

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-06-WP)

WORKPAPERS TO
PREPARED DIRECT TESTIMONY
OF ELIZABETH A. MUSICH
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

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Overall Summary For Exhibit No. SCG-06-WP

Area:	GAS TRANSMISSION
Witness:	Elizabeth A. Musich

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Non-Shared Services	29,310	37,646	39,821	50,918
Shared Services	950	1,016	1,016	1,016
Total	30,260	38,662	40,837	51,934

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich

Summary of Non-Shared Services Workpapers:

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
A. Pipeline Operations	17,692	18,926	16,718	14,463
B. Compressor Station Operations	9,732	9,596	9,798	9,988
C. Technical Services	1,886	9,124	13,305	26,467
Total	29,310	37,646	39,821	50,918

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: A. Pipeline Operations
Workpaper: 2GT000.000

Summary for Category: A. Pipeline Operations

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	9,407	9,918	10,254	10,524
Non-Labor	8,285	9,008	6,464	3,939
NSE	0	0	0	0
Total	17,692	18,926	16,718	14,463
FTE	110.9	110.6	114.4	117.4

Workpapers belonging to this Category:

2GT000.000 Pipeline Operations

Labor	9,407	9,918	10,254	10,524
Non-Labor	8,285	9,008	6,464	3,939
NSE	0	0	0	0
Total	17,692	18,926	16,718	14,463
FTE	110.9	110.6	114.4	117.4

Note: Totals may include rounding differences.

Beginning of Workpaper
2GT000.000 - Pipeline Operations

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: A. Pipeline Operations
 Category-Sub: 1. Gas Transmission Pipelines
 Workpaper: 2GT000.000 - Pipeline Operations

Activity Description:

Operation and Maintenance of High Pressure Pipelines

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		9,835	9,707	9,581	8,472	9,407	9,919	10,255	10,525	
Non-Labor		8,101	8,304	7,430	7,560	8,285	9,009	6,465	3,940	
NSE		0	0	0	0	0	0	0	0	
Total		17,936	18,011	17,011	16,032	17,692	18,928	16,720	14,465	
FTE		106.6	105.1	106.0	94.3	110.9	110.6	114.4	117.4	

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: A. Pipeline Operations
 Category-Sub: 1. Gas Transmission Pipelines
 Workpaper: 2GT000.000 - Pipeline Operations

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	9,400	9,400	9,400	518	854	1,124	9,918	10,254	10,524
Non-Labor	5-YR Average	7,936	7,936	7,936	1,072	-1,472	-3,997	9,008	6,464	3,939
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		17,336	17,336	17,336	1,590	-618	-2,873	18,926	16,718	14,463
FTE	5-YR Average	104.6	104.6	104.6	6.0	9.8	12.8	110.6	114.4	117.4

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	237	39	0	276	2.5	1-Sided Adj	TP2RXL20161127214828633	
Explanation:		Pipeline Operations Support Staffing							
2017	Other	225	143	0	368	2.5	1-Sided Adj	TP2RXL20161127215656247	
Explanation:		Post Pipeline Safety Enhancement Program (PSEP) Instrumentation staffing, Maintenance Consumables & Repair Parts.							
2017	Other	56	290	0	346	1.0	1-Sided Adj	TP2RXL20170223000459893	
Explanation:		Cathodic Protection System Staffing and Maintenance							
2017	Other	0	600	0	600	0.0	1-Sided Adj	TP2RXL20161127221308997	
Explanation:		Leakage Investigation & Mitigation - Non-capital repairs							
2017 Total		518	1,072	0	1,590	6.0			
2018	Other	369	43	0	412	4.0	1-Sided Adj	TP2RXL20161127215052523	
Explanation:		Pipeline Operations Support Staffing							
2018	Other	141	293	0	434	2.0	1-Sided Adj	TP2RXL20170223000537020	
Explanation:		Cathodic Protection System Staffing and Maintenance							
2018	Other	0	600	0	600	0.0	1-Sided Adj	TP2RXL20161127221358783	
Explanation:		Leakage Investigation & Mitigation Non-capital repairs							
2018	Other	360	144	0	504	4.0	1-Sided Adj	TP2RXL20161127221941310	
Explanation:		Post Pipeline Safety Enhancement Program (PSEP) Instrumentation staffing, Maintenance Consumables & Repair Parts.							

Note: Totals may include rounding differences.

SCG/GAS TRANSMISSION/Exh No:SCG-06-WP/Witness: E. Musich

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: A. Pipeline Operations
 Category-Sub: 1. Gas Transmission Pipelines
 Workpaper: 2GT000.000 - Pipeline Operations

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2018	FOF-Ongoing	0	-2,527	0	-2,527	0.0	1-Sided Adj	TP2RXL20170224182049900
Explanation:		Termination City of Long Beach Pipeline Lease. Effective: July 1 2018. 100% FOF Idea # 1222 3Q-2018 savings						
2018	FOF-Ongoing	-16	-25	0	-41	-0.2	1-Sided Adj	TP2RXL20170307160057257
Explanation:		Overtime and NL resource reduction result of automation of Notice Of Shutdown filing process. 100% of FOF Idea #860 1Q-18 savings.						
2018 Total		854	-1,472	0	-618	9.8		
2019	Other	369	43	0	412	4.0	1-Sided Adj	TP2RXL20161127215304843
Explanation:		Pipeline Operations Support Staffing						
2019	Other	141	293	0	434	2.0	1-Sided Adj	TP2RXL20170223000707050
Explanation:		Cathodic Protection System Staffing and Maintenance						
2019	Other	0	600	0	600	0.0	1-Sided Adj	TP2RXL20161127221433253
Explanation:		Leakage Investigation & Mitigation Non-capital repairs						
2019	Other	630	146	0	776	7.0	1-Sided Adj	TP2RXL20161127222202297
Explanation:		Post Pipeline Safety Enhancement Program (PSEP) Instrumentation staffing, Maintenance Consumables & Repair Parts.						
2019	FOF-Ongoing	0	-5,054	0	-5,054	0.0	1-Sided Adj	TP2RXL20170224182441273
Explanation:		Termination City of Long Beach Pipeline Lease. Effective: July 1 2018. 100% FOF Idea # 1222 3Q-2018 savings						
2019	FOF-Ongoing	-16	-25	0	-41	-0.2	1-Sided Adj	TP2RXL20170307160235540
Explanation:		Overtime and NL resource reduction result of automation of Notice Of Shutdown filing process. 100% of FOF Idea #860 1Q-18 savings.						
2019 Total		1,124	-3,997	0	-2,873	12.8		

Note: Totals may include rounding differences.

SCG/GAS TRANSMISSION/Exh No:SCG-06-WP/Witness: E. Musich

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: A. Pipeline Operations
Category-Sub: 1. Gas Transmission Pipelines
Workpaper: 2GT000.000 - Pipeline Operations

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	8,530	8,682	9,478	9,031	9,707
Non-Labor	7,873	8,205	7,454	7,799	8,282
NSE	0	0	0	0	0
Total	16,403	16,887	16,932	16,830	17,990
FTE	97.6	96.7	103.1	95.0	99.7
Adjustments (Nominal \$) **					
Labor	-811	-919	-1,623	-1,913	-1,630
Non-Labor	0	-3	0	-258	3
NSE	0	0	0	0	0
Total	-811	-922	-1,623	-2,171	-1,627
FTE	-6.2	-6.8	-12.3	-14.3	-4.9
Recorded-Adjusted (Nominal \$)					
Labor	7,720	7,763	7,855	7,118	8,077
Non-Labor	7,873	8,202	7,454	7,540	8,285
NSE	0	0	0	0	0
Total	15,593	15,965	15,309	14,658	16,362
FTE	91.4	89.9	90.8	80.7	94.8
Vacation & Sick (Nominal \$)					
Labor	1,236	1,290	1,282	1,152	1,330
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1,236	1,290	1,282	1,152	1,330
FTE	15.2	15.2	15.2	13.6	16.0
Escalation to 2016\$					
Labor	879	654	445	202	0
Non-Labor	228	102	-25	20	0
NSE	0	0	0	0	0
Total	1,107	756	420	222	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	9,835	9,707	9,581	8,472	9,407
Non-Labor	8,101	8,304	7,430	7,560	8,285
NSE	0	0	0	0	0
Total	17,936	18,011	17,011	16,032	17,692
FTE	106.6	105.1	106.0	94.3	110.8

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: A. Pipeline Operations
 Category-Sub: 1. Gas Transmission Pipelines
 Workpaper: 2GT000.000 - Pipeline Operations

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-811	-919	-1,623	-1,913	-1,630
Non-Labor	0	-3	0	-258	3
NSE	0	0	0	0	0
Total	-811	-922	-1,623	-2,171	-1,627
FTE	-6.2	-6.8	-12.3	-14.3	-4.9

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-2	0	0	0.0	1-Sided Adj	TP2RXL20161126144651973
Explanation: Exclusion of reimbursed pipeline/meter maintenance expense.							
2012	Other	-2	0	0	0.0	1-Sided Adj	TP2RXL20161126153627417
Explanation: Exclusion of reimbursed pipeline/meter maintenance expense.							
2012	Other	-62	0	0	-0.5	1-Sided Adj	TP2RXL20161126155312857
Explanation: Exclusion of reimbursed Ca-Oil Producer meter maintenance expense.							
2012	Other	-236	0	0	-1.8	1-Sided Adj	TP2RXL20161126160007240
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense							
2012	Other	-37	0	0	-0.3	1-Sided Adj	TP2RXL20161126160111560
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2012	Other	-269	0	0	-2.0	1-Sided Adj	TP2RXL20161126160231327
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2012	Other	-87	0	0	-0.7	1-Sided Adj	TP2RXL20161126160343780
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2012	Other	-116	0	0	-0.9	1-Sided Adj	TP2RXL20161126160512810
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2012 Total		-811	0	0	-6.2		

2013 Other 0 -3 0 0.0 1-Sided Adj TP2RXL20170307122335583

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: A. Pipeline Operations
 Category-Sub: 1. Gas Transmission Pipelines
 Workpaper: 2GT000.000 - Pipeline Operations

<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>
Explanation: Exclusion of NERBA cost. All NERBA cost are presented within work-papers and testimony of the Environmental witness.							
2013	Other	-16	0	0	-0.1	1-Sided Adj	TP2RXL20161126153728900
Explanation: Exclusion of reimbursed pipeline/meter maintenance expense.							
2013	Other	-2	0	0	0.0	1-Sided Adj	TP2RXL20161126155030403
Explanation: Exclusion of reimbursed pipeline/meter maintenance expense.							
2013	Other	-65	0	0	-0.5	1-Sided Adj	TP2RXL20161126160633233
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2013	Other	-281	0	0	-2.1	1-Sided Adj	TP2RXL20161126160759000
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2013	Other	-43	0	0	-0.3	1-Sided Adj	TP2RXL20161126160920033
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2013	Other	-245	0	0	-1.8	1-Sided Adj	TP2RXL20161126161037603
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense							
2013	Other	-111	0	0	-0.8	1-Sided Adj	TP2RXL20161126161146140
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2013	Other	-156	0	0	-1.2	1-Sided Adj	TP2RXL20161126161300203
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2013 Total		-919	-3	0	-6.8		
2014	Other	-15	0	0	-0.1	1-Sided Adj	TP2RXL20161126145001207
Explanation: Exclusion of reimbursed pipeline/meter maintenance expense.							
2014	Other	0	560	0	0.0	CCTR Transf From 2200-0253.000	TP2RXL20161126213332400
Explanation: Accounting adjustment: Cost center correction.							
2014	Other	-28	0	0	-0.1	1-Sided Adj	TP2RXL20161126152432337
Explanation: Exclusion of reimbursed pipeline/meter maintenance expense.							
2014	Other	-153	0	0	-1.2	1-Sided Adj	TP2RXL20161126161519703
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2014	Other	-550	0	0	-4.2	1-Sided Adj	TP2RXL20161126161625500
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: A. Pipeline Operations
 Category-Sub: 1. Gas Transmission Pipelines
 Workpaper: 2GT000.000 - Pipeline Operations

<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	-91	0	0	-0.7	1-Sided Adj	TP2RXL20161126161758017
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2014	Other	-364	0	0	-2.8	1-Sided Adj	TP2RXL20161126161924820
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2014	Other	-169	0	0	-1.3	1-Sided Adj	TP2RXL20161126162032710
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2014	Other	-253	0	0	-1.9	1-Sided Adj	TP2RXL20161126162144740
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2014	Other	0	-560	0	0.0	1-Sided Adj	TP2RXL20161126213547677
Explanation: Exclusion of non-recurring non-usable materials write-off expense.							
2014 Total		-1,623	0	0	-12.3		
2015	Other	-6	0	0	0.0	1-Sided Adj	TP2RXL20161126145144337
Explanation: Exclusion of reimbursed pipeline/meter maintenance expense.							
2015	Other	-182	0	0	-1.4	1-Sided Adj	TP2RXL20161126162315673
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2015	Other	-589	0	0	-4.4	1-Sided Adj	TP2RXL20161126162416970
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2015	Other	-94	0	0	-0.7	1-Sided Adj	TP2RXL20161126162524677
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2015	Other	-497	0	0	-3.7	1-Sided Adj	TP2RXL20161126162638050
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2015	Other	-203	0	0	-1.5	1-Sided Adj	TP2RXL20161126162752883
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2015	Other	-332	0	0	-2.5	1-Sided Adj	TP2RXL20161126162956740
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2015	Other	0	-258	0	0.0	1-Sided Adj	TP2RXL20161126201918383
Explanation: Exclusion of non-recurring non-usable materials write-off expense.							

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: A. Pipeline Operations
Category-Sub: 1. Gas Transmission Pipelines
Workpaper: 2GT000.000 - Pipeline Operations

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2015	Other	-12	0	0	-0.1	1-Sided Adj	TP2RXL20170224001756243
Explanation: Exclusion of reimbursed meter maintenance expense							
2015 Total		-1,913	-258	0	-14.3		
2016	Other	0	17	0	0.0	CCTR Transf From 2200-0265.000	TP2RXL20170224002733340
Explanation: Accounting adjustment correction for error expense posting							
2016	Other	-22	0	0	-0.2	1-Sided Adj	TP2RXL20161126145247490
Explanation: Exclusion of reimbursed pipeline/meter maintenance expense.							
2016	Other	-51	0	0	-0.4	1-Sided Adj	TP2RXL20161126195756137
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2016	Other	-303	0	0	-2.2	1-Sided Adj	TP2RXL20161126195900527
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2016	Other	-359	0	0	-2.7	1-Sided Adj	TP2RXL20161126200012307
Explanation: Exclusion of Cal-Oil Producer meter maintenance expense.							
2016	Other	-486	0	0	3.7	1-Sided Adj	TP2RXL20161126200127900
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2016	Other	-131	0	0	-1.0	1-Sided Adj	TP2RXL20161126200243963
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2016	Other	-256	0	0	-1.9	1-Sided Adj	TP2RXL20161126200345060
Explanation: Exclusion of reimbursed Cal-Oil Producer meter maintenance expense.							
2016	Aliso	-2	0	0	0.0	1-Sided Adj	TP2RXL20161129174458273
Explanation: Exclusion of Aliso Cyn Responce expense							
2016	Other	-20	0	0	-0.2	1-Sided Adj	TP2RXL20170224001605227
Explanation: Exclusion of reimbursed meter maintenance expense							
2016	Other	0	-14	0	0.0	1-Sided Adj	TP2RXL20170224002111510
Explanation: Exclusion of materials write-off expense							
2016	Other	0	0	0	0.0	1-Sided Adj	TP2RXL20170224002244183
Explanation: Exclusion of late fee assessment expense							

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: A. Pipeline Operations
 Category-Sub: 1. Gas Transmission Pipelines
 Workpaper: 2GT000.000 - Pipeline Operations

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2016	Aliso	0	0	0	0.0	1-Sided Adj	TP2RXL20170306180935773
Explanation: Exclusion of Aliso Canyon related response expense							
2016 Total		-1,630	3	0	-4.9		

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: A. Pipeline Operations
Category-Sub: 1. Gas Transmission Pipelines
Workpaper: 2GT000.000 - Pipeline Operations

RAMP Item # 1

Ref ID: TP2RXL20170719143425613

RAMP Chapter: SCG-4

Program Name: Pipeline Maintenance

Program Description: Maintenance

Risk/Mitigation:

Risk: # 23 - Regulatory Compliance

Mitigation: Maintenance

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	5,643	5,643	5,643
High	6,237	6,237	6,237

Funding Source: CPUC-GRC

Forecast Method: Average

Work Type: Mandated

Work Type Citation: CPUC

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 4013

Explanation:

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: A. Pipeline Operations
Category-Sub: 1. Gas Transmission Pipelines
Workpaper: 2GT000.000 - Pipeline Operations

RAMP Item # 2

Ref ID: TP2RXL20170719143532943

RAMP Chapter: SCG-4

Program Name: Internal Corrosion

Program Description: Installation And Monitoring For Corrosion

Risk/Mitigation:

Risk: # 23 - Regulatory Compliance

Mitigation: Requirements for Corrosion Control Operation

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	560	560	560
High	1,186	1,186	1,186

Funding Source: CPUC-GRC

Forecast Method: Average

Work Type: Mandated

Work Type Citation: CPUC

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 250

Explanation:

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: A. Pipeline Operations
Category-Sub: 1. Gas Transmission Pipelines
Workpaper: 2GT000.000 - Pipeline Operations

RAMP Item # 3

Ref ID: TP2RXL20170719143652140

RAMP Chapter: SCG-4

Program Name: Odorization

Program Description: Odorization Of Natural gas

Risk/Mitigation:

Risk: #'s 20, 23, 26 - Enviro Risk, Regulatory Compliance, Pipeline Safety Regulatory Compliance

Mitigation: Odorization

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	110	110	110
High	122	122	122

Funding Source: CPUC-GRC

Forecast Method: Average

Work Type: Mandated

Work Type Citation: CPUC

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 100

Explanation:

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: A. Pipeline Operations
Category-Sub: 1. Gas Transmission Pipelines
Workpaper: 2GT000.000 - Pipeline Operations

RAMP Item # 4

Ref ID: TP2RXL20170719143727013

RAMP Chapter: SCG-4

Program Name: Qualification Pipeline Personnel

Program Description: Training And Qualification Of Personnel

Risk/Mitigation:

Risk: # 26 - Gas Pipeline Safety Regulatory Compliance

Mitigation: Qualification Of Personnel

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	264	264	264
High	292	292	292

Funding Source: CPUC-GRC

Forecast Method: Average

Work Type: Mandated

Work Type Citation: CPUC

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 173

Explanation:

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: B. Compressor Station Operations
 Workpaper: 2GT001.000

Summary for Category: B. Compressor Station Operations

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	4,817	4,786	4,986	5,166
Non-Labor	4,915	4,811	4,813	4,823
NSE	0	0	0	0
Total	9,732	9,597	9,799	9,989
FTE	47.6	47.1	48.9	50.9

Workpapers belonging to this Category:

2GT001.000 Compressor Station Operations

Labor	4,817	4,786	4,986	5,166
Non-Labor	4,915	4,811	4,813	4,823
NSE	0	0	0	0
Total	9,732	9,597	9,799	9,989
FTE	47.6	47.1	48.9	50.9

Note: Totals may include rounding differences.

Beginning of Workpaper
2GT001.000 - Compressor Station Operations

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: B. Compressor Station Operations
 Category-Sub: 1. Compressor Stations
 Workpaper: 2GT001.000 - Compressor Station Operations

Activity Description:

Gas Compressor Station Operation and Maintenance

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		4,777	4,685	4,803	4,456	4,817	4,786	4,986	5,166	
Non-Labor		4,531	4,746	5,272	4,855	4,915	4,811	4,813	4,823	
NSE		0	0	0	0	0	0	0	0	
Total		9,308	9,431	10,075	9,311	9,732	9,597	9,799	9,989	
FTE		47.7	46.3	48.1	43.7	47.6	47.1	48.9	50.9	

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: B. Compressor Station Operations
Category-Sub: 1. Compressor Stations
Workpaper: 2GT001.000 - Compressor Station Operations

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	4,708	4,708	4,708	78	278	458	4,786	4,986	5,166
Non-Labor	5-YR Average	4,864	4,864	4,864	-53	-51	-41	4,811	4,813	4,823
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		9,571	9,571	9,571	25	227	417	9,596	9,798	9,988
FTE	5-YR Average	46.7	46.7	46.7	0.4	2.2	4.2	47.1	48.9	50.9

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	-16	-24	0	-40	-0.2	1-Sided Adj	TP2RXL20161128185807780	
Explanation:		Non-recurring expense reduction: Discontinue operation Desert Center Compressor Station							
2017	Other	-15	-29	0	-44	-0.1	1-Sided Adj	TP2RXL20161128190126467	
Explanation:		Non-recurring expense reduction: Discontinue operation Cactus City Compressor Station							
2017	Other	109	0	0	109	0.7	1-Sided Adj	TP2RXL20170222234130023	
Explanation:		Peak Load - Extended Maintenance Support Staffing							
2017 Total		78	-53	0	25	0.4			
2018	Other	-16	-24	0	-40	-0.2	1-Sided Adj	TP2RXL20161128185915627	
Explanation:		Non-recurring expense reduction: Discontinue operation Desert Center Compressor Station							
2018	Other	-15	-29	0	-44	-0.1	1-Sided Adj	TP2RXL20161128190228060	
Explanation:		Non-recurring expense reduction: Discontinue operation Cactus City Compressor Station							
2018	Other	109	0	0	109	0.5	1-Sided Adj	TP2RXL20170222234255253	
Explanation:		Peak Load - Extended Maintenance Support Staffing							
2018	Other	200	2	0	202	2.0	1-Sided Adj	TP2RXL20170223002128417	
Explanation:		Compression Support Staffing - Instrumentation							
2018 Total		278	-51	0	227	2.2			

Note: Totals may include rounding differences.

SCG/GAS TRANSMISSION/Exh No:SCG-06-WP/Witness: E. Musich

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: B. Compressor Station Operations
 Category-Sub: 1. Compressor Stations
 Workpaper: 2GT001.000 - Compressor Station Operations

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>
2019	Other	-16	-24	0	-40	-0.2	1-Sided Adj	TP2RXL20161128190005950
Explanation:		Non-recurring expense reduction: Discontinue operation Desert Center Compressor Station						
2019	Other	-15	-29	0	-44	-0.1	1-Sided Adj	TP2RXL20161128190318640
Explanation:		Non-recurring expense reduction: Discontinue operation Cactus City Compressor Station						
2019	Other	109	0	0	109	0.5	1-Sided Adj	TP2RXL20170222234434943
Explanation:		Peak Load - Extended Maintenance Support Staffing						
2019	Other	200	2	0	202	2.0	1-Sided Adj	TP2RXL20170223002226573
Explanation:		Compression Support Staffing - Instrumentation						
2019	Other	180	10	0	190	2.0	1-Sided Adj	TP2RXL20170223002546793
Explanation:		Ventura Station - Station Mechanic Staffing						
2019 Total		458	-41	0	417	4.2		

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: B. Compressor Station Operations
Category-Sub: 1. Compressor Stations
Workpaper: 2GT001.000 - Compressor Station Operations

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	3,750	3,746	3,938	3,743	4,136
Non-Labor	4,443	4,709	5,289	4,850	4,923
NSE	0	0	0	0	0
Total	8,193	8,455	9,227	8,594	9,058
FTE	40.9	39.6	41.2	37.4	40.7
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	-40	-21	0	-7	-8
NSE	0	0	0	0	0
Total	-40	-21	0	-7	-8
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	3,750	3,746	3,938	3,743	4,136
Non-Labor	4,404	4,688	5,289	4,843	4,915
NSE	0	0	0	0	0
Total	8,154	8,434	9,227	8,586	9,051
FTE	40.9	39.6	41.2	37.4	40.7
Vacation & Sick (Nominal \$)					
Labor	600	623	643	606	681
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	600	623	643	606	681
FTE	6.8	6.7	6.9	6.3	6.9
Escalation to 2016\$					
Labor	427	316	223	106	0
Non-Labor	127	58	-17	13	0
NSE	0	0	0	0	0
Total	554	374	205	119	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	4,777	4,685	4,803	4,456	4,817
Non-Labor	4,531	4,746	5,272	4,855	4,915
NSE	0	0	0	0	0
Total	9,308	9,431	10,075	9,311	9,732
FTE	47.7	46.3	48.1	43.7	47.6

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: B. Compressor Station Operations
 Category-Sub: 1. Compressor Stations
 Workpaper: 2GT001.000 - Compressor Station Operations

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs						
Years	2012	2013	2014	2015	2016	
Labor	0	0	0	0	0	
Non-Labor	-40	-21	0	-7	-8	
NSE	0	0	0	0	0	
Total	-40	-21	0	-7	-8	
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	-18	0	0.0	1-Sided Adj	TP2RXL20161126202302577
Explanation: Exclusion of 2011 SWRCB expense posted to 2012.							
2012	Other	0	-18	0	0.0	1-Sided Adj	TP2RXL20161126202354263
Explanation: Exclusion of 2011 SWRCB expense posted to 2012.							
2012	Other	0	-3	0	0.0	1-Sided Adj	TP2RXL20161126202456997
Explanation: Exclusion of 2011 SWRCB expense posted to 2012.							
2012	Other	0	0	0	0.0	1-Sided Adj	TP2RXL20161126202613423
Explanation: Exclusion of 2011 SWRCB expense posted to 2012.							
2012	Other	0	0	0	0.0	1-Sided Adj	TP2RXL20161126202657090
Explanation: Exclusion of 2011 SWRCB expense posted to 2012.							
2012 Total		0	-40	0	0.0		
2013	Other	0	4	0	0.0	CCTR Transf From 2200-0265.000	TP2RXL20161126211946553
Explanation: Accounting adjustment: Cost center correction.							
2013	Other	0	-4	0	0.0	1-Sided Adj	TP2RXL20170307122614870
Explanation: Exclusion of NERBA cost. All NERBA cost are presented within work-papers and testimony of the Environmental witness.							
2013	Other	0	-3	0	0.0	1-Sided Adj	TP2RXL20170307122728037
Explanation: Exclusion of NERBA cost. All NERBA cost are presented within work-papers and testimony of the Environmental witness.							

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: B. Compressor Station Operations
 Category-Sub: 1. Compressor Stations
 Workpaper: 2GT001.000 - Compressor Station Operations

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2013	Other	0	-7	0	0.0	1-Sided Adj	TP2RXL20170307122849197
Explanation: Exclusion of NERBA cost. All NERBA cost are presented within work-papers and testimony of the Environmental witness.							
2013	Other	0	-7	0	0.0	1-Sided Adj	TP2RXL20170307122958257
Explanation: Exclusion of NERBA cost. All NERBA cost are presented within work-papers and testimony of the Environmental witness.							
2013	Other	0	-4	0	0.0	1-Sided Adj	TP2RXL20170307123219947
Explanation: Exclusion of NERBA cost. All NERBA cost are presented within work-papers and testimony of the Environmental witness.							
2013 Total		0	-21	0	0.0		
2014 Total		0	0	0	0.0		
2015	Other	0	-2	0	0.0	1-Sided Adj	TP2RXL20170307114709313
Explanation: Exclusion of NERBA cost. All NERBA cost are presented within work-papers and testimony of the Environmental witness.							
2015	Other	0	-2	0	0.0	1-Sided Adj	TP2RXL20170307114815797
Explanation: Exclusion of NERBA cost. All NERBA cost are presented within work-paper and testimony of the Environmental witness.							
2015	Other	0	-2	0	0.0	1-Sided Adj	TP2RXL20170307114926517
Explanation: Exclusion of NERBA cost. All NERBA cost are presented within work-papers and testimony of the Environmental witness.							
2015	Other	0	0	0	0.0	1-Sided Adj	TP2RXL20161126205304890
Explanation: Exclusion of SJV-AQMD late fee expense.							
2015	Other	0	0	0	0.0	1-Sided Adj	TP2RXL20161126205418003
Explanation: Exclusion of Pitney Bowes Co late fee expense.							
2015 Total		0	-7	0	0.0		
2016	Other	0	-7	0	0.0	1-Sided Adj	TP2RXL20170224002446823
Explanation: Exclusion of materials write-off expense							

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: B. Compressor Station Operations
 Category-Sub: 1. Compressor Stations
 Workpaper: 2GT001.000 - Compressor Station Operations

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2016	Aliso	0	-1	0	0.0	1-Sided Adj	TP2RXL20170306182638783
Explanation: Exclusion of Aliso Cyn related responce cost charged to wrong cost center							
2016 Total		0	-8	0	0.0		

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: C. Technical Services
Workpaper: 2GT002.000

Summary for Category: C. Technical Services

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	149	402	582	582
Non-Labor	1,737	8,722	12,723	18,723
NSE	0	0	0	7,162
Total	1,886	9,124	13,305	26,467
FTE	0.7	4.6	6.6	6.6

Workpapers belonging to this Category:

2GT002.000 Technical Services

Labor	149	402	582	582
Non-Labor	1,737	8,722	12,723	18,723
NSE	0	0	0	7,162
Total	1,886	9,124	13,305	26,467
FTE	0.7	4.6	6.6	6.6

Note: Totals may include rounding differences.

Beginning of Workpaper
2GT002.000 - Technical Services

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: C. Technical Services
 Category-Sub: 1. Technical Services
 Workpaper: 2GT002.000 - Technical Services

Activity Description:

Technical Engineering in Support of Pipeline and Gas Compression Operations

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

Zero Based selected based on non-routine and special nature of cost represented within this category.

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		408	403	514	259	149	403	583	583	
Non-Labor		1,203	2,191	2,371	856	1,737	8,722	12,723	18,723	
NSE		0	0	0	0	0	0	0	7,162	
Total		1,610	2,594	2,885	1,115	1,886	9,125	13,306	26,468	
FTE		4.2	4.2	5.8	3.0	0.7	4.5	6.5	6.5	

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: C. Technical Services
Category-Sub: 1. Technical Services
Workpaper: 2GT002.000 - Technical 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	346	346	346	56	236	236	402	582	582
Non-Labor	5-YR Average	1,672	1,672	1,672	7,050	11,051	17,051	8,722	12,723	18,723
NSE	Zero-Based	0	0	0	0	0	7,162	0	0	7,162
Total		2,018	2,018	2,018	7,106	11,287	24,449	9,124	13,305	26,467
FTE	5-YR Average	3.6	3.6	3.6	1.0	3.0	3.0	4.6	6.6	6.6

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	RAMP Incremental	0	2,000	0	2,000	0.0	1-Sided Adj	TP2RXL20170308083844420	
Explanation:		RAMP - 4 Incremental High Consequence Area (HCA) Class Location Mitigations. \$2.0 Incremental Funding							
2017	Other	56	0	0	56	1.0	1-Sided Adj	TP2RXL20170222235159137	
Explanation:		Technical Support Staffing							
2017	RAMP Incremental	0	5,000	0	5,000	0.0	1-Sided Adj	TP2RXL20170308084211583	
Explanation:		RAMP - 4 Incremental Right-Of-Way Maintenance of Pipeline Access Roadways. \$5.0 Incremental Funding.							
2017	Other	0	50	0	50	0.0	1-Sided Adj	TP2RXL20170307163225783	
Explanation:		Satellite Monitoring for ground movement - Coastal area pipeline routes							
2017 Total		56	7,050	0	7,106	1.0			
2018	RAMP Incremental	0	6,000	0	6,000	0.0	1-Sided Adj	TP2RXL20170308083948873	
Explanation:		RAMP - 4 Incremental High Consequence Area (HCA) Class Location Mitigation. \$6.0 Incremental Funding							
2018	Other	56	0	0	56	1.0	1-Sided Adj	TP2RXL20170222235238357	
Explanation:		Technical Support Staffing							
2018	Other	180	1	0	181	2.0	1-Sided Adj	TP2RXL20170222235512810	
Explanation:		Contract Administrator staffing							

Note: Totals may include rounding differences.

SCG/GAS TRANSMISSION/Exh No:SCG-06-WP/Witness: E. Musich

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: C. Technical Services
 Category-Sub: 1. Technical Services
 Workpaper: 2GT002.000 - Technical 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>
2018	RAMP Incremental	0	5,000	0	5,000	0.0	1-Sided Adj	TP2RXL20170308084305750
Explanation:		RAMP - 4 Incremental Right-Of-Way Maintenance of Pipeline Access Roadways. \$5.0 Incremental Funding						
2018	Other	0	50	0	50	0.0	1-Sided Adj	TP2RXL20170307163333660
Explanation:		Satellite Monitoring for ground movement - Coastal area pipeline routes						
2018 Total		236	11,051	0	11,287	3.0		
2019	RAMP Incremental	0	12,000	0	12,000	0.0	1-Sided Adj	TP2RXL20170308084033583
Explanation:		RAMP - 4 Incremental High Consequence Area (HCA) Class Location Mitigation. \$12.0 Incremental Funding						
2019	Other	56	0	0	56	1.0	1-Sided Adj	TP2RXL20170222235305247
Explanation:		Technical Support Staffing						
2019	Other	180	1	0	181	2.0	1-Sided Adj	TP2RXL20170222235554357
Explanation:		Contract Administrator staffing						
2019	RAMP Incremental	0	5,000	0	5,000	0.0	1-Sided Adj	TP2RXL20170308084416767
Explanation:		RAMP - 4 Incremental Right-Of-Way Maintenance of Pipeline Access Roadways. \$5.0 Incremental Funding						
2019	Other	0	50	0	50	0.0	1-Sided Adj	TP2RXL20170307163602613
Explanation:		Satellite Monitoring for ground movement - Coastal area pipeline routes						
2019	Other	0	0	7,162	7,162	0.0	1-Sided Adj	TP2RXL20170309111133873
Explanation:		Southern Gas System Reliability - Project Abandonment Cost Recovery						
2019 Total		236	17,051	7,162	24,449	3.0		

Note: Totals may include rounding differences.

SCG/GAS TRANSMISSION/Exh No:SCG-06-WP/Witness: E. Musich

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: C. Technical Services
Category-Sub: 1. Technical Services
Workpaper: 2GT002.000 - Technical Services

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	320	322	421	254	488
Non-Labor	1,174	2,169	2,394	859	1,810
NSE	0	0	0	0	0
Total	1,494	2,491	2,815	1,113	2,298
FTE	3.6	3.5	5.0	2.9	5.2
Adjustments (Nominal \$) **					
Labor	0	0	0	-37	-360
Non-Labor	-5	-5	-15	-5	-73
NSE	0	0	0	0	0
Total	-5	-5	-15	-42	-433
FTE	0.0	0.0	0.0	-0.4	-4.6
Recorded-Adjusted (Nominal \$)					
Labor	320	322	421	217	128
Non-Labor	1,169	2,164	2,379	854	1,737
NSE	0	0	0	0	0
Total	1,489	2,486	2,800	1,071	1,865
FTE	3.6	3.5	5.0	2.5	0.6
Vacation & Sick (Nominal \$)					
Labor	51	53	69	35	21
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	51	53	69	35	21
FTE	0.6	0.6	0.8	0.4	0.1
Escalation to 2016\$					
Labor	36	27	24	6	0
Non-Labor	34	27	-8	2	0
NSE	0	0	0	0	0
Total	70	54	16	8	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	408	403	514	259	149
Non-Labor	1,203	2,191	2,371	856	1,737
NSE	0	0	0	0	0
Total	1,610	2,594	2,885	1,115	1,886
FTE	4.2	4.1	5.8	2.9	0.7

* 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
Non-Shared Service Workpapers

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: C. Technical Services
Category-Sub: 1. Technical Services
Workpaper: 2GT002.000 - Technical Services

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-0.176	0	-0.093	-37	-360
Non-Labor	-5	-5	-15	-5	-73
NSE	0	0	0	0	0
Total	-5	-5	-15	-42	-433
FTE	0.0	0.0	0.0	-0.4	-4.6

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	0	0	0	0.0	CCTR Transf To 2200-2176.000	TP2RXL20161127210307697
Explanation:		Accounting adjustment: Transfer of Env Advisor position expense.					
2012	Other	0	-5	0	0.0	CCTR Transf To 2200-2172.000	TP2RXL20161205213847560
Explanation:		Accounting adjustment: Allocation to USS Cc					
2012 Total		0	-5	0	0.0		
2013	Other	7	0	0	0.0	CCTR Transf From 2200-2172.000	TP2RXL20170307130355260
Explanation:		Accounting adjustment for correction of cost center activity.					
2013	Other	-7	0	0	0.0	1-Sided Adj	TP2RXL20170307130653530
Explanation:		Exclusion of NERBA cost. All NERBA cost are presented within work-papers and testimony of the Environmental witness.					
2013	Other	0	-5	0	0.0	CCTR Transf To 2200-2172.000	TP2RXL20161205213944263
Explanation:		Accounting adjustment: Allocation to USS Cc					
2013 Total		0	-5	0	0.0		
2014	Other	0	-10	0	0.0	1-Sided Adj	TP2RXL20170307123527270
Explanation:		Exclusion of NERBA cost. All NERBA cost are presented within work-papers and testimony of the Environmental witness.					
2014	Other	0	0	0	0.0	CCTR Transf To 2200-2176.000	TP2RXL20161127204712570
Explanation:		Accounting adjustment: Transfer of Env Advisor position expense.					

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: C. Technical Services
 Category-Sub: 1. Technical Services
 Workpaper: 2GT002.000 - Technical Services

<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	-5	0	0.0	CCTR Transf To 2200-2172.000	TP2RXL20161205214038590
Explanation: Accounting adjustment: Allocation to USS Cc							
2014 Total		0	-15	0	0.0		
2015	Other	-37	0	0	-0.4	CCTR Transf To 2200-2176.000	TP2RXL20161127204508177
Explanation: Accounting adjustment: Transfer of Env Advisor positions expense.							
2015	Other	0	-5	0	0.0	CCTR Transf To 2200-2172.000	TP2RXL20161205214141970
Explanation: Accounting adjustment: Allocation to USS Cc							
2015 Total		-37	-5	0	-0.4		
2016	Aliso	-8	0	0	-0.1	1-Sided Adj	TP2RXL20161129174335883
Explanation: Exclusion of Aliso Cyn Responce expense							
2016	Other	0	-68	0	0.0	1-Sided Adj	TP2RXL20170224000204907
Explanation: Exclusion of materials write-off expense							
2016	Other	-351	-5	0	-4.5	CCTR Transf To 2200-2172.000	TP2RXL20170223012252890
Explanation: Accounting adjustmen: Allocation to USS Cc							
2016 Total		-360	-73	0	-4.6		

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: C. Technical Services
 Category-Sub: 1. Technical Services
 Workpaper: 2GT002.000 - Technical Services

RAMP Item # 1

Ref ID: TP2RXL20170308083844420

RAMP Chapter: SCG-4

Program Name: High Consequence Area (HCA) Class Location

Program Description: When a pipeline is operating “out of class” it needs to be remediated by either replacement or hydro-test because new pipeline installation has different testing requirements depending on the class location. HCAs for natural gas pipelines focus on populated areas which affects class location. HCA identification relies on pipeline-specific information regarding the location, size, and operating characteristics of the line, as well as the identification of structures, specified sites, and their intended usage along the pipeline right-of-way

Risk/Mitigation:

Risk: Catastrophic Damage involving High Pressure Pipeli
 Mitigation: 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: Zero-Based			
Work Type: Mandated			
Work Type Citation: Regulatory			

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 0
 Explanation: 2017 Proposed Incremental

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: C. Technical Services
Category-Sub: 1. Technical Services
Workpaper: 2GT002.000 - Technical Services

RAMP Item # 2

Ref ID: TP2RXL20170308084211583

RAMP Chapter: SCG-4

Program Name: Right of Way

Program Description: Maintenance of access roads and pipeline right of ways is critical so that compliance is maintained, pipelines can be accessed in a timely manner, third party pipeline damages can be minimized, wildfire damage can be prevented, and the safety of employees and the public are maintained

Risk/Mitigation:

Risk: Catastrophic Damage involving High Pressure Pipeli

Mitigation: Maintenance of access roads and pipeline right of ways

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: Regulatory

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 0

Explanation: 2017 Proposed Incremental

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: C. Technical Services
Category-Sub: 1. Technical Services
Workpaper: 2GT002.000 - Technical Services

RAMP Item # 3

Ref ID: TP2RXL20170719141557230

RAMP Chapter: SCG-4

Program Name: Utility Conflict Review, Ops Emergency Preparedness & QA/QC

Program Description: Review of rights-of-way, emergency manuals, materials inspections & quality control

Risk/Mitigation:

Risk: #26 - Pipeline Safety Regulatory Compliance

Mitigation: Operations

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	902	902	902
High	997	997	997

Funding Source: CPUC-GRC

Forecast Method: Average

Work Type: Mandated

Work Type Citation: CPUC

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 952

Explanation:

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: C. Technical Services
Category-Sub: 1. Technical Services
Workpaper: 2GT002.000 - Technical Services

RAMP Item # 4

Ref ID: TP2RXL20170719141632180

RAMP Chapter: SCG-4

Program Name: Right Of Way

Program Description: Maintenance of Right-of-Ways

Risk/Mitigation:

Risk: #'s 23, 26 _ Regulatory Compliance, Pipeline Safety Compliance

Mitigation: Operations

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	4,750	4,750	4,750
High	5,250	5,250	5,250

Funding Source: CPUC-GRC

Forecast Method: Average

Work Type: Mandated

Work Type Citation: CPUC

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 1435

Explanation:

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: C. Technical Services
Category-Sub: 1. Technical Services
Workpaper: 2GT002.000 - Technical Services

RAMP Item # 5

Ref ID: TP2RXL20170719141711037

RAMP Chapter: SCG-4

Program Name: High Consequence Area (HCA) Class Location

Program Description: Pipeline Class Location Operation

Risk/Mitigation:

Risk: #'s 23, 26 - Regulatory and Pipeline Safety Compliance

Mitigation: Operation

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	1,900	1,900	1,900
High	2,100	2,100	2,100

Funding Source: CPUC-GRC

Forecast Method: Average

Work Type: Mandated

Work Type Citation: CPUC

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 0

Explanation:

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich

Summary of Shared Services Workpapers:

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
A. DIRECTOR GAS TRANSMISSION	198	240	240	240
B. FIELD OPERATIONS MANAGERS	272	419	419	419
C. TECHNICAL SERVICES MANAGER	480	357	357	357
Total	950	1,016	1,016	1,016

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: A. DIRECTOR GAS TRANSMISSION
 Cost Center: 2200-0253.000

Summary for Category: A. DIRECTOR GAS TRANSMISSION

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	167	218	218	218
Non-Labor	31	21	21	21
NSE	0	0	0	0
Total	<u>198</u>	<u>239</u>	<u>239</u>	<u>239</u>
FTE	1.0	2.0	2.0	2.0

Cost Centers belonging to this Category:

2200-0253.000 DIRECTOR GAS TRANSMISSION - USS

Labor	167	218	218	218
Non-Labor	31	21	21	21
NSE	0	0	0	0
Total	<u>198</u>	<u>239</u>	<u>239</u>	<u>239</u>
FTE	1.0	2.0	2.0	2.0

Note: Totals may include rounding differences.

Beginning of Workpaper
2200-0253.000 - DIRECTOR GAS TRANSMISSION - USS

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: A. DIRECTOR GAS TRANSMISSION
 Category-Sub: 1. DIRECTOR GAS TRANSMISSION
 Cost Center: 2200-0253.000 - DIRECTOR GAS TRANSMISSION - USS

Activity Description:

Overall management responsibility for operation and maintenance of Gas Transmission System (Pipelines, Compressor Stations, Technical Services)

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		270	270	199	184	167	218	218	218	
Non-Labor		29	15	10	21	31	21	21	21	
NSE		0	0	0	0	0	0	0	0	
Total		299	286	209	206	198	239	239	239	
FTE		2.8	2.7	1.9	1.5	0.9	2.0	2.0	2.0	

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: A. DIRECTOR GAS TRANSMISSION
 Category-Sub: 1. DIRECTOR GAS TRANSMISSION
 Cost Center: 2200-0253.000 - DIRECTOR GAS TRANSMISSION - 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	0	0	0	0	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	167	31	0	198	1.0	218	20	0	238	2.0
Total Incurred	167	31	0	198	1.0	218	21	0	239	2.0
% Allocation										
Retained	90.57%	90.57%				90.69%	90.69%			
SEU	9.43%	9.43%				9.31%	9.31%			
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	1	0	1	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	218	20	0	238	2.0	218	20	0	238	2.0
Total Incurred	218	21	0	239	2.0	218	21	0	239	2.0
% Allocation										
Retained	90.69%	90.69%				90.69%	90.69%			
SEU	9.31%	9.31%				9.31%	9.31%			
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 TRANSMISSION
Witness: Elizabeth A. Musich
Category: A. DIRECTOR GAS TRANSMISSION
Category-Sub: 1. DIRECTOR GAS TRANSMISSION
Cost Center: 2200-0253.000 - DIRECTOR GAS TRANSMISSION - USS

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2016

Expenses are allocated to SDG&E based on the percentage of SDG&E employees, as compared to the combined total of joint utility (SDG&E and SoCalGas) Gas Transmission organization employees, as follows:

Number of SDG&E employees: 28
Number SoCalGas employees: 269
Total Gas Transmission Employees: 297

Calculation:
 $28 / 297 = 9.43\%$ (SDG&E)
 $269 / 297 = 90.57\%$ (SoCalGas)

Cost Center Allocation Percentage for 2017

Expenses are allocated to SDG&E based on the percentage of SDG&E employees, as compared to the combined total of joint utility (SDG&E and SoCalGas) Gas Transmission organization employees, as follows:

Number of SDG&E employees: 27
Number SoCalGas employees: 263
Total Gas Transmission Employees: 290

Calculation:
 $27 / 290 = 9.31\%$ (SDG&E)
 $263 / 290 = 90.69\%$ (SoCalGas)

Cost Center Allocation Percentage for 2018

Expenses are allocated to SDG&E based on the percentage of SDG&E employees, as compared to the combined total of joint utility (SDG&E and SoCalGas) Gas Transmission organization employees, as follows:

Number of SDG&E employees: 27
Number SoCalGas employees: 263
Total Gas Transmission Employees: 290

Calculation:
 $27 / 290 = 9.31\%$ (SDG&E)
 $263 / 290 = 90.69\%$ (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 TRANSMISSION
Witness: Elizabeth A. Musich
Category: A. DIRECTOR GAS TRANSMISSION
Category-Sub: 1. DIRECTOR GAS TRANSMISSION
Cost Center: 2200-0253.000 - DIRECTOR GAS TRANSMISSION - USS

Expenses are allocated to SDG&E based on the percentage of SDG&E employees, as compared to the combined total of joint utility (SDG&E and SoCalGas) Gas Transmission organization employees, as follows:

Number of SDG&E employees: 27
Number SoCalGas employees: 263
Total Gas Transmission Employees: 290

Calculation:
 $27 / 290 = 9.31\%$ (SDG&E)
 $263 / 290 = 90.69\%$ (SoCalGas)

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: A. DIRECTOR GAS TRANSMISSION
 Category-Sub: 1. DIRECTOR GAS TRANSMISSION
 Cost Center: 2200-0253.000 - DIRECTOR GAS TRANSMISSION - 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	218	218	218	0	0	0	218	218	218
Non-Labor	5-YR Average	21	21	21	0	0	0	21	21	21
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		240	240	240	0	0	0	240	240	240
FTE	5-YR Average	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0

<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.

SCG/GAS TRANSMISSION/Exh No:SCG-06-WP/Witness: E. Musich

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: A. DIRECTOR GAS TRANSMISSION
Category-Sub: 1. DIRECTOR GAS TRANSMISSION
Cost Center: 2200-0253.000 - DIRECTOR GAS TRANSMISSION - USS

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	277	259	168	157	143
Non-Labor	28	15	570	21	31
NSE	0	0	0	0	0
Total	306	274	738	178	174
FTE	2.9	2.6	1.6	1.3	0.9
Adjustments (Nominal \$) **					
Labor	-58	-36	0	0	0
Non-Labor	-1	0	-560	0	0
NSE	0	0	0	0	0
Total	-59	-37	-560	0	0
FTE	-0.5	-0.3	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	219	223	168	157	143
Non-Labor	28	15	10	21	31
NSE	0	0	0	0	0
Total	247	238	177	178	174
FTE	2.4	2.3	1.6	1.3	0.9
Vacation & Sick (Nominal \$)					
Labor	35	37	27	25	24
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	35	37	27	25	24
FTE	0.4	0.4	0.3	0.2	0.1
Escalation to 2016\$					
Labor	15	10	4	2	0
Non-Labor	2	1	0	0	0
NSE	0	0	0	0	0
Total	17	11	5	3	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	270	270	199	184	167
Non-Labor	29	15	10	21	31
NSE	0	0	0	0	0
Total	299	286	209	206	198
FTE	2.8	2.7	1.9	1.5	1.0

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: A. DIRECTOR GAS TRANSMISSION
 Category-Sub: 1. DIRECTOR GAS TRANSMISSION
 Cost Center: 2200-0253.000 - DIRECTOR GAS TRANSMISSION - USS

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-58	-36	0	0	0
Non-Labor	-0.717	-0.388	-560	0	0
NSE	0	0	0	0	0
Total	-59	-37	-560	0	0
FTE	-0.5	-0.3	0.0	0.0	0.0

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-58	-1	0	-0.5	CCTR Transf To 2200-0617.000	TP2RXL20161130231919943
Explanation:		Accounting adjustment: Transfer of Operational Planner position as result of change in organizational reporting					
2012 Total		-58	-1	0	-0.5		
2013	Other	-36	0	0	-0.3	CCTR Transf To 2200-0617.000	TP2RXL20161130232142443
Explanation:		Accounting adjustment: Transfer of Operational Planner position, result of change in organizational reporting.					
2013 Total		-36	0	0	-0.3		
2014	Other	0	-560	0	0.0	CCTR Transf To 2200-2170.000	TP2RXL20161126213332400
Explanation:		Accounting adjustment: Cost center correction.					
2014 Total		0	-560	0	0.0		
2015 Total		0	0	0	0.0		
2016 Total		0	0	0	0.0		

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: B. FIELD OPERATIONS MANAGERS
Cost Center: 2200-0265.000

Summary for Category: B. FIELD OPERATIONS MANAGERS

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	210	368	368	368
Non-Labor	61	51	51	51
NSE	0	0	0	0
Total	<u>271</u>	<u>419</u>	<u>419</u>	<u>419</u>
FTE	1.4	3.4	3.4	3.4

Cost Centers belonging to this Category:

2200-0265.000 Field Operations Managers - USS

Labor	210	368	368	368
Non-Labor	61	51	51	51
NSE	0	0	0	0
Total	<u>271</u>	<u>419</u>	<u>419</u>	<u>419</u>
FTE	1.4	3.4	3.4	3.4

Note: Totals may include rounding differences.

Beginning of Workpaper
2200-0265.000 - Field Operations Managers - USS

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: B. FIELD OPERATIONS MANAGERS
 Category-Sub: 1. FIELD OPERATIONS MANAGERS
 Cost Center: 2200-0265.000 - Field Operations Managers - USS

Activity Description:

Overall management responsibility for Pipeline and Gas Compression Operations

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.
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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		388	450	379	413	210	368	368	368	
Non-Labor		36	57	60	41	61	51	51	51	
NSE		0	0	0	0	0	0	0	0	
Total		425	507	439	454	272	419	419	419	
FTE		3.6	4.6	3.8	3.8	1.4	3.4	3.4	3.4	

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: B. FIELD OPERATIONS MANAGERS
 Category-Sub: 1. FIELD OPERATIONS MANAGERS
 Cost Center: 2200-0265.000 - Field Operations Managers - 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	4	2	0	6	0.0	2	1	0	3	0.0
Directly Allocated	0	0	0	0	0.0	0	1	0	1	0.0
Subj. To % Alloc.	206	60	0	266	1.4	366	49	0	415	3.4
Total Incurred	210	62	0	272	1.4	368	51	0	419	3.4
% Allocation										
Retained	77.27%	77.27%				78.99%	78.99%			
SEU	22.73%	22.73%				21.01%	21.01%			
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	2	1	0	3	0.0	2	1	0	3	0.0
Directly Allocated	0	1	0	1	0.0	0	1	0	1	0.0
Subj. To % Alloc.	366	49	0	415	3.4	366	49	0	415	3.4
Total Incurred	368	51	0	419	3.4	368	51	0	419	3.4
% Allocation										
Retained	78.99%	78.99%				78.99%	78.99%			
SEU	21.01%	21.01%				21.01%	21.01%			
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 TRANSMISSION
Witness: Elizabeth A. Musich
Category: B. FIELD OPERATIONS MANAGERS
Category-Sub: 1. FIELD OPERATIONS MANAGERS
Cost Center: 2200-0265.000 - Field Operations Managers - USS

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2016

Expenses are allocated to SDG&E based on the percentage of SDG&E employees as compared to the combined total of joint utility (SDG&E and SoCalGas) Gas Transmission organization employees as follows:

Number of SDG&E employees: 25
Number SoCalGas employees: 85
Total Gas Transmission Employees: 110

Calculation:
 $25 / 110 = 22.73\%$ (SDG&E)
 $85 / 110 = 77.27\%$ (SoCalGas)

Cost Center Allocation Percentage for 2017

Expenses are allocated to SDG&E based on the percentage of SDG&E employees as compared to the combined total of joint utility (SDG&E and SoCalGas) Gas Transmission organization employees as follows:

Number of SDG&E employees: 25
Number SoCalGas employees: 94
Total Gas Transmission Employees: 119

Calculation:
 $25 / 119 = 21.01\%$ (SDG&E)
 $94 / 119 = 78.99\%$ (SoCalGas)

Cost Center Allocation Percentage for 2018

Expenses are allocated to SDG&E based on the percentage of SDG&E employees as compared to the combined total of joint utility (SDG&E and SoCalGas) Gas Transmission organization employees as follows:

Number of SDG&E employees: 25
Number SoCalGas employees: 94
Total Gas Transmission Employees: 119

Calculation:
 $25 / 119 = 21.01\%$ (SDG&E)
 $94 / 119 = 78.99\%$ (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 TRANSMISSION
Witness: Elizabeth A. Musich
Category: B. FIELD OPERATIONS MANAGERS
Category-Sub: 1. FIELD OPERATIONS MANAGERS
Cost Center: 2200-0265.000 - Field Operations Managers - USS

Expenses are allocated to SDG&E based on the percentage of SDG&E employees as compared to the combined total of joint utility (SDG&E and SoCalGas) Gas Transmission organization employees as follows:

Number of SDG&E employees: 25
Number SoCalGas employees: 94
Total Gas Transmission Employees: 119

Calculation:
 $25 / 119 = 21.01\%$ (SDG&E)
 $94 / 119 = 78.99\%$ (SoCalGas)

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: B. FIELD OPERATIONS MANAGERS
 Category-Sub: 1. FIELD OPERATIONS MANAGERS
 Cost Center: 2200-0265.000 - Field Operations Managers - 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	368	368	368	0	0	0	368	368	368
Non-Labor	5-YR Average	51	51	51	0	0	0	51	51	51
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		419	419	419	0	0	0	419	419	419
FTE	5-YR Average	3.4	3.4	3.4	0.0	0.0	0.0	3.4	3.4	3.4

<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.

SCG/GAS TRANSMISSION/Exh No:SCG-06-WP/Witness: E. Musich

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich
Category: B. FIELD OPERATIONS MANAGERS
Category-Sub: 1. FIELD OPERATIONS MANAGERS
Cost Center: 2200-0265.000 - Field Operations Managers - USS

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	316	371	319	351	181
Non-Labor	34	59	59	40	79
NSE	0	0	0	0	0
Total	350	430	377	391	259
FTE	3.1	3.9	3.3	3.3	1.2
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	-4	0	0	-17
NSE	0	0	0	0	0
Total	0	-4	0	0	-17
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	316	371	319	351	181
Non-Labor	34	55	59	40	61
NSE	0	0	0	0	0
Total	350	426	377	391	242
FTE	3.1	3.9	3.3	3.3	1.2
Vacation & Sick (Nominal \$)					
Labor	51	62	52	57	30
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	51	62	52	57	30
FTE	0.5	0.7	0.5	0.5	0.2
Escalation to 2016\$					
Labor	22	17	8	5	0
Non-Labor	2	2	1	1	0
NSE	0	0	0	0	0
Total	24	20	10	6	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	388	450	379	413	210
Non-Labor	36	57	60	41	61
NSE	0	0	0	0	0
Total	425	507	439	454	272
FTE	3.6	4.6	3.8	3.8	1.4

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: B. FIELD OPERATIONS MANAGERS
 Category-Sub: 1. FIELD OPERATIONS MANAGERS
 Cost Center: 2200-0265.000 - Field Operations Managers - 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	-4	0	0	-17
NSE	0	0	0	0	0
Total	0	-4	0	0	-17
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 Total		0	0	0	0.0		
2013	Other	0	-4	0	0.0	CCTR Transf To 2200-2173.000	TP2RXL20161126211946553
2013 Total		0	-4	0	0.0		
2014 Total		0	0	0	0.0		
2015 Total		0	0	0	0.0		
2016	Other	0	-17	0	0.0	CCTR Transf To 2200-0277.000	TP2RXL20170224002733340
2016 Total		0	-17	0	0.0		

Explanation: Accounting adjustment: Cost center correction.

Explanation: Accounting adjustment correction for error expense posting

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: C. TECHNICAL SERVICES MANAGER
 Cost Center: 2200-2172.000

Summary for Category: C. TECHNICAL SERVICES MANAGER

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	475	354	354	354
Non-Labor	5	2	2	2
NSE	0	0	0	0
Total	480	356	356	356
FTE	6.1	4.0	4.0	4.0

Cost Centers belonging to this Category:

2200-2172.000 TECHNICAL SERVICES MANAGER - USS

Labor	475	354	354	354
Non-Labor	5	2	2	2
NSE	0	0	0	0
Total	480	356	356	356
FTE	6.1	4.0	4.0	4.0

Note: Totals may include rounding differences.

Beginning of Workpaper
2200-2172.000 - TECHNICAL SERVICES MANAGER - USS

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: C. TECHNICAL SERVICES MANAGER
 Category-Sub: 1. TECHNICAL SERVICES MANAGER
 Cost Center: 2200-2172.000 - TECHNICAL SERVICES MANAGER - USS

Activity Description:

Overall management responsibility for Technical Services engineering and support services.

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		298	269	387	342	475	354	354	354	
Non-Labor		2	2	2	2	5	2	2	2	
NSE		0	0	0	0	0	0	0	0	
Total		300	271	389	344	480	356	356	356	
FTE		3.1	2.9	4.1	3.7	6.1	4.0	4.0	4.0	

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: C. TECHNICAL SERVICES MANAGER
 Category-Sub: 1. TECHNICAL SERVICES MANAGER
 Cost Center: 2200-2172.000 - TECHNICAL SERVICES MANAGER - 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	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.	475	5	0	480	6.1	354	2	0	356	4.0
Total Incurred	475	5	0	480	6.1	354	2	0	356	4.0
% Allocation										
Retained	85.00%	85.00%				92.86%	92.86%			
SEU	15.00%	15.00%				7.14%	7.14%			
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.	354	2	0	356	4.0	354	2	0	356	4.0
Total Incurred	354	2	0	356	4.0	354	2	0	356	4.0
% Allocation										
Retained	92.86%	92.86%				92.86%	92.86%			
SEU	7.14%	7.14%				7.14%	7.14%			
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 TRANSMISSION
Witness: Elizabeth A. Musich
Category: C. TECHNICAL SERVICES MANAGER
Category-Sub: 1. TECHNICAL SERVICES MANAGER
Cost Center: 2200-2172.000 - TECHNICAL SERVICES MANAGER - USS

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2016

Expenses are allocated to SDG&E based on the percentage of SDG&E employees as compared to the combined total of joint utility (SDG&E and SoCalGas) Gas Transmission organization employees as follows:

Number of SDG&E employees: 3
Number SoCalGas employees: 17
Total Gas Transmission Employees: 20

Calculation:
 $3/20 = 15.00\%$ (SDG&E)
 $17/20 = 85.00\%$ (SoCalGas)

Cost Center Allocation Percentage for 2017

Expenses are allocated to SDG&E based on the percentage of SDG&E employees as compared to the combined total of joint utility (SDG&E and SoCalGas) Gas Transmission organization employees as follows:

Number of SDG&E employees: 2
Number SoCalGas employees: 26
Total Gas Transmission Employees: 28

Calculation:
 $2/28 = 7.14\%$ (SDG&E)
 $26/28 = 92.86\%$ (SoCalGas)

Cost Center Allocation Percentage for 2018

Expenses are allocated to SDG&E based on the percentage of SDG&E employees as compared to the combined total of joint utility (SDG&E and SoCalGas) Gas Transmission organization employees as follows:

Number of SDG&E employees: 2
Number SoCalGas employees: 26
Total Gas Transmission Employees: 28

Calculation:
 $2/28 = 7.14\%$ (SDG&E)
 $26/28 = 92.86\%$ (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 TRANSMISSION
Witness: Elizabeth A. Musich
Category: C. TECHNICAL SERVICES MANAGER
Category-Sub: 1. TECHNICAL SERVICES MANAGER
Cost Center: 2200-2172.000 - TECHNICAL SERVICES MANAGER - USS

Expenses are allocated to SDG&E based on the percentage of SDG&E employees as compared to the combined total of joint utility (SDG&E and SoCalGas) Gas Transmission organization employees as follows:

Number of SDG&E employees: 2
Number SoCalGas employees: 26
Total Gas Transmission Employees: 28

Calculation:
 $2/28 = 7.14\%$ (SDG&E)
 $26/28 = 92.86\%$ (SoCalGas)

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: C. TECHNICAL SERVICES MANAGER
 Category-Sub: 1. TECHNICAL SERVICES MANAGER
 Cost Center: 2200-2172.000 - TECHNICAL SERVICES MANAGER - 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	354	354	354	0	0	0	354	354	354
Non-Labor	5-YR Average	2	2	2	0	0	0	2	2	2
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		357	357	357	0	0	0	357	357	357
FTE	5-YR Average	4.0	4.0	4.0	0.0	0.0	0.0	4.0	4.0	4.0

<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.

SCG/GAS TRANSMISSION/Exh No:SCG-06-WP/Witness: E. Musich

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: C. TECHNICAL SERVICES MANAGER
 Category-Sub: 1. TECHNICAL SERVICES MANAGER
 Cost Center: 2200-2172.000 - TECHNICAL SERVICES MANAGER - USS

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	397	380	491	410	57
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	397	380	491	410	57
FTE	4.4	4.1	5.2	4.4	0.7
Adjustments (Nominal \$) **					
Labor	-155	-158	-165	-119	351
Non-Labor	2	2	2	2	5
NSE	0	0	0	0	0
Total	-153	-156	-164	-117	356
FTE	-1.7	-1.6	-1.7	-1.2	4.5
Recorded-Adjusted (Nominal \$)					
Labor	242	222	325	291	408
Non-Labor	2	2	2	2	5
NSE	0	0	0	0	0
Total	244	224	327	293	413
FTE	2.7	2.5	3.5	3.2	5.2
Vacation & Sick (Nominal \$)					
Labor	39	37	53	47	67
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	39	37	53	47	67
FTE	0.4	0.4	0.6	0.5	0.9
Escalation to 2016\$					
Labor	17	10	8	4	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	17	10	8	4	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	298	269	387	342	475
Non-Labor	2	2	2	2	5
NSE	0	0	0	0	0
Total	300	271	389	344	480
FTE	3.1	2.9	4.1	3.7	6.1

* 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
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: C. TECHNICAL SERVICES MANAGER
 Category-Sub: 1. TECHNICAL SERVICES MANAGER
 Cost Center: 2200-2172.000 - TECHNICAL SERVICES MANAGER - USS

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-155	-158	-165	-119	351
Non-Labor	2	2	2	2	5
NSE	0	0	0	0	0
Total	-153	-156	-164	-117	356
FTE	-1.7	-1.6	-1.7	-1.2	4.5

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-155	-3	0	-1.7	CCTR Transf To 2200-2176.000	TP2RXL20161127205108557
Explanation: Accounting adjustment: Transfer of Env Advisor positions expense.							
2012	Other	0	5	0	0.0	CCTR Transf From 2200-0255.000	TP2RXL20161205213847560
Explanation: Accounting adjustment: Allocation to USS Cc							
2012 Total		-155	2	0	-1.7		
2013	Other	-7	0	0	0.0	CCTR Transf To 2200-0255.000	TP2RXL20170307130355260
Explanation: Accounting adjustment for correction of cost center activity.							
2013	Other	-151	-3	0	-1.6	CCTR Transf To 2200-2176.000	TP2RXL20161127205322383
Explanation: Accounting adjustment: Transfer of Env Advisor positions expense.							
2013	Other	0	5	0	0.0	CCTR Transf From 2200-0255.000	TP2RXL20161205213944263
Explanation: Accounting adjustment: Allocation to USS Cc							
2013 Total		-158	2	0	-1.6		
2014	Other	-165	-3	0	-1.7	CCTR Transf To 2200-2176.000	TP2RXL20161127205515353
Explanation: Accounting adjustment: Transfer of Env Advisor positions expense.							
2014	Other	0	5	0	0.0	CCTR Transf From 2200-0255.000	TP2RXL20161205214038590
Explanation: Accounting adjustment: Allocation to USS Cc							
2014 Total		-165	2	0	-1.7		

Note: Totals may include rounding differences.

Southern California Gas Company
2019 GRC - APP
Shared Services Workpapers

Area: GAS TRANSMISSION
 Witness: Elizabeth A. Musich
 Category: C. TECHNICAL SERVICES MANAGER
 Category-Sub: 1. TECHNICAL SERVICES MANAGER
 Cost Center: 2200-2172.000 - TECHNICAL SERVICES MANAGER - USS

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2015	Other	-119	-3	0	-1.2	CCTR Transf To 2200-2176.000	TP2RXL20161127205659573
Explanation: Accounting adjustment: Transfer of Env Advisor positions expense.							
2015	Other	0	5	0	0.0	CCTR Transf From 2200-0255.000	TP2RXL20161205214141970
Explanation: Accounting adjustment: Allocation to USS Cc							
2015 Total		-119	2	0	-1.2		
2016	Other	351	5	0	4.5	CCTR Transf From 2200-0255.000	TP2RXL20170223012252890
Explanation: Accounting adjustmen: Allocation to USS Cc							
2016 Total		351	5	0	4.5		

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Elizabeth A. Musich

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2200-0255	000	TECHNICAL SERVICES MGR CHATSWORTH - NSS
2200-0258	000	FOS VALENCIA
2200-0259	000	DOM VENTURA
2200-0260	000	FOS GOLETA
2200-0261	000	DOM TAFT
2200-0262	000	TAFT
2200-0263	000	COMPRESSOR STATION - VENTURA
2200-0264	000	COMPRESSOR STATION WHEELER RIDGE
2200-0266	000	DOM BLYTHE/NDLS (BR)
2200-0267	000	STA MAINT BLYTHE - (BJ)
2200-0268	000	BLYTHE PIPELINE - (Y4)
2200-0269	000	STAT MAINT NDLS - (BS)
2200-0270	000	NEEDLES PIPELINE(Y6)
2200-0271	000	DOM VICTORVILLE - NSS
2200-0272	000	STA MAINT SUPR NEWBERRY
2200-0273	000	FOS BEAUMONT
2200-0274	000	FOS VICTORVILLE
2200-0275	000	FOM OLYMPIC - USS
2200-0276	000	DOM BREA
2200-0277	000	DOM OLYMPIC
2200-1215	000	COMP STAT-N.NDLS - (9H)
2200-1216	000	COMP STAT-KELSO - (9J)
2200-1219	000	COMP STA - NEWBERRY
2200-1221	000	COMP STAT - DC (9K)
2200-1222	000	COMP STAT - CC (9L)
2200-1223	000	COMP STA - ADELANTO
2200-1265	000	COMPRESSOR STATION SYLMAR
2200-2170	000	DIR TRANSMISSION - NSS
2200-2173	000	FOM VICTORVILLE - NSS
2200-2175	000	FOM OLYMPIC - NSS
2200-2209	000	C.P. OPERATIONS VICTORVILLE
2200-2210	000	C.P. OPERATIONS CHATSWORTH