GRC

Forecast Method: Base Year

Work Type: Mandated

Work Type Citation: CPUC

**Historical Embedded Cost Estimates (\$000)**

Embedded Costs: 640

Explanation: 2016 Adj Rec Base

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: B. Emergency Services  
Category-Sub: 1. Emergency Services  
Workpaper: 2GS001.000 - Emergency Services

**RAMP Item # 2**

Ref ID: RHOWELL20170628122524177

RAMP Chapter: SCG-2

Program Name: Emergency Services

Program Description: Emergency Services Training

**Risk/Mitigation:**

Risk: Safety, Wellness and Emergency Services Support

Mitigation: #2 \_ Employee, Contractor, Customer and Public Safety

**Forecast CPUC Cost Estimates (\$000)**

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	300	300	300
High	800	800	800

Funding Source: CPUC-GRC

Forecast Method: Zero-Based

Work Type: Mandated

Work Type Citation: CPUC

**Historical Embedded Cost Estimates (\$000)**

Embedded Costs: 0

Explanation: 2019 Proposed

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: B. Emergency Services  
Category-Sub: 1. Emergency Services  
Workpaper: 2GS001.000 - Emergency Services

**RAMP Item # 3**

Ref ID: RHOWELL20170628122542157

RAMP Chapter: SCG-2

Program Name: Emergency Services

Program Description: Emergency Services

**Risk/Mitigation:**

Risk: #2 \_ Employee, Contractor, Customer and Public Safety

Mitigation: Safeth, Wellness and Emergency Services Support

**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: Base Year

Work Type: Mandated

Work Type Citation: CPUC

**Historical Embedded Cost Estimates (\$000)**

Embedded Costs: 0

Explanation:

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: B. Emergency Services  
Category-Sub: 1. Emergency Services  
Workpaper: 2GS001.000 - Emergency Services

**RAMP Item # 4**

Ref ID: TP1JMY20170801183727030

RAMP Chapter: SCG-2

Program Name: Emergency Services

Program Description: Emergency Services

**Risk/Mitigation:**

Risk: #2 \_ Employee, Contractor, Customer and Public Safety

Mitigation: Safety, Wellness and Emergency Services Support

**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: Base Year

Work Type: Mandated

Work Type Citation: CPUC

**Historical Embedded Cost Estimates (\$000)**

Embedded Costs: 0

Explanation:

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: B. Emergency Services  
Category-Sub: 1. Emergency Services  
Workpaper: 2GS001.000 - Emergency Services

**RAMP Item # 5**

Ref ID: TP2RXL20170503170243427

RAMP Chapter: SCG-2

Program Name: Emergency Services

Program Description: Emergency Services

**Risk/Mitigation:**

Risk: Employee, Contractor, Customer and Public Safety

Mitigation: Safety, Wellness and Emergency Services Support

**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: Zero-Based

Work Type: Mandated

Work Type Citation: CPUC

**Historical Embedded Cost Estimates (\$000)**

Embedded Costs: 0

Explanation: 2017 Proposed

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer

**Summary of Shared Services Workpapers:**

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
A. Energy Markets & Capacity Products	1,553	1,550	1,550	1,550
B. Gas Scheduling	600	649	649	724
C. Gas Transmission Planning	607	616	691	691
D. GAS CONTROL & SCADA OPERATION	2,481	2,505	3,021	3,021
<b>Total</b>	<b>5,241</b>	<b>5,320</b>	<b>5,911</b>	<b>5,986</b>

*Note: Totals may include rounding differences.*



Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Cost Center: VARIOUS

**Summary for Category: A. Energy Markets & Capacity Products**

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	1,452	1,424	1,424	1,424
Non-Labor	101	125	125	125
NSE	0	0	0	0
<b>Total</b>	<b>1,553</b>	<b>1,549</b>	<b>1,549</b>	<b>1,549</b>
FTE	12.4	12.2	12.2	12.2

**Cost Centers belonging to this Category:**

**2200-0246.000 Energy Markets & Capacity Products - Director**

Labor	309	262	262	262
Non-Labor	19	53	53	53
NSE	0	0	0	0
<b>Total</b>	<b>328</b>	<b>315</b>	<b>315</b>	<b>315</b>
FTE	2.7	2.2	2.2	2.2

**2200-0330.000 Energy Markets & Capacity Products - Manager**

Labor	573	573	573	573
Non-Labor	42	42	42	42
NSE	0	0	0	0
<b>Total</b>	<b>615</b>	<b>615</b>	<b>615</b>	<b>615</b>
FTE	4.9	4.9	4.9	4.9

**2200-0328.000 Energy Markets & Capacity Products - Support**

Labor	570	589	589	589
Non-Labor	40	30	30	30
NSE	0	0	0	0
<b>Total</b>	<b>610</b>	<b>619</b>	<b>619</b>	<b>619</b>
FTE	4.8	5.1	5.1	5.1

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2200-0246.000 - Energy Markets & Capacity Products - Director**

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 1. Energy Markets & Capacity Products - Director  
 Cost Center: 2200-0246.000 - Energy Markets & Capacity Products - Director

**Activity Description:**

Energy Markets & Capacity Products-Director, Manager & Support  
 Energy Markets & Capacity Products' shared service elements include both direct customer service and staff support. Specific groups in this area include Capacity Products Support and Capacity Products – Manager. These shared services provide capacity services for gas marketers that serve both SoCalGas and SDG&E customers, large nonresidential customers who choose to act as their own gas supplier, and core aggregators. The group also manages business relationships with upstream pipelines that serve the SoCalGas and SDG&E systems; provides analytical and regulatory compliance support for Backbone Transportation Service, unbundled storage and Hub transactions; and represent SoCalGas in the development and modification of gas industry standards for gas scheduling.

**Forecast Explanations:**

**Labor - 5-YR Average**

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

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

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

**NSE - Zero-Based**

Not Applicable

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		233	277	242	252	309	262	262	262	
Non-Labor		64	75	75	34	19	54	54	54	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>297</b>	<b>351</b>	<b>316</b>	<b>286</b>	<b>328</b>	<b>316</b>	<b>316</b>	<b>316</b>	
FTE		2.1	2.3	2.0	1.9	2.7	2.2	2.2	2.2	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 1. Energy Markets & Capacity Products - Director  
 Cost Center: 2200-0246.000 - Energy Markets & Capacity Products - Director

**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	2	1	0	3	0.0	0	8	0	8	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	306	19	0	325	2.7	262	46	0	308	2.2
<b>Total Incurred</b>	<b>308</b>	<b>20</b>	<b>0</b>	<b>328</b>	<b>2.7</b>	<b>262</b>	<b>54</b>	<b>0</b>	<b>316</b>	<b>2.2</b>
<b>% Allocation</b>										
Retained	93.00%	93.00%				93.00%	93.00%			
SEU	7.00%	7.00%				7.00%	7.00%			
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	8	0	8	0.0	0	8	0	8	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	262	46	0	308	2.2	262	46	0	308	2.2
<b>Total Incurred</b>	<b>262</b>	<b>54</b>	<b>0</b>	<b>316</b>	<b>2.2</b>	<b>262</b>	<b>54</b>	<b>0</b>	<b>316</b>	<b>2.2</b>
<b>% Allocation</b>										
Retained	93.00%	93.00%				93.00%	93.00%			
SEU	7.00%	7.00%				7.00%	7.00%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: A. Energy Markets & Capacity Products  
Category-Sub: 1. Energy Markets & Capacity Products - Director  
Cost Center: 2200-0246.000 - Energy Markets & Capacity Products - Director

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

**Cost Center Allocation Percentage for 2016**

Expenses are allocated to SDG&E based on collective work group (all 3 cost centers listed above) activity analysis and determination that 50% of its daily activities are consumed in support of storage (all SoCalGas), and the other 50% in support of transportation/transmission.  
To allocate the latter 50%, total gas throughput between SoCalGas and SDG&E was used.

Calculation:

Total throughput: 2,834 MMCF, SDG&E: 384 MMCF  
SDG&E as a percent of Total = 13.55%  
SDG&E allocation of time spent = 50% X 13.55% = 7%

**Cost Center Allocation Percentage for 2017**

Expenses are allocated to SDG&E based on collective work group (all 3 cost centers listed above) activity analysis and determination that 50% of its daily activities are consumed in support of storage (all SoCalGas), and the other 50% in support of transportation/transmission.  
To allocate the latter 50%, total gas throughput between SoCalGas and SDG&E was used.

Calculation:

Total throughput: 2,834 MMCF, SDG&E: 384 MMCF  
SDG&E as a percent of Total = 13.55%  
SDG&E allocation of time spent = 50% X 13.55% = 7%

**Cost Center Allocation Percentage for 2018**

Expenses are allocated to SDG&E based on collective work group (all 3 cost centers listed above) activity analysis and determination that 50% of its daily activities are consumed in support of storage (all SoCalGas), and the other 50% in support of transportation/transmission.  
To allocate the latter 50%, total gas throughput between SoCalGas and SDG&E was used.

Calculation:

Total throughput: 2,834 MMCF, SDG&E: 384 MMCF  
SDG&E as a percent of Total = 13.55%  
SDG&E allocation of time spent = 50% X 13.55% = 7%

**Cost Center Allocation Percentage for 2019**

Expenses are allocated to SDG&E based on collective work group (all 3 cost centers listed above) activity analysis and determination that 50% of its daily activities are consumed in support of storage (all SoCalGas), and the other 50% in support of transportation/transmission.  
To allocate the latter 50%, total gas throughput between SoCalGas and SDG&E was used.

Calculation:

Total throughput: 2,834 MMCF, SDG&E: 384 MMCF  
SDG&E as a percent of Total = 13.55%  
SDG&E allocation of time spent = 50% X 13.55% = 7%

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 1. Energy Markets & Capacity Products - Director  
 Cost Center: 2200-0246.000 - Energy Markets & Capacity Products - Director

**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	262	262	262	0	0	0	262	262	262
Non-Labor	5-YR Average	53	53	53	0	0	0	53	53	53
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>316</b>	<b>316</b>	<b>316</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>316</b>	<b>316</b>	<b>316</b>
FTE	5-YR Average	2.2	2.2	2.2	0.0	0.0	0.0	2.2	2.2	2.2

<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>
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Note: Totals may include rounding differences.

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 1. Energy Markets & Capacity Products - Director  
 Cost Center: 2200-0246.000 - Energy Markets & Capacity Products - Director

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

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	189	228	203	215	267
Non-Labor	60	72	73	33	19
NSE	0	0	0	0	0
<b>Total</b>	<b>250</b>	<b>300</b>	<b>276</b>	<b>248</b>	<b>286</b>
FTE	1.8	2.0	1.7	1.6	2.3
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	-2
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-2</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	189	228	203	215	265
Non-Labor	60	72	73	33	19
NSE	0	0	0	0	0
<b>Total</b>	<b>250</b>	<b>300</b>	<b>276</b>	<b>248</b>	<b>284</b>
FTE	1.8	2.0	1.7	1.6	2.3
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	30	38	33	35	44
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>30</b>	<b>38</b>	<b>33</b>	<b>35</b>	<b>44</b>
FTE	0.3	0.3	0.3	0.3	0.4
<b>Escalation to 2016\$</b>					
Labor	13	11	5	3	0
Non-Labor	4	3	2	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>17</b>	<b>14</b>	<b>7</b>	<b>4</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	233	277	242	252	309
Non-Labor	64	75	75	34	19
NSE	0	0	0	0	0
<b>Total</b>	<b>297</b>	<b>351</b>	<b>316</b>	<b>286</b>	<b>328</b>
FTE	2.1	2.3	2.0	1.9	2.7

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

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

Note: Totals may include rounding differences.

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 1. Energy Markets & Capacity Products - Director  
 Cost Center: 2200-0246.000 - Energy Markets & Capacity Products - Director

**Summary of Adjustments to Recorded:**

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

**Detail of Adjustments to Recorded:**

<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>
<b>2012 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2013 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
2016	Aliso	-2	0	0	0.0	1-Sided Adj	TP1RYM20170223090354193
<b>2016 Total</b>		<b>-2</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

**Explanation:** Aliso leak mitigation cost excluded and captured in IO 30775156

*Note: Totals may include rounding differences.*



**Beginning of Workpaper**  
**2200-0330.000 - Energy Markets & Capacity Products - Manager**

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 2. Capacity Products - Manager  
 Cost Center: 2200-0330.000 - Energy Markets & Capacity Products - Manager

**Activity Description:**

Energy Markets & Capacity Products-Director, Manager & Support  
 Energy Markets & Capacity Products' shared service elements include both direct customer service and staff support. Specific groups in this area include Capacity Products Support and Capacity Products – Manager. These shared services provide capacity services for gas marketers that serve both SoCalGas and SDG&E customers, large nonresidential customers who choose to act as their own gas supplier, and core aggregators. The group also manages business relationships with upstream pipelines that serve the SoCalGas and SDG&E systems; provides analytical and regulatory compliance support for Backbone Transportation Service, unbundled storage and Hub transactions; and represent SoCalGas in the development and modification of gas industry standards for gas scheduling.

**Forecast Explanations:**

**Labor - Base YR Rec**

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

**Non-Labor - Base YR Rec**

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

**NSE - Zero-Based**

Not Applicable

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		575	537	474	755	573	573	573	573	
Non-Labor		42	24	32	44	42	42	42	42	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>617</b>	<b>561</b>	<b>507</b>	<b>800</b>	<b>615</b>	<b>615</b>	<b>615</b>	<b>615</b>	
FTE		5.0	4.6	4.0	6.4	4.9	4.9	4.9	4.9	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 2. Capacity Products - Manager  
 Cost Center: 2200-0330.000 - Energy Markets & Capacity Products - Manager

**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	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.	573	42	0	615	4.9	573	42	0	615	4.9
<b>Total Incurred</b>	<b>573</b>	<b>42</b>	<b>0</b>	<b>615</b>	<b>4.9</b>	<b>573</b>	<b>42</b>	<b>0</b>	<b>615</b>	<b>4.9</b>
<b>% Allocation</b>										
Retained	93.00%	93.00%				93.00%	93.00%			
SEU	7.00%	7.00%				7.00%	7.00%			
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.	573	42	0	615	4.9	573	42	0	615	4.9
<b>Total Incurred</b>	<b>573</b>	<b>42</b>	<b>0</b>	<b>615</b>	<b>4.9</b>	<b>573</b>	<b>42</b>	<b>0</b>	<b>615</b>	<b>4.9</b>
<b>% Allocation</b>										
Retained	93.00%	93.00%				93.00%	93.00%			
SEU	7.00%	7.00%				7.00%	7.00%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: A. Energy Markets & Capacity Products  
Category-Sub: 2. Capacity Products - Manager  
Cost Center: 2200-0330.000 - Energy Markets & Capacity Products - Manager

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

**Cost Center Allocation Percentage for 2016**

Expenses are allocated to SDG&E based on collective work group (all 3 cost centers listed above) activity analysis and determination that 50% of its daily activities are consumed in support of storage (all SoCalGas), and the other 50% in support of transportation/transmission.  
To allocate the latter 50%, total gas throughput between SoCalGas and SDG&E was used.

Calculation:

Total throughput: 2,834 MMCF, SDG&E: 384 MMCF  
SDG&E as a percent of Total = 13.55%  
SDG&E allocation of time spent = 50% X 13.55% = 7%

**Cost Center Allocation Percentage for 2017**

Expenses are allocated to SDG&E based on collective work group (all 3 cost centers listed above) activity analysis and determination that 50% of its daily activities are consumed in support of storage (all SoCalGas), and the other 50% in support of transportation/transmission.  
To allocate the latter 50%, total gas throughput between SoCalGas and SDG&E was used.

Calculation:

Total throughput: 2,834 MMCF, SDG&E: 384 MMCF  
SDG&E as a percent of Total = 13.55%  
SDG&E allocation of time spent = 50% X 13.55% = 7%

**Cost Center Allocation Percentage for 2018**

Expenses are allocated to SDG&E based on collective work group (all 3 cost centers listed above) activity analysis and determination that 50% of its daily activities are consumed in support of storage (all SoCalGas), and the other 50% in support of transportation/transmission.  
To allocate the latter 50%, total gas throughput between SoCalGas and SDG&E was used.

Calculation:

Total throughput: 2,834 MMCF, SDG&E: 384 MMCF  
SDG&E as a percent of Total = 13.55%  
SDG&E allocation of time spent = 50% X 13.55% = 7%

**Cost Center Allocation Percentage for 2019**

Expenses are allocated to SDG&E based on collective work group (all 3 cost centers listed above) activity analysis and determination that 50% of its daily activities are consumed in support of storage (all SoCalGas), and the other 50% in support of transportation/transmission.  
To allocate the latter 50%, total gas throughput between SoCalGas and SDG&E was used.

Calculation:

Total throughput: 2,834 MMCF, SDG&E: 384 MMCF  
SDG&E as a percent of Total = 13.55%  
SDG&E allocation of time spent = 50% X 13.55% = 7%

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 2. Capacity Products - Manager  
 Cost Center: 2200-0330.000 - Energy Markets & Capacity Products - Manager

**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	Base YR Rec	573	573	573	0	0	0	573	573	573
Non-Labor	Base YR Rec	42	42	42	0	0	0	42	42	42
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>615</b>	<b>615</b>	<b>615</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>615</b>	<b>615</b>	<b>615</b>
FTE	Base YR Rec	4.9	4.9	4.9	0.0	0.0	0.0	4.9	4.9	4.9

<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>
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Note: Totals may include rounding differences.

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 2. Capacity Products - Manager  
 Cost Center: 2200-0330.000 - Energy Markets & Capacity Products - Manager

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

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	467	443	399	642	492
Non-Labor	40	23	32	44	42
NSE	0	0	0	0	0
<b>Total</b>	<b>507</b>	<b>466</b>	<b>431</b>	<b>686</b>	<b>534</b>
FTE	4.3	3.9	3.4	5.5	4.2
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	467	443	399	642	492
Non-Labor	40	23	32	44	42
NSE	0	0	0	0	0
<b>Total</b>	<b>507</b>	<b>466</b>	<b>431</b>	<b>686</b>	<b>534</b>
FTE	4.3	3.9	3.4	5.5	4.2
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	75	74	65	104	81
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>75</b>	<b>74</b>	<b>65</b>	<b>104</b>	<b>81</b>
FTE	0.7	0.7	0.6	0.9	0.7
<b>Escalation to 2016\$</b>					
Labor	33	21	10	9	0
Non-Labor	2	1	1	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>35</b>	<b>22</b>	<b>11</b>	<b>10</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	575	537	474	755	573
Non-Labor	42	24	32	44	42
NSE	0	0	0	0	0
<b>Total</b>	<b>617</b>	<b>561</b>	<b>507</b>	<b>800</b>	<b>615</b>
FTE	5.0	4.6	4.0	6.4	4.9

\* 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  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 2. Capacity Products - Manager  
 Cost Center: 2200-0330.000 - Energy Markets & Capacity Products - Manager

**Summary of Adjustments to Recorded:**

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

<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>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2200-0328.000 - Energy Markets & Capacity Products - Support**



Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 3. Capacity Products - Support  
 Cost Center: 2200-0328.000 - Energy Markets & Capacity Products - Support

**Activity Description:**

Energy Markets & Capacity Products-Director, Manager & Support  
 Energy Markets & Capacity Products' shared service elements include both direct customer service and staff support. Specific groups in this area include Capacity Products Support and Capacity Products – Manager. These shared services provide capacity services for gas marketers that serve both SoCalGas and SDG&E customers, large nonresidential customers who choose to act as their own gas supplier, and core aggregators. The group also manages business relationships with upstream pipelines that serve the SoCalGas and SDG&E systems; provides analytical and regulatory compliance support for Backbone Transportation Service, unbundled storage and Hub transactions; and represent SoCalGas in the development and modification of gas industry standards for gas scheduling.

**Forecast Explanations:**

**Labor - 5-YR Average**

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

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

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

**NSE - Zero-Based**

Not Applicable

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		554	650	589	586	570	589	589	589	
Non-Labor		23	16	54	16	40	30	30	30	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>576</b>	<b>665</b>	<b>642</b>	<b>602</b>	<b>610</b>	<b>619</b>	<b>619</b>	<b>619</b>	
FTE		4.8	5.7	5.1	5.1	4.8	5.1	5.1	5.1	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 3. Capacity Products - Support  
 Cost Center: 2200-0328.000 - Energy Markets & Capacity Products - Support

**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	0	2	0	2	0.0	0	2	0	2	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	570	38	0	608	4.8	589	28	0	617	5.1
<b>Total Incurred</b>	<b>570</b>	<b>40</b>	<b>0</b>	<b>610</b>	<b>4.8</b>	<b>589</b>	<b>30</b>	<b>0</b>	<b>619</b>	<b>5.1</b>
<b>% Allocation</b>										
Retained	93.00%	93.00%				93.00%	93.00%			
SEU	7.00%	7.00%				7.00%	7.00%			
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	2	0	2	0.0	0	2	0	2	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	589	28	0	617	5.1	589	28	0	617	5.1
<b>Total Incurred</b>	<b>589</b>	<b>30</b>	<b>0</b>	<b>619</b>	<b>5.1</b>	<b>589</b>	<b>30</b>	<b>0</b>	<b>619</b>	<b>5.1</b>
<b>% Allocation</b>										
Retained	93.00%	93.00%				93.00%	93.00%			
SEU	7.00%	7.00%				7.00%	7.00%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: A. Energy Markets & Capacity Products  
Category-Sub: 3. Capacity Products - Support  
Cost Center: 2200-0328.000 - Energy Markets & Capacity Products - Support

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

**Cost Center Allocation Percentage for 2016**

Expenses are allocated to SDG&E based on collective work group (all 3 cost centers listed above) activity analysis and determination that 50% of its daily activities are consumed in support of storage (all SoCalGas), and the other 50% in support of transportation/transmission.  
To allocate the latter 50%, total gas throughput between SoCalGas and SDG&E was used.

Calculation:

Total throughput: 2,834 MMCF, SDG&E: 384 MMCF  
SDG&E as a percent of Total = 13.55%  
SDG&E allocation of time spent = 50% X 13.55% = 7%

**Cost Center Allocation Percentage for 2017**

Expenses are allocated to SDG&E based on collective work group (all 3 cost centers listed above) activity analysis and determination that 50% of its daily activities are consumed in support of storage (all SoCalGas), and the other 50% in support of transportation/transmission.  
To allocate the latter 50%, total gas throughput between SoCalGas and SDG&E was used.

Calculation:

Total throughput: 2,834 MMCF, SDG&E: 384 MMCF  
SDG&E as a percent of Total = 13.55%  
SDG&E allocation of time spent = 50% X 13.55% = 7%

**Cost Center Allocation Percentage for 2018**

Expenses are allocated to SDG&E based on collective work group (all 3 cost centers listed above) activity analysis and determination that 50% of its daily activities are consumed in support of storage (all SoCalGas), and the other 50% in support of transportation/transmission.  
To allocate the latter 50%, total gas throughput between SoCalGas and SDG&E was used.

Calculation:

Total throughput: 2,834 MMCF, SDG&E: 384 MMCF  
SDG&E as a percent of Total = 13.55%  
SDG&E allocation of time spent = 50% X 13.55% = 7%

**Cost Center Allocation Percentage for 2019**

Expenses are allocated to SDG&E based on collective work group (all 3 cost centers listed above) activity analysis and determination that 50% of its daily activities are consumed in support of storage (all SoCalGas), and the other 50% in support of transportation/transmission.  
To allocate the latter 50%, total gas throughput between SoCalGas and SDG&E was used.

Calculation:

Total throughput: 2,834 MMCF, SDG&E: 384 MMCF  
SDG&E as a percent of Total = 13.55%  
SDG&E allocation of time spent = 50% X 13.55% = 7%

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 3. Capacity Products - Support  
 Cost Center: 2200-0328.000 - Energy Markets & Capacity Products - 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	589	589	589	0	0	0	589	589	589
Non-Labor	5-YR Average	30	30	30	0	0	0	30	30	30
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>619</b>	<b>619</b>	<b>619</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>619</b>	<b>619</b>	<b>619</b>
FTE	5-YR Average	5.1	5.1	5.1	0.0	0.0	0.0	5.1	5.1	5.1

<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>
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Note: Totals may include rounding differences.

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 3. Capacity Products - Support  
 Cost Center: 2200-0328.000 - Energy Markets & Capacity Products - Support

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

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	450	535	495	498	490
Non-Labor	21	15	53	16	40
NSE	0	0	0	0	0
<b>Total</b>	<b>472</b>	<b>551</b>	<b>548</b>	<b>514</b>	<b>529</b>
FTE	4.1	4.9	4.4	4.4	4.1
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	450	535	495	498	490
Non-Labor	21	15	53	16	40
NSE	0	0	0	0	0
<b>Total</b>	<b>472</b>	<b>551</b>	<b>548</b>	<b>514</b>	<b>529</b>
FTE	4.1	4.9	4.4	4.4	4.1
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	72	89	81	81	81
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>72</b>	<b>89</b>	<b>81</b>	<b>81</b>	<b>81</b>
FTE	0.7	0.8	0.7	0.7	0.7
<b>Escalation to 2016\$</b>					
Labor	31	25	13	7	0
Non-Labor	1	1	1	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>33</b>	<b>26</b>	<b>14</b>	<b>7</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	554	650	589	586	570
Non-Labor	23	16	54	16	40
NSE	0	0	0	0	0
<b>Total</b>	<b>576</b>	<b>665</b>	<b>642</b>	<b>602</b>	<b>610</b>
FTE	4.8	5.7	5.1	5.1	4.8

\* 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  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: A. Energy Markets & Capacity Products  
 Category-Sub: 3. Capacity Products - Support  
 Cost Center: 2200-0328.000 - Energy Markets & Capacity Products - Support

**Summary of Adjustments to Recorded:**

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

<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>
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*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: B. Gas Scheduling  
 Cost Center: 2200-2158.000

**Summary for Category: B. Gas Scheduling**

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	590	629	629	704
Non-Labor	10	20	20	20
NSE	0	0	0	0
<b>Total</b>	<b>600</b>	<b>649</b>	<b>649</b>	<b>724</b>
FTE	6.6	6.8	6.8	7.8

**Cost Centers belonging to this Category:**

**2200-2158.000 Gas Scheduling**

Labor	590	629	629	704
Non-Labor	10	20	20	20
NSE	0	0	0	0
<b>Total</b>	<b>600</b>	<b>649</b>	<b>649</b>	<b>724</b>
FTE	6.6	6.8	6.8	7.8

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2200-2158.000 - Gas Scheduling**



Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: B. Gas Scheduling  
 Category-Sub: 1. Gas Scheduling  
 Cost Center: 2200-2158.000 - Gas Scheduling

**Activity Description:**

Gas Scheduling is responsible for day-to-day management and operation of the ENVOY system for nominations, allocations and scheduling of gas transportation for approximately 920 of SoCalGas' non-core customers and 125 of SDG&E's non-core customers.

**Forecast Explanations:**

**Labor - 5-YR Average**

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

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

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

**NSE - Zero-Based**

Not Applicable

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		511	565	584	521	590	629	629	704	
Non-Labor		19	11	13	47	10	20	20	20	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>530</b>	<b>576</b>	<b>597</b>	<b>568</b>	<b>600</b>	<b>649</b>	<b>649</b>	<b>724</b>	
FTE		5.1	5.7	5.9	5.7	6.6	6.8	6.8	7.8	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: B. Gas Scheduling  
 Category-Sub: 1. Gas Scheduling  
 Cost Center: 2200-2158.000 - Gas Scheduling

**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	0	1	0	1	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.	590	9	0	599	6.6	629	20	0	649	6.8
<b>Total Incurred</b>	<b>590</b>	<b>10</b>	<b>0</b>	<b>600</b>	<b>6.6</b>	<b>629</b>	<b>20</b>	<b>0</b>	<b>649</b>	<b>6.8</b>
<b>% Allocation</b>										
Retained	86.45%	86.45%				88.85%	88.85%			
SEU	13.55%	13.55%				11.15%	11.15%			
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.	629	20	0	649	6.8	704	20	0	724	7.8
<b>Total Incurred</b>	<b>629</b>	<b>20</b>	<b>0</b>	<b>649</b>	<b>6.8</b>	<b>704</b>	<b>20</b>	<b>0</b>	<b>724</b>	<b>7.8</b>
<b>% Allocation</b>										
Retained	88.85%	88.85%				88.85%	88.85%			
SEU	11.15%	11.15%				11.15%	11.15%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: B. Gas Scheduling  
Category-Sub: 1. Gas Scheduling  
Cost Center: 2200-2158.000 - Gas Scheduling

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

**Cost Center Allocation Percentage for 2016**

Gas Scheduling USS Allocation to SDG&E methodology: Allocation based on SDG&E Total Throughput as a percentage of SDG&E and SoCalGas Combined Total Throughput.

Calculation:

Total system throughput: 2.834 MMcf

SDG&E throughput: .384 MMcf

$384/2.834 = 13.55\%$

**Cost Center Allocation Percentage for 2017**

Gas Scheduling USS Allocation to SDG&E methodology: Allocation based on SDG&E Total Throughput as a percentage of SDG&E and SoCalGas Combined Total Throughput.

Calculation:

Total system throughput: 972,583 MMcf

SDG&E throughput: 108,405 MMcf

$108,405/972,583 = 11.15\%$

**Cost Center Allocation Percentage for 2018**

Gas Scheduling USS Allocation to SDG&E methodology: Allocation based on SDG&E Total Throughput as a percentage of SDG&E and SoCalGas Combined Total Throughput.

Calculation:

Total system throughput: 972,583 MMcf

SDG&E throughput: 108,405 MMcf

$108,405/972,583 = 11.15\%$

**Cost Center Allocation Percentage for 2019**

Gas Scheduling USS Allocation to SDG&E methodology: Allocation based on SDG&E Total Throughput as a percentage of SDG&E and SoCalGas Combined Total Throughput.

Calculation:

Total system throughput: 972,583 MMcf

SDG&E throughput: 108,405 MMcf

$108,405/972,583 = 11.15\%$

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: B. Gas Scheduling  
 Category-Sub: 1. Gas Scheduling  
 Cost Center: 2200-2158.000 - Gas Scheduling

**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	554	554	554	75	75	150	629	629	704
Non-Labor	5-YR Average	20	20	20	0	0	0	20	20	20
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>574</b>	<b>574</b>	<b>574</b>	<b>75</b>	<b>75</b>	<b>150</b>	<b>649</b>	<b>649</b>	<b>724</b>
FTE	5-YR Average	5.8	5.8	5.8	1.0	1.0	2.0	6.8	6.8	7.8

**Forecast Adjustment Details:**

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	75	0	0	75	1.0	1-Sided Adj	TP2RXL20170223013155263	
<b>Explanation:</b>		Gas Scheduling Advisor position addition - increased Balancing Settlement activity							
<b>2017 Total</b>		<b>75</b>	<b>0</b>	<b>0</b>	<b>75</b>	<b>1.0</b>			
2018	Other	75	0	0	75	1.0	1-Sided Adj	TP2RXL20170223013315893	
<b>Explanation:</b>		Gas Scheduling Advisor position addition increased Balancing Settlement activity							
<b>2018 Total</b>		<b>75</b>	<b>0</b>	<b>0</b>	<b>75</b>	<b>1.0</b>			
2019	Other	75	0	0	75	1.0	1-Sided Adj	TP2RXL20170222174453000	
<b>Explanation:</b>		Gas Scheduling ENVOY System Changes staffing placement.							
2019	Other	75	0	0	75	1.0	1-Sided Adj	TP2RXL20170223013531927	
<b>Explanation:</b>		Gas Scheduling Advisor position addition increased Balancing Settlement activity							
<b>2019 Total</b>		<b>150</b>	<b>0</b>	<b>0</b>	<b>150</b>	<b>2.0</b>			

Note: Totals may include rounding differences.

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: B. Gas Scheduling  
 Category-Sub: 1. Gas Scheduling  
 Cost Center: 2200-2158.000 - Gas Scheduling

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

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	416	465	491	443	507
Non-Labor	18	11	13	46	10
NSE	0	0	0	0	0
<b>Total</b>	<b>434</b>	<b>476</b>	<b>504</b>	<b>489</b>	<b>517</b>
FTE	4.4	4.9	5.1	4.9	5.6
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	416	465	491	443	507
Non-Labor	18	11	13	46	10
NSE	0	0	0	0	0
<b>Total</b>	<b>434</b>	<b>476</b>	<b>504</b>	<b>489</b>	<b>517</b>
FTE	4.4	4.9	5.1	4.9	5.6
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	67	77	80	72	83
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>67</b>	<b>77</b>	<b>80</b>	<b>72</b>	<b>83</b>
FTE	0.7	0.8	0.8	0.8	1.0
<b>Escalation to 2016\$</b>					
Labor	29	22	13	6	0
Non-Labor	1	0	0	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>30</b>	<b>22</b>	<b>13</b>	<b>7</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	511	565	584	521	590
Non-Labor	19	11	13	47	10
NSE	0	0	0	0	0
<b>Total</b>	<b>530</b>	<b>576</b>	<b>597</b>	<b>568</b>	<b>600</b>
FTE	5.1	5.7	5.9	5.7	6.6

\* 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  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: B. Gas Scheduling  
 Category-Sub: 1. Gas Scheduling  
 Cost Center: 2200-2158.000 - Gas Scheduling

**Summary of Adjustments to Recorded:**

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

<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>
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*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: C. Gas Transmission Planning  
 Cost Center: 2200-2329.000

**Summary for Category: C. Gas Transmission Planning**

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	573	593	668	668
Non-Labor	33	23	23	23
NSE	0	0	0	0
<b>Total</b>	<b>606</b>	<b>616</b>	<b>691</b>	<b>691</b>
FTE	6.1	6.7	7.7	7.7

**Cost Centers belonging to this Category:**

**2200-2329.000 Gas Transmission Planning**

Labor	573	593	668	668
Non-Labor	33	23	23	23
NSE	0	0	0	0
<b>Total</b>	<b>606</b>	<b>616</b>	<b>691</b>	<b>691</b>
FTE	6.1	6.7	7.7	7.7

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2200-2329.000 - Gas Transmission Planning**



Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: C. Gas Transmission Planning  
 Category-Sub: 1. Gas Transmission Planning  
 Cost Center: 2200-2329.000 - Gas Transmission Planning

**Activity Description:**

Gas Transmission Planning is responsible for long-term planning and design of SoCalGas and SDG&E's gas transmission systems. This group continually assesses the transmission system's ability to: meet CPUC-mandated design standards; meet existing service obligations and satisfy new customer demand; provide new services and products to customers; and access new sources of natural gas supply. The department is also directly responsible for developing analysis and reporting on the system's ability to remain reliable through major system outages and make recommendations to maintain system resiliency.

**Forecast Explanations:**

**Labor - 5-YR Average**

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

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

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

**NSE - Zero-Based**

Not Applicable

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		630	589	584	589	573	593	668	668	
Non-Labor		39	9	-21	57	33	24	24	24	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>668</b>	<b>598</b>	<b>563</b>	<b>646</b>	<b>607</b>	<b>617</b>	<b>692</b>	<b>692</b>	
FTE		6.8	7.0	6.8	6.5	6.2	6.6	7.6	7.6	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: C. Gas Transmission Planning  
 Category-Sub: 1. Gas Transmission Planning  
 Cost Center: 2200-2329.000 - Gas Transmission Planning

**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	0	1	0	1	0.0	4	-15	0	-11	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	573	32	0	605	6.1	589	39	0	628	6.6
<b>Total Incurred</b>	<b>573</b>	<b>33</b>	<b>0</b>	<b>606</b>	<b>6.1</b>	<b>593</b>	<b>24</b>	<b>0</b>	<b>617</b>	<b>6.6</b>
<b>% Allocation</b>										
Retained	57.14%	57.14%				57.14%	57.14%			
SEU	42.86%	42.86%				42.86%	42.86%			
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	4	-15	0	-11	0.0	4	-15	0	-11	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	664	39	0	703	7.6	664	39	0	703	7.6
<b>Total Incurred</b>	<b>668</b>	<b>24</b>	<b>0</b>	<b>692</b>	<b>7.6</b>	<b>668</b>	<b>24</b>	<b>0</b>	<b>692</b>	<b>7.6</b>
<b>% Allocation</b>										
Retained	57.14%	57.14%				57.14%	57.14%			
SEU	42.86%	42.86%				42.86%	42.86%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: C. Gas Transmission Planning  
Category-Sub: 1. Gas Transmission Planning  
Cost Center: 2200-2329.000 - Gas Transmission Planning

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

**Cost Center Allocation Percentage for 2016**

Calculation of allocation to SDG&E is based on the distribution of department workload between SCG and SDG&E system planning support activities.

Since closure of San Onofre Generating Station, the department experienced increase in workload associated with SDG&E related projects.

Weekly average SDG&E related workload increase from 2.0 FTEs to 3.0 FTEs.  
With department staffing level of 7 FTEs, this represents 42.86% of the department's resources.

Calculation:  
 $3.0 \text{ FTE} / 7.0 \text{ FTE} = 42.86\%$

**Cost Center Allocation Percentage for 2017**

Calculation of allocation to SDG&E is based on the distribution of department workload between SCG and SDG&E system planning support activities.

Since closure of San Onofre Generating Station, the department experienced increase in workload associated with SDG&E related projects.

Weekly average SDG&E related workload increase from 2.0 FTEs to 3.0 FTEs.  
With department staffing level of 7 FTEs, this represents 42.86% of the department's resources.

Calculation:  
 $3.0 \text{ FTE} / 7.0 \text{ FTE} = 42.86\%$

**Cost Center Allocation Percentage for 2018**

Calculation of allocation to SDG&E is based on the distribution of department workload between SCG and SDG&E system planning support activities.

Since closure of San Onofre Generating Station, the department experienced increase in workload associated with SDG&E related projects.

Weekly average SDG&E related workload increase from 2.0 FTEs to 3.0 FTEs.  
With department staffing level of 7 FTEs, this represents 42.86% of the department's resources.

Calculation:  
 $3.0 \text{ FTE} / 7.0 \text{ FTE} = 42.86\%$

**Cost Center Allocation Percentage for 2019**

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: C. Gas Transmission Planning  
Category-Sub: 1. Gas Transmission Planning  
Cost Center: 2200-2329.000 - Gas Transmission Planning

Calculation of allocation to SDG&E is based on the distribution of department workload between SCG and SDG&E system planning support activities.

Since closure of San Onofre Generating Station, the department experienced increase in workload associated with SDG&E related projects.

Weekly average SDG&E related workload increase from 2.0 FTEs to 3.0 FTEs.

With department staffing level of 7 FTEs, this represents 42.86% of the department's resources.

Calculation:

$3.0 \text{ FTE} / 7.0 \text{ FTE} = 42.86\%$

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: C. Gas Transmission Planning  
 Category-Sub: 1. Gas Transmission Planning  
 Cost Center: 2200-2329.000 - Gas Transmission Planning

**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	593	593	593	0	75	75	593	668	668
Non-Labor	5-YR Average	23	23	23	0	0	0	23	23	23
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>616</b>	<b>616</b>	<b>616</b>	<b>0</b>	<b>75</b>	<b>75</b>	<b>616</b>	<b>691</b>	<b>691</b>
FTE	5-YR Average	6.7	6.7	6.7	0.0	1.0	1.0	6.7	7.7	7.7

**Forecast Adjustment Details:**

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID
<b>2017 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
2018 Other		75	0	0	75	1.0	1-Sided Adj	TP2RXL20170223014355010
<b>Explanation:</b>	Transmission Planning Engineer staffing increase							
<b>2018 Total</b>		<b>75</b>	<b>0</b>	<b>0</b>	<b>75</b>	<b>1.0</b>		
2019 Other		75	0	0	75	1.0	1-Sided Adj	TP2RXL20170222174555430
<b>Explanation:</b>	Transmission Planning Engineer staffing increase.							
<b>2019 Total</b>		<b>75</b>	<b>0</b>	<b>0</b>	<b>75</b>	<b>1.0</b>		

Note: Totals may include rounding differences.

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: C. Gas Transmission Planning  
 Category-Sub: 1. Gas Transmission Planning  
 Cost Center: 2200-2329.000 - Gas Transmission Planning

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

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	512	486	491	500	492
Non-Labor	36	9	-20	56	34
NSE	0	0	0	0	0
<b>Total</b>	<b>549</b>	<b>495</b>	<b>471</b>	<b>557</b>	<b>526</b>
FTE	5.8	6.0	5.8	5.7	5.3
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	512	486	491	500	492
Non-Labor	36	9	-20	56	33
NSE	0	0	0	0	0
<b>Total</b>	<b>549</b>	<b>495</b>	<b>471</b>	<b>557</b>	<b>526</b>
FTE	5.8	6.0	5.8	5.7	5.3
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	82	81	80	81	81
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>82</b>	<b>81</b>	<b>80</b>	<b>81</b>	<b>81</b>
FTE	1.0	1.0	1.0	1.0	0.9
<b>Escalation to 2016\$</b>					
Labor	36	23	13	7	0
Non-Labor	2	0	0	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>38</b>	<b>23</b>	<b>12</b>	<b>8</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	630	589	584	589	573
Non-Labor	39	9	-21	57	33
NSE	0	0	0	0	0
<b>Total</b>	<b>668</b>	<b>598</b>	<b>563</b>	<b>646</b>	<b>607</b>
FTE	6.8	7.0	6.8	6.7	6.2

\* 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  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: C. Gas Transmission Planning  
 Category-Sub: 1. Gas Transmission Planning  
 Cost Center: 2200-2329.000 - Gas Transmission Planning

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	-0.227
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-0.227</b>
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
<b>2012 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2013 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
2016	Aliso	0	0	0	0.0	1-Sided Adj	TP2RXL20161129174635667
<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

**Explanation:** Exclusion of Aliso Cyn response expense (charged to cost center in error)

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: D. GAS CONTROL & SCADA OPERATION  
 Cost Center: 2200-2289.000

**Summary for Category: D. GAS CONTROL & SCADA OPERATION**

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	2,056	2,047	2,567	2,567
Non-Labor	425	458	454	454
NSE	0	0	0	0
<b>Total</b>	<b>2,481</b>	<b>2,505</b>	<b>3,021</b>	<b>3,021</b>
FTE	19.6	20.1	26.1	26.1

**Cost Centers belonging to this Category:**

**2200-2289.000 GAS CONTROL & SCADA OPERATION GROUP - USS**

Labor	2,056	2,047	2,567	2,567
Non-Labor	425	458	454	454
NSE	0	0	0	0
<b>Total</b>	<b>2,481</b>	<b>2,505</b>	<b>3,021</b>	<b>3,021</b>
FTE	19.6	20.1	26.1	26.1

*Note: Totals may include rounding differences.*



**Beginning of Workpaper**  
**2200-2289.000 - GAS CONTROL & SCADA OPERATION GROUP - USS**

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: D. GAS CONTROL & SCADA OPERATION  
 Category-Sub: 1. GAS CONTROL & SCADA OPERATION  
 Cost Center: 2200-2289.000 - GAS CONTROL & SCADA OPERATION GROUP - USS

**Activity Description:**

Gas Control and SCADA Operations is responsible for the remote monitoring, control, and real-time operation of SoCalGas and SDG&E's combined gas-transmission system, including its' associated pipelines, line compressor stations, and underground storage facilities.

**Forecast Explanations:**

**Labor - 5-YR Average**

5 year forecasted selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

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

5 year averaging selected based on its provision for a reliable TY forecast based on reliance of recent historical data.

**NSE - Zero-Based**

Not Applicable

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		2,019	2,009	2,114	2,038	2,056	2,047	2,567	2,567	
Non-Labor		436	463	394	521	425	457	453	453	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>2,455</b>	<b>2,472</b>	<b>2,508</b>	<b>2,559</b>	<b>2,481</b>	<b>2,504</b>	<b>3,020</b>	<b>3,020</b>	
FTE		20.4	19.9	20.8	20.0	19.5	20.1	26.1	26.1	

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: D. GAS CONTROL & SCADA OPERATION  
 Category-Sub: 1. GAS CONTROL & SCADA OPERATION  
 Cost Center: 2200-2289.000 - GAS CONTROL & SCADA OPERATION GROUP - USS

**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	20	57	0	77	0.0	5	66	0	71	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	2,035	367	0	2,402	19.6	2,042	391	0	2,433	20.1
<b>Total Incurred</b>	<b>2,055</b>	<b>424</b>	<b>0</b>	<b>2,479</b>	<b>19.6</b>	<b>2,047</b>	<b>457</b>	<b>0</b>	<b>2,504</b>	<b>20.1</b>
<b>% Allocation</b>										
Retained	87.11%	87.11%				87.04%	87.04%			
SEU	12.89%	12.89%				12.96%	12.96%			
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	5	66	0	71	0.0	5	66	0	71	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	2,562	387	0	2,949	26.1	2,562	387	0	2,949	26.1
<b>Total Incurred</b>	<b>2,567</b>	<b>453</b>	<b>0</b>	<b>3,020</b>	<b>26.1</b>	<b>2,567</b>	<b>453</b>	<b>0</b>	<b>3,020</b>	<b>26.1</b>
<b>% Allocation</b>										
Retained	87.04%	87.04%				87.04%	87.04%			
SEU	12.96%	12.96%				12.96%	12.96%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: D. GAS CONTROL & SCADA OPERATION  
Category-Sub: 1. GAS CONTROL & SCADA OPERATION  
Cost Center: 2200-2289.000 - GAS CONTROL & SCADA OPERATION GROUP - USS

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

**Cost Center Allocation Percentage for 2016**

Allocation based on percentage of estimated/forecast SDG&E 'total connected gas meters' (865,346), as a percentage of the total combined joint-utility 'total connected gas meters' (6,714,456).

Calculation:  
SDG&E: 865,346  
SCG: 5,849,110.

$865,346/6,714,456 = 12.89\%$  to SDG.

**Cost Center Allocation Percentage for 2017**

Gas Control and SCADA Operations Allocation to SDG&E methodology:  
Expense allocated to SDG&E based on the percentage of SDG&E customer meters compared to combined total of joint utility (SDG&E and SoCalGas) customer meters.

Calculation:  
Number of SDG&E meters: 885,663  
Number SoCalGas meters: 5,948,063  
Combined total number of meters: 6,833,726

$885,663/6,833,726 =$   
12.96% SDG&E  
87.04% SoCalGas

**Cost Center Allocation Percentage for 2018**

Gas Control and SCADA Operations Allocation to SDG&E methodology:  
Expense allocated to SDG&E based on the percentage of SDG&E customer meters compared to combined total of joint utility (SDG&E and SoCalGas) customer meters.

Calculation:  
Number of SDG&E meters: 885,663  
Number SoCalGas meters: 5,948,063  
Combined total number of meters: 6,833,726

$885,663/6,833,726 =$   
12.96% SDG&E  
87.04% SoCalGas

**Cost Center Allocation Percentage for 2019**

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: D. GAS CONTROL & SCADA OPERATION  
Category-Sub: 1. GAS CONTROL & SCADA OPERATION  
Cost Center: 2200-2289.000 - GAS CONTROL & SCADA OPERATION GROUP - USS

Gas Control and SCADA Operations Allocation to SDG&E methodology:  
Expense allocated to SDG&E based on the percentage of SDG&E customer meters compared to combined total of joint utility (SDG&E and SoCalGas) customer meters.

Calculation:

Number of SDG&E meters: 885,663

Number SoCalGas meters: 5,948,063

Combined total number of meters: 6,833,726

$885,663/6,833,726 =$

12.96% SDG&E

87.04% SoCalGas

*Note: Totals may include rounding differences.*

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: D. GAS CONTROL & SCADA OPERATION  
 Category-Sub: 1. GAS CONTROL & SCADA OPERATION  
 Cost Center: 2200-2289.000 - GAS CONTROL & SCADA OPERATION GROUP - USS

**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	2,047	2,047	2,047	0	520	520	2,047	2,567	2,567
Non-Labor	5-YR Average	448	448	448	10	6	6	458	454	454
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>2,495</b>	<b>2,495</b>	<b>2,495</b>	<b>10</b>	<b>526</b>	<b>526</b>	<b>2,505</b>	<b>3,021</b>	<b>3,021</b>
FTE	5-YR Average	20.1	20.1	20.1	0.0	6.0	6.0	20.1	26.1	26.1

**Forecast Adjustment Details:**

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	RAMP Incremental	0	10	0	10	0.0	1-Sided Adj	TP2RXL20170503184604097	
<b>Explanation:</b>		RAMP - 4 High-Pressure Pipeline - Gas Control Operation Incremental _ Fatigue Management Compliance							
<b>2017 Total</b>		<b>0</b>	<b>10</b>	<b>0</b>	<b>10</b>	<b>0.0</b>			
2018	RAMP Incremental	425	5	0	430	5.0	1-Sided Adj	TP2RXL20170222173730227	
<b>Explanation:</b>		RAMP-4 Incremental 5 Gas Transmission Gas Control positions staffing - Control Room Management Compliance.							
2018	RAMP Incremental	95	1	0	96	1.0	1-Sided Adj	TP2RXL20170222173815543	
<b>Explanation:</b>		RAMP-4 Incremental SCADA Cyber-Security staffing placement.							
<b>2018 Total</b>		<b>520</b>	<b>6</b>	<b>0</b>	<b>526</b>	<b>6.0</b>			
2019	RAMP-Post Filing Incr	425	5	0	430	5.0	1-Sided Adj	TP2RXL20170222173956670	
<b>Explanation:</b>		RAMP-4 Incremental 5 Gas Transmission System Gas Control positions staffing - Control Room Management Compliance.							
2019	RAMP-Post Filing Incr	95	1	0	96	1.0	1-Sided Adj	TP2RXL20170222174047730	
<b>Explanation:</b>		RAMP-4 Incremental SCADA Cyber-Security staffing placement.							
<b>2019 Total</b>		<b>520</b>	<b>6</b>	<b>0</b>	<b>526</b>	<b>6.0</b>			

Note: Totals may include rounding differences.

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: D. GAS CONTROL & SCADA OPERATION  
 Category-Sub: 1. GAS CONTROL & SCADA OPERATION  
 Cost Center: 2200-2289.000 - GAS CONTROL & SCADA OPERATION GROUP - USS

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

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	1,642	1,656	1,778	1,733	1,765
Non-Labor	411	445	385	515	403
NSE	0	0	0	0	0
<b>Total</b>	<b>2,052</b>	<b>2,101</b>	<b>2,163</b>	<b>2,247</b>	<b>2,168</b>
FTE	17.5	17.0	17.8	17.1	16.7
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	1	0	0	0	22
NSE	0	0	0	0	0
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>22</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	1,642	1,656	1,778	1,733	1,765
Non-Labor	411	445	385	515	425
NSE	0	0	0	0	0
<b>Total</b>	<b>2,053</b>	<b>2,101</b>	<b>2,163</b>	<b>2,247</b>	<b>2,190</b>
FTE	17.5	17.0	17.8	17.1	16.7
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	263	275	290	280	291
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>263</b>	<b>275</b>	<b>290</b>	<b>280</b>	<b>291</b>
FTE	2.9	2.9	3.0	2.9	2.8
<b>Escalation to 2016\$</b>					
Labor	114	78	46	25	0
Non-Labor	25	18	9	6	0
NSE	0	0	0	0	0
<b>Total</b>	<b>139</b>	<b>95</b>	<b>55</b>	<b>32</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	2,019	2,009	2,114	2,038	2,056
Non-Labor	436	463	394	521	425
NSE	0	0	0	0	0
<b>Total</b>	<b>2,455</b>	<b>2,472</b>	<b>2,508</b>	<b>2,559</b>	<b>2,481</b>
FTE	20.4	19.9	20.8	20.0	19.5

\* 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 CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: D. GAS CONTROL & SCADA OPERATION  
 Category-Sub: 1. GAS CONTROL & SCADA OPERATION  
 Cost Center: 2200-2289.000 - GAS CONTROL & SCADA OPERATION GROUP - USS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0.644	0	0	0	22
NSE	0	0	0	0	0
<b>Total</b>	<b>0.644</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>22</b>
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	0	0	0.0	CCTR Transf From 2200-0329.000	TP2RXL20161126212915180
<b>Explanation:</b> Accounting adjustment: Discontinued use of cost center.							
2012	Other	0	0	0	0.0	CCTR Transf From 2200-0329.000	TP2RXL20161126213006567
<b>Explanation:</b> Accounting adjustment: Discontinued use of cost center.							
<b>2012 Total</b>		<b>0</b>	<b>1</b>	<b>0</b>	<b>0.0</b>		
<b>2013 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
2016	Other	0	22	0	0.0	CCTR Transf From 2200-0329.000	TP2RXL20170222170519900
<b>Explanation:</b> Cost posting error correction adjustment.							
<b>2016 Total</b>		<b>0</b>	<b>22</b>	<b>0</b>	<b>0.0</b>		

*Note: Totals may include rounding differences.*



Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: D. GAS CONTROL & SCADA OPERATION  
Category-Sub: 1. GAS CONTROL & SCADA OPERATION  
Cost Center: 2200-2289.000 - GAS CONTROL & SCADA OPERATION GROUP - USS

**RAMP Item # 1**

Ref ID: TP2RXL20170503184604097

RAMP Chapter: SCG-4

Program Name: Gas Control Operation

Program Description: Gas Control Operation

**Risk/Mitigation:**

Risk: Catastrophic Damage involving High-Pressure Pipeline Failure

Mitigation: Fatigue Management

**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: Zero-Based

Work Type: Mandated

Work Type Citation: CPUC

**Historical Embedded Cost Estimates (\$000)**

Embedded Costs: 0

Explanation: 2019 Proposed

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: D. GAS CONTROL & SCADA OPERATION  
 Category-Sub: 1. GAS CONTROL & SCADA OPERATION  
 Cost Center: 2200-2289.000 - GAS CONTROL & SCADA OPERATION GROUP - USS

**RAMP Item # 2**

Ref ID: TP2RXL20170628163826140

RAMP Chapter: SCG-4

Program Name: Gas Control Operation

Program Description: Gas Control Operation

**Risk/Mitigation:**

Risk: Catastrophic Damage Involving High-Pressure Pipeline

Mitigation: Operation

**Forecast CPUC Cost Estimates (\$000)**

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	0	0	0
High	2	2	2

Funding Source: CPUC-GRC

Forecast Method: Base Year

Work Type: Mandated

Work Type Citation: CPUC

**Historical Embedded Cost Estimates (\$000)**

Embedded Costs: 2.3

Explanation:

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
 Witness: Devin K. Zornizer  
 Category: D. GAS CONTROL & SCADA OPERATION  
 Category-Sub: 1. GAS CONTROL & SCADA OPERATION  
 Cost Center: 2200-2289.000 - GAS CONTROL & SCADA OPERATION GROUP - USS

**RAMP Item # 3**

Ref ID: TP2RXL20170628164813730

RAMP Chapter: SCG-4

Program Name: Gas Control Operation

Program Description: Gas Control Operation

**Risk/Mitigation:**

Risk: Catastrophice Damage to High-Pressure Pipeline

Mitigation: Gas Control Operation

**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: Base Year

Work Type: Mandated

Work Type Citation: PUC GO-112

**Historical Embedded Cost Estimates (\$000)**

Embedded Costs: 1615

Explanation: 2016 Adj Rec

Southern California Gas Company  
2019 GRC - APP  
Shared Services Workpapers

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer  
Category: D. GAS CONTROL & SCADA OPERATION  
Category-Sub: 1. GAS CONTROL & SCADA OPERATION  
Cost Center: 2200-2289.000 - GAS CONTROL & SCADA OPERATION GROUP - USS

**RAMP Item # 4**

Ref ID: TP2RXL20170719125859850

RAMP Chapter: SCG-4

Program Name: Gas Control SCADA Operation

Program Description: Gas Control SCADA Operation

**Risk/Mitigation:**

Risk: Catastrophic Damage

Mitigation: Catastrophic Damage / Cyber Security

**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 GO-112

**Historical Embedded Cost Estimates (\$000)**

Embedded Costs: 865

Explanation: 2016 Adj Rec

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

Area: GAS CONTROL & SYSTEM OPERATIONS/PLANNING  
Witness: Devin K. Zornizer

**Appendix A: List of Non-Shared Cost Centers**

<b>Cost Center</b>	<b>Sub</b>	<b>Description</b>
2200-0249	000	ENERGY MARKETS ACCOUNT MANAGER AB
2200-0250	000	ENERGY MARKETS ACCOUNT MANAGER AC
2200-0327	000	STORAGE PRODUCTS MANAGER
2200-0613	000	EMERGENCY SRVCS
2200-2037	000	RESOURCE PLANNING - SCG
2200-2146	000	REF ENERGY MKTS & CAPACITY PRODUCTS DIR
2200-2187	000	ENERGY MARKETS ACCOUNT MANAGER AB-NSS