

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

Application No. 14-11-____
Exhibit No.: (SCG-10-WP)

WORKPAPERS TO
PREPARED DIRECT TESTIMONY
OF SARA FRANKE
ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

NOVEMBER 2014



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

Exhibit SCG-10-WP - CS - FIELD & METER READING

DOCUMENT	PAGE
Overall Summary For Exhibit No. SCG-10-WP	1
<i>Summary of Non-Shared Services Workpapers</i>	2
Category: A. Customer Service Field	3
..2FC001.000 - CUSTOMER SERVICES FIELD - OPERATIONS	4
..2FC002.000 - CUSTOMER SERVICES FIELD - SUPERVISION	90
..2FC003.000 - CUSTOMER SERVICES FIELD - DISPATCH	100
..2FC004.000 - CUSTOMER SERVICES FIELD - SUPPORT	107
Category: B. Meter Reading	121
..2FC005.000 - METER READING - OPERATIONS	122
..2FC006.000 - METER READING - CLERICAL	144
..2FC007.000 - METER READING - SUPERVISION & TRAINING	149
..2FC008.000 - METER READING - SUPPORT	158
<i>Summary of Shared Services Workpapers</i>	164
Category: A. Customer Service Field	165
..2200-0942.000 - CS FIELD STAFF MANAGER	166
<i>Appendix A: List of Non-Shared Cost Centers</i>	228

Overall Summary For Exhibit No. SCG-10-WP

Area:	CS - FIELD & METER READING
Witness:	Sara Franke

Description	In 2013 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Non-Shared Services	171,188	179,509	184,068	200,803
Shared Services	1,571	1,923	1,923	2,406
Total	172,759	181,432	185,991	203,209

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke

Summary of Non-Shared Services Workpapers:

Description	In 2013 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
		2013	2014	2015
A. Customer Service Field	135,704	142,871	147,319	162,762
B. Meter Reading	35,484	36,638	36,749	38,041
Total	171,188	179,509	184,068	200,803

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: A. Customer Service Field
Workpaper: VARIOUS

Summary for Category: A. Customer Service Field

	In 2013\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	126,920	133,923	138,131	152,697
Non-Labor	8,785	8,947	9,187	10,064
NSE	0	0	0	0
Total	135,705	142,870	147,318	162,761
FTE	1,582.1	1,674.7	1,729.6	1,920.7

Workpapers belonging to this Category:

2FC001.000 Customer Services Field - Operations

Labor	99,210	104,931	108,870	120,942
Non-Labor	6,699	6,143	6,356	7,003
NSE	0	0	0	0
Total	105,909	111,074	115,226	127,945
FTE	1,262.5	1,339.2	1,391.1	1,555.0

2FC002.000 Customer Services Field - Supervision

Labor	10,144	10,716	10,985	12,158
Non-Labor	974	1,084	1,111	1,230
NSE	0	0	0	0
Total	11,118	11,800	12,096	13,388
FTE	107.3	113.0	116.0	128.2

2FC003.000 Customer Services Field - Dispatch

Labor	8,762	8,617	8,617	8,617
Non-Labor	158	188	188	188
NSE	0	0	0	0
Total	8,920	8,805	8,805	8,805
FTE	106.2	106.2	106.2	106.2

2FC004.000 Customer Services Field - Support

Labor	8,804	9,659	9,659	10,980
Non-Labor	954	1,532	1,532	1,643
NSE	0	0	0	0
Total	9,758	11,191	11,191	12,623
FTE	106.1	116.3	116.3	131.3

Note: Totals may include rounding differences.

Beginning of Workpaper
2FC001.000 - Customer Services Field - Operations

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: A. Customer Service Field
Category-Sub: 1. Customer Service Field - Operations
Workpaper: 2FC001.000 - Customer Services Field - Operations

Activity Description:

Includes labor and non-labor costs associated with field technicians providing service at customer premises, including gas meter work, establishing and terminating gas service, lighting gas pilot lights, conducting customer appliance checks, investigating reports of gas leaks, investigating customer complaints of high bills, shutting off and restoring gas service for fumigation, responding to structure fires (e.g., to check for gas leakage/shut off gas service) and other emergency incidents, and other related field services for customers. Also includes field collectors who attempt to collect past due bill payments from customers before shutting off gas service.

Forecast Explanations:

Labor - Zero-Based

Operations costs are primarily driven by work order volumes. Individual order volume forecasts were developed for each order type, taking into consideration the myriad factors that impact order volumes. Estimates of average drive time and on premise time per order (based on 2013 actuals, engineering labor standard study results, and forecasted changes) were applied to the order volumes to determine full-time equivalent (FTE) workforce requirements. Non-order time (e.g., pre-order preparation, breaks, one-on-one discussions with supervisors, etc.), meetings/training and vacation/sick loaders were also applied to determine total FTE requirements. Incremental funding requests, which are forecasted using the zero-based methodology, are then added to determine total funding requirements. Forecast assumes no Advanced Metering Infrastructure (AMI) given that AMI benefits will be accounted for through the Advanced Metering Infrastructure Balancing Account (AMIBA).

Non-Labor - Zero-Based

Non-labor expenses such as uniforms, laundry expenses, materials used on the job and other miscellaneous expenses are driven by forecasted operations workforce levels. The zero-based non-labor forecast is based on the five-year average historical non-labor expense per field operations FTE, which appropriately aligns the average non-labor expense incurred by field operations employees with the forecasted FTEs. Incremental funding requests, which are forecasted using the zero-based methodology, are then added to determine total funding requirements. Because these non-labor expense are driven by workforce and work order volumes, historical averaging or trending of expenses alone would not be aligned with the forecasted workforce and activity levels.

NSE - Zero-Based

NSE is not applicable to this workgroup.

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field - Operations
 Workpaper: 2FC001.000 - Customer Services Field - Operations

Summary of Results:

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		101,547	103,974	99,901	97,883	99,210	104,931	108,870	120,942	
Non-Labor		6,727	6,804	6,844	7,053	6,699	6,143	6,356	7,003	
NSE		0	0	0	0	0	0	0	0	
Total		108,273	110,778	106,745	104,936	105,908	111,074	115,226	127,945	
FTE		1,308.0	1,309.5	1,273.3	1,267.6	1,262.5	1,339.2	1,391.1	1,555.0	

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field - Operations
 Workpaper: 2FC001.000 - Customer Services Field - Operations

Forecast Summary:

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Zero-Based	0	0	0	104,931	108,870	120,942	104,931	108,870	120,942
Non-Labor	Zero-Based	0	0	0	6,143	6,356	7,003	6,143	6,356	7,003
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	111,074	115,226	127,945	111,074	115,226	127,945
FTE	Zero-Based	0.0	0.0	0.0	1,339.2	1,391.1	1,555.0	1,339.2	1,391.1	1,555.0

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2014	-75	0	0	-75	-1.0	1-Sided Adj

CSF Operations efficiency improvement as a result of PACER MDT Refresh Project from reduced CSF technician "down time" due to improved MDT network coverage.

2014	313	18	0	331	4.0	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Incremental expense for retiring residential field technicians to mentor and pass on their knowledge and experience to newer field employees before leaving the company. Newer, less experienced field technicians would spend time "job shadowing" with retiring residential field technicians in order to facilitate the knowledge transfer process. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Job Shadowing" for detailed analysis.

2014	246	0	0	246	2.2	1-Sided Adj
------	-----	---	---	-----	-----	-------------

Incremental field technician training expenses for changes in Operator Qualification training. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Operator Qualification Training" for detailed analysis.

2014	99,070	6,125	0	105,195	1,259.0	1-Sided Adj
------	--------	-------	---	---------	---------	-------------

CSF Operations workload forecast including: 1) base workload forecast, 2) order forecast due to customer growth, and 3) increase in drive time due to increasing traffic congestion. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Work Order Volume" for detailed analysis.

2014	5,377	0	0	5,377	75.0	1-Sided Adj
------	-------	---	---	-------	------	-------------

CSF Operations training expense. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Work Order Volume" for detailed analysis.

2014 Total	104,931	6,143	0	111,074	1,339.2	
-------------------	----------------	--------------	----------	----------------	----------------	--

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field - Operations
 Workpaper: 2FC001.000 - Customer Services Field - Operations

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2015	-75	0	0	-75	-1.0	1-Sided Adj
CSF Operations efficiency improvement as a result of PACER MDT Refresh Project from reduced CSF technician "down time" due to improved MDT network coverage.						
2015	1,041	57	0	1,098	16.3	1-Sided Adj
Incremental MSA Inspection costs. Implementation phase with progressive hiring to achieve total workforce of 84 field services assistants by the beginning of 2016. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - MSA Inspection Program" for detailed analysis.						
2015	344	20	0	364	4.4	1-Sided Adj
Incremental expense for retiring residential field technicians to mentor and pass on their knowledge and experience to newer field employees before leaving the company. Newer, less experienced field technicians would spend time "job shadowing" with retiring residential field technicians in order to facilitate the knowledge transfer process. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Job Shadowing" for detailed analysis.						
2015	492	0	0	492	4.4	1-Sided Adj
Incremental field technician training expenses for changes in Operator Qualification training. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Operator Qualification Training" for detailed analysis.						
2015	101,556	6,279	0	107,835	1,291.0	1-Sided Adj
CSF Operations workload forecast including: 1) base workload forecast, 2) order forecast due to customer growth, and 3) increase in drive time due to increasing traffic congestion. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Work Order Volume" for detailed analysis.						
2015	5,512	0	0	5,512	76.0	1-Sided Adj
CSF Operations training expense. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Work Order Volume" for detailed analysis.						
2015 Total	108,870	6,356	0	115,226	1,391.1	
2016	-75	0	0	-75	-1.0	1-Sided Adj
CSF Operations efficiency improvement as a result of PACER MDT Refresh Project from reduced CSF technician "down time" due to improved MDT network coverage.						

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field - Operations
 Workpaper: 2FC001.000 - Customer Services Field - Operations

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2016	4,717	182	0	4,899	73.7	1-Sided Adj

Incremental MSA Inspections costs above the AMIBA-authorized funding levels adopted in Commission D. 10-04-027. SoCalGas has identified additional costs associated with performing the required MSA inspections, post AMI implementation. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - MSA Inspection Program" for detailed analysis.

2016	177	0	0	177	2.2	1-Sided Adj
------	-----	---	---	-----	-----	-------------

Incremental labor expense to replace an additional 10 030 curb meter regulators each year (2015 and 2016). The basis and rationale for this forecasted cost are covered in the testimony of SoCalGas witness Frank Ayala, Ex. SCG-04. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Curb Meter Regulator Replacement" for detailed analysis of expense.

2016	376	22	0	398	4.8	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Incremental expense for retiring residential field technicians to mentor and pass on their knowledge and experience to newer field employees before leaving the company. Newer, less experienced field technicians would spend time "job shadowing" with retiring residential field technicians in order to facilitate the knowledge transfer process. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Job Shadowing" for detailed analysis.

2016	738	0	0	738	6.6	1-Sided Adj
------	-----	---	---	-----	-----	-------------

Incremental field technician training expenses for changes in Operator Qualification training. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Operator Qualification Training" for detailed analysis.

2016	371	76	0	447	4.7	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Incremental expense for field technicians to complete a five-day refresher training program every five years, if they remain in the field technician job classification for an extended period of time. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Refresher Training" for detailed analysis.

2016	108,736	6,723	0	115,459	1,382.0	1-Sided Adj
------	---------	-------	---	---------	---------	-------------

CSF Operations workload forecast including: 1) base workload forecast, 2) order forecast due to customer growth, 3) increase in drive time due to increasing traffic congestion, and 4) proposed service enhancements, See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Work Order Volume" for detailed analysis.

2016	5,902	0	0	5,902	82.0	1-Sided Adj
------	-------	---	---	-------	------	-------------

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field - Operations
 Workpaper: 2FC001.000 - Customer Services Field - Operations

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
-------------------	--------------	-------------	------------	--------------	------------	-----------------

CSF Operations training expense. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Work Order Volume" for detailed analysis.

2016 Total	120,942	7,003	0	127,945	1,555.0	
-------------------	----------------	--------------	----------	----------------	----------------	--

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: A. Customer Service Field
Category-Sub: 1. Customer Service Field - Operations
Workpaper: 2FC001.000 - Customer Services Field - Operations

Determination of Adjusted-Recorded (Incurred Costs):

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	77,924	82,359	81,753	82,342	83,838
Non-Labor	6,010	5,807	5,743	5,920	5,666
NSE	0	0	0	0	0
Total	83,934	88,166	87,496	88,262	89,504
FTE	1,098.8	1,108.9	1,086.6	1,087.0	1,063.5
Adjustments (Nominal \$) **					
Labor	109	11	55	50	1,233
Non-Labor	61	489	839	1,011	1,032
NSE	0	0	0	0	0
Total	170	500	893	1,061	2,265
FTE	1.2	0.1	0.7	0.3	16.5
Recorded-Adjusted (Nominal \$)					
Labor	78,033	82,370	81,807	82,392	85,071
Non-Labor	6,071	6,296	6,582	6,931	6,699
NSE	0	0	0	0	0
Total	84,104	88,666	88,389	89,323	91,769
FTE	1,100.0	1,109.0	1,087.3	1,087.3	1,080.0
Vacation & Sick (Nominal \$)					
Labor	14,101	14,398	13,588	13,191	14,139
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	14,101	14,398	13,588	13,191	14,139
FTE	208.0	200.5	186.0	180.4	182.5
Escalation to 2013\$					
Labor	9,413	7,205	4,506	2,300	0
Non-Labor	655	508	262	122	0
NSE	0	0	0	0	0
Total	10,069	7,714	4,768	2,422	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	101,547	103,974	99,901	97,883	99,210
Non-Labor	6,727	6,804	6,844	7,053	6,699
NSE	0	0	0	0	0
Total	108,273	110,778	106,745	104,936	105,908
FTE	1,308.0	1,309.5	1,273.3	1,267.7	1,262.5

* 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
2016 GRC - APP
Non-Shared Service Workpapers

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field - Operations
 Workpaper: 2FC001.000 - Customer Services Field - Operations

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	109	11	55	50	1,233
Non-Labor	61	489	839	1,011	1,032
NSE	0	0	0	0	0
Total	170	500	893	1,061	2,265
FTE	1.2	0.1	0.7	0.3	16.5

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	118	24	0	1.4	1-Sided Adj	N/A	TPDXV20131015 143728000
Transfer Operations costs from 2FC001.001 to 2FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2009	-20	0	0	-0.2	1-Sided Adj	N/A	TPKAJ201312061 00052533
Transfer Supervision labor from 2FC001.000 to 2FC002.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2009	11	0	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 02842330
Transfer Union retro pay from Supervision 2FC002.000 to Operations 2FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2009	0	27	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 11818327
Transfer Operations non-labor expense from Supervision 2FC002.000 to Operations 2FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2009	0	11	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 12541037
Transfer Operations non-labor expense from Support 2FC004.000 to Operations 2FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2009 Total	109	61	0	1.2			

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field - Operations
 Workpaper: 2FC001.000 - Customer Services Field - Operations

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2010	0	418	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1194645160
Transfer of non-labor tools expense from GOGD workpaper to CSFC workpaper, in order to align history with forecast; tools expense recorded to internal order number 300000008 are split 50/50 to Customer Service Field and Gas Distribution; see offsetting adjustment in GOGD workgroup 2GD000.005							
2010	143	41	0	1.7	1-Sided Adj	N/A	TPDXV20131015 144840190
Transfer Operations costs from 2FC001.001 to 2FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2010	-133	0	0	-1.6	1-Sided Adj	N/A	TPKAJ201312061 00154900
Transfer Supervision labor expense to 2FC002.000 Supervision workgroup in order to align historical costs with the workgroup in which the activity will be forecasted							
2010	0	28	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 11855310
Transfer Operations non-labor expense from Supervision 2FC002.000 to Operations 2FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2010	0	3	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 12613073
Transfer Operations non-labor expense from Support 2FC004.000 to Operations 2FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2010 Total	11	489	0	0.1			

2011	0	804	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1195206657
Transfer of non-labor tools expense from GOGD workpaper to CSFC workpaper, in order to align history with forecast; tools expense recorded to internal order number 300000008 are split 50/50 to Customer Service Field and Gas Distribution; see offsetting adjustment in GOGD workgroup 2GD000.005							
2011	115	12	0	1.4	CCTR Transf	From 2200-0445.001	TPDXV20131016 095941367
Transfer from workgroup sub 2FC001.001 to primary workgroup 2FC001.000 due to remap of cost centers.							
2011	-2	0	0	0.0	1-Sided Adj	N/A	TPKAJ201312060 95710750
Transfer District Operations Clerk retro pay from 2FC001.000 Operations to 2FC004.000 Support in order to align the history with the forecast. Although this retro pay posted in 2011, the adjustment to add to Staff will be reflected in 2010 as the retro pay was related to hours worked in 2010							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field - Operations
 Workpaper: 2FC001.000 - Customer Services Field - Operations

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2011	-59	0	0	-0.7	1-Sided Adj	N/A	TPKAJ201312061 00253057
Transfer Supervisor labor expense from 2FC001.000 Operations to 2FC002.000 Supervisor in order to align historical costs with the workgroup in which the activity will be forecasted							
2011	0	23	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 11931447
Transfer Operations non-labor expense from Supervision 2FC002.000 to Operations 2FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2011 Total	55	839	0	0.7			
2012	0	857	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1195258240
Transfer of non-labor tools expense from GOGD workpaper to CSFC workpaper, in order to align history with forecast; tools expense recorded to internal order number 300000008 are split 50/50 to Customer Service Field and Gas Distribution; see offsetting adjustment in GOGD workgroup 2GD000.005							
2012	98	58	0	1.2	CCTR Transf	From 2200-0445.001	TPDXV20131016 100428880
Transfer up to primary WPG from sub, due to remap							
2012	-52	0	0	-0.6	1-Sided Adj	N/A	TPKAJ201312061 00350430
Transfer supervisor labor expense to 2FC002.000 Supervision workgroup in order to align the history with the forecast							
2012	-19	0	0	-0.3	1-Sided Adj	N/A	TPKAJ201312061 00601390
Transfer field instructor labor expense to 2FC004.000 Support workgroup in order to align the history with the forecast							
2012	23	0	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 02925547
Transfer Union retro pay from Supervision 2FC002 to Operations 2FC001 in order to align the history with the forecast							
2012	0	17	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 12010283
Transfer Operations non-labor expense from Supervision 2FC002 to Operations 2FC001 in order to align the history with the forecast							
2012	0	79	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 21503823
Transfer Operations non-labor expense from Support 2FC004 to Operations 2FC001 in order to align the history with the forecast							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field - Operations
 Workpaper: 2FC001.000 - Customer Services Field - Operations

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2012 Total	50	1,011	0	0.3			
2013	-54	0	0	-0.5	1-Sided Adj	N/A	CTRINH2014021 1180418893
Transfer supervision labor/fte from 2FC001.000 (Operations) to 2FC002.000 (Supervision), in order to align historical costs with forecast							
2013	0	14	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1185856627
Transfer Customer Services Field non-labor tools expense from 2FC002.000 (Supervision) to 2FC001.000 (Operations), to align historical costs with forecast							
2013	0	4	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1191120017
Transfer Customer Services Field non-labor tools expense from 2FC004.000 (Support) to 2FC001.000 (Operations), to align historical costs with forecast							
2013	0	878	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1195357343
Transfer of non-labor tools expense from GOGD workpaper to CSFC workpaper, in order to align history with forecast; tools expense recorded to internal order number 300000008 are split 50/50 to Customer Service Field and Gas Distribution; see offsetting adjustment in GOGD workgroup 2GD000.005							
2013	142	81	0	1.8	CCTR Transf	From 2200-0445.001	CTRINH2014021 2161241637
Transfer to primary WPG from sub due to remap							
2013	686	28	0	9.6	1-Sided Adj	N/A	CTRINH2014021 6150927060
Transfer meter replacement costs from GOGD capital budget category 182 to CSFC O&M workpaper workgroup 2FC001.000. This adjustment reflects the reassignment of 50% of the costs to O&M from capital budget category 182, where the costs are actually recorded. See offsetting adjustment in GOGD capital budget category 182.							
2013	-0.533	0	0	0.0	1-Sided Adj	N/A	CTRINH2014021 8175624653
Pursuant to CPUC decision 12-12-037 Compression Service Tariff activities are excluded from base rates							
2013	18	0	0	0.0	1-Sided Adj	N/A	CTRINH2014022 7104356847
Transfer field instructor labor/fte from 2FC001.000 (Operations) to 2FC004.000 (Operations Support), in order to align historical costs with forecast							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field - Operations
 Workpaper: 2FC001.000 - Customer Services Field - Operations

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2013	441	27	0	5.6	1-Sided Adj	N/A	CTRINH2014022 7143010473

Adjustment to add AMI benefit reductions into 2013 recorded expenses in order to reflect the business without advanced meter impacts. Since advanced meter related costs and benefits are recorded in the Advanced Meter Balancing Account (AMIBA) for this GRC period, historical expenses are being adjusted to reflect costs without advanced meter benefits. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Operations AMI Benefit" for detailed analysis.

2013 Total	1,233	1,032	0	16.5			
-------------------	--------------	--------------	----------	-------------	--	--	--

Note: Totals may include rounding differences.

Supplemental Workpapers for Workpaper 2FC001.000

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

Order Types	Forecasted Order Counts		
	(A)		
	2014	2015	2016
Change of Account - Turn On (Not Entered)	827,797	839,483	851,170
Change of Account - Close (Soft)	635,258	655,814	676,369
Credit/Collections - 48 Hour (1st Call)	40,755	41,212	41,668
Credit/Collections - Collect/Close (2nd Call)	277,964	290,208	302,453
Credit/Collections - Returned Check	4,580	4,908	5,235
Credit/Collections - Tenant Notification	14,295	13,867	13,440
Credit/Collections - Other	71	81	92
Customer Service Order ("CSO")	250,016	251,550	253,083
CSO - Carbon Monoxide Test	7,266	8,344	9,582
CSO - No Gas	15,571	16,131	16,691
CSO - Seasonal Off	7,306	7,351	7,395
CSO - Seasonal On	64,987	65,385	65,784
Gas Leak - CSO Leak	270,325	272,175	274,026
Gas Leak - Pilot Out Only	23,337	23,480	23,623
Gas Leak - Leak Investigation (Step2)	12,831	13,120	13,408
Fumigation - Turn On	68,572	69,008	69,529
Fumigation - Close	78,455	78,953	79,549
HBI - Entered	7,384	7,252	7,121
HBI - Not Entered	12,082	10,929	9,776
Meter Work (Capital) - Meter Set - Turn On	25,556	29,380	32,697
Meter Work (Capital) - Meter Set - Left Off	2,877	3,307	3,681
Meter Work (Capital) - Meter Set (PSI)	3,989	4,586	5,104
Meter Work (O&M) - Meter Reset - Turn On	1,638	1,780	1,923
Meter Work (O&M) - Meter Reset - Left Off	582	599	615
Meter Work (O&M) - Meter Change (Entered)	12,314	12,318	12,322
Meter Work (O&M) - Meter Change (Not Entered)	162,245	162,298	162,352
Meter Work (O&M) - Meter Change (Size)	5,441	5,383	5,326
Meter Work (O&M) - Meter Remove	5,329	5,302	5,276
NonPay Turn On - Turn On	85,855	90,700	95,544
Read/Verify - Verify	80,882	82,872	84,861
Read/Verify - Verify - Soft Close	48,954	54,218	59,482
Read/Verify - Verify - Soft Close - 180 Days	27,382	30,241	33,101
Read/Verify - Load Survey - Residential	5,973	6,112	6,251
TurnOn/ShutOff - Turn On (Entered)	127,207	136,247	145,287
TurnOn/ShutOff - Turn On Entered (Gas On)	48,921	52,348	55,774
TurnOn/ShutOff - Turn On (Back On/Restore)	53,496	55,939	58,382
TurnOn/ShutOff - Turn On (PSI)	1,568	1,614	1,661
TurnOn/ShutOff - Close (Hard)	47,735	48,801	49,867
Miscellaneous - Service Order (MSO)	27,696	26,923	26,151
Miscellaneous - Meter & Reg (MMR)	36,557	42,199	47,840
Miscellaneous - Assist	14,992	14,820	14,647
Food Industry - Turn On (Entered)	3,094	3,085	3,076
Food Industry - CSO	55,306	55,246	55,186
Food Industry - CSO Leak	10,088	10,226	10,364
Commercial/Industrial - ISO	21,072	20,473	19,874
Commercial/Industrial - Load Survey- I/C	3,906	3,713	3,521
Commercial/Industrial - CSO	30,231	28,634	27,038
Commercial/Industrial - Turn On (Entered)	29,834	27,888	25,942
Cust/Comp Work - Other	4	4	4
Incomplete	267,196	268,835	270,473
Proposed Service Enhancements - Expanded Appliance Safety Checks			87,814
Proposed Service Enhancements - Customer Outreach Safety Checks			50,000
Proposed Service Enhancements - Enhanced Customer Education			918,041
TOTAL	3,866,775	3,955,346	5,099,472

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

Forecasted On-Prem Time (Minutes)				Forecasted Average Drive Time Per Order (Minutes)			
(B)	(C) = (A * B)			(D) = (1% Increase From Previous Year)			
On-Prem Time Per Order (Minutes)	2014	2015	2016	2013 Average Drive Time Per Order (Minutes)	2014	2015	2016
6.9	5,673,832	5,753,934	5,834,036	11.5	11.6	11.7	11.8
4.6	2,944,346	3,039,618	3,134,890	11.5	11.6	11.7	11.8
5.2	212,323	214,703	217,083	11.5	11.6	11.7	11.8
8.9	2,469,060	2,577,826	2,686,592	11.5	11.6	11.7	11.8
10.0	45,801	49,075	52,348	11.5	11.6	11.7	11.8
7.3	104,084	100,973	97,861	11.5	11.6	11.7	11.8
13.0	929	1,062	1,196	11.5	11.6	11.7	11.8
20.4	5,091,936	5,123,167	5,154,398	11.5	11.6	11.7	11.8
37.6	273,052	313,548	360,049	11.5	11.6	11.7	11.8
28.0	435,396	451,055	466,714	11.5	11.6	11.7	11.8
15.7	114,846	115,550	116,255	11.5	11.6	11.7	11.8
21.9	1,421,996	1,430,717	1,439,439	11.5	11.6	11.7	11.8
30.4	8,228,155	8,284,472	8,340,788	11.5	11.6	11.7	11.8
22.7	530,767	534,022	537,278	11.5	11.6	11.7	11.8
57.3	735,468	751,997	768,525	11.5	11.6	11.7	11.8
39.7	2,721,234	2,738,529	2,759,198	11.5	11.6	11.7	11.8
21.3	1,671,602	1,682,226	1,694,923	11.5	11.6	11.7	11.8
46.7	344,958	338,816	332,673	11.5	11.6	11.7	11.8
18.9	228,689	206,861	185,034	11.5	11.6	11.7	11.8
72.0	1,839,823	2,115,098	2,353,942	11.5	11.6	11.7	11.8
67.8	195,185	224,388	249,727	11.5	11.6	11.7	11.8
45.3	180,728	207,768	231,230	11.5	11.6	11.7	11.8
89.4	146,363	159,107	171,851	11.5	11.6	11.7	11.8
85.0	49,482	50,864	52,245	11.5	11.6	11.7	11.8
66.1	813,370	813,636	813,903	11.5	11.6	11.7	11.8
26.6	4,317,634	4,319,050	4,320,467	11.5	11.6	11.7	11.8
75.1	408,463	404,165	399,866	11.5	11.6	11.7	11.8
18.0	95,660	95,180	94,699	11.5	11.6	11.7	11.8
32.8	2,813,317	2,972,057	3,130,796	11.5	11.6	11.7	11.8
9.4	761,384	780,111	798,838	11.5	11.6	11.7	11.8
7.7	378,465	419,162	459,859	11.5	11.6	11.7	11.8
7.5	205,955	227,464	248,974	11.5	11.6	11.7	11.8
45.1	269,160	275,427	281,695	11.5	11.6	11.7	11.8
36.3	4,618,800	4,947,038	5,275,277	11.5	11.6	11.7	11.8
28.4	1,389,607	1,486,930	1,584,252	11.5	11.6	11.7	11.8
39.0	2,084,705	2,179,905	2,275,106	11.5	11.6	11.7	11.8
48.6	76,262	78,510	80,758	11.5	11.6	11.7	11.8
4.6	221,246	226,186	231,127	11.5	11.6	11.7	11.8
31.2	864,426	840,308	816,189	11.5	11.6	11.7	11.8
39.0	1,426,895	1,647,089	1,867,283	11.5	11.6	11.7	11.8
60.0	898,933	888,581	878,230	11.5	11.6	11.7	11.8
85.3	263,933	263,173	262,413	11.5	11.6	11.7	11.8
62.3	3,445,295	3,441,561	3,437,827	11.5	11.6	11.7	11.8
48.4	488,232	494,917	501,602	11.5	11.6	11.7	11.8
82.9	1,747,693	1,698,026	1,648,358	11.5	11.6	11.7	11.8
67.3	262,715	249,748	236,782	11.5	11.6	11.7	11.8
28.7	868,850	822,967	777,084	11.5	11.6	11.7	11.8
44.4	1,323,983	1,237,625	1,151,266	11.5	11.6	11.7	11.8
-	-	-	-	11.5	11.6	11.7	11.8
10.3	2,745,026	2,761,862	2,778,699	11.5	11.6	11.7	11.8
15.3	-	-	1,347,665	-	-	-	-
38.7	-	-	1,937,472	11.5	11.6	11.7	11.8
1.5	-	-	1,377,061	-	-	-	-

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

<u>Forecasted Drive Time (Minutes)</u>			<u>On-Prem & Drive Time (Hours)</u>		
(E) = (A * D)			(F) = (C + E) / 60		
2014	2015	2016	2014	2015	2016
9,594,810	9,827,570	10,064,026	254,477	259,692	264,968
7,363,141	7,677,408	7,997,225	171,791	178,617	185,535
472,380	482,451	492,676	11,412	11,619	11,829
3,221,817	3,397,380	3,576,132	94,848	99,587	104,379
53,090	57,453	61,898	1,648	1,775	1,904
165,687	162,341	158,912	4,496	4,389	4,280
826	954	1,085	29	34	38
2,897,886	2,944,817	2,992,396	133,164	134,466	135,780
84,224	97,682	113,291	5,955	6,854	7,889
180,480	188,840	197,350	10,265	10,665	11,068
84,680	86,051	87,442	3,325	3,360	3,395
753,245	765,444	777,811	36,254	36,603	36,954
3,133,280	3,186,272	3,240,011	189,357	191,179	193,013
270,496	274,876	279,317	13,354	13,482	13,610
148,726	153,589	158,534	14,737	15,093	15,451
794,808	807,858	822,095	58,601	59,106	59,688
909,353	924,284	940,572	43,016	43,442	43,925
85,581	84,898	84,192	7,176	7,062	6,948
140,038	127,939	115,584	6,145	5,580	5,010
296,215	343,940	386,607	35,601	40,984	45,676
33,347	38,719	43,523	3,809	4,385	4,887
46,235	53,684	60,344	3,783	4,358	4,860
18,981	20,840	22,734	2,756	2,999	3,243
6,749	7,007	7,269	937	965	992
142,730	144,204	145,694	15,935	15,964	15,993
1,880,548	1,899,977	1,919,606	103,303	103,650	104,001
63,062	63,023	62,976	7,859	7,786	7,714
61,770	62,074	62,378	2,624	2,621	2,618
995,130	1,061,792	1,129,688	63,474	67,231	71,008
937,490	970,154	1,003,378	28,315	29,171	30,037
567,416	634,716	703,305	15,765	17,565	19,386
317,375	354,027	391,379	8,722	9,692	10,673
69,233	71,553	73,913	5,640	5,783	5,927
1,474,429	1,595,003	1,717,840	101,554	109,034	116,552
567,035	612,816	659,455	32,611	34,996	37,395
620,060	654,859	690,292	45,079	47,246	49,423
18,177	18,900	19,635	1,574	1,623	1,673
553,285	571,296	589,613	12,909	13,291	13,679
321,021	315,185	309,199	19,757	19,258	18,756
423,729	494,009	565,652	30,844	35,685	40,549
173,773	173,490	173,183	17,878	17,701	17,524
35,863	36,117	36,373	4,997	4,988	4,980
641,040	646,749	652,508	68,106	68,138	68,172
116,929	119,716	122,546	10,086	10,244	10,402
244,243	239,675	234,991	33,199	32,295	31,389
45,276	43,472	41,627	5,133	4,887	4,640
350,396	335,211	319,687	20,321	19,303	18,280
345,800	326,477	306,733	27,830	26,068	24,300
48	49	51	1	1	1
3,097,008	3,147,164	3,198,012	97,367	98,484	99,612
-	-	-	-	-	22,461
-	-	591,188	-	-	42,144
-	-	-	-	-	22,951

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

Non Job time Loader (Hours)				Adjustment to Remove Meter Work Capital On-Prem Time (Hours) ¹		
(G)	(H) = (F * (1 + G))			(I) = (H - Meter Work Capital On-Prem Time)		
Non Job Time (NJT) Loader	2014	2015	2016	2014	2015	2016
21.09%	308,147	314,461	320,850	308,147	314,461	320,850
21.09%	208,023	216,288	224,665	208,023	216,288	224,665
21.09%	13,818	14,070	14,324	13,818	14,070	14,324
21.09%	114,852	120,590	126,392	114,852	120,590	126,392
21.09%	1,996	2,150	2,306	1,996	2,150	2,306
21.09%	5,444	5,314	5,182	5,444	5,314	5,182
21.09%	35	41	46	35	41	46
21.09%	161,248	162,826	164,416	161,248	162,826	164,416
21.09%	7,210	8,299	9,553	7,210	8,299	9,553
21.09%	12,429	12,914	13,402	12,429	12,914	13,402
21.09%	4,027	4,069	4,111	4,027	4,069	4,111
21.09%	43,900	44,322	44,748	43,900	44,322	44,748
21.09%	229,293	231,499	233,720	229,293	231,499	233,720
21.09%	16,171	16,325	16,480	16,171	16,325	16,480
21.09%	17,845	18,276	18,710	17,845	18,276	18,710
21.09%	70,960	71,572	72,277	70,960	71,572	72,277
21.09%	52,088	52,604	53,189	52,088	52,604	53,189
21.09%	8,689	8,551	8,413	8,689	8,551	8,413
21.09%	7,442	6,757	6,067	7,442	6,757	6,067
21.09%	43,109	49,628	55,309	12,445	14,376	16,077
21.09%	4,612	5,310	5,918	1,359	1,570	1,756
21.09%	4,580	5,277	5,884	1,568	1,814	2,031
21.09%	3,337	3,632	3,927	3,337	3,632	3,927
21.09%	1,135	1,168	1,201	1,135	1,168	1,201
21.09%	19,296	19,331	19,366	19,296	19,331	19,366
21.09%	125,090	125,511	125,935	125,090	125,511	125,935
21.09%	9,516	9,429	9,341	9,516	9,429	9,341
21.09%	3,177	3,174	3,170	3,177	3,174	3,170
21.09%	76,861	81,410	85,984	76,861	81,410	85,984
21.09%	34,286	35,323	36,372	34,286	35,323	36,372
21.09%	19,090	21,269	23,475	19,090	21,269	23,475
21.09%	10,562	11,735	12,923	10,562	11,735	12,923
21.09%	6,829	7,003	7,177	6,829	7,003	7,177
21.09%	122,972	132,029	141,133	122,972	132,029	141,133
21.09%	39,488	42,376	45,282	39,488	42,376	45,282
21.09%	54,587	57,210	59,847	54,587	57,210	59,847
21.09%	1,906	1,966	2,026	1,906	1,966	2,026
21.09%	15,631	16,095	16,564	15,631	16,095	16,564
21.09%	23,924	23,320	22,712	23,924	23,320	22,712
21.09%	37,349	43,211	49,101	37,349	43,211	49,101
21.09%	21,649	21,434	21,219	21,649	21,434	21,219
21.09%	6,050	6,040	6,030	6,050	6,040	6,030
21.09%	82,469	82,509	82,550	82,469	82,509	82,550
21.09%	12,213	12,404	12,596	12,213	12,404	12,596
21.09%	40,201	39,106	38,009	40,201	39,106	38,009
21.09%	6,216	5,918	5,619	6,216	5,918	5,619
21.09%	24,606	23,374	22,135	24,606	23,374	22,135
21.09%	33,699	31,566	29,425	33,699	31,566	29,425
21.09%	1	1	1	1	1	1
21.09%	117,902	119,254	120,620	117,902	119,254	120,620
21.09%	-	-	27,198	-	-	27,198
21.09%	-	-	51,033	-	-	51,033
21.09%	-	-	27,791	-	-	27,791

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

<u>Vacation & Sick Loader (Hours)</u>				<u>Total Forecasted Workload With Vacation & Sick (Dollars)</u>			
(J)	(K) = (I * (1 + J))			(L)	(M) = (K * L)		
V&S Rate for (\$)	2014	2015	2016	2013 Blended Wage Rate	2014	2015	2016
16.62%	359,361	366,725	374,175	\$ 37.77	\$ 13,573,855	\$ 13,851,990	\$ 14,133,410
16.62%	242,596	252,235	262,004	\$ 37.77	\$ 9,163,378	\$ 9,527,459	\$ 9,896,473
16.62%	16,115	16,408	16,705	\$ 37.77	\$ 608,702	\$ 619,771	\$ 630,977
16.62%	133,940	140,632	147,399	\$ 37.77	\$ 5,059,202	\$ 5,311,971	\$ 5,567,575
16.62%	2,327	2,507	2,689	\$ 37.77	\$ 87,914	\$ 94,703	\$ 101,565
16.62%	6,349	6,197	6,043	\$ 37.77	\$ 239,827	\$ 234,087	\$ 228,272
16.62%	41	47	54	\$ 37.77	\$ 1,560	\$ 1,792	\$ 2,027
16.62%	188,048	189,887	191,742	\$ 37.77	\$ 7,102,968	\$ 7,172,454	\$ 7,242,517
16.62%	8,409	9,679	11,140	\$ 37.77	\$ 317,619	\$ 365,584	\$ 420,800
16.62%	14,495	15,061	15,629	\$ 37.77	\$ 547,515	\$ 568,868	\$ 590,354
16.62%	4,696	4,745	4,794	\$ 37.77	\$ 177,379	\$ 179,224	\$ 181,086
16.62%	51,196	51,689	52,185	\$ 37.77	\$ 1,933,794	\$ 1,952,392	\$ 1,971,140
16.62%	267,402	269,974	272,564	\$ 37.77	\$ 10,100,340	\$ 10,197,515	\$ 10,295,355
16.62%	18,858	19,038	19,219	\$ 37.77	\$ 712,324	\$ 719,112	\$ 725,955
16.62%	20,810	21,314	21,819	\$ 37.77	\$ 786,050	\$ 805,067	\$ 824,158
16.62%	82,753	83,467	84,289	\$ 37.77	\$ 3,125,769	\$ 3,152,745	\$ 3,183,777
16.62%	60,745	61,347	62,029	\$ 37.77	\$ 2,294,474	\$ 2,317,192	\$ 2,342,961
16.62%	10,133	9,972	9,811	\$ 37.77	\$ 382,750	\$ 376,682	\$ 370,594
16.62%	8,678	7,880	7,075	\$ 37.77	\$ 327,799	\$ 297,638	\$ 267,250
16.62%	14,514	16,765	18,748	\$ 37.77	\$ 548,208	\$ 633,258	\$ 708,171
16.62%	1,585	1,831	2,048	\$ 37.77	\$ 59,867	\$ 69,165	\$ 77,359
16.62%	1,829	2,115	2,368	\$ 37.77	\$ 69,086	\$ 79,895	\$ 89,448
16.62%	3,892	4,235	4,580	\$ 37.77	\$ 146,991	\$ 159,973	\$ 172,987
16.62%	1,323	1,362	1,401	\$ 37.77	\$ 49,989	\$ 51,447	\$ 52,908
16.62%	22,503	22,544	22,585	\$ 37.77	\$ 849,974	\$ 851,522	\$ 853,084
16.62%	145,880	146,370	146,866	\$ 37.77	\$ 5,510,197	\$ 5,528,728	\$ 5,547,438
16.62%	11,098	10,996	10,893	\$ 37.77	\$ 419,187	\$ 415,331	\$ 411,468
16.62%	3,705	3,701	3,697	\$ 37.77	\$ 139,956	\$ 139,799	\$ 139,642
16.62%	89,635	94,940	100,274	\$ 37.77	\$ 3,385,718	\$ 3,586,100	\$ 3,787,579
16.62%	39,985	41,194	42,417	\$ 37.77	\$ 1,510,303	\$ 1,555,989	\$ 1,602,174
16.62%	22,262	24,804	27,376	\$ 37.77	\$ 840,891	\$ 936,900	\$ 1,034,055
16.62%	12,317	13,686	15,071	\$ 37.77	\$ 465,242	\$ 516,947	\$ 569,276
16.62%	7,964	8,166	8,370	\$ 37.77	\$ 300,832	\$ 308,466	\$ 316,136
16.62%	143,410	153,973	164,589	\$ 37.77	\$ 5,416,893	\$ 5,815,888	\$ 6,216,895
16.62%	46,051	49,419	52,808	\$ 37.77	\$ 1,739,459	\$ 1,866,678	\$ 1,994,661
16.62%	63,659	66,719	69,793	\$ 37.77	\$ 2,404,542	\$ 2,520,112	\$ 2,636,245
16.62%	2,223	2,293	2,363	\$ 37.77	\$ 83,957	\$ 86,598	\$ 89,250
16.62%	18,229	18,769	19,317	\$ 37.77	\$ 688,559	\$ 708,964	\$ 729,639
16.62%	27,901	27,196	26,487	\$ 37.77	\$ 1,053,865	\$ 1,027,235	\$ 1,000,472
16.62%	43,556	50,393	57,261	\$ 37.77	\$ 1,645,209	\$ 1,903,441	\$ 2,162,885
16.62%	25,247	24,997	24,746	\$ 37.77	\$ 953,638	\$ 944,183	\$ 934,708
16.62%	7,056	7,044	7,032	\$ 37.77	\$ 266,519	\$ 266,070	\$ 265,622
16.62%	96,176	96,222	96,270	\$ 37.77	\$ 3,632,760	\$ 3,634,516	\$ 3,636,316
16.62%	14,243	14,466	14,690	\$ 37.77	\$ 537,990	\$ 546,410	\$ 554,869
16.62%	46,882	45,606	44,326	\$ 37.77	\$ 1,770,835	\$ 1,722,620	\$ 1,674,301
16.62%	7,249	6,901	6,553	\$ 37.77	\$ 273,804	\$ 260,673	\$ 247,506
16.62%	28,696	27,259	25,813	\$ 37.77	\$ 1,083,912	\$ 1,029,622	\$ 975,031
16.62%	39,300	36,813	34,315	\$ 37.77	\$ 1,484,440	\$ 1,390,490	\$ 1,296,165
16.62%	1	1	1	\$ 37.77	\$ 42	\$ 44	\$ 46
16.62%	137,498	139,074	140,667	\$ 37.77	\$ 5,193,580	\$ 5,253,136	\$ 5,313,309
16.62%	-	-	31,719	\$ 37.77	\$ -	\$ -	\$ 1,198,077
16.62%	-	-	59,514	\$ 37.77	\$ -	\$ -	\$ 2,247,984
16.62%	-	-	32,410	\$ 37.77	\$ -	\$ -	\$ 1,224,210
				TOTAL	\$ 99,069,666	\$ 101,556,451	\$ 108,736,164

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

Total Forecasted Workload With Vacation & Sick (FTE)			
(N)	(O) = (I * (1 + N)) / 2088		
V&S Rate for (FTE)	2014	2015	2016
16.90%	173	176	180
16.90%	116	121	126
16.90%	8	8	8
16.90%	64	68	71
16.90%	1	1	1
16.90%	3	3	3
16.90%	0	0	0
16.90%	90	91	92
16.90%	4	5	5
16.90%	7	7	8
16.90%	2	2	2
16.90%	25	25	25
16.90%	128	130	131
16.90%	9	9	9
16.90%	10	10	10
16.90%	40	40	40
16.90%	29	29	30
16.90%	5	5	5
16.90%	4	4	3
16.90%	7	8	9
16.90%	1	1	1
16.90%	1	1	1
16.90%	2	2	2
16.90%	1	1	1
16.90%	11	11	11
16.90%	70	70	71
16.90%	5	5	5
16.90%	2	2	2
16.90%	43	46	48
16.90%	19	20	20
16.90%	11	12	13
16.90%	6	7	7
16.90%	4	4	4
16.90%	69	74	79
16.90%	22	24	25
16.90%	31	32	34
16.90%	1	1	1
16.90%	9	9	9
16.90%	13	13	13
16.90%	21	24	27
16.90%	12	12	12
16.90%	3	3	3
16.90%	46	46	46
16.90%	7	7	7
16.90%	23	22	21
16.90%	3	3	3
16.90%	14	13	12
16.90%	19	18	16
16.90%	0	0	0
16.90%	66	67	68
16.90%	-	-	15
16.90%	-	-	29
16.90%	-	-	16
TOTAL	1,259	1,291	1,382

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

<u>SUMMARY OF OPERATIONS FORECAST</u>		<u>2014</u>	<u>2015</u>	<u>2016</u>
(a)	Paid Hours	2,088	2,088	2,088
(b)	5 Yr Avg Training To Workload Ratio (%) ²	5.92%	5.92%	5.92%
(c)	Hourly Training Rate (\$) ²	\$ 34.54	\$ 34.54	\$ 34.54
(d)	Non-Labor Per FTE (\$) ³	\$ 4,592	\$ 4,592	\$ 4,592
(e)	Total Workload Labor (FTE) ⁴	1,259	1,291	1,382
(f) = (b * e)	Total Training Labor (FTE)	75	76	82
(g) = (e + f)	Total Labor (FTE)	1,334	1,367	1,464
(h)	Total Workload Labor (\$) ⁵	\$ 99,069,666	\$ 101,556,451	\$ 108,736,164
(i) = (a * c * f)	Total Training Labor (\$)	\$ 5,377,299	\$ 5,512,276	\$ 5,901,976
(j) = (h + i)	Total Operations Labor (\$)	\$ 104,446,964	\$ 107,068,728	\$ 114,638,140
(k) = (d * g)	Total Operations Non-Labor (\$)	\$ 6,125,065	\$ 6,278,813	\$ 6,722,705

<u>SUMMARY OF SUPERVISORS FORECAST</u>		<u>2014</u>	<u>2015</u>	<u>2016</u>
(l)	2013 Average Labor Rate ⁶	\$ 45.27	\$ 45.27	\$ 45.27
(m)	5 Year Average Non-Labor Per FTE ⁶	\$ 9,563	\$ 9,563	\$ 9,563
(n)	2013 Operations FTE Per Supervisor FTE ⁶	12	12	12
(o) = (g / n)	Total Labor (FTE)	113	116	124
(p) = (o * l * a)	Total Supervisor Labor (\$)	\$ 10,715,737	\$ 10,984,717	\$ 11,761,301
(q) = (o * m)	Total Supervisor Non-Labor (\$)	\$ 1,083,964	\$ 1,111,173	\$ 1,189,729

Notes:

1 - Adjustments made to remove on-prem time associated with 3 order types under Meter Work (Capital): Met Set Turn On, Meter Set Left Off, and Meter Set PSI. The on-prem time for these orders are contained in the testimony of SoCalGas witness Frank Ayala, Ex SCG-04.

2 - Detailed Calculations are Shown on Section 2 "Operations Training Labor"

3 - Detailed Calculations are Shown on Section 3 "Operations Non-Labor"

4 - Values Corresponds to Total Shown for (O) "Total Forecasted Workload With Vacation & Sick (FTE)"

5 - Values Corresponds to Total Shown for (M) "Total Forecasted Workload With Vacation & Sick (Dollars)"

6 - Detailed Calculations are Shown on Section 4 "Supervisor Labor & Non-Labor"

<u>OPERATIONS TRAINING LABOR</u>						
Calculation Step	Description	2009	2010	2011	2012	2013
(A)	Adjusted Recorded Training Dollars (In Nominal Dollars, Without Vacation & Sick)	\$ 3,541,794	\$ 3,669,173	\$ 4,121,966	\$ 4,774,003	\$ 5,031,069
(B)	Vacation & Sick (Dollars Factor)	0.1807	0.1748	0.1661	0.1601	0.1662
(C) = (A * (1 + B))	Adjusted Recorded Training Dollars (In Nominal Dollars, With Vacation & Sick)	\$ 4,181,796	\$ 4,310,545	\$ 4,806,624	\$ 5,538,321	\$ 5,867,233
(D)	Labor O&M Escalation Rate	0.9073	0.9307	0.9549	0.9765	1.0000
(E) = (C / D)	Adjusted Recorded Training Dollars (In 2013 Dollars, With Vacation & Sick)	\$ 4,608,897	\$ 4,631,299	\$ 5,033,770	\$ 5,671,610	\$ 5,867,233
(F) = (A / H)	Adjusted Recorded Training Wage Rate (In Nominal Dollars)	\$ 31.73	\$ 33.25	\$ 32.66	\$ 33.16	\$ 34.54
(G) = (F / D)	Adjusted Recorded Training Wage Rate (In 2013 Dollars)	\$ 34.97	\$ 35.73	\$ 34.20	\$ 33.95	\$ 34.54
(H)	Adjusted Recorded Training Hours (Without Vacation & Sick)	111,631	110,336	126,208	143,986	145,667
(I)	Vacation & Sick (Hours Factor)	0.1891	0.1808	0.1711	0.1659	0.1690
(J) = (H * (1 + I))	Adjusted Recorded Training Hours (With Vacation & Sick)	132,740	130,285	147,802	167,874	170,285
(K)	Annual Paid Hours	2,088	2,088	2,080	2,088	2,088
(L) = (J / K)	Adjusted Recorded Training FTEs (With Vacation & Sick)	64	62	71	80	82
(M)	Total Adjusted Recorded WorkLoad FTEs	1,244	1,247	1,202	1,187	1,181
(N) = (L / M)	Training FTE as Percentage of Workload FTEs	5.1%	5.0%	5.9%	6.8%	6.9%
(O) = Average L (2009 - 2013)	5 Year Average Adjusted Recorded Training FTEs	72				
(P) = Average M (2009 - 2013)	5 Year Average Recorded Adjusted Workload FTEs	1,212				
(Q) = (O / P)	5 Year Average Training to Workload Ratio	5.9%				
(R) = G (2013 Value)	2013 Hourly Training Rate	\$ 34.54				

Calculation Step	Description	<u>OPERATIONS NON-LABOR</u>				
		2009	2010	2011	2012	2013
(A)	Adjusted Recorded Non-Labor (In 2013 Dollars)	\$ 6,726,600	\$ 6,804,099	\$ 6,843,877	\$ 7,053,142	\$ 6,698,664
(B)	Seasonal Contractors Adjustment ¹	\$ (1,104,404)	\$ (1,061,576)	\$ (1,047,236)	\$ (945,689)	\$ (479,273)
(C) = (A + B)	Total Adjusted Recorded Non-Labor	\$ 5,622,196	\$ 5,742,523	\$ 5,796,641	\$ 6,107,453	\$ 6,219,391
(D) = Average C (2009 - 2013)	5 Year Average Non-Labor Costs	\$ 5,897,641				
(E)	5 Year Average of Total FTE (Workload + Training)	1,284				
(F) = (D / E)	5 Year Average Non-Labor Cost Per FTE	\$ 4,592				

Notes:

1 - Labor expenses for seasonal contractors are already forecasted for in the zero based workload forecast but are recorded as non-labor costs to Operations. Therefore this adjustment is required in order to not double count the costs associated with seasonal contractors.

Calculation Step	Description	<u>SUPERVISOR LABOR & NON-LABOR</u>				
		2009	2010	2011	2012	2013
(A)	Annual Paid Hours	2,088	2,088	2,080	2,088	2,088
(B)	Adjusted Recorded Supervisor Labor (FTE)	109	118	134	127	107
(C)	Adjusted Recorded Operations Training FTEs (With Vacation & Sick)	64	62	71	80	82
(D)	Total Adjusted Recorded Operations WorkLoad FTEs	1,244	1,247	1,202	1,187	1,181
(E) = (C + D)	Total Operations FTE	1,308	1,310	1,273	1,268	1,263
(F) = (E / B)	Average Supervisor FTE to Operations FTE Ratio	12	11	9	10	12
(G)	Adjusted Recorded Supervisor Labor (In 2013 Dollars, With Vacation & Sick)	\$ 10,126,880	\$ 10,839,294	\$ 12,484,853	\$ 11,918,137	\$ 10,143,512
(H) = (G / (A * B))	Average Supervisor Wage Rate (In 2013 Dollars)	\$ 44.45	\$ 44.03	\$ 44.66	\$ 44.87	\$ 45.27
(I)	Adjusted Recored supervisor Non-Labor (In 2013 Dollars)	\$ 1,247,087	\$ 1,195,789	\$ 1,166,003	\$ 1,115,272	\$ 974,273
(J) = Average B (2009 - 2013)	5 Year Average Supervisor Labor (FTE)		119			
(K) = Average I (2009 - 2013)	5 Year Average Supervisor Non-Labor (\$)	\$ 1,139,685				
(L) = H (2013 Value)	2013 Average Supervisor Wage Rate	\$ 45.27				
(M) = (K / J)	5 year Average Supervisor Non-Labor Per FTE	\$ 9,563				
(N) = F (2013 Value)	2013 Supervisor FTE to Operations FTE Ratio	12				

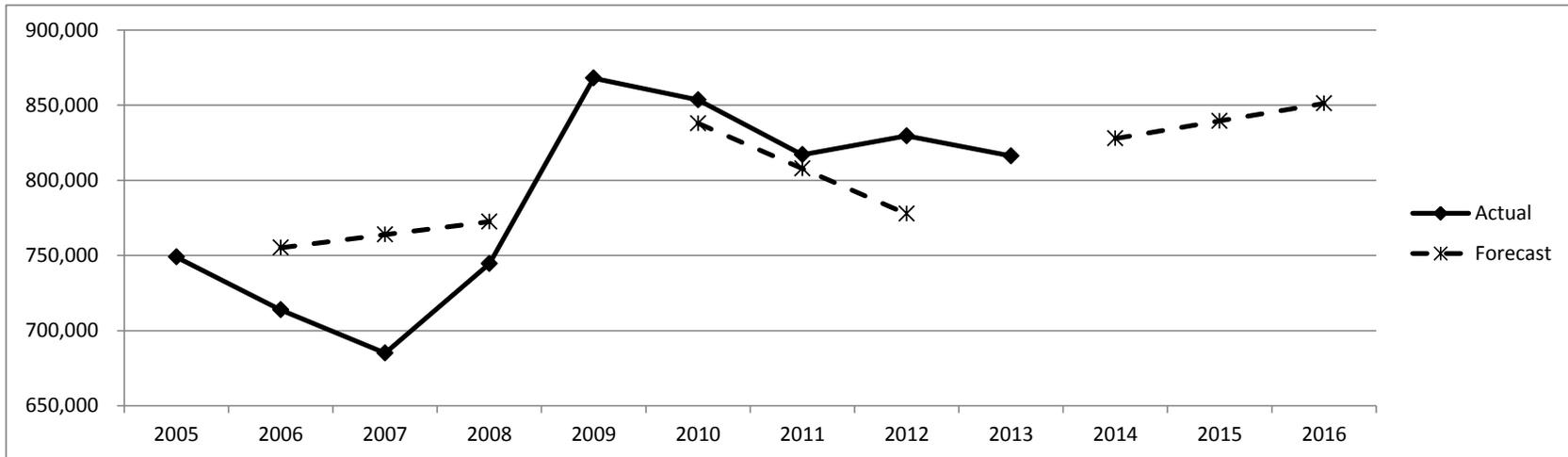
Change of Account - Turn On (Not Entered)

Source Customer Work
Order Group Change of Account
Order Type Turn On (Not Entered)

Description: This is change of account activity. This work is performed to establish a new customer's account. No appliance work is performed. The meter is read, the meter is inspected, and gas flow is observed to ensure it is not above normal usage. This order type is impacted by Advanced Meter.

Historical Averages	
5-Yr Avg	836,818
4-Yr Avg	829,036
3-Yr Avg	820,873

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	748,968	713,816	685,037	744,493	867,948	853,524	817,040	829,470	816,110			
Forecast		755,158	763,847	772,536		837,865	807,781	777,698		827,797	839,483	851,170



Forecasting Method: 4-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer turnover, which are outside the company's control. Excluded 2009 since order volumes were significantly higher than normal due to economic conditions in the real estate market.

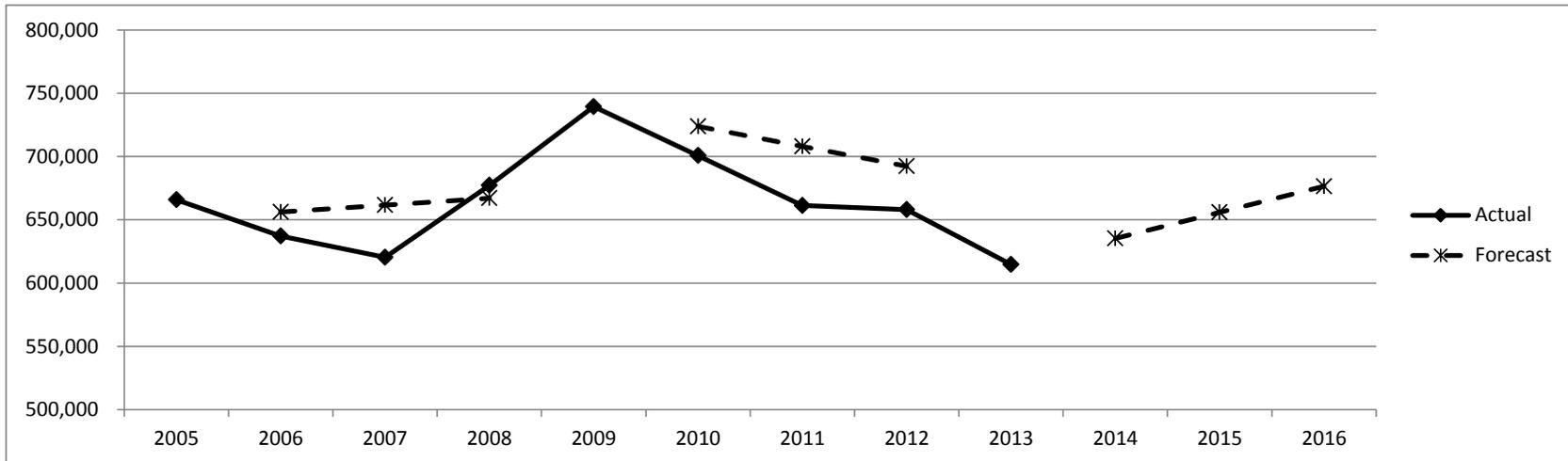
Change of Account - Close (Soft)

Source Customer Work
Order Group Change of Account
Order Type Close (Soft)

Description: This is change of account activity. This work is performed to terminate a customer's account at their request. The meter is read, the meter is inspected, and gas flow is observed to ensure it is not above normal usage. This order type is impacted by Advanced Meter.

Historical Averages	
5-Yr Avg	674,803
4-Yr Avg	658,661
3-Yr Avg	644,642

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	665,886	637,219	620,290	677,210	739,373	700,716	661,230	657,993	614,703			
Forecast		656,190	661,587	666,983		723,692	708,012	692,331		635,258	655,814	676,369



Forecasting Method: 4-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer turnover, which are outside the company's control. Excluded 2009 since order volumes were significantly higher than normal due to economic conditions in the real estate market.

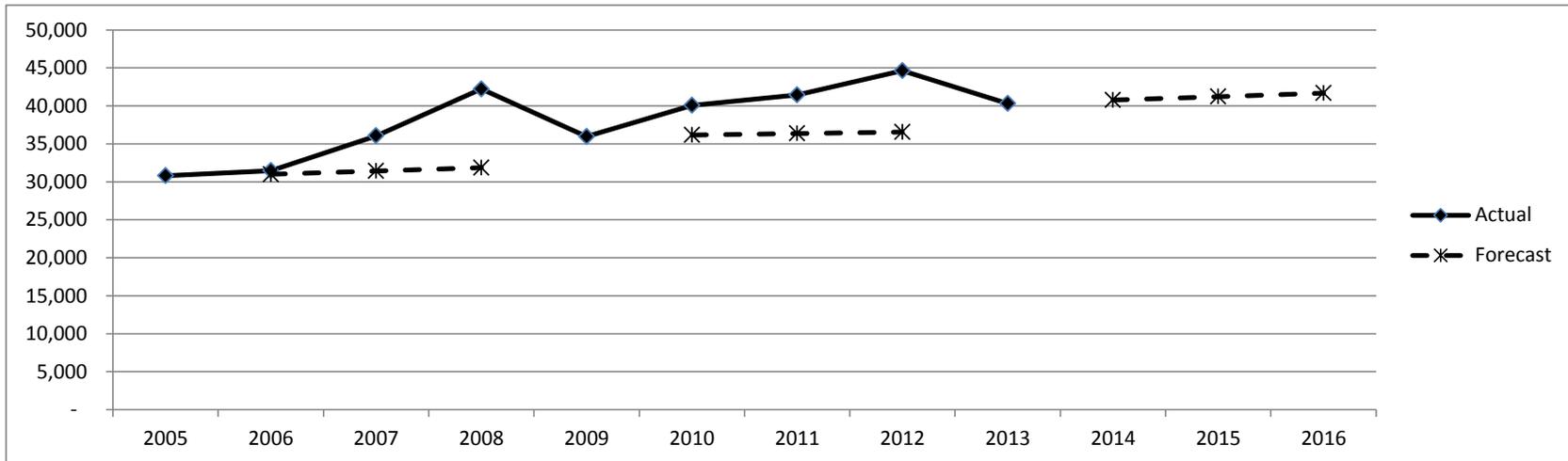
Credit/Collections - 48 Hour (1st Call)

Source Customer Work
Order Group Credit/Collections
Order Type 48 Hour (1st Call)

Description: Prior to shutting off gas service for nonpayment, this is an attempt to collect an unpaid balance from the customer, allowing 48 hours to make payment arrangements. If payment is not rendered, a notice is provided, containing payment locations and telephone numbers

Historical Averages	
5-Yr Avg	40,483
4-Yr Avg	41,611
3-Yr Avg	42,129

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	30,793	31,448	36,056	42,220	35,974	40,054	41,450	44,640	40,298			
Forecast		30,978	31,411	31,851		36,169	36,364	36,558		40,755	41,212	41,668



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer's ability to pay their bills, which are outside the company's control.

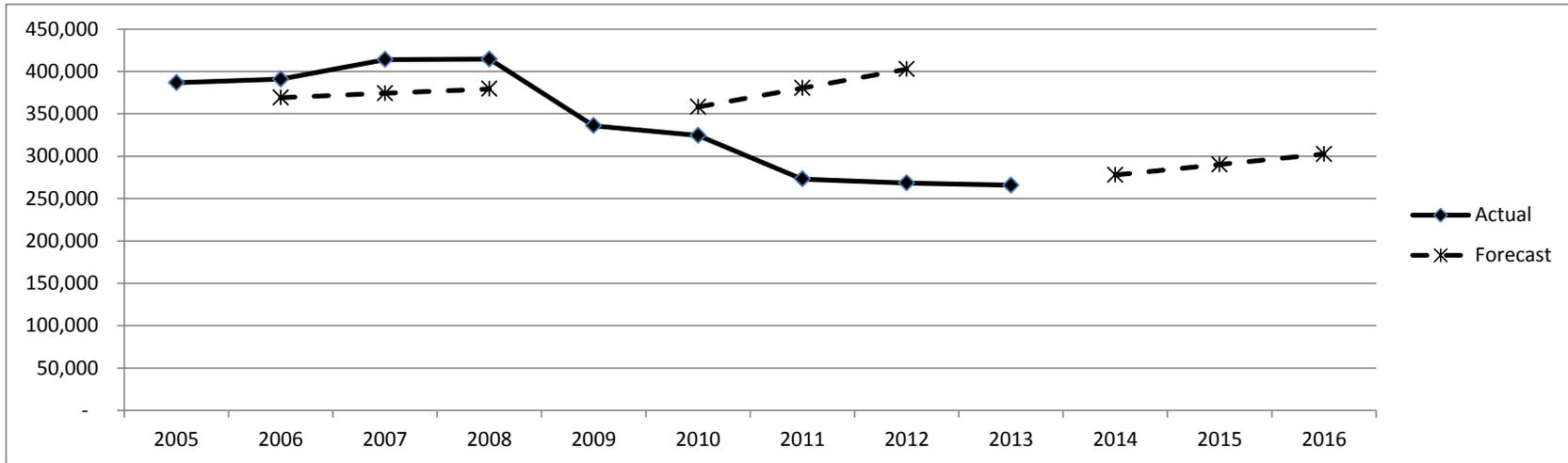
Credit/Collections - Collect/Close (2nd Call)

Source Customer Work
Order Group Credit/Collections
Order Type Collect/Close (2nd Call)

Description: This is an attempt to collect on an unpaid customer balance. If customer is unable to pay, the gas service is hard closed (close valve and secure with a locking device) when possible. A 1st Call order has already been completed if required.

Historical Averages	
5-Yr Avg	293,514
4-Yr Avg	282,904
3-Yr Avg	269,018

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	386,730	390,882	414,096	414,568	335,953	324,563	273,003	268,332	265,719			
Forecast		369,064	374,231	379,470		358,216	380,479	402,743		277,964	290,208	302,453



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer's ability to pay their bills, which are outside the company's control.

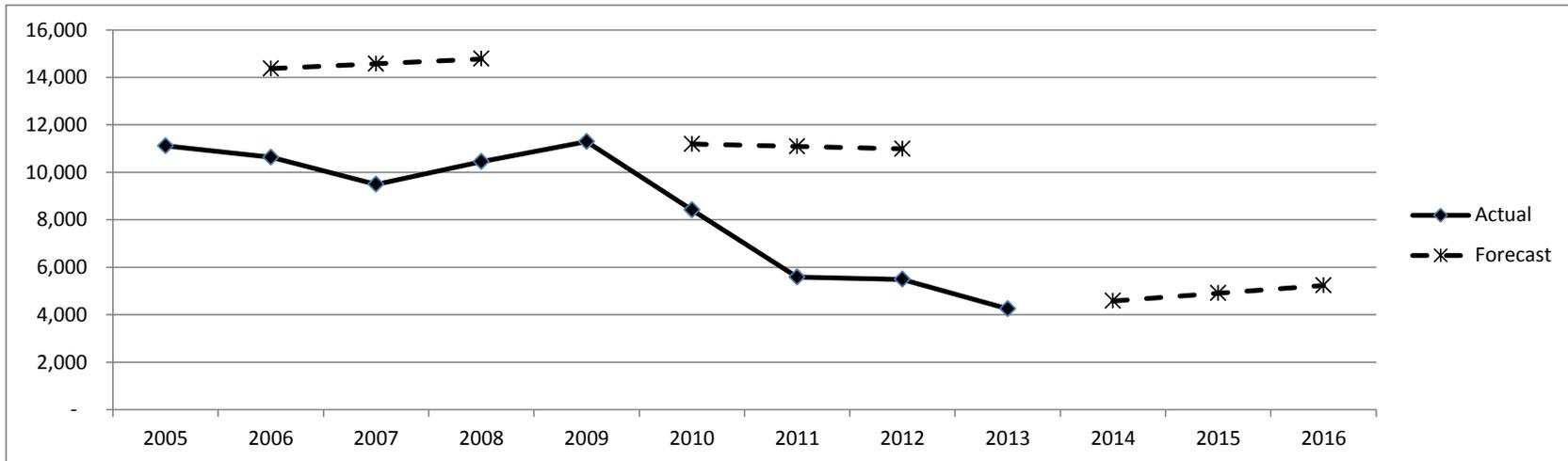
Credit/Collections - Returned Check

Source Customer Work
Order Group Credit/Collections
Order Type Returned Check

Description: When a payment is made by check and the account lacked sufficient funds to cover the unpaid balance, a collect or close order is issued and the customer must pay in cash, money order or certified check for gas service to remain on. If the customer is unable to pay, the gas valve is closed and secured with a locking device.

Historical Averages	
5-Yr Avg	7,008
4-Yr Avg	5,937
3-Yr Avg	5,111

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	11,117	10,631	9,493	10,447	11,290	8,415	5,590	5,490	4,253			
Forecast		14,377	14,578	14,782		11,189	11,087	10,986		4,580	4,908	5,235



Forecasting Method: 3-Year Avg (Orders to Active Meters)

Used shorter period to account for the fact that the economy has improved and more customers are paying their bills electronically, which results in fewer bounced checks (insufficient funds).

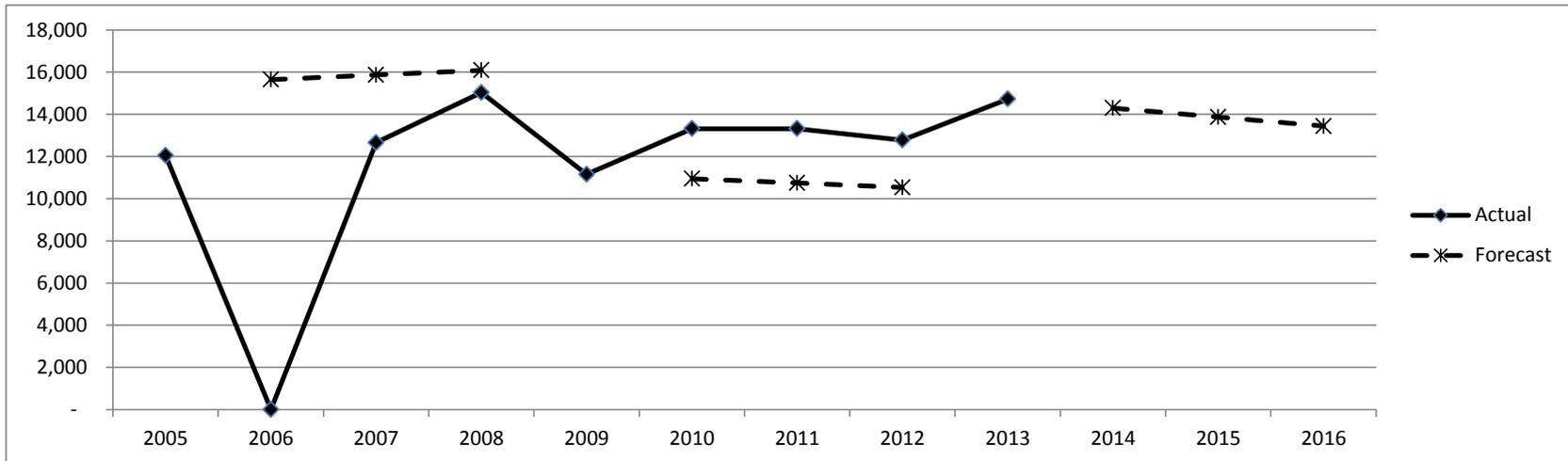
Credit/Collections - Tenant Notification

Source Customer Work
Order Group Credit/Collections
Order Type Tenant Notification

Description: Written notification is posted at the property address informing the tenants that the gas account is delinquent and the service will be closed if the account holder fails to pay.

Historical Averages	
5-Yr Avg	13,060
4-Yr Avg	13,537
3-Yr Avg	13,608

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	12,053	2	12,657	15,035	11,155	13,322	13,321	12,782	14,722			
Forecast		15,646	15,865	16,087		10,949	10,743	10,536		14,295	13,867	13,440



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customers' ability to pay their bills, which are outside the company's control.

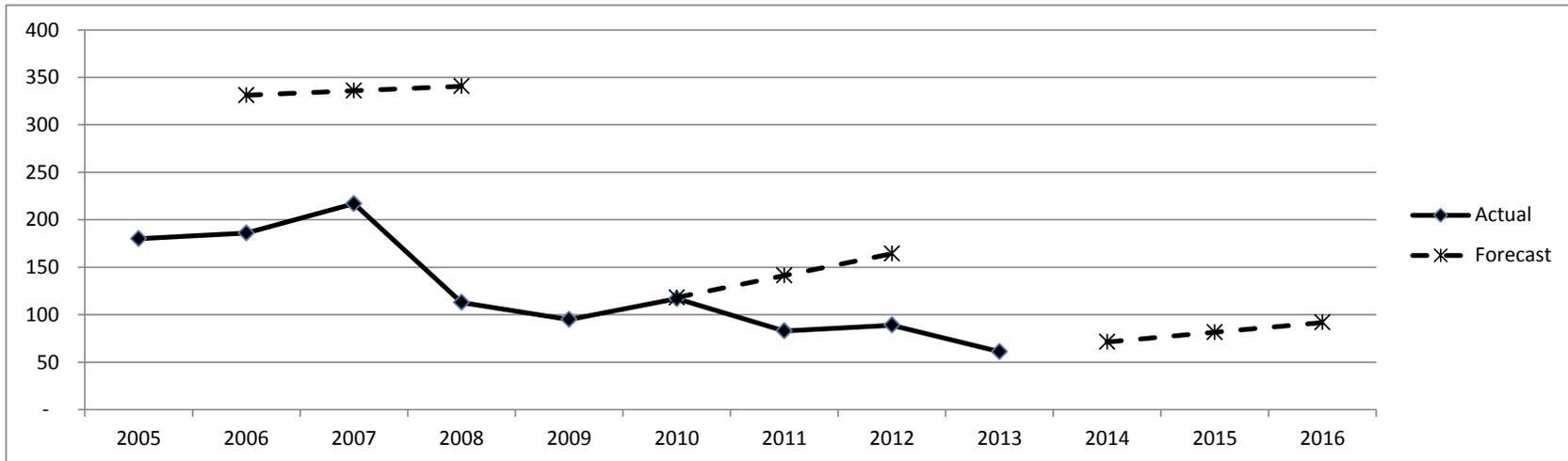
Credit/Collections - Other

Source Customer Work
Order Group Credit/Collections
Order Type Other

Description: This order type is used for miscellaneous collections-related work not covered by other order types.

Historical Averages	
5-Yr Avg	89
4-Yr Avg	88
3-Yr Avg	78

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	180	186	217	113	95	117	83	89	61			
Forecast		331	336	341		118	141	164		71	81	92



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer's ability to pay their bills, which are outside the company's control.

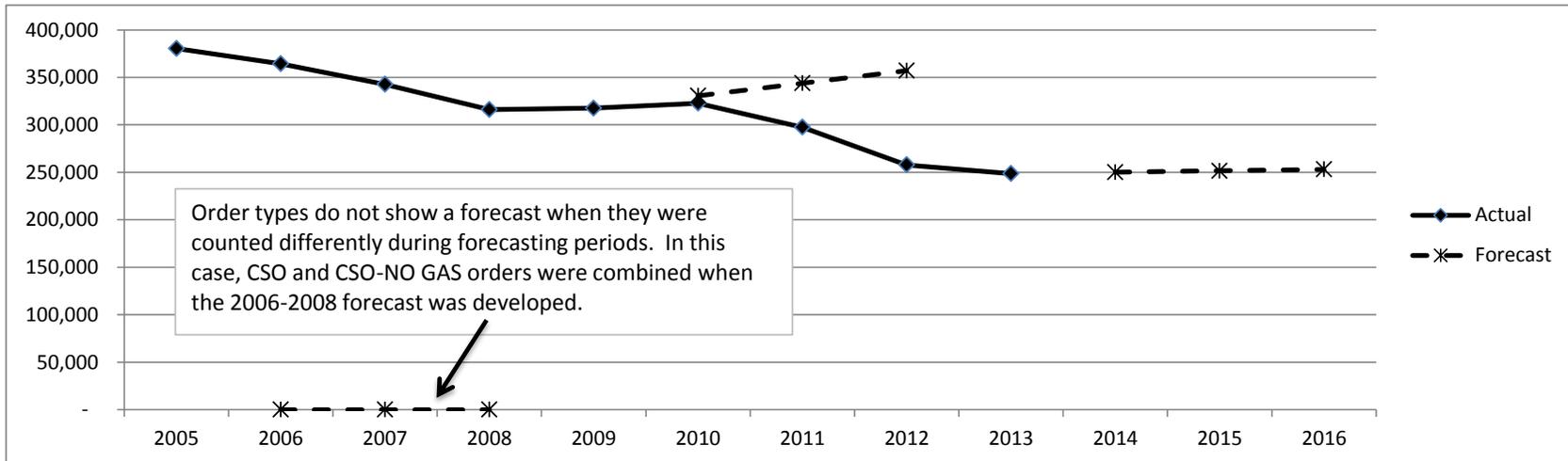
CSO

Source Customer Work
Order Group CSO
Order Type CSO

Description: This is an order type where the customer requests that a gas appliance be checked (e.g., inoperative water heater).

Historical Averages	
5-Yr Avg	288,834
4-Yr Avg	281,653
3-Yr Avg	267,931

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	380,358	364,356	342,585	315,930	317,561	322,817	297,480	257,830	248,483			
Forecast		-	-	-		330,724	343,886	357,049		250,016	251,550	253,083



Forecasting Method: Base Year (Orders to Active Meters)

Forecast recognizes a declining trend. Factors outside the company's control, such as weather and associated requests to check customers' space heating equipment, may impact order volumes in the future.

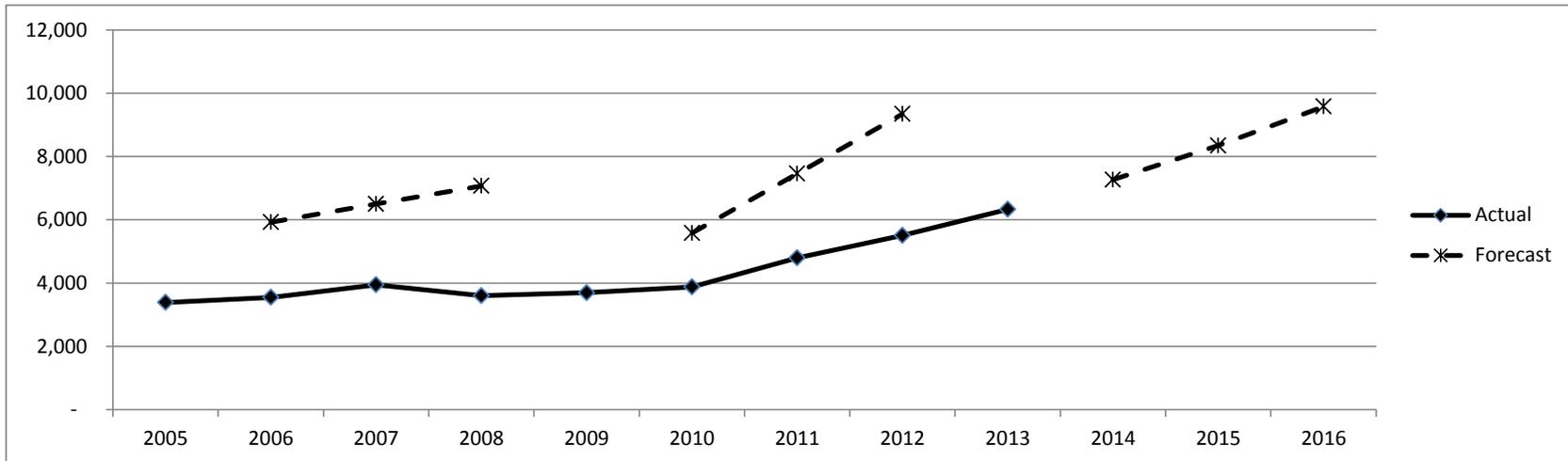
CSO - CO-Test

Source Customer Work
Order Group CSO
Order Type CO-Test

Description: This order type is used when a customer requests a Carbon Monoxide (CO) test to ensure the safety of their home. The field technician checks for CO levels present in the customer's home.

Historical Averages	
5-Yr Avg	4,841
4-Yr Avg	5,128
3-Yr Avg	5,545

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	3,387	3,546	3,944	3,601	3,694	3,876	4,799	5,507	6,328			
Forecast		5,922	6,497	7,071		5,577	7,460	9,344		7,266	8,344	9,582



Forecasting Method: Base Year + Avg Change 11 -> 12 -> 13

There has been continual growth in this order type since Senated Bill 183 was enacted. Order volume growth is expected to continue as more customers comply with the legal requirement to install CO detectors in residential dwellings.

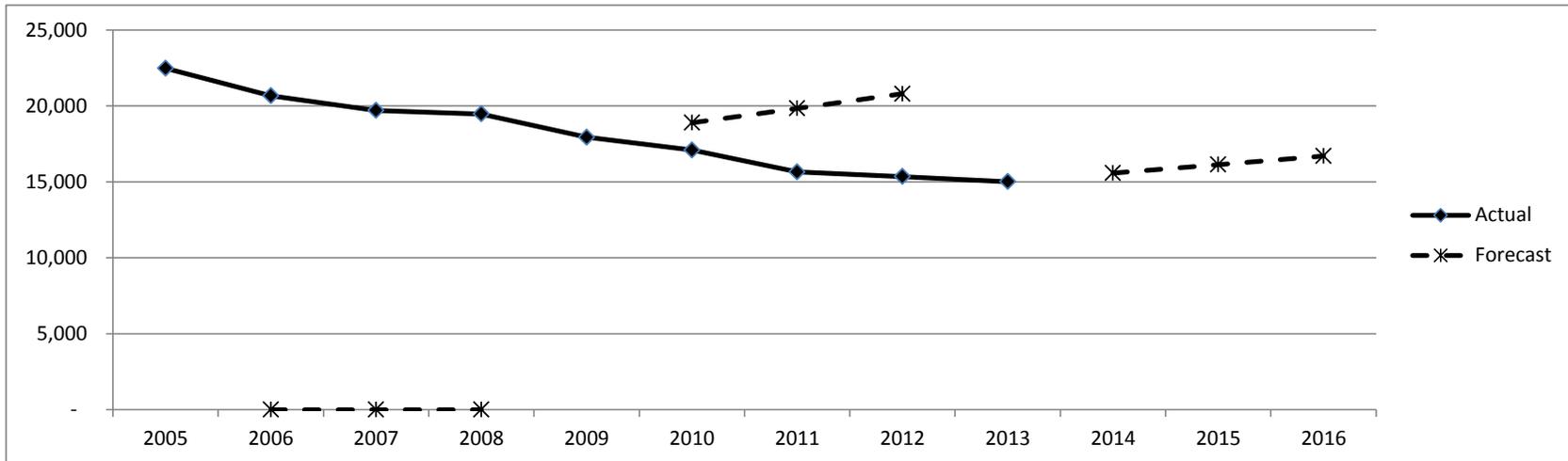
CSO - No Gas

Source Customer Work
Order Group CSO
Order Type No Gas

Description: This order type is used when a customer calls to indicate their gas appliances are not working and the reason is unknown or not covered by other order types.

Historical Averages	
5-Yr Avg	16,201
4-Yr Avg	15,769
3-Yr Avg	15,331

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	22,473	20,660	19,696	19,464	17,931	17,084	15,643	15,338	15,011			
Forecast		-	-	-		18,886	19,841	20,796		15,571	16,131	16,691



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as earthquake valves tripping, etc., which are outside the company's control.

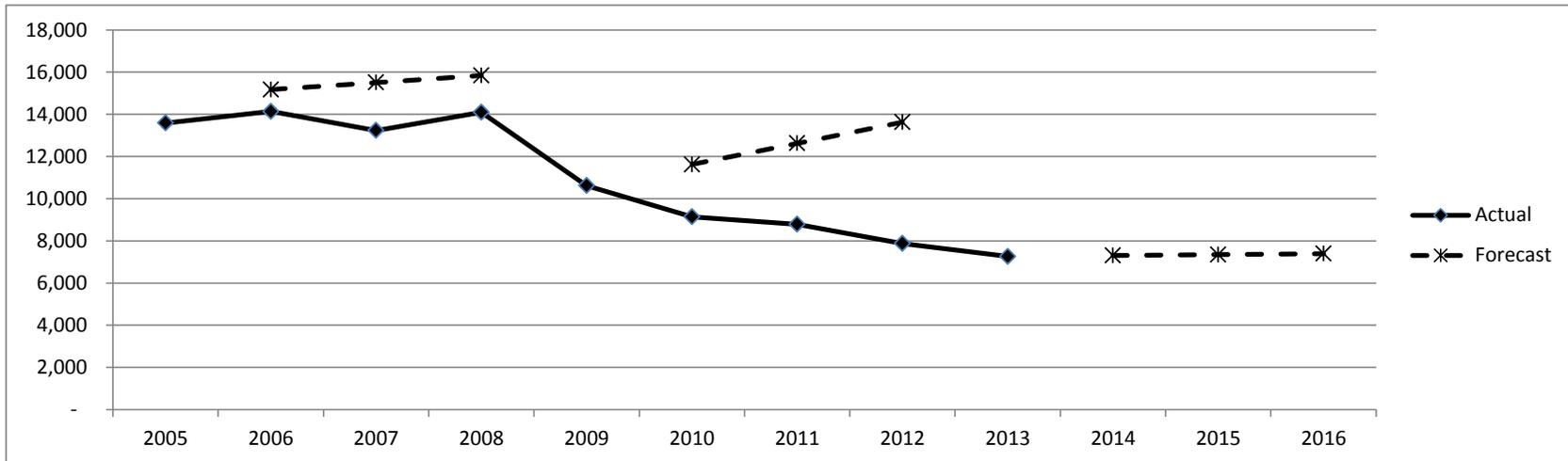
CSO - Seasonal Off

Source Customer Work
Order Group CSO
Order Type Seasonal Off

Description: This order type is used when a customer requests that a gas space heating appliance with a pilot or electronic ignition be turned off. The field technician closes the control or line valve. A full safety check is performed on the heating appliance before closing the gas supply.

Historical Averages	
5-Yr Avg	8,738
4-Yr Avg	8,268
3-Yr Avg	7,976

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	13,589	14,136	13,232	14,099	10,620	9,144	8,788	7,878	7,261			
Forecast		15,171	15,506	15,842		11,621	12,623	13,624		7,306	7,351	7,395



Forecasting Method: Base Year (Orders to Active Meters)

Forecast method recognizes a declining trend in service order volumes for this order type. Factors outside the company's control, such as weather and customer comfort levels, may impact order volumes in the future.

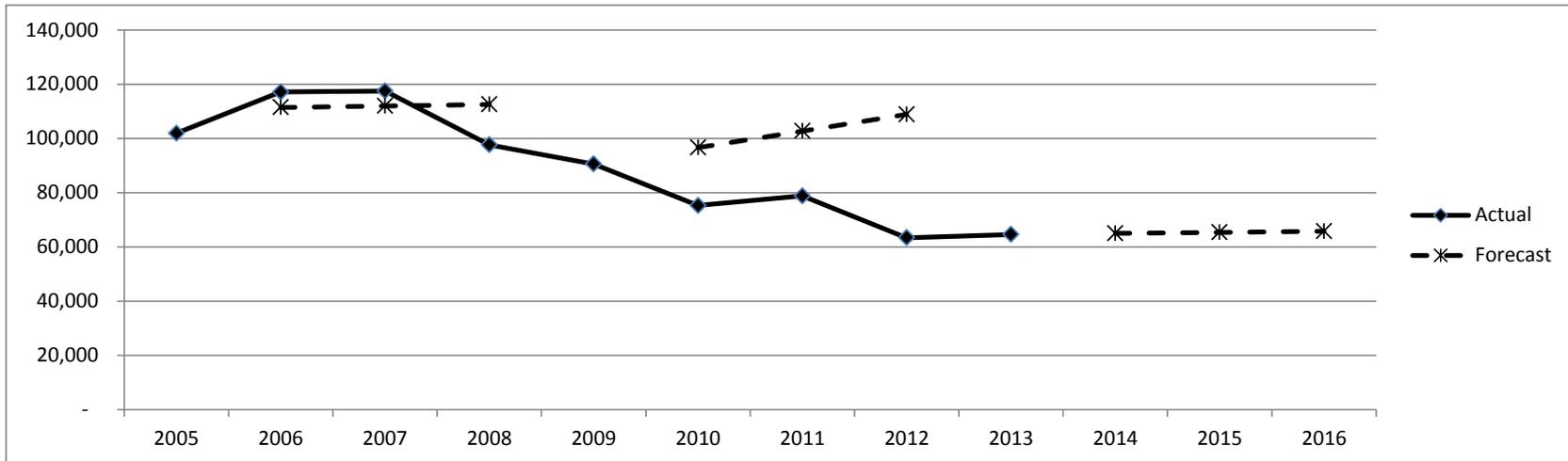
CSO - Seasonal On

Source Customer Work
Order Group CSO
Order Type Seasonal On

Description: This order type is used when a customer requests that a heating appliance be turned on. The field technician conducts a full safety check on the heating appliance before leaving the gas supply valve on.

Historical Averages	
5-Yr Avg	74,506
4-Yr Avg	70,505
3-Yr Avg	68,918

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	101,886	117,144	117,501	97,592	90,512	75,264	78,765	63,402	64,588			
Forecast		111,444	111,997	112,549		96,612	102,712	108,813		64,987	65,385	65,784



Forecasting Method: Base Year (Orders to Active Meters)

Forecast method recognizes a declining trend in service order volumes for this order type. Factors outside the company's control, such as weather and customer comfort levels, may impact order volumes in the future.

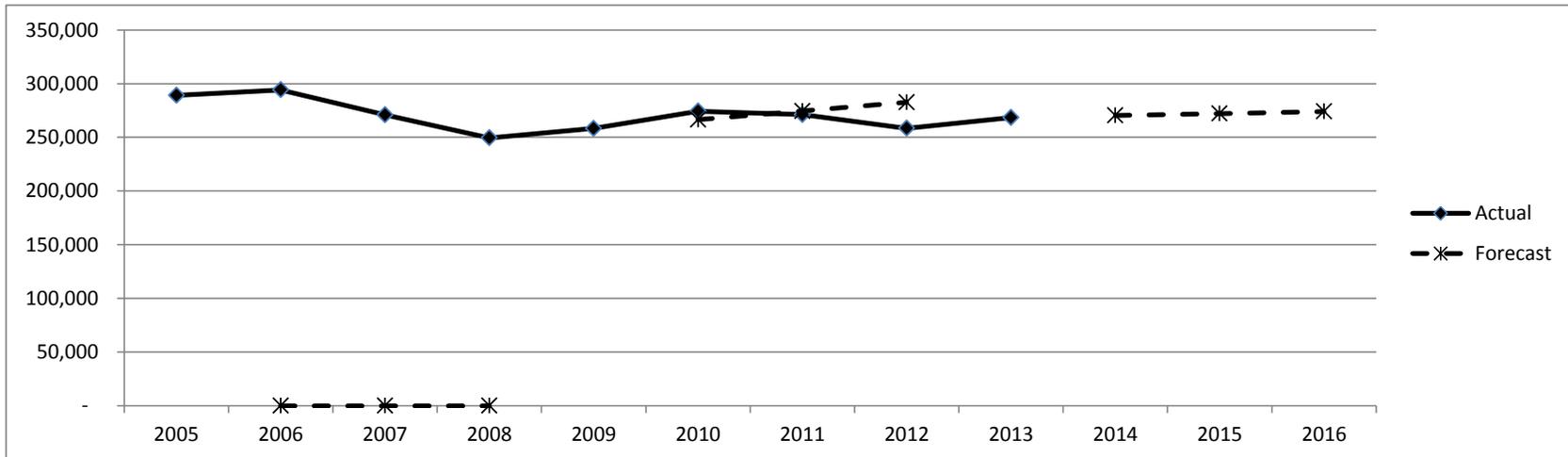
Gas Leak - CSO Leak

Source Customer Work
Order Group Gas Leak
Order Type CSO Leak

Description: This order type is used when a customer reports the smell of gas and requests an investigation. The field technician identifies the source of the leakage and makes repairs when possible, or isolates and leaves the gas off pending completion of needed repairs.

Historical Averages	
5-Yr Avg	266,137
4-Yr Avg	268,106
3-Yr Avg	266,033

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	289,165	294,199	270,925	249,561	258,260	274,327	271,151	258,472	268,475			
Forecast		-	-	-		266,365	274,470	282,575		270,325	272,175	274,026



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are driven by external factors, such as leakage at customers' appliances, reports of area odors and earthquakes, which are outside the company's control.

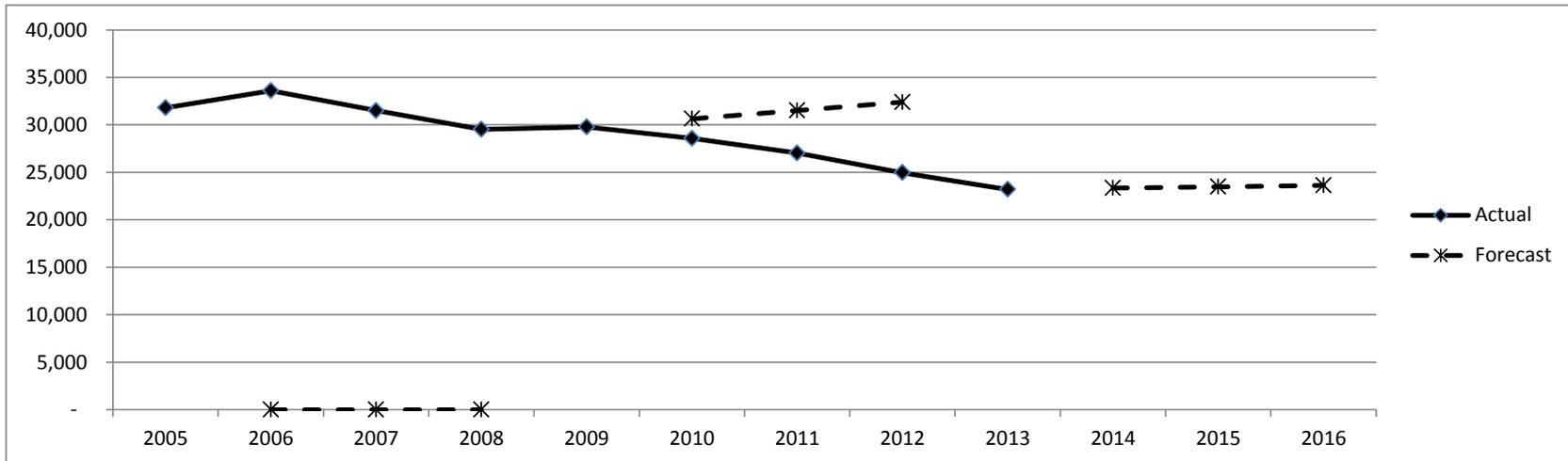
Gas Leak - Pilot Out Only

Source Customer Work
Order Group Gas Leak
Order Type Pilot Out Only

Description: This order type is used when a customer reports a leak at a gas appliance and requests service. Upon inspection, the field technician determines the cause of the leak is a pilot light outage.

Historical Averages	
5-Yr Avg	26,705
4-Yr Avg	25,939
3-Yr Avg	25,060

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	31,803	33,583	31,499	29,519	29,770	28,576	27,023	24,963	23,194			
Forecast		-	-	-		30,644	31,517	32,391		23,337	23,480	23,623



Forecasting Method: Base Yr + Growth

Forecast method recognizes a declining trend in service order volumes for this order type. Factors outside the company's control may cause order volumes to increase in the future.

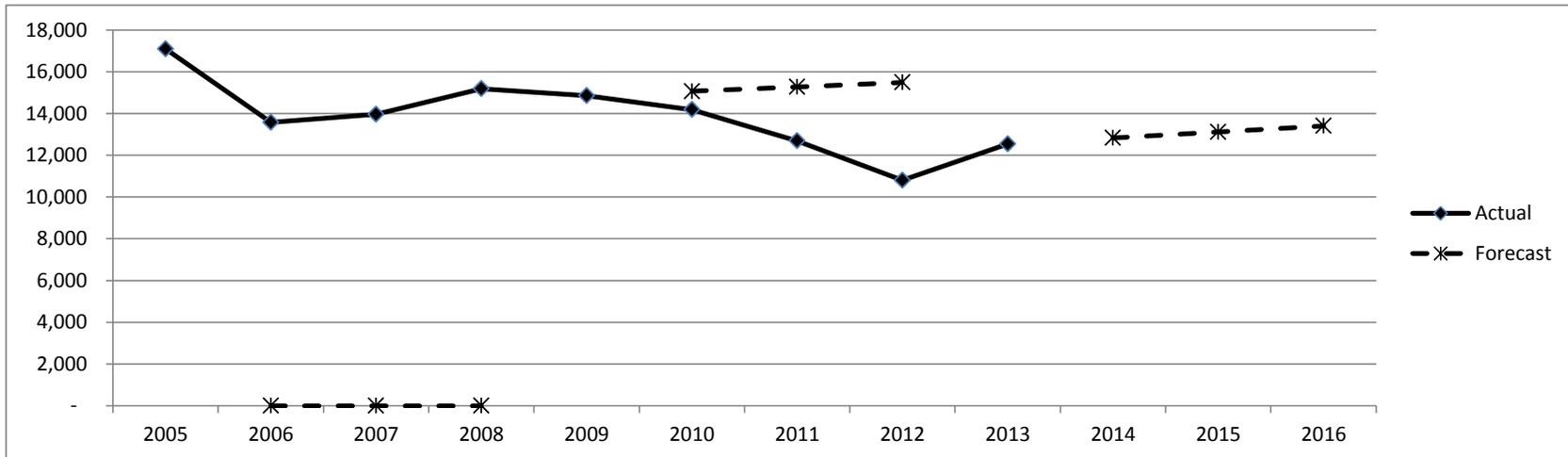
Gas Leak - Leak Investigation (Step2)

Source Customer Work
Order Group Gas Leak
Order Type Leak Investigation (Step2)

Description: A gas leak becomes a Step 2 investigation when the cause of the odor cannot be determined with 100% certainty without checking the customer's house/line for leakage. The field technician shuts off all gas appliances so that gas flow can be checked at the meter. Underground samples are also taken to determine if there is a leak on company facilities.

Historical Averages	
5-Yr Avg	13,013
4-Yr Avg	12,553
3-Yr Avg	12,009

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	17,090	13,572	13,959	15,190	14,853	14,184	12,686	10,797	12,543			
Forecast		-	-	-		15,065	15,276	15,488		12,831	13,120	13,408



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are driven by external factors, such as leakage at customers' appliances, reports of area odors and earthquakes, which are outside the company's control.

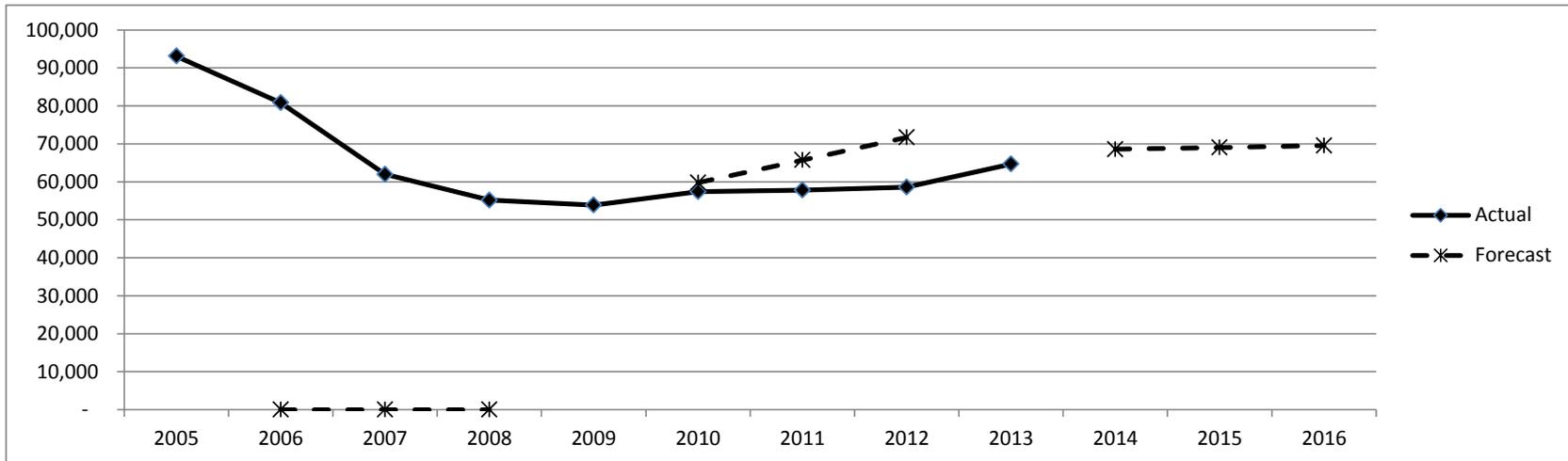
Fumigation - Turn On

Source Customer Work
Order Group Fumigation
Order Type Turn On

Description: This order type is used when a customer requests that gas service be restored after it was shut off for fumigation.

Historical Averages	
5-Yr Avg	58,472
4-Yr Avg	59,630
3-Yr Avg	60,371

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	93,104	80,824	61,942	55,163	53,839	57,406	57,822	58,601	64,691			
Forecast		-	-	-		59,783	65,726	71,670		68,572	69,008	69,529



Forecasting Method: Base Yr + 6% in '14 then Growth 15-16

Pest Control Operators of California (PCOC) forecasts a fumigation growth rate of 6% in 2014.

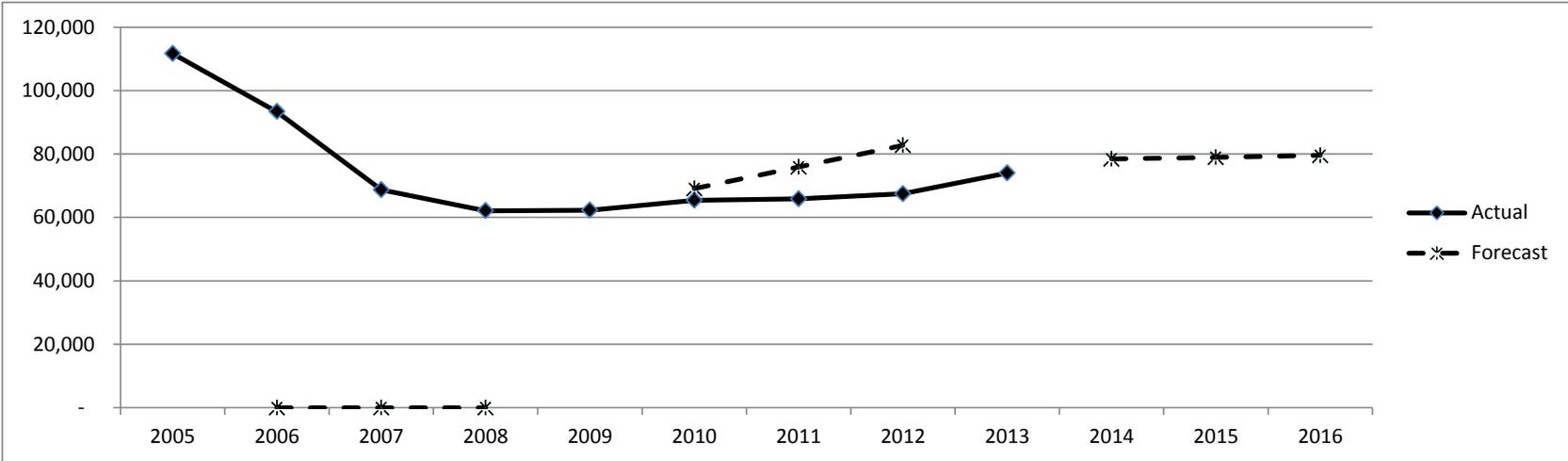
Fumigation - Close

Source Customer Work
 Order Group Fumigation
 Order Type Close

Description: This order type is used when a customer's property is scheduled for fumigation and the customer requests that gas service be closed and secured in preparation for the fumigation. The field technician shuts off gas service to the premise.

Historical Averages	
5-Yr Avg	66,985
4-Yr Avg	68,163
3-Yr Avg	69,095

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	111,651	93,351	68,673	62,085	62,273	65,367	65,812	67,458	74,014			
Forecast		-	-	-		69,095	75,916	82,738		78,455	78,953	79,549



Forecasting Method: Base Yr + 6% in '14 then Growth 15-16

Pest Control Operators of California (PCOC) forecasts a fumigation growth rate of 6% in 2014.

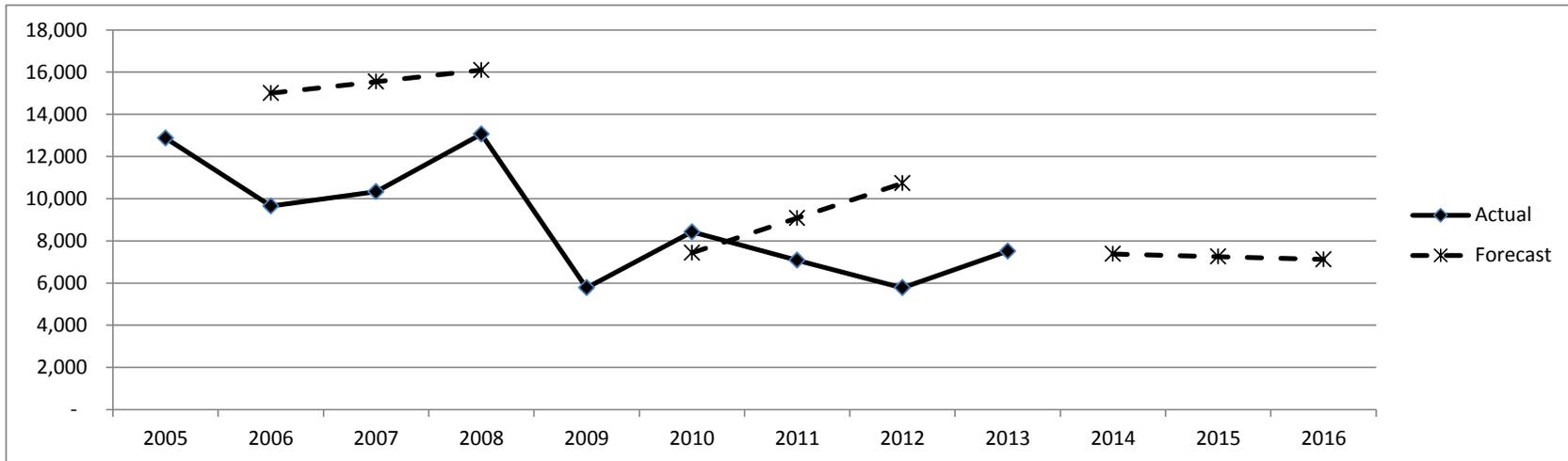
HBI - Entered

Source Customer Work
Order Group HBI
Order Type Entered

Description: This order type is used when a customer requests that a service technician be sent to the customer's premise to investigate the cause of a high bill.

Historical Averages	
5-Yr Avg	6,917
4-Yr Avg	7,201
3-Yr Avg	6,793

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	12,873	9,646	10,332	13,054	5,780	8,425	7,084	5,779	7,515			
Forecast		14,999	15,547	16,095		7,430	9,080	10,730		7,384	7,252	7,121



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are driven by external factors, such as weather (consumption), commodity prices and economic conditions, which are outside the company's control.

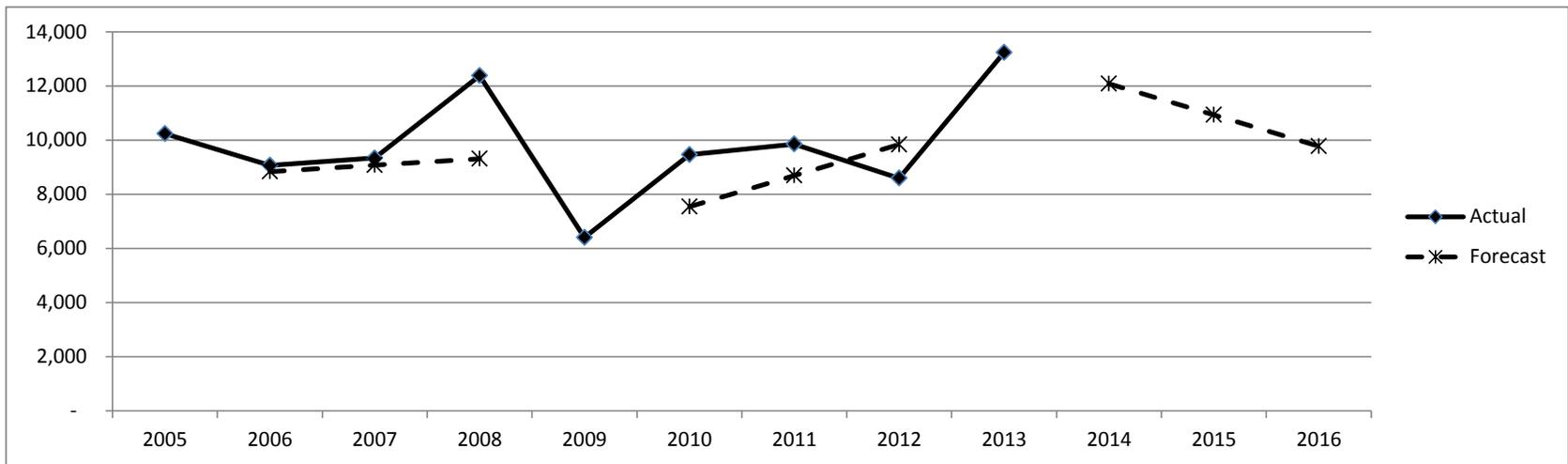
HBI - Not Entered

Source Customer Work
Order Group HBI
Order Type Not Entered

Description: This is where the customer has requested a service visit to review the cause of a high bill. The explanation for the bill is determined without entering the home.

Historical Averages	
5-Yr Avg	9,508
4-Yr Avg	10,286
3-Yr Avg	10,561

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	10,238	9,065	9,335	12,380	6,398	9,462	9,853	8,594	13,235			
Forecast		8,835	9,071	9,308		7,544	8,690	9,835		12,082	10,929	9,776



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are driven by external factors, such as weather (consumption), commodity prices and economic conditions, which are outside the company's control.

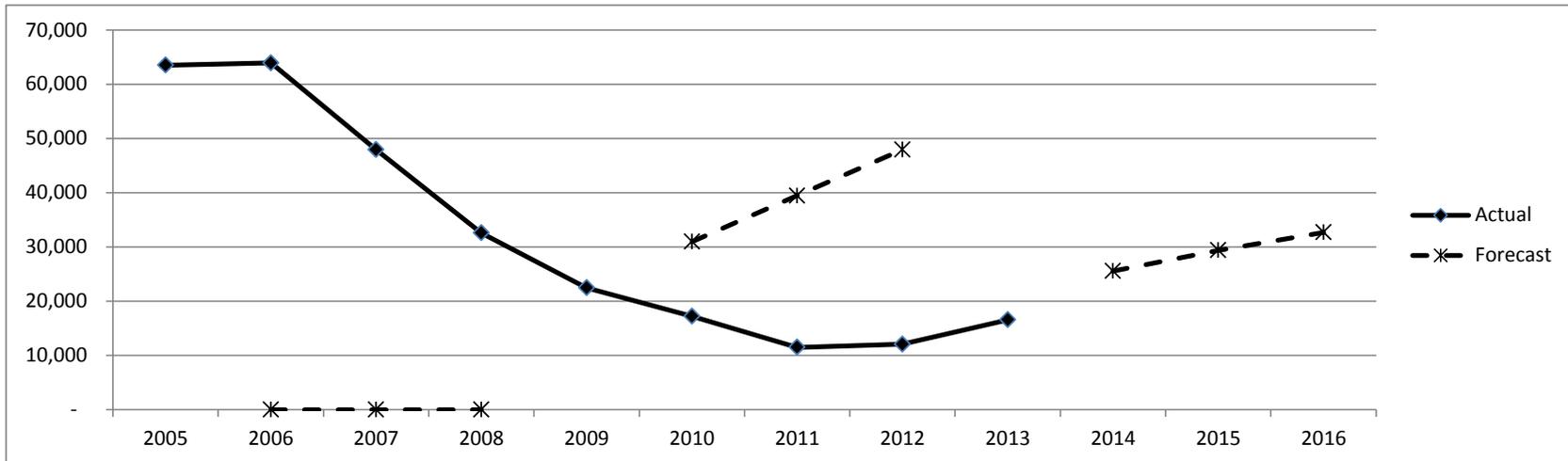
Meter Work (Capital) - Meter Set - Turn On

Source Customer Work
Order Group Meter Work (Capital)
Order Type Meter Set - Turn On

Description: This order type is used when a new gas meter is installed at a customer's premise. Gas service is established and the field technician enters the property to service all the gas appliances.

Historical Averages	
5-Yr Avg	15,959
4-Yr Avg	14,331
3-Yr Avg	13,369

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	63,497	63,912	47,910	32,587	22,473	17,216	11,488	12,047	16,571			
Forecast			-	-	-	30,957	39,440	47,924		25,556	29,380	32,697



Forecasting Method: Follows capital Forecast

Volumes are driven by the forecasted growth in new business capital construction and associated meter sets.

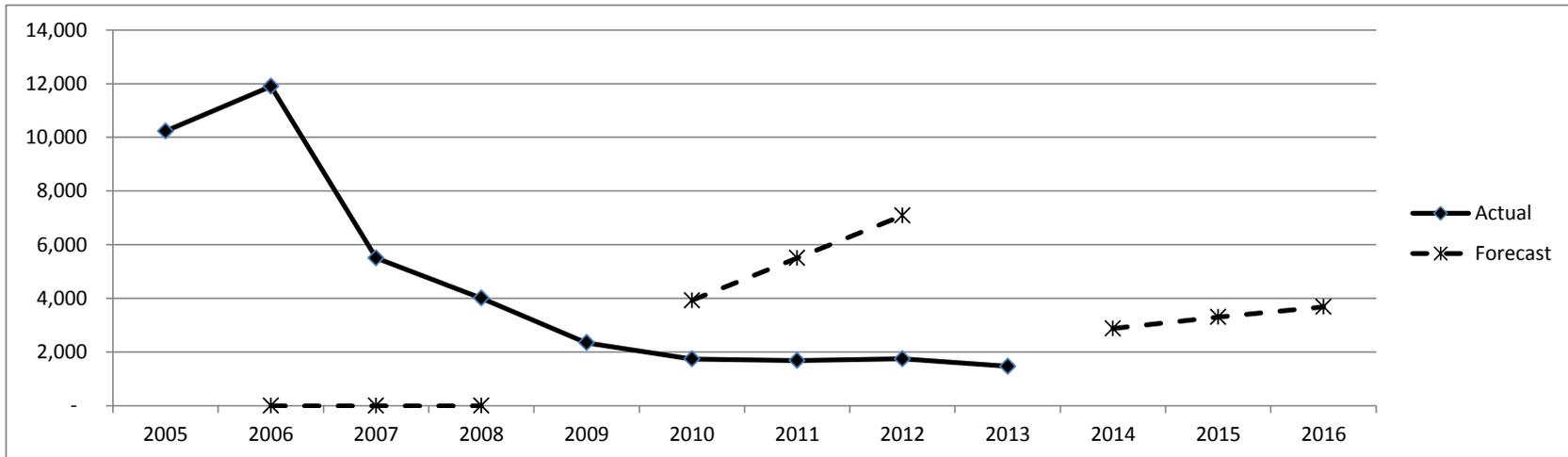
Meter Work (Capital) - Meter Set - Left Off

Source Customer Work
Order Group Meter Work (Capital)
Order Type Meter Set - Left Off

Description: This order type is used when a new gas meter is installed on a customer's premise and the service valve is left off because access to the appliances is not available.

Historical Averages	
5-Yr Avg	1,796
4-Yr Avg	1,659
3-Yr Avg	1,632

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	10,234	11,898	5,507	4,010	2,346	1,741	1,683	1,745	1,467			
Forecast		-	-	-		3,925	5,504	7,083		2,877	3,307	3,681



Forecasting Method: Follows capital Forecast

Volumes are driven by the forecasted growth in new business capital construction and associated meter sets.

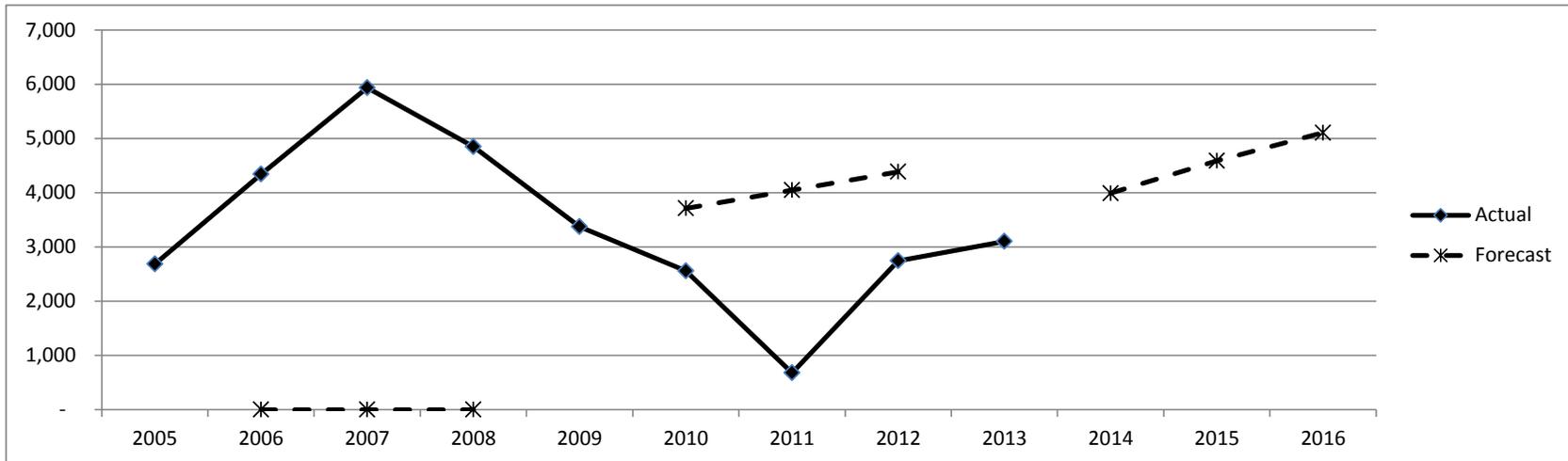
Meter Work (Capital) - Meter Set (PSI)

Source Customer Work
Order Group Meter Work (Capital)
Order Type Meter Set (PSI)

Description: This is order type is used when a new gas meter is installed at a customer's premise and higher-than-standard gas pressure (e.g., 2 PSI, or pounds per square inch) is provided.

Historical Averages	
5-Yr Avg	2,490
4-Yr Avg	2,270
3-Yr Avg	2,173

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	2,682	4,340	5,934	4,846	3,374	2,558	679	2,741	3,100			
Forecast		-	-	-		3,711	4,048	4,384		3,989	4,586	5,104



Forecasting Method: Follows capital Forecast

Follows capital forecast and growth in new meter set work.

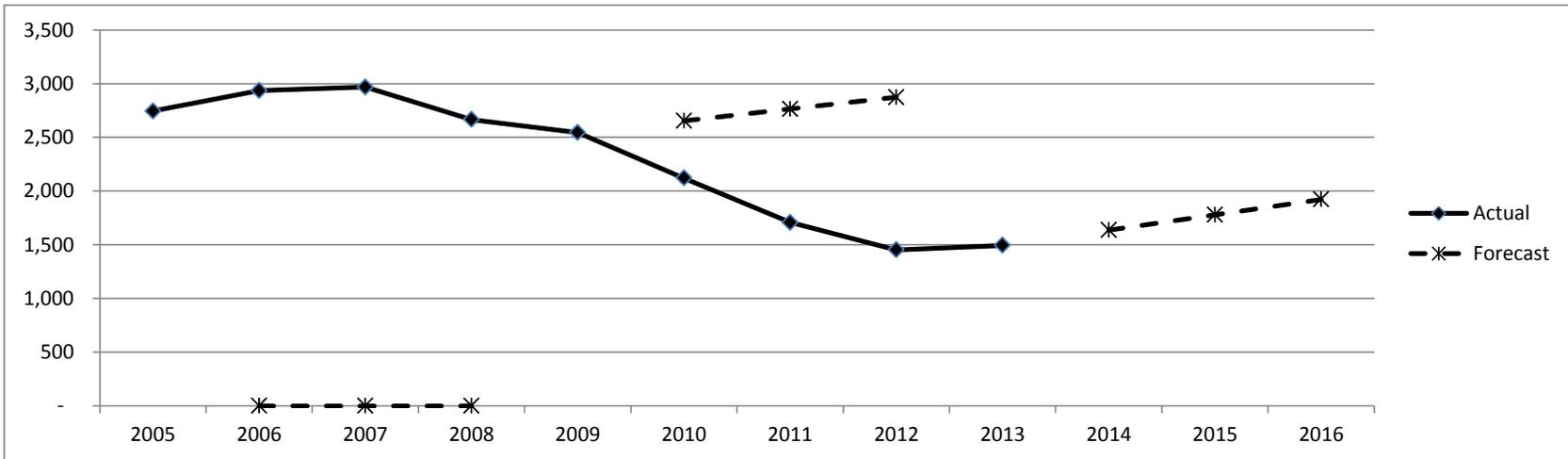
Meter Work (O&M) - Meter Reset - Turn On

Source Customer Work
Order Group Meter Work (O&M)
Order Type Meter Reset - Turn On

Description: This order type is used when a gas meter is installed at an existing facility where the gas meter had previously been removed due to non-use. Gas service is re-established and the field technician enters the property to service all the gas appliances.

Historical Averages	
5-Yr Avg	1,864
4-Yr Avg	1,694
3-Yr Avg	1,552

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	2,745	2,935	2,969	2,666	2,544	2,121	1,708	1,453	1,495			
Forecast		-	-	-		2,654	2,764	2,874		1,638	1,780	1,923



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer turnover, which are outside the company's control.

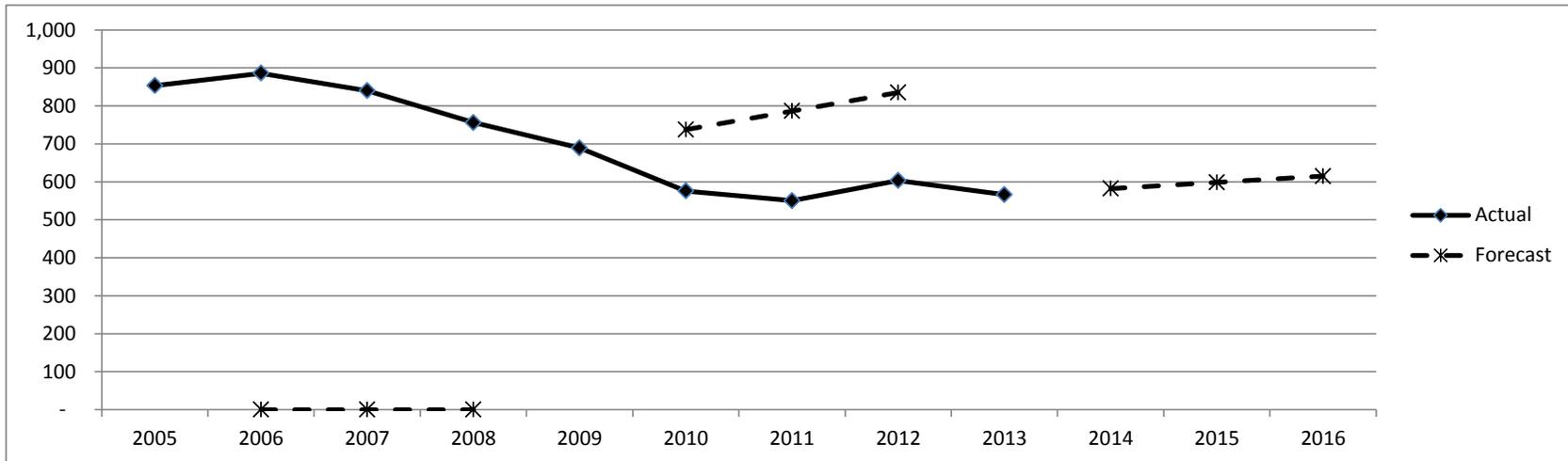
Meter Work (O&M) - Meter Reset - Left Off

Source Customer Work
Order Group Meter Work (O&M)
Order Type Meter Reset - Left Off

Description: This order type is used when a gas meter is installed at an existing facility where the gas meter had previously been removed due to non-use. Due to appliance inaccessibility, the field technician installs the meter, leaves the service off, and secures the gas valve.

Historical Averages	
5-Yr Avg	597
4-Yr Avg	574
3-Yr Avg	573

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	853	886	840	756	689	576	550	603	566			
Forecast		-	-	-		738	786	835		582	599	615



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer turnover, which are outside the company's control.

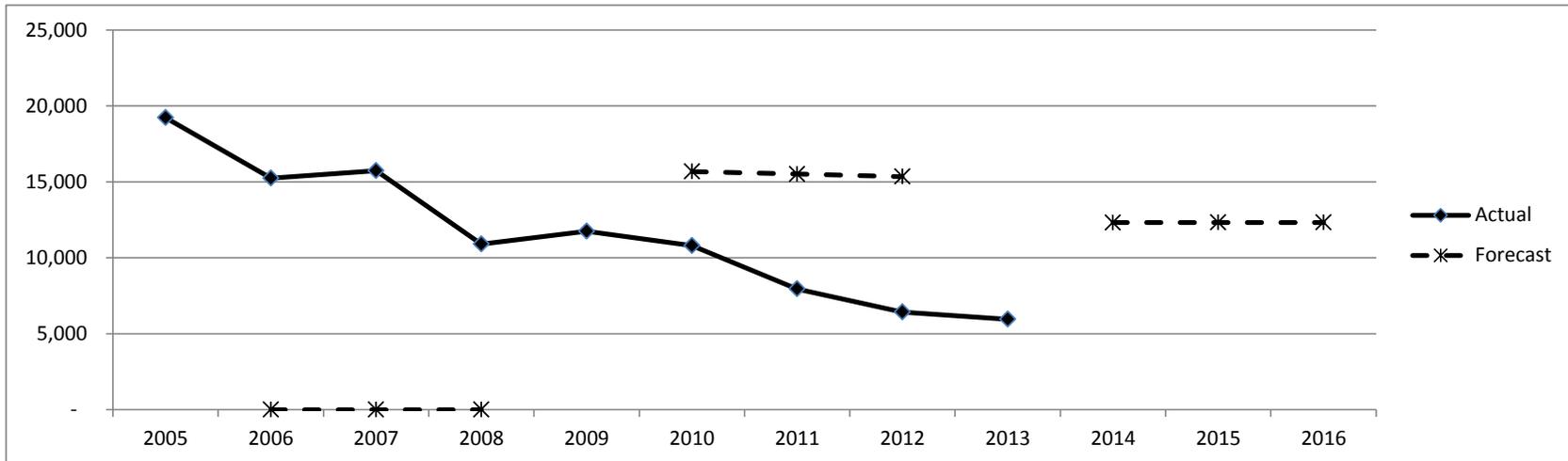
Meter Work (O&M) - Meter Change (Entered)

Source Customer Work
Order Group Meter Work (O&M)
Order Type Meter Change (Entered)

Description: This order type is used when a gas meter is replaced and gas service is interrupted during the meter change. The field technician enters the property and services the gas appliances to restore gas service.

Historical Averages	
5-Yr Avg	8,575
4-Yr Avg	7,783
3-Yr Avg	6,777

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	19,228	15,233	15,739	10,900	11,741	10,802	7,949	6,423	5,958			
Forecast		-	-	-		15,675	15,507	15,339		12,314	12,318	12,322



Forecasting Method: 180K per year total for all Meter Changes

Annual meter replacements adopted in D. 13-05-010 and projected for TY 2016.

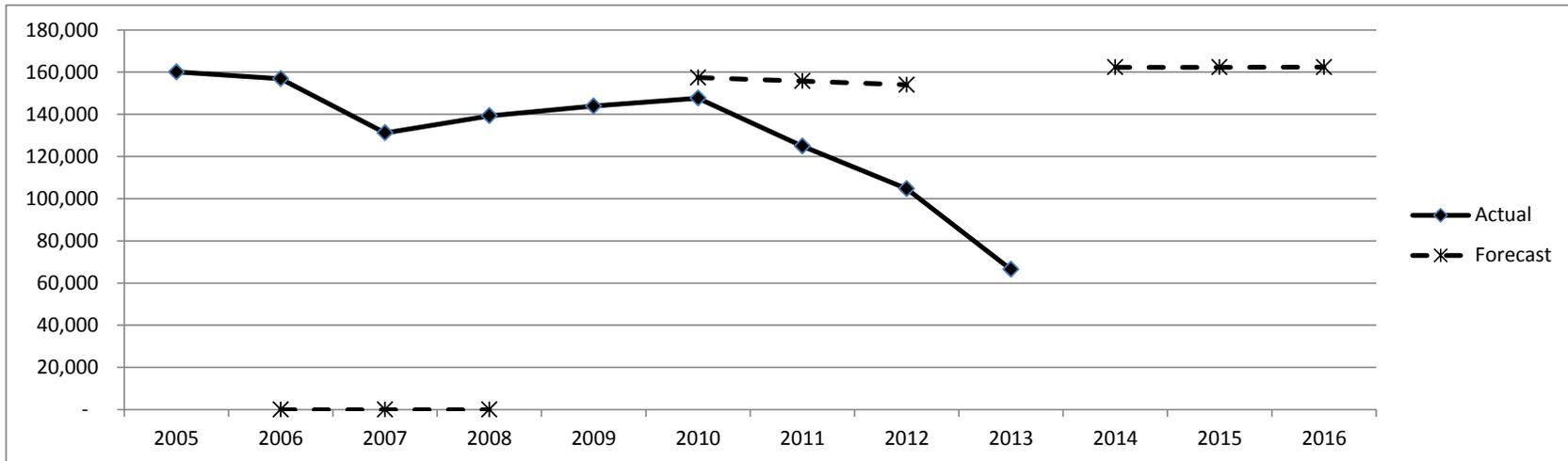
Meter Work (O&M) - Meter Change (Not Entered)

Source Customer Work
Order Group Meter Work (O&M)
Order Type Meter Change (Not Entered)

Description: This order type is used when a gas meter is replaced. The field technician does not need to enter the property to service the appliances because a bypass is used during the meter change, enabling gas to remain on during the meter change, therefore not interrupting the

Historical Averages	
5-Yr Avg	117,514
4-Yr Avg	110,916
3-Yr Avg	98,669

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	160,071	156,935	131,174	139,324	143,908	147,658	124,886	104,677	66,443			
Forecast		-	-	-		157,400	155,709	154,019		162,245	162,298	162,352



Forecasting Method: 180K per year total for all Meter Changes

Annual meter replacements adopted in D. 13-05-010 and projected for TY 2016.

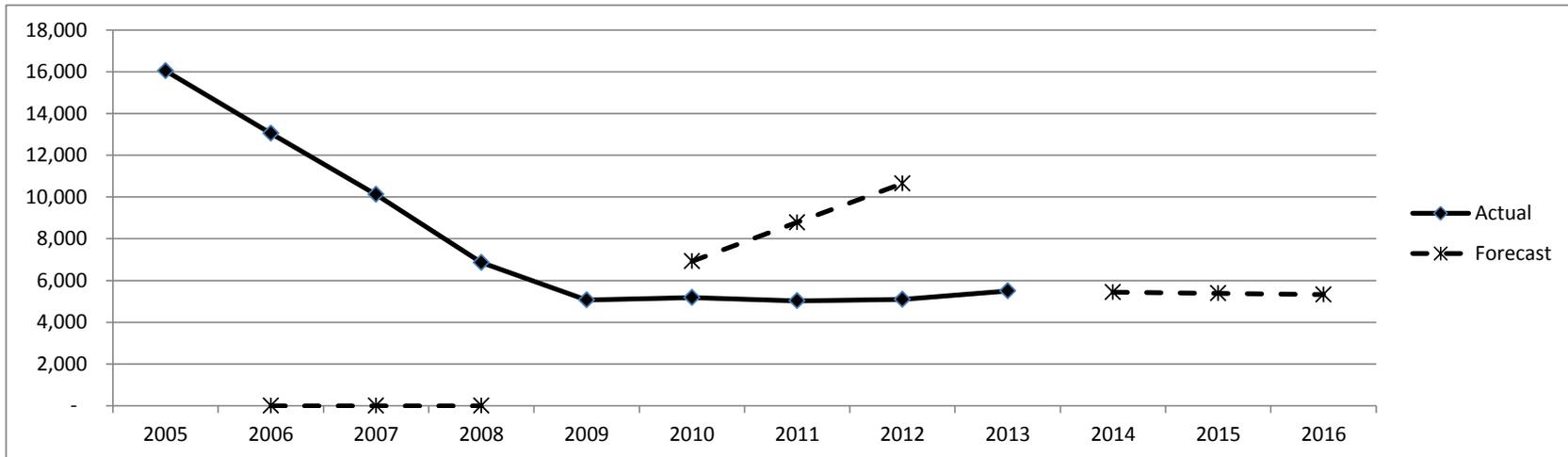
Meter Work (O&M) - Meter Change (Size)

Source Customer Work
Order Group Meter Work (O&M)
Order Type Meter Change (Size)

Description: This order type is used when a customer's gas end uses necessitate a larger gas meter.

Historical Averages	
5-Yr Avg	5,174
4-Yr Avg	5,201
3-Yr Avg	5,208

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	16,041	13,046	10,116	6,858	5,066	5,179	5,029	5,096	5,498			
Forecast		-	-	-		6,925	8,783	10,642		5,441	5,383	5,326



Forecasting Method: 5 Year Average (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as economic conditions and customer appliance/equipment additions, which are outside the company's control.

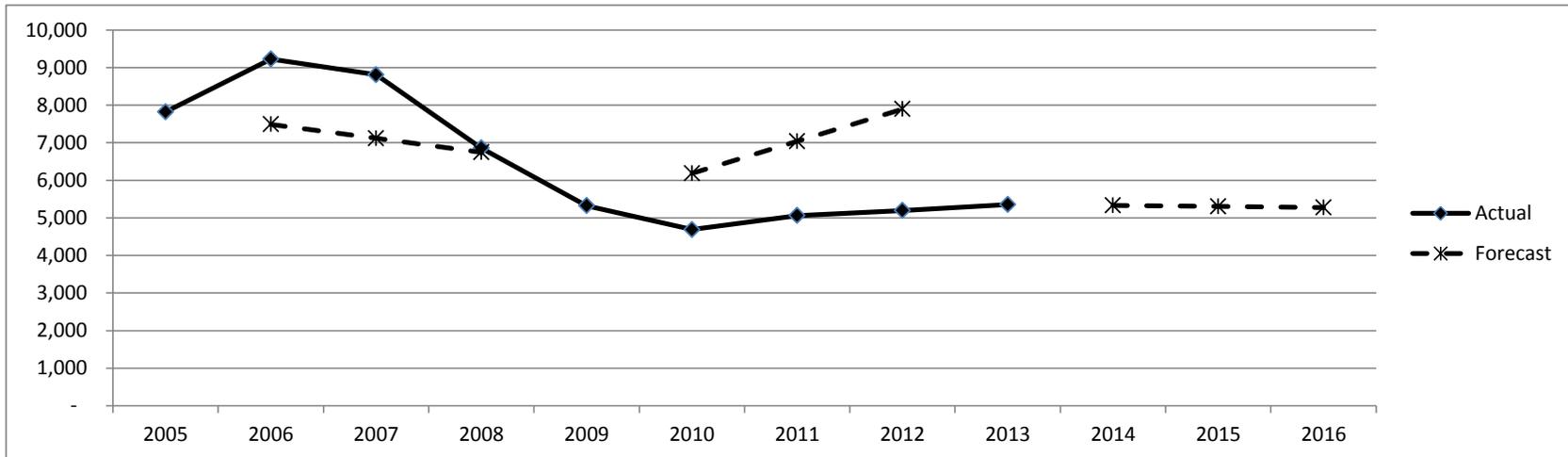
Meter Work (O&M) - Meter Remove

Source Customer Work
Order Group Meter Work (O&M)
Order Type Meter Remove

Description: This order type is used when a gas meter is removed from a customer's property for any reason.

Historical Averages	
5-Yr Avg	5,124
4-Yr Avg	5,074
3-Yr Avg	5,203

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	7,820	9,228	8,809	6,859	5,325	4,688	5,059	5,193	5,356			
Forecast		7,490	7,117	6,745		6,182	7,038	7,895		5,329	5,302	5,276



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy, which are outside the company's control.

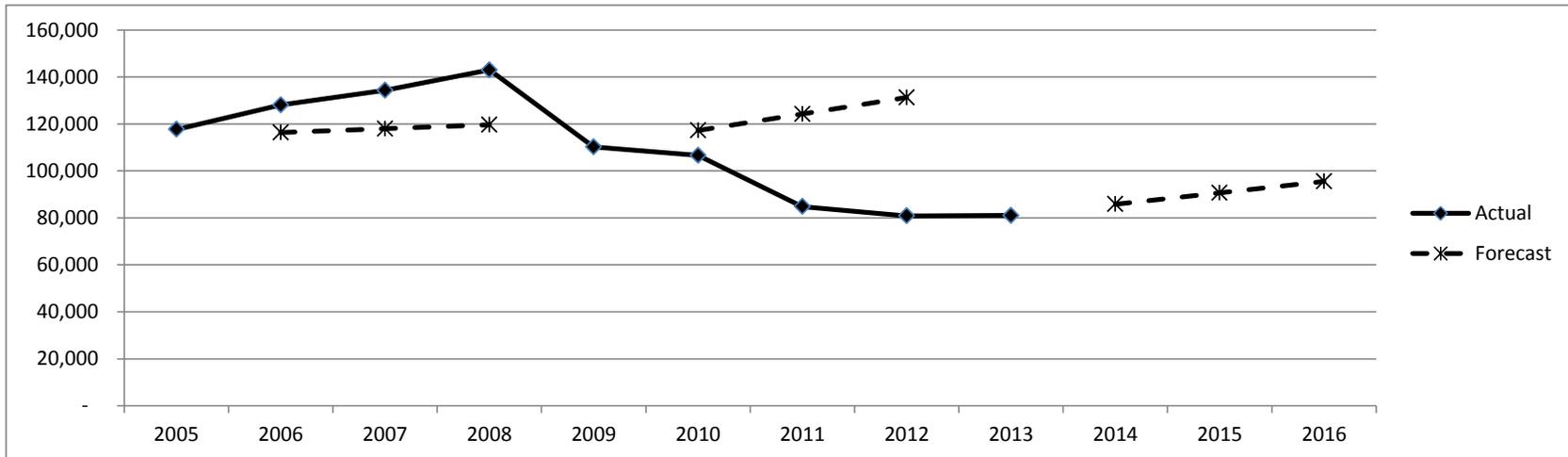
NonPay Turn On - Turn On

Source Customer Work
Order Group NonPay Turn On
Order Type Turn On

Description: This order type is used when a customer's gas service was shut off for nonpayment and the customer requests service re-activation following payment of their bill. The field technician services the customer's gas appliances and restores gas service.

Historical Averages	
5-Yr Avg	92,695
4-Yr Avg	88,326
3-Yr Avg	82,239

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	117,657	128,068	134,333	142,990	110,172	106,589	84,833	80,872	81,011			
Forecast		116,344	117,973	119,624		117,202	124,231	131,261		85,855	90,700	95,544



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customers' ability to pay their bills, which are outside the company's control.

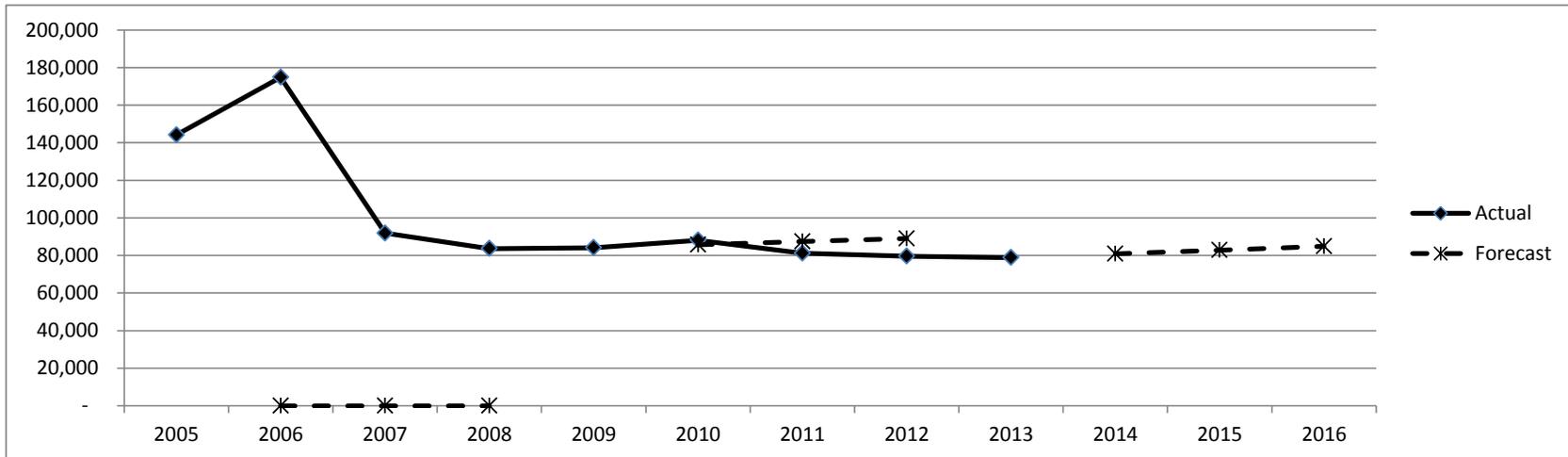
Read/Verify - Verify

Source Customer Work
Order Group Read/Verify
Order Type Verify

Description: This order type is used when a field technician is asked to collect additional data at a customer premise, typically as a result of billing data abnormalities.

Historical Averages	
5-Yr Avg	82,395
4-Yr Avg	81,968
3-Yr Avg	79,924

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	144,096	174,780	91,859	83,685	84,105	88,098	81,186	79,694	78,893			
Forecast		-	-	-		85,750	87,396	89,041		80,882	82,872	84,861



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes are driven by billing abnormalities, which fluctuate from year to year.

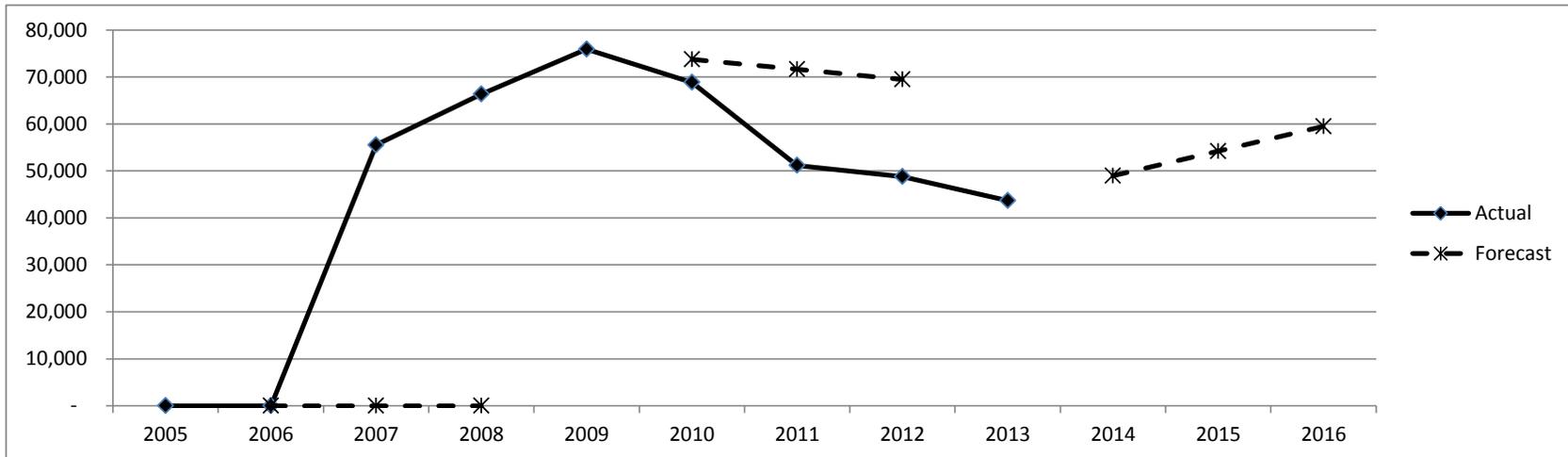
Read/Verify - Verify - Soft Close

Source Customer Work
Order Group Read/Verify
Order Type Verify - Soft Close

Description: This is a system-generated work order behind a soft-closed account. The order is generated when gas usage is expected to exceed 30 CCF. A field technician hard closes gas service at the meter.

Historical Averages	
5-Yr Avg	57,672
4-Yr Avg	53,118
3-Yr Avg	47,871

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	-	-	55,524	66,345	75,890	68,859	51,157	48,766	43,690			
Forecast		-	-	-		73,759	71,629	69,498		48,954	54,218	59,482



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer turnover, which are outside the company's control.

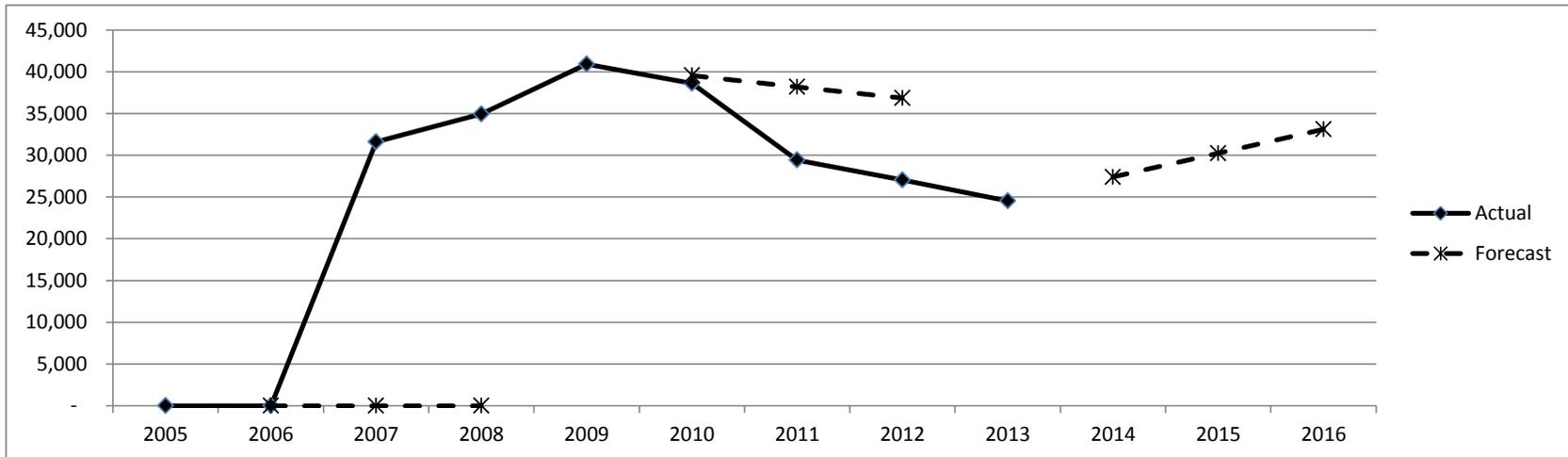
Read/Verify - Verify - Soft Close - 180 Days

Source Customer Work
Order Group Read/Verify
Order Type Verify - Soft Close - 180 Days

Description: This is a system-generated work order behind a soft-closed account. The order is generated when the account has been in "soft close" status for 180 days without a new occupant. The field technician hard closes gas service at the meter.

Historical Averages	
5-Yr Avg	32,097
4-Yr Avg	29,895
3-Yr Avg	26,989

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	-	-	31,613	34,936	40,907	38,611	29,418	27,028	24,522			
Forecast		-	-	-		39,550	38,193	36,836		27,382	30,241	33,101



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer turnover, which are outside the company's control.

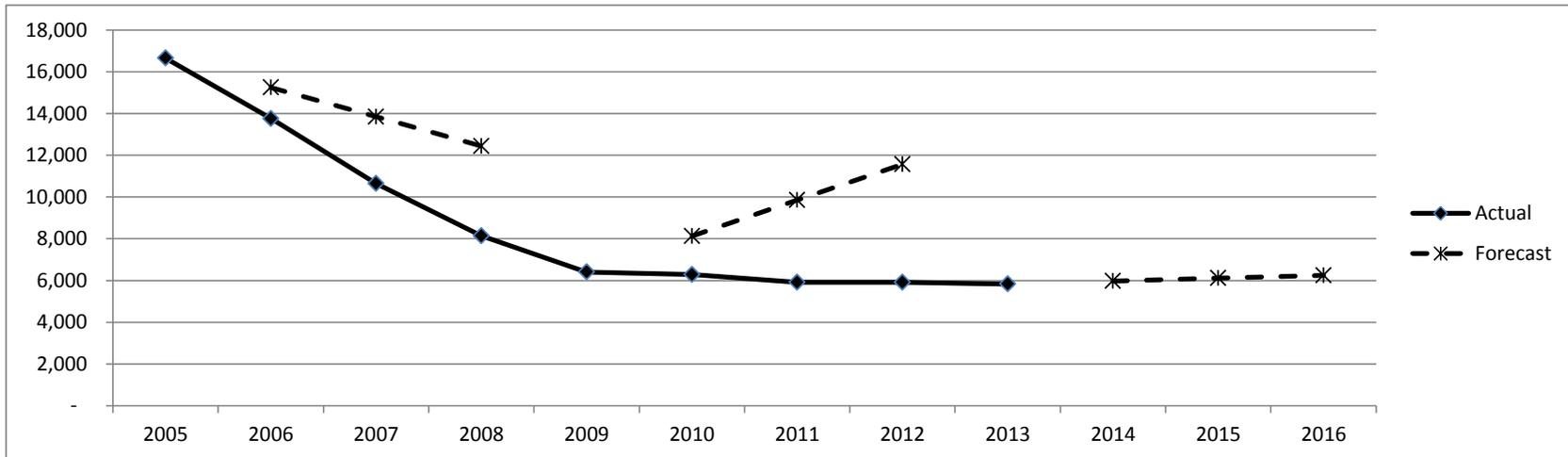
Read/Verify - Load Survey - Res

Source Customer Work
Order Group Read/Verify
Order Type Load Survey - Res

Description: This order type is used when a field technician conducts a load survey of a customer's gas appliances to determine the potential load when the appliances are in use. The load survey results are used to properly size a new gas meter.

Historical Averages	
5-Yr Avg	6,069
4-Yr Avg	5,985
3-Yr Avg	5,885

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	16,653	13,756	10,642	8,140	6,409	6,282	5,910	5,912	5,834			
Forecast		15,247	13,841	12,436		8,128	9,848	11,567		5,973	6,112	6,251



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer turnover, which are outside the company's control.

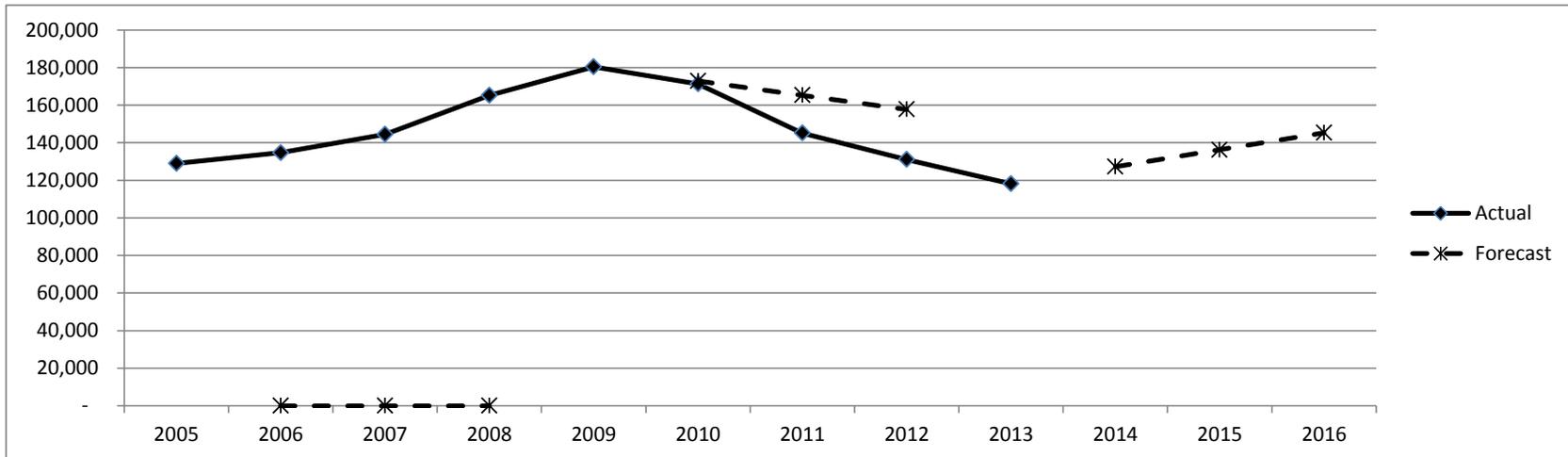
TurnOn/ShutOff - Turn On (Entered)

Source Customer Work
Order Group TurnOn/ShutOff
Order Type Turn On (Entered)

Description: This order type is used when a new customer account is established and the gas is off. The field technician reads the meter, checks to ensure gas flow is normal and services all gas appliances.

Historical Averages	
5-Yr Avg	149,188
4-Yr Avg	141,405
3-Yr Avg	131,453

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	128,877	134,653	144,419	165,193	180,320	171,262	145,088	131,103	118,167			
Forecast		-	-	-		172,796	165,273	157,749		127,207	136,247	145,287



Forecasting Method: 4-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer turnover, which are outside the company's control. Excluded 2009 since order volumes were significantly higher than normal due to economic conditions in the real estate market.

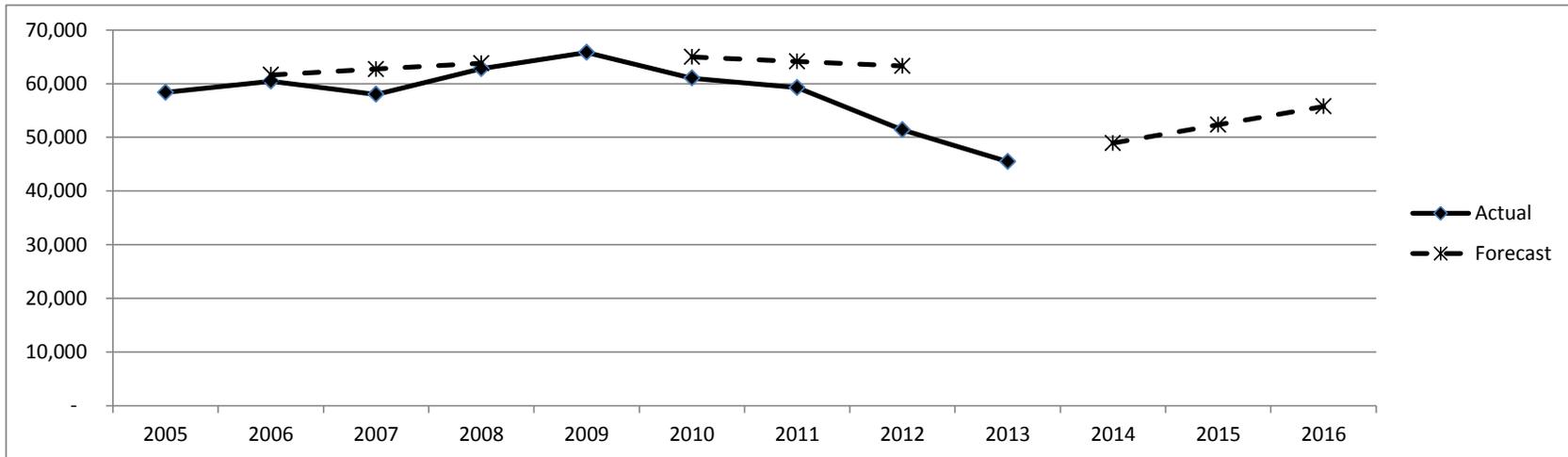
TurnOn/ShutOff - Turn On Entered (Gas On)

Source Customer Work
Order Group TurnOn/ShutOff
Order Type Turn On Entered (Gas On)

Description: This order type is used when a new customer account is established, the gas is already on, and the customer requests a safety check on their gas appliances.

Historical Averages	
5-Yr Avg	56,597
4-Yr Avg	54,292
3-Yr Avg	52,046

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	58,357	60,474	57,989	62,798	65,818	61,031	59,260	51,382	45,495			
Forecast		61,621	62,713	63,805		64,981	64,144	63,307		48,921	52,348	55,774



Forecasting Method: 4-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer turnover, which are outside the company's control. Excluded 2009 since order volumes were significantly higher than normal due to economic conditions in the real estate market.

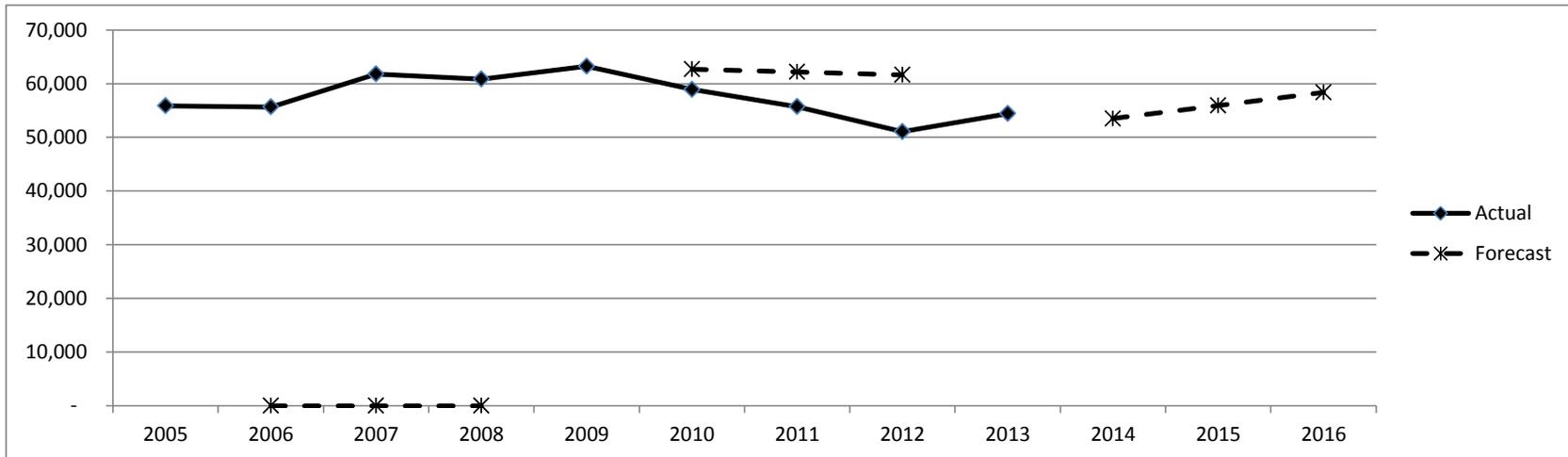
TurnOn/ShutOff - Turn On (Back On/Restore)

Source Customer Work
Order Group TurnOn/ShutOff
Order Type Turn On (Back On/Restore)

Description: This order type is used when the gas has been shut off by the company or a third party. Repairs, if required, have been made; the field technician turns the gas on and services all gas appliances.

Historical Averages	
5-Yr Avg	56,670
4-Yr Avg	55,029
3-Yr Avg	53,730

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	55,851	55,657	61,807	60,850	63,236	58,926	55,714	51,053	54,423			
Forecast		-	-	-		62,701	62,167	61,632		53,496	55,939	58,382



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer turnover, which are outside the company's control. 2013 order volume was adjusted to exclude orders caused by Advanced Meter implementation.

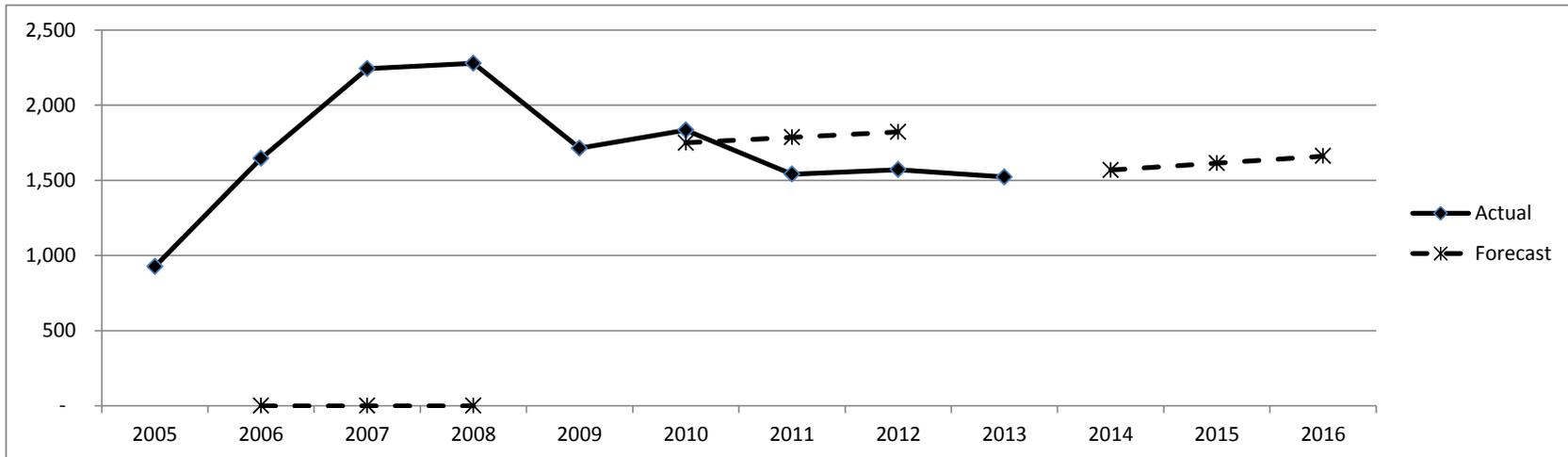
TurnOn/ShutOff - Turn On (PSI)

Source Customer Work
Order Group TurnOn/ShutOff
Order Type Turn On (PSI)

Description: This order type is used when a new customer account is established, and the premise is served with higher-than-standard-pressure gas service. The field technician turns the gas service on and services all gas appliances.

Historical Averages	
5-Yr Avg	1,636
4-Yr Avg	1,617
3-Yr Avg	1,545

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	926	1,646	2,242	2,278	1,713	1,834	1,541	1,571	1,522			
Forecast		-	-	-		1,749	1,785	1,821		1,568	1,614	1,661



Forecasting Method: 4-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer turnover, which are outside the company's control. Excluded 2009 since order volumes were significantly impacted by economic conditions in the real estate market.

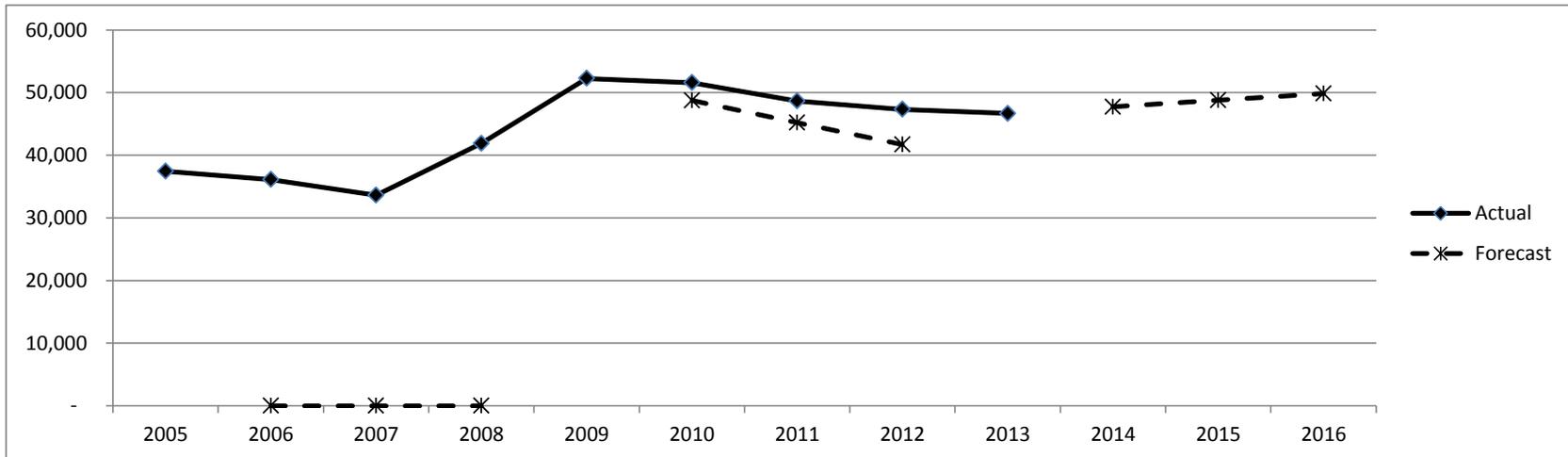
TurnOn/ShutOff - Close (Hard)

Source Customer Work
Order Group TurnOn/ShutOff
Order Type Close (Hard)

Description: This order type is used when a customer requests that their account be closed and gas service be shut off. A field technician closes the gas valve at the meter and secures it with a locking device.

Historical Averages	
5-Yr Avg	49,304
4-Yr Avg	48,563
3-Yr Avg	47,552

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	37,444	36,107	33,617	41,883	52,268	51,596	48,658	47,330	46,669			
Forecast		-	-	-		48,746	45,225	41,703		47,735	48,801	49,867



Forecasting Method: 4-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as the state of the economy and customer turnover, which are outside the company's control. Excluded 2009 since order volumes were significantly impacted by economic conditions in the real estate market.

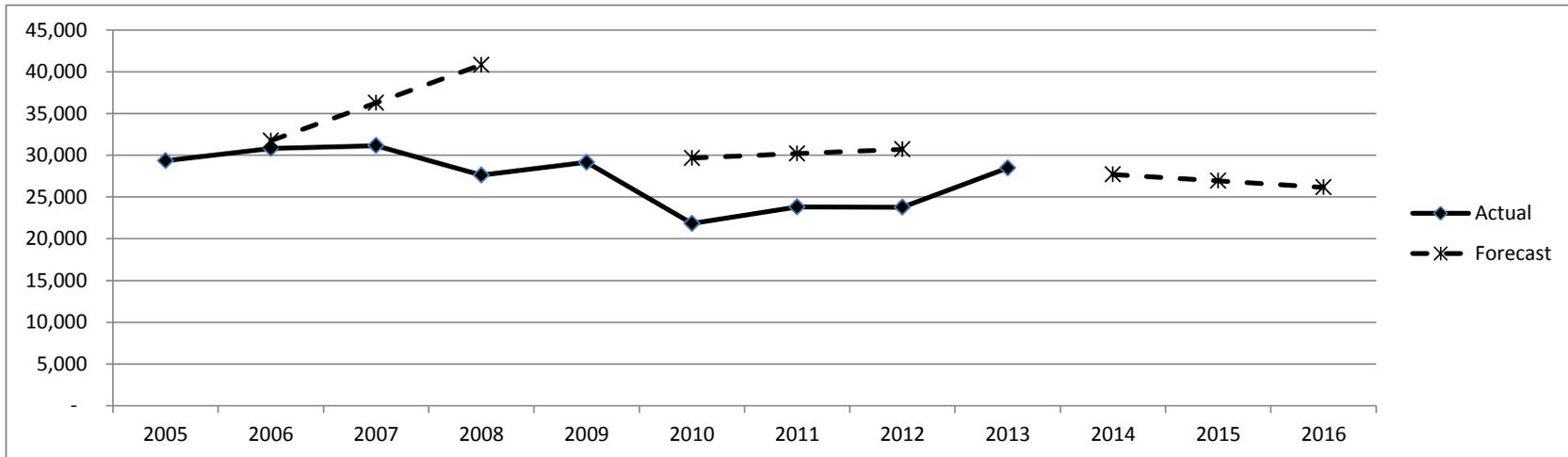
Miscellaneous - Service Order (MSO)

Source Customer Work
Order Group Miscellaneous
Order Type Service Order (MSO)

Description: This is a miscellaneous service order to account for work at customer premises that does not fit within other order categories, including follow-up work resulting from other orders.

Historical Averages	
5-Yr Avg	25,397
4-Yr Avg	24,460
3-Yr Avg	25,339

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	29,339	30,817	31,151	27,618	29,144	21,821	23,796	23,753	28,469			
Forecast		31,729	36,275	40,820		29,664	30,184	30,704		27,696	26,923	26,151



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year since this is a miscellaneous order type.

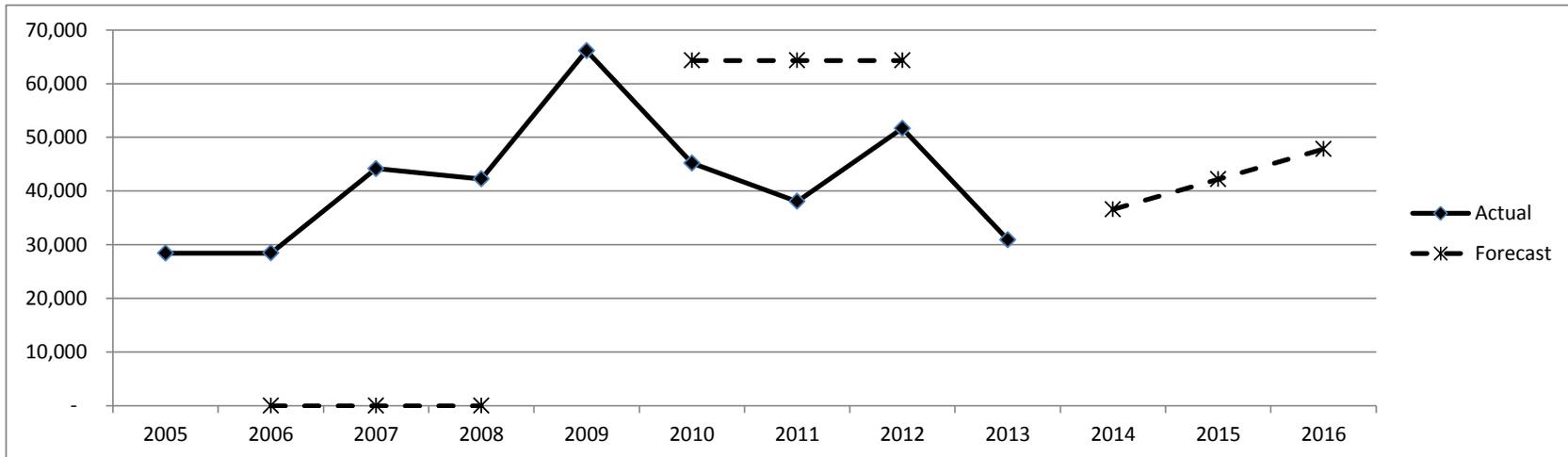
Miscellaneous - Meter Reg (MMR)

Source Customer Work
Order Group Miscellaneous
Order Type Meter & Reg (MMR)

Description: This is a multi-purpose order issued to address and correct a variety of conditions found at the meter including corrosion.

Historical Averages	
5-Yr Avg	46,387
4-Yr Avg	41,453
3-Yr Avg	40,210

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	28,404	28,444	44,159	42,243	66,124	45,183	38,049	51,665	30,916			
Forecast			-	-	-	64,318	64,318	64,318		36,557	42,199	47,840



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, e.g., corrosion or hazardous conditions found at meters, which are outside the company's control.

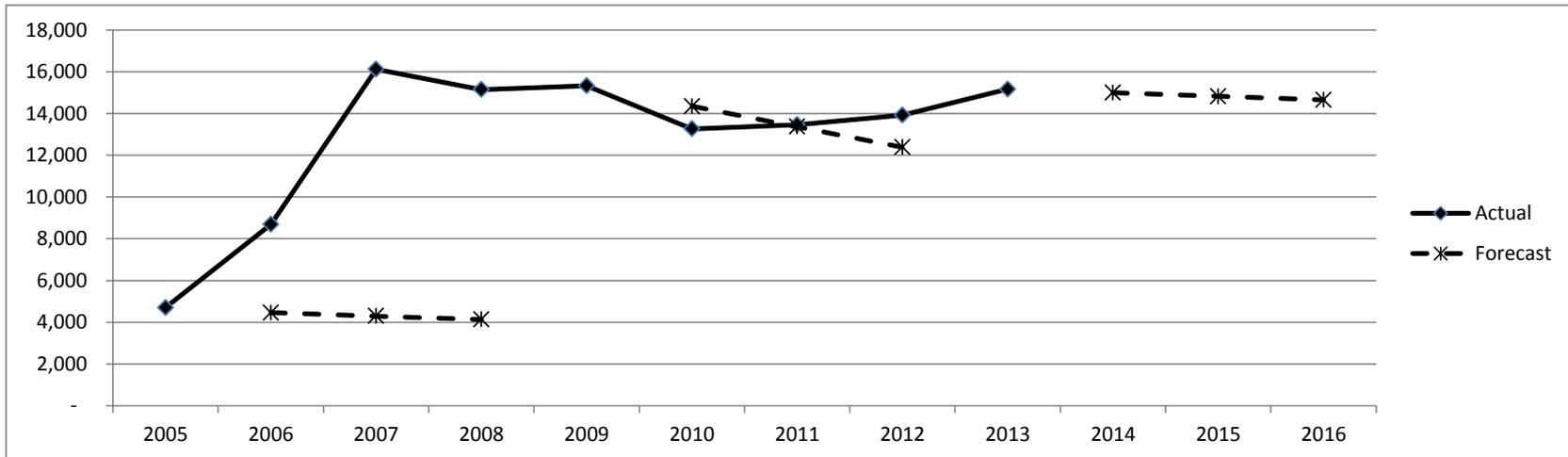
Miscellaneous - Assist

Source Customer Work
Order Group Miscellaneous
Order Type Assist

Description: This order type is used when a field employee working an order requests assistance from another employee in order to complete the order, e.g., needs tools or parts, is concerned about their safety, etc.

Historical Averages	
5-Yr Avg	14,225
4-Yr Avg	13,950
3-Yr Avg	14,178

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	4,703	8,683	16,115	15,142	15,325	13,265	13,456	13,914	15,165			
Forecast		4,461	4,296	4,130		14,346	13,366	12,387		14,992	14,820	14,647



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year and are impacted by external factors, such as external work environment, which are outside the company's control.

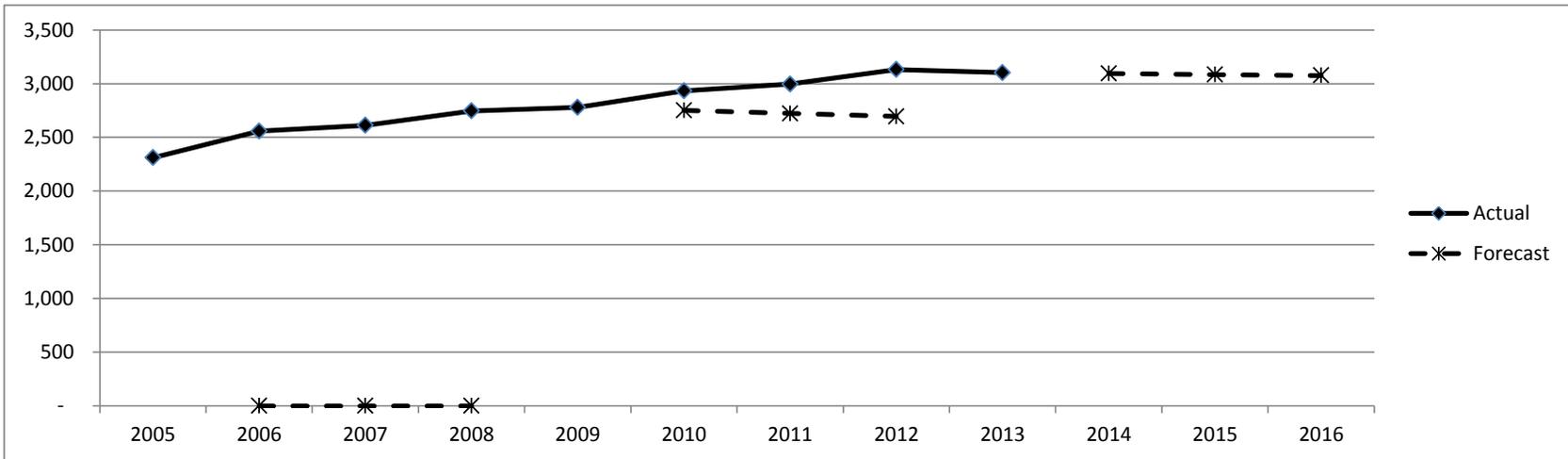
Food Industry - Turn On (Entered)

Source Customer Work
Order Group Food Industry
Order Type Turn On (Entered)

Description: This order type is used when a customer has established an account but the gas is off. A commercial/industrial field technician turns the gas on and services all gas equipment.

Historical Averages	
5-Yr Avg	2,989
4-Yr Avg	3,041
3-Yr Avg	3,077

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	2,311	2,558	2,611	2,747	2,778	2,934	2,996	3,132	3,103			
Forecast			-	-	-	2,750	2,722	2,695		3,094	3,085	3,076



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year due to external factors, such as the economy, customer turnover and other factors which are outside the company's control.

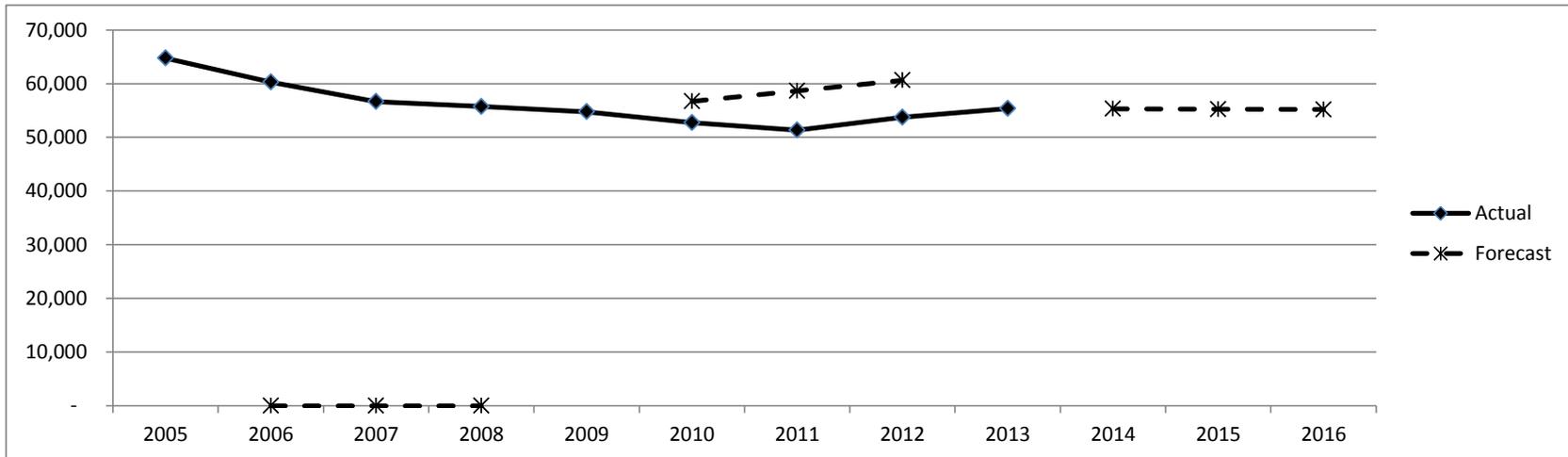
Food Industry - CSO

Source Customer Work
Order Group Food Industry
Order Type CSO

Description: This order type is used when a food industry customer requests service on a piece of gas equipment.

Historical Averages	
5-Yr Avg	53,598
4-Yr Avg	53,304
3-Yr Avg	53,487

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	64,759	60,304	56,660	55,739	54,773	52,755	51,342	53,753	55,366			
Forecast		-	-	-		56,726	58,678	60,631		55,306	55,246	55,186



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year due to external factors, such as the condition of customer equipment, malfunctioning of customers' gas equipment and other factors which are outside the company's control.

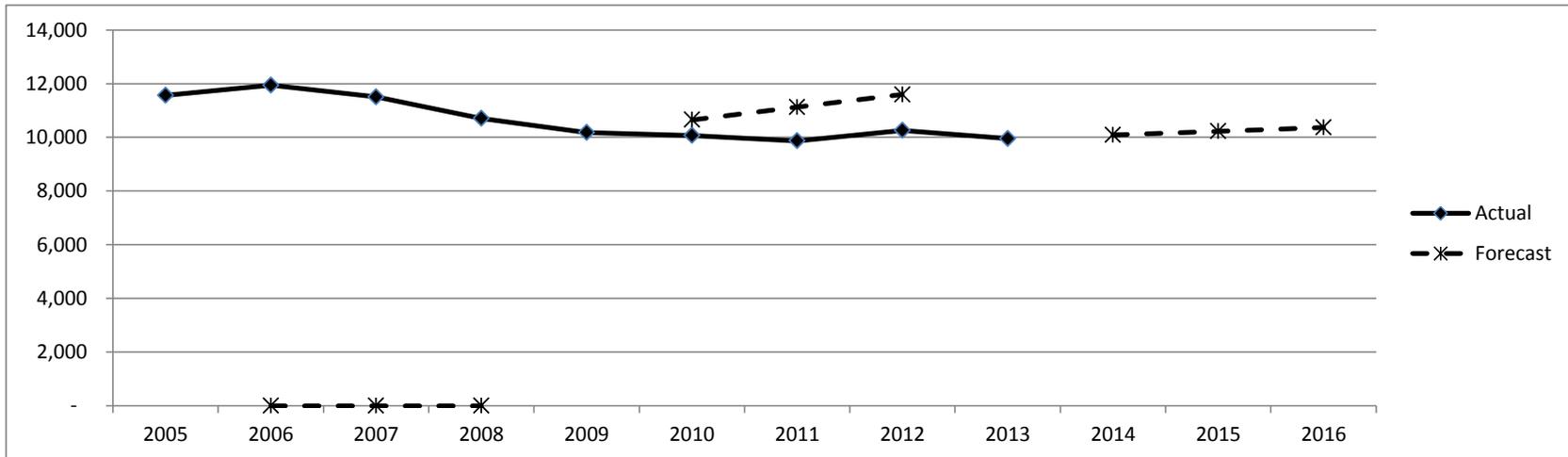
Food Industry - CSO Leak

Source Customer Work
Order Group Food Industry
Order Type CSO Leak

Description: This order type is used when a food industry customer reports a potential gas leak at a piece of equipment. A commercial service technician investigates the source of the gas leak and makes needed repairs, if possible, or isolates the leak and shuts off gas service.

Historical Averages	
5-Yr Avg	10,065
4-Yr Avg	10,036
3-Yr Avg	10,026

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	11,562	11,942	11,508	10,704	10,182	10,068	9,870	10,257	9,950			
Forecast		-	-	-		10,653	11,124	11,595		10,088	10,226	10,364



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year due to external factors, such as malfunctioning gas equipment, leaks at customer equipment, and other factors which are outside the company's control.

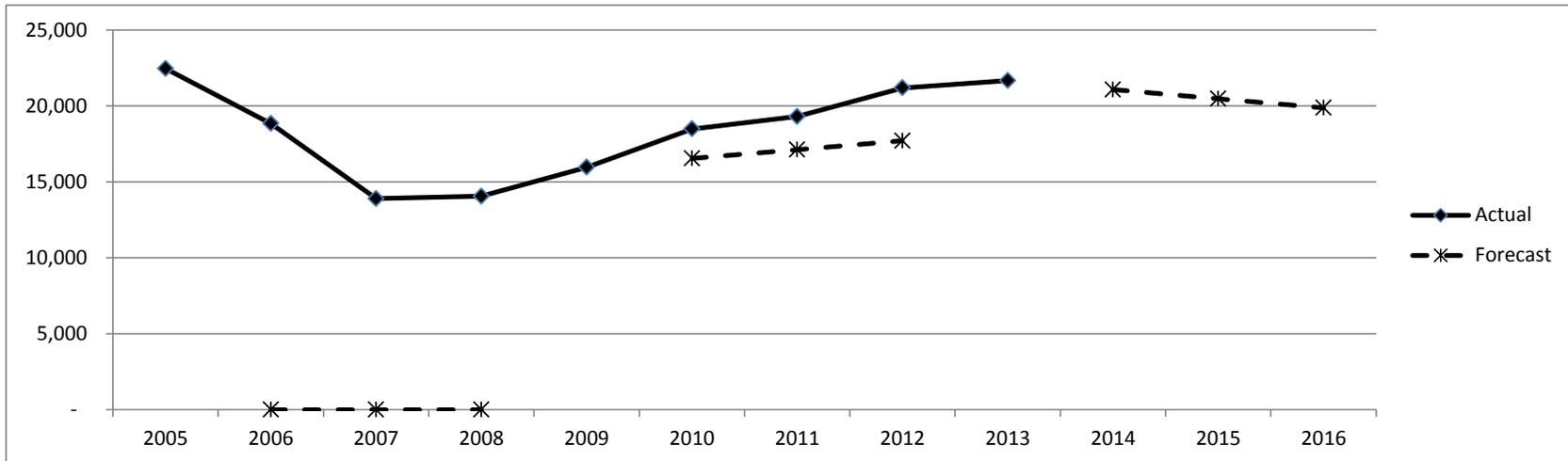
Commercial/Industrial - ISO

Source Customer Work
Order Group Commercial/Industrial
Order Type ISO

Description: This order type, an industrial service order, is used when an industrial customer requests service on a gas-fired piece of equipment.

Historical Averages	
5-Yr Avg	19,318
4-Yr Avg	20,158
3-Yr Avg	20,717

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	22,455	18,834	13,895	14,054	15,958	18,479	19,298	21,183	21,671			
Forecast		-	-	-		16,537	17,117	17,696		21,072	20,473	19,874



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year due to external factors, such as the condition of customer equipment, malfunctioning of customers' gas equipment and other factors which are outside the company's control.

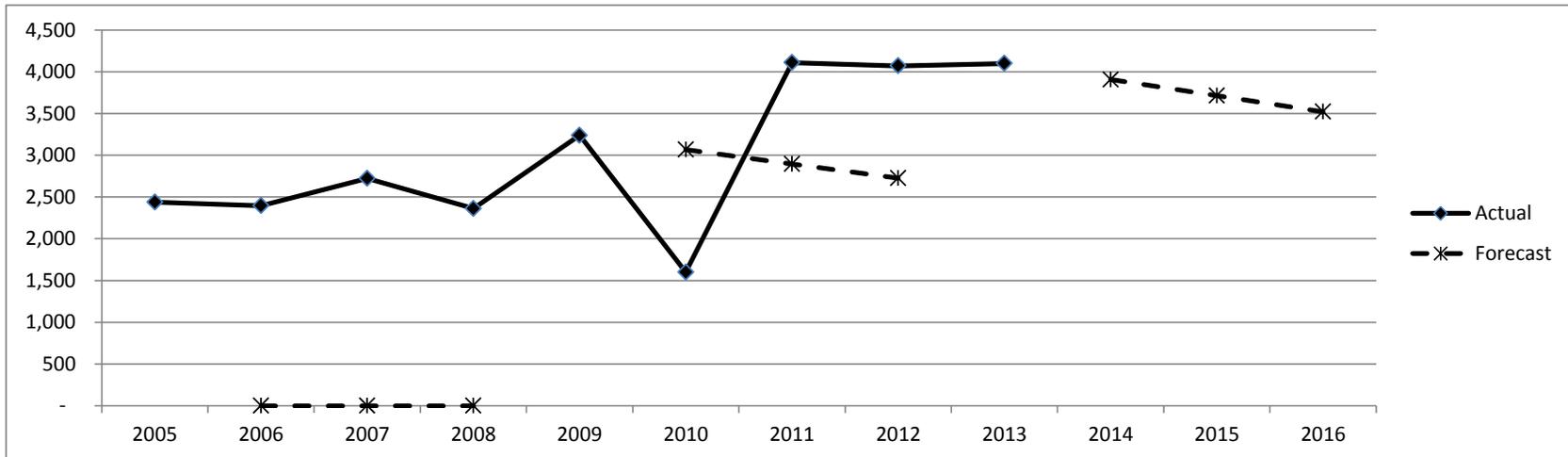
Commercial/Industrial - Load Survey- I/C

Source Customer Work
Order Group Commercial/Industrial
Order Type Load Survey- I/C

Description: This order type is used when a commercial/industrial field technician is asked to determine gas end use load at a customer premise, at the customer's request and/or in preparation for a meter change in order to properly size the meter.

Historical Averages	
5-Yr Avg	3,424
4-Yr Avg	3,470
3-Yr Avg	4,093

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	2,438	2,395	2,721	2,361	3,238	1,601	4,110	4,071	4,099			
Forecast		-	-	-		3,067	2,896	2,725		3,906	3,713	3,521



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year due to external factors, such as the economy, customer turnover, customer equipment choices and other factors which are outside the company's control.

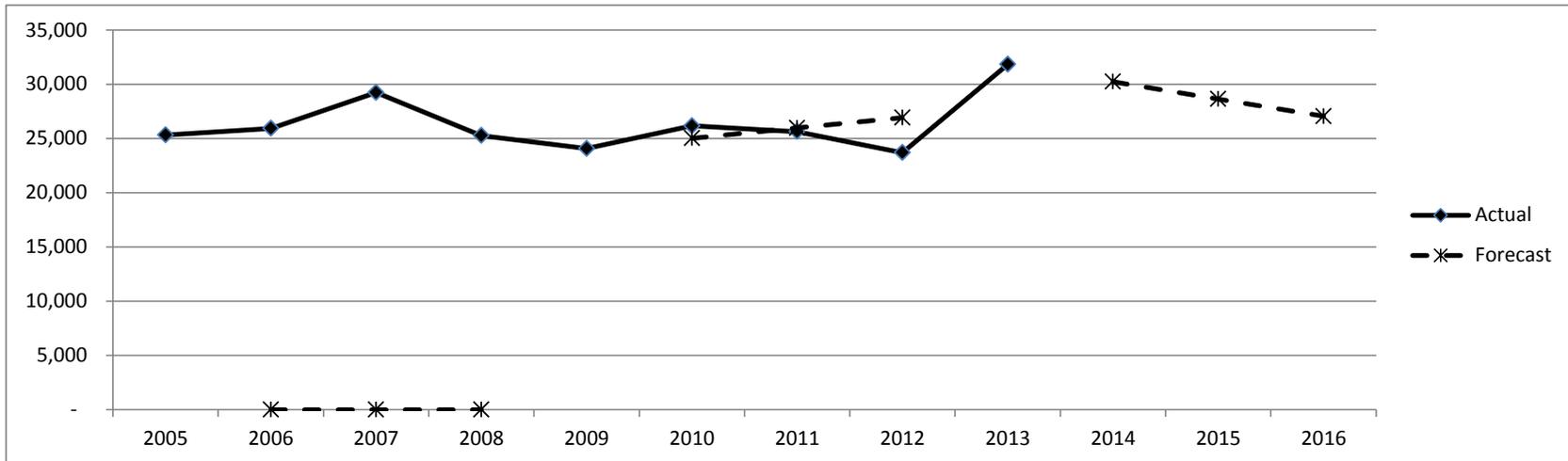
Commercial/Industrial - CSO

Source Customer Work
Order Group Commercial/Industrial
Order Type CSO

Description: This order type is used when a commercial customer requests service on a gas-fired piece of equipment.

Historical Averages	
5-Yr Avg	26,273
4-Yr Avg	26,824
3-Yr Avg	27,046

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	25,309	25,924	29,225	25,258	24,070	26,156	25,627	23,685	31,827			
Forecast		-	-	-		25,017	25,963	26,910		30,231	28,634	27,038



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year due to external factors, such as the condition of customer equipment, malfunctioning of customers' gas equipment and other factors which are outside the company's control.

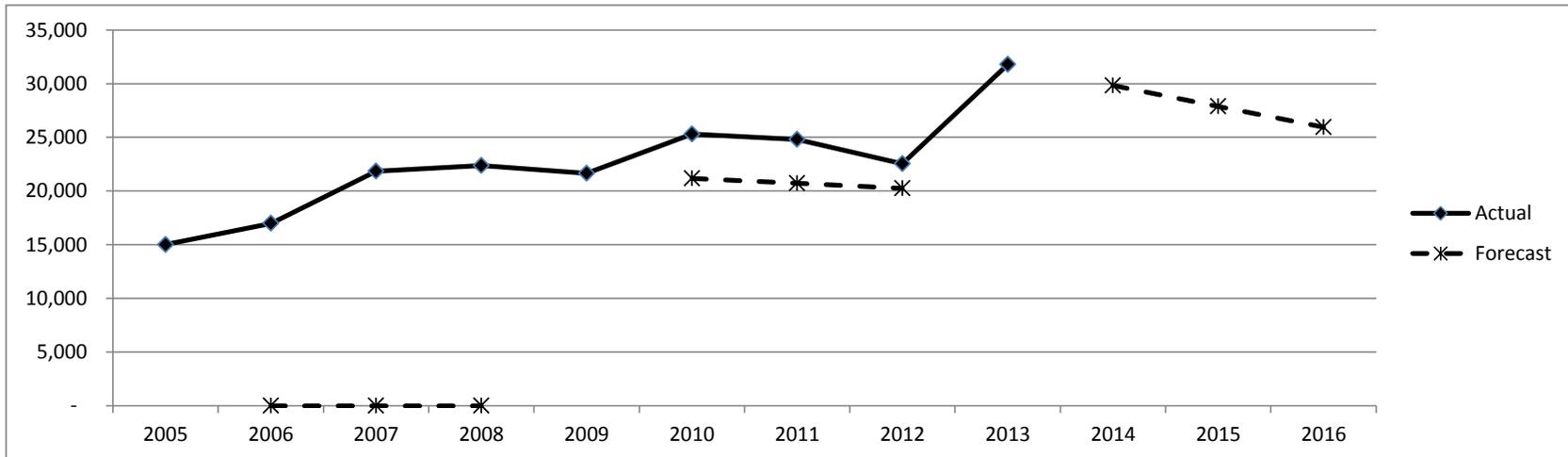
Commercial/Industrial - Turn On (Entered)

Source Customer Work
Order Group Commercial/Industrial
Order Type Turn On (Entered)

Description: This order type is used when a commercial/industrial customer requests gas service to be turned on. The commercial/industrial field technician turns on gas service at the meter and services all gas equipment.

Historical Averages	
5-Yr Avg	25,214
4-Yr Avg	26,109
3-Yr Avg	26,376

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	15,011	16,983	21,851	22,368	21,634	25,309	24,813	22,535	31,780			
Forecast		-	-	-		21,175	20,716	20,256		29,834	27,888	25,942



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Volumes fluctuate from year to year due to external factors, such as the economy, customer turnover and other factors which are outside the company's control.

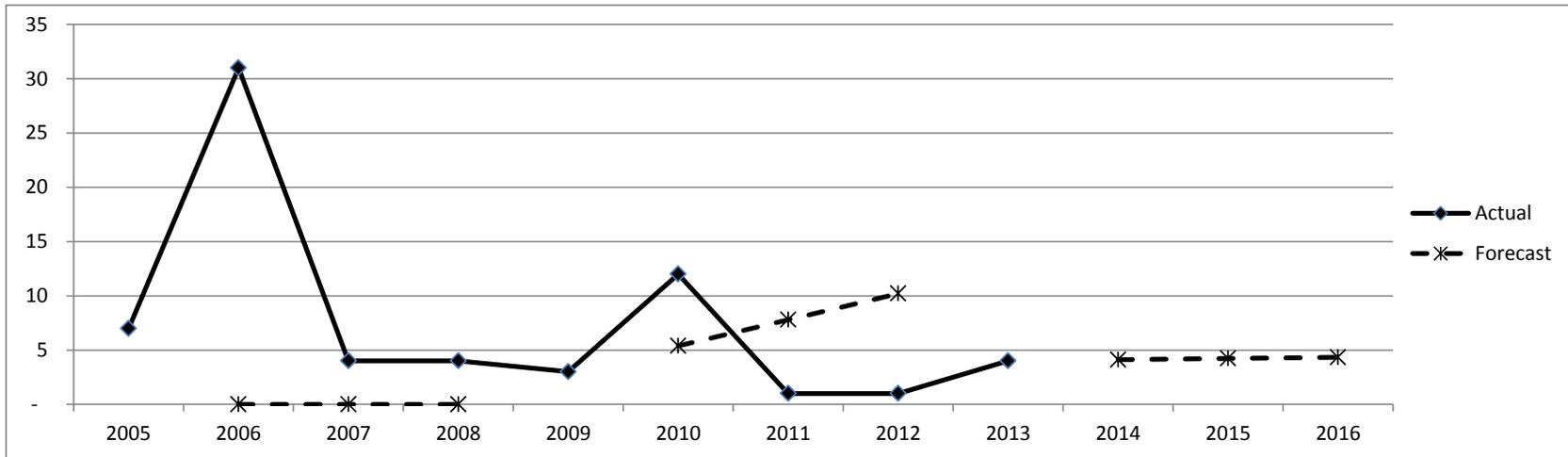
Cust/Comp Work - Other

Source Customer Work
Order Group Cust/Comp Work
Order Type Other

Description: This order type is used for miscellaneous customer- or company-generated work at customer premises.

Historical Averages	
5-Yr Avg	4
4-Yr Avg	5
3-Yr Avg	2

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	7	31	4	4	3	12	1	1	4			
Forecast		-	-	-		5	8	10		4	4	4



Forecasting Method: 5-Year Avg (Orders to Active Meters)

Although volumes are insignificant, they fluctuate from year to year.

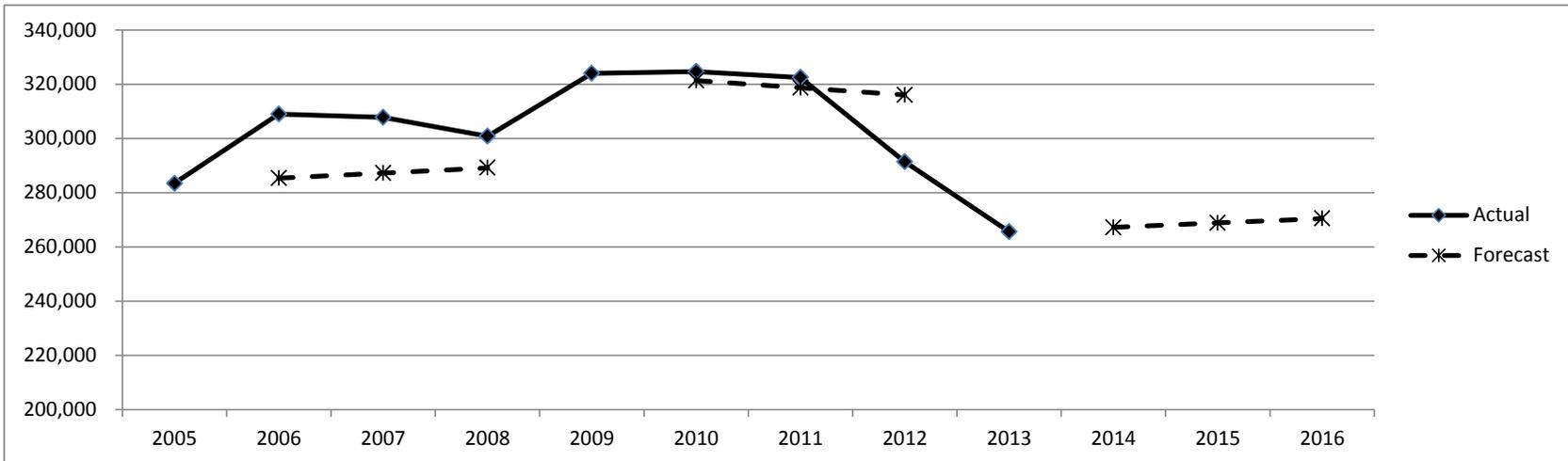
Incomplete

Source Customer/Company
 Order Group *Incomplete*
 Order Type *Incomplete*

Description: This order type is used when a field technician is unable to complete a service order at a customer premise for any number of reasons.

Historical Averages	
5-Yr Avg	305,606
4-Yr Avg	301,012
3-Yr Avg	293,128

Order Counts												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual	283,411	308,963	307,716	300,781	323,982	324,664	322,462	291,366	265,557			
Forecast		285,318	287,227	289,136		321,338	318,693	316,049		267,196	268,835	270,473



Forecasting Method: Base Year

Base year reflects a reduction in incomplete orders over the past five years.

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

**SOUTHERN CALIFORNIA GAS COMPANY
TEST YEAR 2016 GENERAL RATE CASE
Customer Services Field Operations**

Calculation of Total FTE Required for MSA Inspections

Note: FTE needed to determine Implementation Costs

A) Time Required to Read All Meter One Time

(Excludes RAMR & Non-Core)

A.1	Total Meters included in routes	5,636,797
A.2	Average walk and read time per order (mins)	0.636
A.3	Total Minutes	3,587,121

B) Time to read RAMR and Non-Core meters

B.1	RAMR and Non-Core Meters	215,598
B.2	Time to walk per meter (mins)	2.07
B.3	Total Minutes	446,288

C) Incremental Time Required for Initial MSA Inspections

C.1	Total above ground meters in 2013	5,636,852
C.2	Incremental on-premise time per meter (mins)	1.0
C.3	Total incremental mins for above ground meters	5,636,852
C.4	Total curb meter boxes in 2013	215,543
C.5	Incremental on-premise time per meter (mins)	7.0
C.6	Total incremental mins for curb meter boxes	1,508,801
C.7	Total Minutes	7,145,653

D) Drive time

D.1	Total Meter Reading Drive Time (mins)	453,531
D.2	Total Routes	15,302
D.3	Average drive time per route (mins)	29.64
D.4	No. of MSA routes	32,019.8
D.4.1	Total Inspection Time (a.3 + b.3 + c.7)	11,179,062
D.4.2	Total number of meters (a.1 + b.1)	5,852,395
D.4.3	Avg inspection time per meter (mins)	1.91
D.4.4	Total Minutes per Day (8 hrs x 60 mins)	480.00
D.4.5	Less: Non-Job Time	21.09% (101.23)
D.4.6	Less: Average drive time per route	(29.64)
D.4.7	Total Inspection time per day	349.13
		182.8
D.4.8	No. of meters per MSA route	182.77
D.4.9	No. of MSA inspection routs	32,019.83
D.5	Total Drive Time (Minutes)	949,025.3

E) Total FTEs Required for ALL MSA Inspections

E.1	Total Productive Time Required (mins)	12,128,087
E.2	Convert to Total Hours	202,135
E.3	Non-Job Time Loader (Hrs)	21.09% 42,630
E.4	Total Productive Time and Non-Job Time (Hrs)	244,765
E.5	Vacation & Sick and Training Loader (Hrs)	22.80% 55,806
E.6	Total Productive + Non-Productive Hrs	300,571
E.7	Total FTE @ 2088 hrs per fte	144
E.8	Annual FTE: Assume 1/3 of inspections will be done each year	48.0

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

H) Total Costs Required for MSA Inspectors Including CGI

H.1	Total FTE Required for MSA Inspection (E.8)	48.0
H.2	Total FTE Required for CGI (See Section 2 C.8 For Detailed Calculations)	36.1
H.3	Number of MSA Inspector	84.1
H.4	Total MSA Inspection Hours	300,571
H.5	Total CGI Hours	225,962
H.6	Sub Total	526,534
H.7	Annual Total Hours: 1/3 of inspections will be done each year	175,511
H.8	2013 Field Services Assitant Straight Time Rate	\$ 30.64
H.9	Total Annual Labor Expense	\$ 5,377,662
H.10	Annual Non-Labor per FTE	\$ 3,500
H.11	Total Annual Non-Labor Expense	\$ 294,200

H.10 ANNUAL MSA INSPECTOR COST INCLUDING CGI	\$ 5,671,862
-----------------------------------------------------	---------------------

AMIBA Funding For MSA Inspection	Labor	Non-Labor	Total	FTE
2016	\$ 391,830	\$ 153,000	\$ 544,830	6.1
2017	\$ 741,618	\$ 71,500	\$ 813,118	11.6
Levelized Annually	\$ 566,724	\$ 112,250	\$ 678,974	8.9
With V&S @ 16.62% For (\$)	\$ 660,913.53	\$ 112,250	\$ 773,164	10.3

TOTAL MSA INSPECTOR COSTS MINUS AMIBA FUNDING	Labor	Non-Labor	Total	FTE
	\$ 4,716,749	\$ 181,950	\$ 4,898,699	73.7

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

I) Total Costs Required for MSA Inspector Supervisors			
I.1	Number of Supervisors Required Based on Span of Control (20 : 1)		4.2
I.2	Annual Labor Expense Per Supervisor	\$	94,543
I.3	Annual Non-Labor Expense Per Supervisor	\$	9,516
I.4	Total Annual Labor	\$	397,350
I.5	Total Annual Non-Labor	\$	39,994
I.6 TOTAL ANNUAL SUPERVISOR COST		\$	437,345
J) Total Costs Required for Access Issues Clerical Support			
J.1	Number of Clerical Support Needed		4
J.2	Grade 4 Hourly Rate Per Union Agreement for 2013	\$	32.69
J.3	Annual Non-Labor Expense Per FTE	\$	1,250.00
J.4	Total Annual Labor	\$	273,026.88
J.5	Total Annual Non-Labor	\$	5,000.00
J.6 TOTAL ANNUAL METER ACCESS CLERKS COST		\$	278,026.88
K) Total Costs Required for Senior QA Specialist			
K.1	Number of Senior QA Specialist Needed		1
K.2	Hourly Rate for Senior QA Specialist	\$	38.35
K.3	Total Annual Labor	\$	80,074.80
K.4	Total Annual Non-Labor	\$	10,000.00
K.5 TOTAL ANNUAL QUALITY ASSURANCE INSPECTOR COST		\$	90,074.80
L) Total Costs Required for Tech Advisor for System Support			
L.1	Number of Tech Advisor Needed		1
L.2	Hourly Rate for Tech Advisor	\$	40.96
L.3	Total Annual Labor	\$	85,524.48
L.4	Total Annual Non-Labor	\$	5,000.00
L.5 TOTAL ANNUAL TECHNICAL SPECIALIST COST		\$	90,524.48
M) Total Costs Required for Cannot-Get In (CGI) Tag			
M.1	Cost per CGI Tag	\$	0.07
M.2	Number of CGI per Year		188,653
M.3 Total Cost for CGI Tags (M.1 X M.2)		\$	12,262.44

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

**SOUTHERN CALIFORNIA GAS COMPANY
TEST YEAR 2016 GENERAL RATE CASE
Customer Services Field Operations**

Calculation of Total FTE Required for CGI Orders

Note: FTE needed to determine Implementation Costs

A) CGI Estimate

	Mtr Loc	Meters	CGI Est %	CGIs
A.1	QXX	303,575	50%	151,788
A.2	Q	627,219	10%	62,722
A.3	XX	400,000	50%	200,000
A.4	K	113,014	95%	107,363
A.5	Other	4,408,587	1%	44,086
A.6 Total CGI orders				565,959

B) Total Time to complete CGI

B.1	On prem time per order	4.6
	Based on soft close on prem time; 1 min registration covers MSA inspection	
B.2	Drive time per order	11.48
	Average CSF Drive time in 2013	
B.3	Total Time per order (mins)	16.11
B.4 Total Time for CGI's (mins)		9,117,593

C) Total FTEs Required for CGI Orders

C.1	Total Productive Time Required (mins)	9,117,593
C.2	Convert to Total Hours	151,960
C.3	Non-Job Time Loader (Hrs)	32,048
	21.09%	
C.4	Total Prod & Non-Prod At Work Time (Hrs)	184,008
C.5	Vacation & Sick and Training Loader (Hrs)	41,954
	22.80%	
C.6	Total Productive + Non-Productive Hrs	225,962
C.7	Total FTE @ 2088 hrs per fte	108
C.8 Annual FTE: Assume 1/3 of inspections will be done each year		36.1

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

**SOUTHERN CALIFORNIA GAS COMPANY
TEST YEAR 2016 GENERAL RATE CASE
Customer Services Field Operations**

O&M - 2014 Implementation Costs for MSA Inspections

A) No. of FTEs Required

A.1	No. of Field FTEs for MSA Inspection (from Tab 4, Item E.8)	48
A.2	No. of Field FTEs Required for CGIs (from Tab 5, Item C.8)	36
A.3	<u>Total Field FTE's Required for MSA Inspections & CGIs</u>	<u>84</u>

B) O&M Labor

B.1 Assumption

- B.1.1 5 FTEs will be hired in July 2015 - Pilot and do MSA inspections from Jul - Dec 2015
- B.1.2 Ramp-up from October through December in preparation for full implementation in 2016
- B.1.3 Ramp-up 1: 25 FTEs will be hire in October
- B.1.4 Ramp-up 2: 25 FTEs will be hired in November
- B.1.5 Ramp up 3: 25 FTEs will be hired in December
- B.1.6 No incremental cost associated with Instructor Labor - will be absorbed with current Instructor levels in Training
- B.1.7 No. of Paid Hours: July - Dec 2015

Applies to 2015		
Direct Costs - 2013 \$		
Labor	N/Labor	FTE

Month	Days	Hrs	Month	Days	Hrs
Jul	23	184	Oct	22	176
Aug	21	168	Nov	21	168
Sep	22	176	Dec	23	184

B.2 Field Labor associated with Pilot

B.2.1	Total FTEs for Pilot	6.0		
B.2.2	Total Hours - Jul - Dec 2015	1,056		
B.2.3	FSA Top Hourly Rate of Pay (2013)	\$ 30.64		
B.2.4	<u>Total Vehicle Hardware Installation Labor</u>		<u>\$ 194,135</u>	<u>3.0</u>

B.3 Field Labor associated with Ramp-up 1

B.3.1	Total FTEs for Ramp-up 1	26.0		
B.3.2	Total Hours: Oct - Dec 2015	528		
B.3.3	FSA Top Hourly Rate of Pay (2013)	\$ 30.64		
B.3.4	<u>Total Vehicle Hardware Installation Labor</u>		<u>\$ 420,626</u>	<u>6.6</u>

B.4 Field Labor associated with Ramp-up 2

B.4.1	Total FTEs for Ramp-up 2	26.0		
B.4.2	Total Hours: Nov - Dec 2015	352		
B.4.3	FSA Top Hourly Rate of Pay (2013)	\$ 30.64		
B.4.4	<u>Total Vehicle Hardware Installation Labor</u>		<u>\$ 280,417</u>	<u>4.4</u>

B.5 Field Labor associated with Ramp-up 3

B.5.1	Total FTEs for Ramp-up 3	26.0		
B.5.2	Total Hours: Dec 2015	184		
B.5.3	FSA Top Hourly Rate of Pay (2013)	\$ 30.64		
B.5.4	<u>Total Vehicle Hardware Installation Labor</u>		<u>\$ 146,582</u>	<u>2.3</u>

C) O&M Non-Labor

C.1 Training Non-Labor

C.1.1	Total FTEs to be trained	84.0		
C.1.2	Non-Labor cost per FTE	3,500		
C.1.3	<u>Total Non-Labor</u>		<u>\$ 56,992</u>	

D) TOTAL O&M - 2015 RAMP UP IMPLEMENTATION COSTS

\$ 1,041,760	\$ 56,992	16.3
---------------------	------------------	-------------

**SOUTHERN CALIFORNIA GAS COMPANY
TEST YEAR 2016 GENERAL RATE CASE
Customer Services Field Operations**

Calculation of Mentoring Hours (Job Shadowing)

		SCG Customer Service Field - Full-Time Union Only Estimated Attrition - Retirements							
		2013	2014	2015	2016	2017	2018		
A) Estimated Retirements - Employees with 90 Points									
A.1	No. of Employees Eligible with 90 Points - Incremental per Year		22	22	24	20	8		
A.2	Carry Over From Prior Year	55	43	52	58	65	67		
		(Curr Yr A.1 + A.2) - Curr Yr A.4 = Carryover shown in next year							
A.3	5 Year Average Retirement Rate 90 Pts		21.00%						
A.4	Total Retirements with 90 Points		(A.1 + A.2) x A.3	12	14	15	17	18	16
B) Estimated Retirements - Employees with 70-89 Points									
B.1	No. of Employees Eligible with 70-89 Points - Incremental per Year		-6	4	2	9	20		
B.2	Carry Over From Prior Year	80	76	67	67	66	71		
		(Curr Yr B.1 + B.2) - Curr Yr B.4 = Carryover shown in next year							
B.3	5 Year Average Retirement Rate 70-89 Pts		5.0%						
B.4	Total Retirements with 70-89 Points		(B.1 + B.2) x B.3	4	3	4	3	4	5
C) Labor and Non-Labor Cost									
C.1	Total Retirements with 90 Points		from A.4	14	15	17			
C.2	Total Retirements with 70-89 Points		from B.4	3	4	3			
C.3	Estimated Total Retirements per Year		C.1 + C.2	17	19	21			
C.4	"Shadowing" days per retiree			60	60	60			
C.5	"Shadowing" hours per retiree		C.4 x 8 hrs/day	480	480	480			
C.6	Total "Shadowing" hours		C.3 x C.5	8,272	9,117	9,939			
C.7	Total "Shadowing" FTEs		C.6 / 2088 pd hrs	4.0	4.4	4.8			
C.8	2013 Blended Wage Rate	\$ 37.77							
C.9	Total Labor Cost (2013 \$)		C.6 x \$37.78						
				2014	2015	2016			
				\$ 312,462	\$ 344,355	\$ 375,433			
C.10	2013 Avg Non-Labor per FTE	\$ 4,568							
C.11	Total Non-Labor Cost (2013 \$)		C.7 x \$4,568						
				2014	2015	2016			
				\$ 18,096	\$ 19,944	\$ 21,744			

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

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

**SOUTHERN CALIFORNIA GAS COMPANY
TEST YEAR 2016 GENERAL RATE CASE
Customer Services Field Operations**

Calculation of Refreshing Training Costs

Employees with more than 5 years in their job are eligible for the Refresher Training

				2016	2017	2018
A) Labor Cost						
A.1	No. of Employees Eligible for Refresher Training			561	70	169
A.2	Less: Annual Retirements			21	22	20
A.3	Total No. of Employees for Refresher Training	A.1 - A.2		540	48	149
A.4	Levelized the total for 3 years to an annual count	3 yr avg of A.3		246	246	246
A.5	Length of Training in Days	>> 5				
A.6	Length of Training in Hours	>> 40	A.4 x 40 hrs	9,827	9,827	9,827
A.7	2013 Blended Wage Rate	>> \$37.77				
A.8	Total Labor Cost (2013 \$)	A.6 x \$37.78		\$371,153	\$371,153	\$371,153

B) Non-Labor Cost: Lodging and Meals

Employees from outlying areas will require hotel lodging and meal allowance to attend the 5 days of refresher training.

B.1	No. of Employees from Outlying Areas			187	16	38
B.2	Levelized the total for 3 years to an annual count	3 yr avg of B.1		80	80	80
B.3	Cost for Hotel per day	>> \$150				
B.4	No. of Hotel Stays (Days)	>> 5	B.2 x 5 days	402	402	402
B.5	Total Hotel Lodging Costs	B.4 x \$150/day		\$60,250	\$60,250	\$60,250
B.6	Meal Allowance per Day	>> \$40				
B.7	Total Meal Allowance Costs	B.4 x \$40/day		\$16,067	\$16,067	\$16,067
B.8	Total Non-Labor Costs	B.5 + B.7		\$76,317	\$76,317	\$76,317

**SOUTHERN CALIFORNIA GAS COMPANY
TEST YEAR 2016 GENERAL RATE CASE
Customer Services Field Operations**

Calculations of Operator Qualification (Op Qual) Training

Employee Count	2013 Straight Time Rate	2013 Over Time Rate	Job Title
----------------	-------------------------	---------------------	-----------

CUSTOMER SERVICE			
30	\$ 30.64	\$ 45.96	Fld Svc Asst
5	\$ 32.69	\$ 49.04	Fld Tech
137	\$ 35.15	\$ 52.73	ETR-A
778	\$ 35.15	\$ 52.73	ETR
87	\$ 37.96	\$ 56.94	Commercial Service Techs
50	\$ 43.66	\$ 65.49	Industrial Svc Tech
68	\$ 32.69	\$ 49.04	Fld Collector
1	\$ 35.15	\$ 52.73	Ld. Fld Collector
1	\$ 35.15	\$ 52.73	Sr. Fld Collector

METER READING			
715	\$ 18.11	\$ 27.17	Meter Reader (PT, Transitional, R)
34	\$ 32.69	\$ 49.04	Meter Reading Tech

Projected Year for Completion	CFR Reference	Task #	Task Description	Department Affected	Hours Need to Complete Training
2014			9.6 - Above-Ground Leakage Classification	CSF & Meter Reading	4
2015		1161	(B31Q-Installation of Customer Meters and Regulators - Residential and Small Commercial)	CSF	2
2016	192.307	641	Inspection of material (B31Q-Visually Inspect Pipe and Components Prior to Installation)	CSF	2
2015	2.2	0991	Coating Application and Repair - Brushed or Rolled	CSF	2
2015		1001	Coating Application and Repair - Sprayed	CSF	2
2015		1011	External Coating Application and Repair - Wrapped	CSF	2
2016		1021	Apply or Repair Internal Coating Other Than by Brushing, Rolling or Spraying	CSF	2
2016		1421	Direct Examination Techniques	CSF	2
2016	2.13	0141	Visual Inspection For Atmospheric Corrosion	CSF & Meter Reading	2
2016		0191	Measure Atmospheric Corrosion	CSF & Meter Reading	2
2016		1421	Direct Examination Techniques	CSF & Meter Reading	2
2017	9.3	1231	Inside Gas Leak Investigation (needs research)	CSF	2

**SOUTHERN CALIFORNIA GAS COMPANY
TEST YEAR 2016 GENERAL RATE CASE
Customer Services Field Operations**

Calculations of Operator Qualification (Op Qual) Training

Impacted Employees (A)

	Task #	Fld Svc Asst	Fld Tech	ETR-A	ETR	Commercial Service Techs	Industrial Svc Tech	Fld Collector	Ld. Fld Collector	Sr. Fld Collector	Meter Reader (PT, Transitional, R)	Meter Reading Tech
2014		30	5	137	778	87	50	68	1	1	715	34
2015	1161	30	5	137	778	87	50	68	1	1	-	-
2016	641	30	5	137	778	87	50	68	1	1	-	-
2015	0991	30	5	137	778	87	50	68	1	1	-	-
2015	1001	30	5	137	778	87	50	68	1	1	-	-
2015	1011	30	5	137	778	87	50	68	1	1	-	-
2016	1021	30	5	137	778	87	50	68	1	1	-	-
2016	1421	30	5	137	778	87	50	68	1	1	-	-
2016	0141	30	5	137	778	87	50	68	1	1	715	34
2016	0191	30	5	137	778	87	50	68	1	1	715	34
2016	1421	30	5	137	778	87	50	68	1	1	715	34
2017	1231	30	5	137	778	87	50	68	1	1	-	-

Total Incremental Hours Needed For Op Qual Training (B = A x Hours Needed To Complete Training Per Op Qual Task)

	Task #	Fld Svc Asst	Fld Tech	ETR-A	ETR	Commercial Service Techs	Industrial Svc Tech	Fld Collector	Ld. Fld Collector	Sr. Fld Collector	Meter Reader (PT, Transitional, R)	Meter Reading Tech
2014		120	20	548	3,112	348	200	272	4	4	2,860	136
2015	1161	60	10	274	1,556	174	100	136	2	2	-	-
2016	641	60	10	274	1,556	174	100	136	2	2	-	-
2015	0991	60	10	274	1,556	174	100	136	2	2	-	-
2015	1001	60	10	274	1,556	174	100	136	2	2	-	-
2015	1011	60	10	274	1,556	174	100	136	2	2	-	-
2016	1021	60	10	274	1,556	174	100	136	2	2	-	-
2016	1421	60	10	274	1,556	174	100	136	2	2	-	-
2016	0141	60	10	274	1,556	174	100	136	2	2	1,430	68
2016	0191	60	10	274	1,556	174	100	136	2	2	1,430	68
2016	1421	60	10	274	1,556	174	100	136	2	2	1,430	68
2017	1231	60	10	274	1,556	174	100	136	2	2	-	-

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

**SOUTHERN CALIFORNIA GAS COMPANY
TEST YEAR 2016 GENERAL RATE CASE
Customer Services Field Operations**

Calculations of Operator Qualification (Op Qual) Training

Total Cost For Op Qual (C = B x Job Title Specific Over Time Rate)

	Task #	Fld Svc Asst	Fld Tech	ETR-A	ETR	Commercial Service Techs	Industrial Svc Tech	Fld Collector	Ld. Fld Collector	Sr. Fld Collector	Meter Reader (PT, Transitional, R)	Meter Reading Tech
2014		\$ 5,515	\$ 981	\$ 28,893	\$ 164,080	\$ 19,815	\$ 13,098	\$ 13,338	\$ 211	\$ 211	\$ 77,692	\$ 6,669
2015	1161	\$ 2,758	\$ 490	\$ 14,447	\$ 82,040	\$ 9,908	\$ 6,549	\$ 6,669	\$ 105	\$ 105	\$ -	\$ -
2016	641	\$ 2,758	\$ 490	\$ 14,447	\$ 82,040	\$ 9,908	\$ 6,549	\$ 6,669	\$ 105	\$ 105	\$ -	\$ -
2015	0991	\$ 2,758	\$ 490	\$ 14,447	\$ 82,040	\$ 9,908	\$ 6,549	\$ 6,669	\$ 105	\$ 105	\$ -	\$ -
2015	1001	\$ 2,758	\$ 490	\$ 14,447	\$ 82,040	\$ 9,908	\$ 6,549	\$ 6,669	\$ 105	\$ 105	\$ -	\$ -
2015	1011	\$ 2,758	\$ 490	\$ 14,447	\$ 82,040	\$ 9,908	\$ 6,549	\$ 6,669	\$ 105	\$ 105	\$ -	\$ -
2016	1021	\$ 2,758	\$ 490	\$ 14,447	\$ 82,040	\$ 9,908	\$ 6,549	\$ 6,669	\$ 105	\$ 105	\$ -	\$ -
2016	1421	\$ 2,758	\$ 490	\$ 14,447	\$ 82,040	\$ 9,908	\$ 6,549	\$ 6,669	\$ 105	\$ 105	\$ -	\$ -
2016	0141	\$ 2,758	\$ 490	\$ 14,447	\$ 82,040	\$ 9,908	\$ 6,549	\$ 6,669	\$ 105	\$ 105	\$ 38,846	\$ 3,334
2016	0191	\$ 2,758	\$ 490	\$ 14,447	\$ 82,040	\$ 9,908	\$ 6,549	\$ 6,669	\$ 105	\$ 105	\$ 38,846	\$ 3,334
2016	1421	\$ 2,758	\$ 490	\$ 14,447	\$ 82,040	\$ 9,908	\$ 6,549	\$ 6,669	\$ 105	\$ 105	\$ 38,846	\$ 3,334
2017	1231	\$ 2,758	\$ 490	\$ 14,447	\$ 82,040	\$ 9,908	\$ 6,549	\$ 6,669	\$ 105	\$ 105	\$ -	\$ -

Total Incremental Cost for Operator Qualification Training (D = Sum of C for Each Year)

	Fld Svc Asst	Fld Tech	ETR-A	ETR	Commercial Service Techs	Industrial Svc Tech	Fld Collector	Ld. Fld Collector	Sr. Fld Collector	Meter Reader (PT, Transitional, R)	Meter Reading Tech
2014	\$ 5,515	\$ 981	\$ 28,893	\$ 164,080	\$ 19,815	\$ 13,098	\$ 13,338	\$ 211	\$ 211	\$ 77,692	\$ 6,669
2015	\$ 11,030	\$ 1,961	\$ 57,787	\$ 328,160	\$ 39,630	\$ 26,196	\$ 26,675	\$ 422	\$ 422	\$ -	\$ -
2016	\$ 16,546	\$ 2,942	\$ 86,680	\$ 492,241	\$ 59,445	\$ 39,294	\$ 40,013	\$ 633	\$ 633	\$ 116,538	\$ 10,003
2017	\$ 2,758	\$ 490	\$ 14,447	\$ 82,040	\$ 9,908	\$ 6,549	\$ 6,669	\$ 105	\$ 105	\$ -	\$ -

	CSF Total Incremental Cost for Operator Qualification Training		Meter Reading Total Incremental Cost for Operator Qualification Training	
	(\$)	(FTE)	(\$)	(FTE)
2014	\$ 246,142	2.2	\$ 84,361	1.4
2015	\$ 492,284	4.4	\$ -	-
2016	\$ 738,426	6.6	\$ 126,541	2.2
2017	\$ 123,071	1.1	\$ -	-

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

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

**SOUTHERN CALIFORNIA GAS COMPANY
TEST YEAR 2016 GENERAL RATE CASE
Customer Services Field Operations**

Calculation of Incremental Labor Cost for Curb Meter Regulator Changes

			2016	2017
a)	Proposed No. of Curb Regulator Changes		10,030	10,030
b)	On-Premise Time Mins per Order (ELS Time Study)	19.83		
c)	Total On-Premise Time (Mins)	(a x 19.83)	198,875	198,875
d)	Total On-Premise Hours	(c / 60)	3,315	3,315
<hr/>				
e)	Non-Job Time Loader Rate	21.09%		
f)	Total Non-Job Time Hours	(d x 21.09%)	699	699
g)	Total Hours: On Premise + Non-Job Time	(d + f)	4,014	4,014
<hr/>				
h)	Vacation and Sick Loader Rate	16.90%		
i)	Total Vacation and Sick Hours	(g x 16.9%)	678	678
j)	Total Hours: On Premise + Non-Job + Vac & Sick	(g + i)	4,692	4,692
<hr/>				
k)	2013 Blended Wage Rate	\$ 37.77		
l)	Total Incremental Labor Cost (2013 \$)	(j x \$37.78)	\$ 177,225	\$ 177,225

Note:

No drive time is included since this is incremental Regulator change and the employee would already be on-premise for the curb meter change.

Please see SoCalGas Witness Frank Ayala's testimony, Ex. SCG-04 for detail and rationale

SoCalGas CSFC Witness Area
2013 SCG AM Benefit Orders

2013 AM Benefits	Orders	Hours				Total Hours *
		On-prem	Drive	NJT	Trg	
		5.3	11.5	21.09%	5.92%	
Turn On (Not Entered)	29,157	2,573	5,577	1,719	585	10,453
	Orders	On-prem	Drive	NJT	Trg	Total Hours *
		3.8	11.5	21.09%	5.92%	
Close (Change Of Accounts)	3,643	231	697	196	67	1,190

* Excludes V&S; V&S is layered on in GRID

2013 Labor Rate \$37.91
2013 Labor Hours 2,088

Labor Dollars \$ 441,405
Labor FTE 5.6
Non-labor / FTE \$ 4,928

GRID Ajustment:

Labor \$ 441,405
Non-labor \$ 27,481
Total \$ 468,885
FTE 5.6

Explanation:

Adjustment to add AMI benefit reductions into 2013 recorded expenses in order to reflect the business without advanced meter impacts. Since advanced meter related costs and benefits are recorded in the Advanced Meter Balancing Account (AMIBA) for this GRC period, historical expenses are being adjusted to reflect costs without advanced meter benefits.

Beginning of Workpaper
2FC002.000 - Customer Services Field - Supervision

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 2. Customer Service Field - Supervision
 Workpaper: 2FC002.000 - Customer Services Field - Supervision

Activity Description:

Labor and non-labor costs for front-line supervisors who provide direct supervision for CSF field technicians and field collectors who work from 51 operating bases and cover all of SoCalGas' service territory.

Forecast Explanations:

Labor - Zero-Based

The CSF supervisor forecast is based on maintaining the current employee-to-supervisor ratio of 12:1. The forecasted supervisor full-time equivalents (FTEs) are calculated by applying the 12:1 ratio to the forecasted workforce in work group 2FC001.000. Incremental funding requests, which are forecasted using the zero based methodology, are then added to determine total funding requirements. Forecasting by historical averaging or trending of expenses would not maintain the desired employee-to-supervisor span of control and is therefore not suitable. An explanation of the forecast methodology for the CSF Operations workforce can be found in work group 2FC001.000.

Non-Labor - Zero-Based

Non-labor expenses such as cell phones, office supplies and other miscellaneous expenses are driven by the forecasted number of supervisor FTEs. The non-labor forecast is based on the five-year average historical non-labor expense per supervisor FTE multiplied by the forecasted number of supervisor FTEs. Incremental funding requests, which are forecasted using the zero based methodology, are then added to determine total funding requirements. Because non-labor expenses are driven by workforce levels, historical averaging or trending of expenses only would not be aligned with forecasted workforce levels and would therefore not be suitable.

NSE - Zero-Based

NSE is not applicable to this workgroup.

Summary of Results:

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		10,154	10,874	12,519	11,930	10,144	10,716	10,985	12,158	
Non-Labor		1,247	1,196	1,166	1,115	974	1,084	1,111	1,230	
NSE		0	0	0	0	0	0	0	0	
Total		11,401	12,070	13,685	13,046	11,118	11,800	12,096	13,388	
FTE		109.1	117.9	134.4	127.2	107.3	113.0	116.0	128.2	

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 2. Customer Service Field - Supervision
 Workpaper: 2FC002.000 - Customer Services Field - Supervision

Forecast Summary:

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Zero-Based	0	0	0	10,716	10,985	12,158	10,716	10,985	12,158
Non-Labor	Zero-Based	0	0	0	1,084	1,111	1,230	1,084	1,111	1,230
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	11,800	12,096	13,388	11,800	12,096	13,388
FTE	Zero-Based	0.0	0.0	0.0	113.0	116.0	128.2	113.0	116.0	128.2

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2014	10,716	1,084	0	11,800	113.0	1-Sided Adj

Labor and non-labor costs for front-line CSF Operations Supervisors, who provide direct supervision for CSF field technicians and field collectors, to maintain historical span of control of 12:1. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Work Order Volume" for detailed analysis.

2014 Total	10,716	1,084	0	11,800	113.0	
-------------------	---------------	--------------	----------	---------------	--------------	--

2015	10,985	1,111	0	12,096	116.0	1-Sided Adj
------	--------	-------	---	--------	-------	-------------

Labor and non-labor costs for front-line CSF Operations Supervisors, who provide direct supervision for CSF field technicians and field collectors, to maintain historical span of control of 12:1. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Work Order Volume" for detailed analysis.

2015 Total	10,985	1,111	0	12,096	116.0	
-------------------	---------------	--------------	----------	---------------	--------------	--

2016	397	40	0	437	4.2	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Labor and non-labor costs for front-line MSA Inspection Supervisors, who provide direct supervision of field services assistants performing MSA Inspection. Assumes span of control of 20:1. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - MSA Inspection Program" for detailed analysis.

2016	11,761	1,190	0	12,951	124.0	1-Sided Adj
------	--------	-------	---	--------	-------	-------------

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 2. Customer Service Field - Supervision
 Workpaper: 2FC002.000 - Customer Services Field - Supervision

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
-------------------	--------------	-------------	------------	--------------	------------	-----------------

Labor and non-labor costs for front-line CSF Operations Supervisors, who provide direct supervision for CSF field technicians and field collectors, to maintain historical span of control of 12:1. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Work Order Volume" for detailed analysis.

2016 Total	12,158	1,230	0	13,388	128.2	
-------------------	---------------	--------------	----------	---------------	--------------	--

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: A. Customer Service Field
Category-Sub: 2. Customer Service Field - Supervision
Workpaper: 2FC002.000 - Customer Services Field - Supervision

Determination of Adjusted-Recorded (Incurred Costs):

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	11,945	7,389	6,702	6,806	6,303
Non-Labor	1,111	990	931	963	907
NSE	0	0	0	0	0
Total	13,055	8,378	7,633	7,770	7,210
FTE	151.3	92.9	79.1	79.3	71.4
Adjustments (Nominal \$) **					
Labor	-4,142	1,226	3,549	3,236	2,395
Non-Labor	15	117	190	132	67
NSE	0	0	0	0	0
Total	-4,127	1,343	3,739	3,368	2,462
FTE	-59.6	6.9	35.7	29.8	20.4
Recorded-Adjusted (Nominal \$)					
Labor	7,803	8,615	10,251	10,042	8,698
Non-Labor	1,126	1,106	1,121	1,096	974
NSE	0	0	0	0	0
Total	8,928	9,721	11,373	11,138	9,672
FTE	91.7	99.8	114.8	109.1	91.8
Vacation & Sick (Nominal \$)					
Labor	1,410	1,506	1,703	1,608	1,446
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1,410	1,506	1,703	1,608	1,446
FTE	17.4	18.1	19.6	18.1	15.5
Escalation to 2013\$					
Labor	941	754	565	280	0
Non-Labor	121	89	45	19	0
NSE	0	0	0	0	0
Total	1,063	843	609	300	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	10,154	10,874	12,519	11,930	10,144
Non-Labor	1,247	1,196	1,166	1,115	974
NSE	0	0	0	0	0
Total	11,401	12,070	13,685	13,046	11,118
FTE	109.1	117.9	134.4	127.2	107.3

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: A. Customer Service Field
Category-Sub: 2. Customer Service Field - Supervision
Workpaper: 2FC002.000 - Customer Services Field - Supervision

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	-4,142	1,226	3,549	3,236	2,395
Non-Labor	15	117	190	132	67
NSE	0	0	0	0	0
Total	-4,127	1,343	3,739	3,368	2,462
FTE	-59.6	6.9	35.7	29.8	20.4

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	102	52	0	-3.7	1-Sided Adj	N/A	TPDXV20131015 144046527
Transfer supervisor costs from 2FC002.001 to Supervision 2FC002.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2009	20	0	0	0.2	1-Sided Adj	N/A	TPKAJ201312061 00119467
Transfer Supervisor labor expense to 2FC002.000 Supervision in order to align historical costs with the workgroup in which the activity will be forecasted							
2009	-1,644	0	0	-19.3	1-Sided Adj	N/A	TPKAJ201312061 01518113
Transfer District Operations Manager labor expense from 2FC002.000 Supervision workgroup to 2FC004.000 Support workgroup in order to align historical costs with the workgroup in which the activity will be forecasted.							
2009	-11	0	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 02821993
Transfer Union retro pay from Supervision 2FC002.000 to Operations 2FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2009	0	0	0	4.5	1-Sided Adj	N/A	TPKAJ201312061 03327160
Adjustment to correct a journal entry posted in March 2009. Data entry error- 9514 hours were transferred from O&M to capital; hours should have been 95.14							
2009	-490	-4	0	-6.9	1-Sided Adj	N/A	TPKAJ201312061 04953037
Transfer Field Instructor expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align historical costs with the workgroup in which the activity will be forecasted							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 2. Customer Service Field - Supervision
 Workpaper: 2FC002.000 - Customer Services Field - Supervision

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2009	-95	-2	0	-1.0	1-Sided Adj	N/A	TPKAJ201312061 05723803
Transfer Quality Assurance expense from Supervision 2FC002.000 to Support 2FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2009	-1,176	-4	0	-19.4	1-Sided Adj	N/A	TPKAJ201312061 05937527
Transfer District Operations Clerk expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align historical costs with the workgroup in which the activity will be forecasted							
2009	-849	0	0	-14.0	1-Sided Adj	N/A	TPKAJ201312061 10053137
Transfer District Operations Clerk expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align historical costs with the workgroup in which the activity will be forecasted.							
2009	0	-27	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 11804527
Transfer non-labor expense from Supervision 2FC002.000 to Operations 2FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2009 Total	-4,142	15	0	-59.6			
2010	4,103	147	0	47.1	1-Sided Adj	N/A	TPDXV20131015 145047360
Transfer Supervision costs from 2FC002.001 to 2FC002.000 in order to align the history with the forecast							
2010	133	0	0	1.6	1-Sided Adj	N/A	TPKAJ201312061 00216130
Transfer supervisor labor expense to 2FC002.000 Supervision workgroup in order to align the history with the forecast							
2010	-1,173	0	0	-13.6	1-Sided Adj	N/A	TPKAJ201312061 01637500
Transfer District Operations Manager labor expense from 2FC002.000 Supervision workgroup to 2FC004.000 Support workgroup in order to align the history with the forecast							
2010	-442	0	0	-6.1	1-Sided Adj	N/A	TPKAJ201312061 05107360
Transfer Field Instructor expense from Supervision 2FC002.000 to Support 2FC004.000 in order to align the history with the forecast							
2010	-1,224	-3	0	-19.4	1-Sided Adj	N/A	TPKAJ201312061 10655583
Transfer District Operations Clerk expense from 2FC002.000 Supervision to 2FC004.000 Staff in order to align the history with the forecast							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 2. Customer Service Field - Supervision
 Workpaper: 2FC002.000 - Customer Services Field - Supervision

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2010	-170	0	0	-2.7	1-Sided Adj	N/A	TPKAJ201312061 10755893
Transfer District Operations Clerk expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align historical costs with the workgroup in which the activity will be forecasted.							
2010	0	-28	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 11843117
Transfer non-labor expense from Supervision 2FC002.000 to Operations 2FC001.000 in order to align the history with the forecast							
2010 Total	1,226	117	0	6.9			
2011	6,390	215	0	71.5	CCTR Transf	From 2200-0451.001	TPDXV20131016 100137960
Transfer to primary workgroup 2FC002.000 from sub workgroup 2FC002.001 due to remap of cost centers							
2011	59	0	0	0.7	1-Sided Adj	N/A	TPKAJ201312061 00314747
Transfer Supervisor labor expense from 2FC001.000 to 2FC002.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2011	-1,195	0	0	-13.2	1-Sided Adj	N/A	TPKAJ201312061 01730733
Transfer District Operations Manager labor expense from 2FC002.000 Supervision workgroup to 2FC004.000 Support workgroup in order to align historical costs with the workgroup in which the activity will be forecasted							
2011	-59	0	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 02331220
Transfer District Operations Clerk retro pay from Supervision 2FC002.000 to Support 2FC004.000 in order to align the history with the forecast. Although this retro pay posted in 2011, the adjustment to add to Staff will be reflected in 2010 as the retro pay was related to hours worked in 2010							
2011	-9	0	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 02508783
Transfer District Operations Clerk retro pay from Supervision 2FC002.000 to Support 2FC004.000 in order to align the history with the forecast. This retro pay is relative to the hours worked in 2011 to retained in 2011.							
2011	-376	0	0	-5.0	1-Sided Adj	N/A	TPKAJ201312061 05218347
Transfer Field Instructor expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align historical costs with the workgroup in which the activity will be forecasted							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 2. Customer Service Field - Supervision
 Workpaper: 2FC002.000 - Customer Services Field - Supervision

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2011	-1,261	-1	0	-18.3	1-Sided Adj	N/A	TPKAJ201312061 10827053
Transfer District Operations Clerk expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align historical costs with the workgroup in which the activity will be forecasted							
2011	0	-23	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 11917210
Transfer non-labor expense from Supervision 2FC002.000 to Operations 2FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2011 Total	3,549	190	0	35.7			
2012	6,436	152	0	69.7	CCTR Transf	From 2200-0451.001	TPDXV20131016 100545730
Transfer up to primary WPG from sub, due to remap							
2012	52	0	0	0.6	1-Sided Adj	N/A	TPKAJ201312061 00410447
Transfer supervisor labor expense to 2FC002.000 Supervision workgroup in order to align the history with the forecast							
2012	-1,290	0	0	-13.7	1-Sided Adj	N/A	TPKAJ201312061 01826560
Transfer District Operations Manager labor expense from 2FC002 Supervision workgroup to 2FC004 Support workgroup in order to align the history with the forecast							
2012	-23	0	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 02912850
Transfer Union retropay from Supervision 2FC002 to Operations 2FC001 in order to align the history with the forecast							
2012	-566	0	0	-7.4	1-Sided Adj	N/A	TPKAJ201312061 05311487
Transfer Field Instructor expense from 2FC002 Supervision to 2FC004 Support in order to align the history with the forecast							
2012	-1,373	-2	0	-19.4	1-Sided Adj	N/A	TPKAJ201312061 10924033
Transfer District Operations Clerk expense from 2FC002 Supervision to 2FC004 Support in order to align the history with the forecast							
2012	0	-17	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 11956710
Transfer non-labor expense from Supervision 2FC002 to Operations 2FC001 in order to align the history with the forecast							
2012 Total	3,236	132	0	29.8			

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 2. Customer Service Field - Supervision
 Workpaper: 2FC002.000 - Customer Services Field - Supervision

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2013	54	0	0	0.5	1-Sided Adj	N/A	CTRINH2014021 1180543073
Transfer supervision labor/fte from 2FC001.000 (Operations) to 2FC002.000 (Supervision), in order to align historical costs with forecast							
2013	-638	0	0	-8.1	1-Sided Adj	N/A	CTRINH2014021 1183552747
Transfer Field Instructor labor/fte from 2FC002.000 (Supervision) to 2FC004.000 (Operation Support), to align historical costs with forecast							
2013	0	-13	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1183750037
Transfer Field Instructor non-labor from 2FC002.000 (Supervision) to 2FC004.000 (Operation Support), to align historical costs with forecast							
2013	0	-0.654	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1183920657
Transfer Quality Assurance non-labor from 2FC002.000 (Supervision) to 2FC004.000 (Operation Support), to align historical costs with forecast							
2013	-1,326	0	0	-18.0	1-Sided Adj	N/A	CTRINH2014021 1184135337
Transfer District Operations Clerk labor/fte from 2FC002.000 (Supervision) to 2FC004.000 (Operations Support), to align historical costs with forecast							
2013	0	-4	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1184359447
Transfer District Operations Clerk non-labor from 2FC002.000 (Supervision) to 2FC004.000 (Operations Support), to align historical costs with forecast							
2013	0	-14	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1185833850
Transfer Customer Services Field non-labor tools expense from 2FC002.000 (Supervision) to 2FC001.000 (Operations), to align historical costs with forecast							
2013	5,492	98	0	58.4	CCTR Transf	From 2200-0451.001	CTRINH2014021 2144950347
Transfer to primary WPG from sub due to remap							
2013	-1,187	0	0	-12.4	1-Sided Adj	N/A	CTRINH2014021 2173050587
Transfer District Operations Manager labor expense from 2FC002 Supervision workgroup to 2FC004 Support workgroup in order to align the history with the forecast							
2013 Total	2,395	67	0	20.4			

Note: Totals may include rounding differences.

Beginning of Workpaper
2FC003.000 - Customer Services Field - Dispatch

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 3. Customer Service Field - Dispatch
 Workpaper: 2FC003.000 - Customer Services Field - Dispatch

Activity Description:

Includes labor and non-labor costs for Dispatch personnel who route and dispatch work orders to CSF field employees 24 hours a day, 365 days a year, including dispatching emergency orders real time as they are received, redistributing work orders when employees call in sick or otherwise become unavailable, redistributing work orders when employees are not able to complete all work that has been assigned for the day and other related dispatching tasks.

Forecast Explanations:

Labor - 5-YR Average

Dispatching costs have remained relatively flat over time. A five-year average was used to forecast labor costs to avoid the potential for artificially inflating or deflating results based on short-term anomalies.

Non-Labor - 5-YR Average

Non-labor expenses, which include items such as office materials and cell phone expenses, have remained relatively flat over time. A five-year average was used to forecast non-labor costs to avoid the potential for artificially inflating or deflating results based on short-term anomalies.

NSE - 5-YR Average

NSE is not applicable to this workgroup.

Summary of Results:

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		9,020	8,967	8,868	8,870	8,762	8,617	8,617	8,617	
Non-Labor		220	213	180	171	158	188	188	188	
NSE		0	0	0	0	0	0	0	0	
Total		9,240	9,180	9,048	9,041	8,920	8,806	8,806	8,806	
FTE		111.0	111.1	110.1	110.0	106.2	106.2	106.2	106.2	

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 3. Customer Service Field - Dispatch
 Workpaper: 2FC003.000 - Customer Services Field - Dispatch

Forecast Summary:

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Average	8,897	8,897	8,897	-280	-280	-280	8,617	8,617	8,617
Non-Labor	5-YR Average	188	188	188	0	0	0	188	188	188
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		9,086	9,086	9,086	-280	-280	-280	8,806	8,806	8,806
FTE	5-YR Average	109.7	109.7	109.7	-3.5	-3.5	-3.5	106.2	106.2	106.2

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2014	-280	0	0	-280	-3.5	1-Sided Adj

Adjustment to reflect benefit from Forecasting & Scheduling Project (FSP). For more details on the costs & benefits associated with FSP please refer to SoCalGas A-10-12-006, Exhibit No.: SCG-07-WP-R, Supplemental Workpaper 2FO000.000_Supp1.pdf, "SCG Customer Service Field E. Benefit-Forecasting & Scheduling Project". See historical adjustments (2012 & 2013) for detailed explanation.

2014 Total	-280	0	0	-280	-3.5	
-------------------	-------------	----------	----------	-------------	-------------	--

2015	-280	0	0	-280	-3.5	1-Sided Adj
------	------	---	---	------	------	-------------

Adjustment to reflect benefit from Forecasting & Scheduling Project (FSP). For more details on the costs & benefits associated with FSP please refer to SoCalGas A-10-12-006, Exhibit No.: SCG-07-WP-R, Supplemental Workpaper 2FO000.000_Supp1.pdf, "SCG Customer Service Field E. Benefit-Forecasting & Scheduling Project". See historical adjustments (2012 & 2013) for detailed explanation.

2015 Total	-280	0	0	-280	-3.5	
-------------------	-------------	----------	----------	-------------	-------------	--

2016	-280	0	0	-280	-3.5	1-Sided Adj
------	------	---	---	------	------	-------------

Adjustment to reflect benefit from Forecasting & Scheduling Project (FSP). For more details on the costs & benefits associated with FSP please refer to SoCalGas A-10-12-006, Exhibit No.: SCG-07-WP-R, Supplemental Workpaper 2FO000.000_Supp1.pdf, "SCG Customer Service Field E. Benefit-Forecasting & Scheduling Project". See historical adjustments (2012 & 2013) for detailed explanation.

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: A. Customer Service Field
Category-Sub: 3. Customer Service Field - Dispatch
Workpaper: 2FC003.000 - Customer Services Field - Dispatch

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2016 Total	-280	0	0	-280	-3.5	

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: A. Customer Service Field
Category-Sub: 3. Customer Service Field - Dispatch
Workpaper: 2FC003.000 - Customer Services Field - Dispatch

Determination of Adjusted-Recorded (Incurred Costs):

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	7,204	7,308	7,262	7,230	6,579
Non-Labor	327	310	173	168	158
NSE	0	0	0	0	0
Total	7,531	7,618	7,435	7,398	6,737
FTE	96.9	96.7	94.0	91.3	79.4
Adjustments (Nominal \$) **					
Labor	-273	-204	0	236	935
Non-Labor	-129	-113	0	0	0
NSE	0	0	0	0	0
Total	-402	-318	0	236	935
FTE	-3.6	-2.6	0.0	3.0	11.5
Recorded-Adjusted (Nominal \$)					
Labor	6,932	7,104	7,262	7,466	7,514
Non-Labor	198	197	173	168	158
NSE	0	0	0	0	0
Total	7,130	7,301	7,435	7,634	7,672
FTE	93.3	94.1	94.0	94.3	90.9
Vacation & Sick (Nominal \$)					
Labor	1,253	1,242	1,206	1,195	1,249
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1,253	1,242	1,206	1,195	1,249
FTE	17.6	17.0	16.1	15.6	15.4
Escalation to 2013\$					
Labor	836	621	400	208	0
Non-Labor	21	16	7	3	0
NSE	0	0	0	0	0
Total	858	637	407	211	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	9,020	8,967	8,868	8,870	8,762
Non-Labor	220	213	180	171	158
NSE	0	0	0	0	0
Total	9,240	9,180	9,048	9,041	8,920
FTE	110.9	111.1	110.1	109.9	106.3

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 3. Customer Service Field - Dispatch
 Workpaper: 2FC003.000 - Customer Services Field - Dispatch

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	-273	-204	0	236	935
Non-Labor	-129	-113	0	0	0
NSE	0	0	0	0	0
Total	-402	-318	0	236	935
FTE	-3.6	-2.6	0.0	3.0	11.5

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	-273	-129	0	-3.6	1-Sided Adj	N/A	TPKAJ201312061 12219277
Transfer Field Instructor expense from Dispatch 2FC003.000 to Support 2FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2009 Total	-273	-129	0	-3.6			
2010	-204	-113	0	-2.6	1-Sided Adj	N/A	TPKAJ201312061 12336853
Transfer Field Instructor expense from Dispatch 2FC003.000 to Support 2FC004.000 in order to align the history with the forecast							
2010 Total	-204	-113	0	-2.6			
2011 Total	0	0	0	0.0			

2012 236 0 0 3.0 1-Sided Adj N/A CTRINH2014041
0192333157

Adjustment to add Forecasting & Scheduling Project (FSP) benefit reductions (without vacation & sick allowances) into 2012 recorded expenses in order to reflect the standard business operations without FSP impacts. This workgroup is being forecasted using the 5 year average methodology, therefore historical expenses are being adjusted to reflect costs without FSP benefits. An adjustment will be made to forecasted years 2014, 2015, 2016 to incorporate benefits from FSP. For more details on the costs & benefits associated with FSP please refer to SoCalGas A-10-12-006, Exhibit No.: SCG-07-WP-R, Supplemental Workpaper 2FO000.000_Supp1.pdf, "SCG Customer Service Field E. Benefit-Forecasting & Scheduling Project".

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 3. Customer Service Field - Dispatch
 Workpaper: 2FC003.000 - Customer Services Field - Dispatch

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2012 Total	236	0	0	3.0			
2013	695	0	0	8.5	1-Sided Adj	N/A	CTRINH2014021 1200219270
<p>Transfer customer service field dispatch FTEs and labor dollars from GOGD workgroup 2GD000.000 to Customer Service Field Dispatch workgroup 2FC003.000 in order to align history with the forecast. Offsetting adjustment is found in GOGD workpaper for workgroup 2GD000.000</p>							
2013	240	0	0	3.0	1-Sided Adj	N/A	CTRINH2014041 0192521380
<p>Adjustment to add Forecasting & Scheduling Project (FSP) benefit reductions (without vacation & sick allowances) into 2013 recorded expenses in order to reflect the standard business operations without FSP impacts. This workgroup is being forecasted using the 5 year average methodology, therefore historical expenses are being adjusted to reflect costs without FSP benefits. An adjustment will be made to forecasted years 2014, 2015, 2016 to incorporate benefits from FSP. For more details on the costs & benefits associated with FSP please refer to SoCalGas A-10-12-006, Exhibit No.: SCG-07-WP-R, Supplemental Workpaper 2FO000.000_Supp1.pdf, "SCG Customer Service Field E. Benefit-Forecasting & Scheduling Project".</p>							
2013 Total	935	0	0	11.5			

Note: Totals may include rounding differences.

Beginning of Workpaper
2FC004.000 - Customer Services Field - Support

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 4. Customer Service Field - Support
 Workpaper: 2FC004.000 - Customer Services Field - Support

Activity Description:

The CSF Support cost category includes centralized training (classroom instructors, supervisors and a training manager located at SoCalGas' Pico Rivera skills training center); field instructors who accompany new residential field technicians immediately following their formal training to ensure they are able to work safely in the field on their own; quality assurance ("QA") inspectors and a QA supervisor who inspect the work of field technicians to ensure policy adherence and quality of the work performed; field technology support personnel who maintain the field MDTs, work management, routing and reporting systems used for CSF operations; operations clerks who are located at the field operating bases; region and district management; and administrative associates.

Forecast Explanations:

Labor - 5-YR Average

Forecasted TY 2016 labor expenses are based on five-year historical average costs, given the variability in CSF support requirements. Incremental funding requests, which are forecasted using the zero based methodology, are then added to determine total funding requirements.

Non-Labor - 5-YR Average

Forecasted TY 2016 non-labor expenses are based on five-year historical averages given the variability in CSF support requirements. Incremental funding requests (e.g., new MDT wireless access fees), which are forecasted using the zero based methodology, are then added to determine total funding requirements.

NSE - 5-YR Average

Not applicable.

Summary of Results:

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		9,744	9,734	9,621	9,368	8,804	9,659	9,659	10,980	
Non-Labor		1,191	1,281	1,158	828	954	1,532	1,532	1,643	
NSE		0	0	0	0	0	0	0	0	
Total		10,935	11,015	10,779	10,196	9,758	11,191	11,191	12,623	
FTE		117.7	117.9	116.7	113.2	106.1	116.3	116.3	131.3	

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 4. Customer Service Field - Support
 Workpaper: 2FC004.000 - Customer Services Field - Support

Forecast Summary:

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Average	9,454	9,454	9,454	205	205	1,526	9,659	9,659	10,980
Non-Labor	5-YR Average	1,082	1,082	1,082	450	450	561	1,532	1,532	1,643
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		10,536	10,536	10,536	655	655	2,087	11,191	11,191	12,623
FTE	5-YR Average	114.3	114.3	114.3	2.0	2.0	17.0	116.3	116.3	131.3

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2014	120	10	0	130	1.0	1-Sided Adj

Labor and non-labor expenses for an incremental MSA Inspection Program Manager. This is a new position created in 2014 that is not reflected in historical expenses and therefore not reflected in the five-year average forecast methodology.

2014	0	438	0	438	0.0	1-Sided Adj
------	---	-----	---	-----	-----	-------------

MDT Wireless Network Access Fees

2014	85	2	0	87	1.0	1-Sided Adj
------	----	---	---	----	-----	-------------

Labor and non-labor expense for incremental technology specialist position needed to manage wireless access and address all AT&T wireless broadband network access issues as they arise. The requested labor and non-labor costs for this position are based on the 2013 costs for comparable positions.

2014 Total	205	450	0	655	2.0	
-------------------	------------	------------	----------	------------	------------	--

2015	120	10	0	130	1.0	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Labor and non-labor expenses for an incremental MSA Inspection Program Manager. This is a new position created in 2014 that is not reflected in historical expenses and therefore not reflected in the five-year average forecast methodology.

2015	0	438	0	438	0.0	1-Sided Adj
------	---	-----	---	-----	-----	-------------

MDT Wireless Network Access Fees

2015	85	2	0	87	1.0	1-Sided Adj
------	----	---	---	----	-----	-------------

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 4. Customer Service Field - Support
 Workpaper: 2FC004.000 - Customer Services Field - Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
-------------------	--------------	-------------	------------	--------------	------------	-----------------

Labor and non-labor expense for incremental technology specialist position needed to manage wireless access and address all AT&T wireless broadband network access issues as they arise. The requested labor and non-labor costs for this position are based on the 2013 costs for comparable positions.

2015 Total	205	450	0	655	2.0	
-------------------	------------	------------	----------	------------	------------	--

2016	384	14	0	398	4.0	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Labor and non-labor expenses for four incremental commercial and industrial field instructor positions, to supplement the existing residential field instructor positions. Labor = 4 x \$95k, non-labor = 4 x \$9.5k. Non-labor costs include reimbursable mileage expenses for traveling to all operating bases out of which commercial and industrial field technicians work.

2016	120	10	0	130	1.0	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Labor and non-labor expenses for an incremental MSA Inspection Program Manager. This is a new position created in 2014 that is not reflected in historical expenses and therefore not reflected in the five-year average forecast methodology.

2016	273	17	0	290	4.0	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Labor and non-labor expenses for incremental Meter Access Clerks for MSA Inspection Program to manage and gain access to chronically inaccessible/difficult-to-access meters, as well as provide other general administrative and clerical support for the MSA Inspection Program. The forecasted non-labor cost includes the cost of printing Cannot-Get-In "CGI" tags for FSAs to leave at customer premises when they are not able to access a meter to perform the required MSA inspection. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - MSA Inspection Program" for detailed analysis.

2016	80	10	0	90	1.0	1-Sided Adj
------	----	----	---	----	-----	-------------

Labor and non-labor expenses for incremental Quality Assurance Inspector for MSA Inspection Program to inspect the work of the field technician performing the inspections to ensure MSA inspections are completed in accordance with policies and procedures and in a manner that complies with the DOT regulations. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - MSA Inspection Program" for detailed analysis.

2016	86	5	0	91	1.0	1-Sided Adj
------	----	---	---	----	-----	-------------

Labor and non-labor expenses for incremental technical specialist position for MSA Inspection Program to design and maintain meter inspection routes, including incorporating new meters. The new position will also be responsible for maintaining the MDT handheld units that will be used by the field technicians performing the MSA inspections. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - MSA Inspection Program" for detailed analysis.

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 4. Customer Service Field - Support
 Workpaper: 2FC004.000 - Customer Services Field - Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2016	498	65	0	563	5.0	1-Sided Adj

Labor and non-labor expenses for: a) two incremental senior instructor positions to design and conduct refresher training at SoCalGas' Pico Rivera training center for residential field technicians who have been in their positions for extended periods of time, b) two incremental senior instructor positions to provide more comprehensive and more formalized instruction on new/modified policies at all 51 CSF operating bases on an ongoing basis, and c) one incremental training specialist position to update and keep current all existing training videos used at the Pico Rivera training center, to reflect the types and conditions of appliances and equipment technicians are currently encountering in the field. Labor = 5 x \$99.6k, non-labor = 5 x \$5k, \$40k in non-labor for associated video equipment.

2016	0	438	0	438	0.0	1-Sided Adj
------	---	-----	---	-----	-----	-------------

MDT Wireless Network Access Fees

2016	85	2	0	87	1.0	1-Sided Adj
------	----	---	---	----	-----	-------------

Labor and non-labor expenses for incremental technology specialist position needed to manage wireless access and address all AT&T wireless broadband network access issues as they arise. The requested labor and non-labor costs for this position are based on the 2013 costs for comparable positions.

2016 Total	1,526	561	0	2,087	17.0	
-------------------	--------------	------------	----------	--------------	-------------	--

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: A. Customer Service Field
Category-Sub: 4. Customer Service Field - Support
Workpaper: 2FC004.000 - Customer Services Field - Support

Determination of Adjusted-Recorded (Incurred Costs):

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	2,404	2,577	2,441	1,984	1,898
Non-Labor	853	953	988	786	847
NSE	0	0	0	0	0
Total	3,257	3,530	3,430	2,771	2,745
FTE	27.3	29.7	28.2	21.8	20.0
Adjustments (Nominal \$) **					
Labor	5,084	5,134	5,437	5,902	5,651
Non-Labor	222	232	125	27	106
NSE	0	0	0	0	0
Total	5,306	5,367	5,562	5,928	5,758
FTE	71.7	70.2	71.5	75.3	70.8
Recorded-Adjusted (Nominal \$)					
Labor	7,488	7,711	7,878	7,886	7,550
Non-Labor	1,075	1,185	1,114	813	954
NSE	0	0	0	0	0
Total	8,562	8,897	8,992	8,699	8,503
FTE	99.0	99.9	99.7	97.1	90.8
Vacation & Sick (Nominal \$)					
Labor	1,353	1,348	1,309	1,262	1,255
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1,353	1,348	1,309	1,262	1,255
FTE	18.7	18.1	17.1	16.1	15.3
Escalation to 2013\$					
Labor	903	675	434	220	0
Non-Labor	116	96	44	14	0
NSE	0	0	0	0	0
Total	1,019	770	478	234	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	9,744	9,734	9,621	9,368	8,804
Non-Labor	1,191	1,281	1,158	828	954
NSE	0	0	0	0	0
Total	10,935	11,015	10,779	10,196	9,758
FTE	117.7	118.0	116.8	113.2	106.1

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 4. Customer Service Field - Support
 Workpaper: 2FC004.000 - Customer Services Field - Support

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	5,084	5,134	5,437	5,902	5,651
Non-Labor	222	232	125	27	106
NSE	0	0	0	0	0
Total	5,306	5,367	5,562	5,928	5,758
FTE	71.7	70.2	71.5	75.3	70.8

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	1,140	94	0	14.3	1-Sided Adj	N/A	CTRINH2014040 8094301430
Adjustment to move costs from shared service cost center 2200-0345 to non-shared workgroup 2FC004.000 Support as activities in this cost center will no longer be shared.							
2009	-511	0	0	-6.0	1-Sided Adj	N/A	CTRINH2014100 1194518650
As a result of the 2010 reorganization there was a reduction in CSF DOMs. A portion of the 2009 DOM expense should be excluded from history in order to align 2009 DOM expense with 2010-2013 (post 2010 reorg).							
2009	849	0	0	14.0	1-Sided Adj	N/A	CTRINH2014100 1201338967
Transfer District Operations Clerk expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align historical costs with the workgroup in which the activity will be forecasted							
2009	-71	0	0	-0.8	CCTR Transf	From 2200-0331.000	RMCHRIST20140 501145414793
Budget Planner transferred in 2013. This Budget Planner was transferred from cost center 2200-0571 in work paper 2FC004 to cost center 2200-0331 in work paper group 2OO006.							
2009	1,644	0	0	19.3	1-Sided Adj	N/A	TPKAJ201312061 01553690
Transfer District Operations Manager labor expense from 2FC002.000 Supervision workgroup to 2FC004.000 Support workgroup in order to align historical costs with the workgroup in which the activity will be forecasted.							
2009	490	4	0	6.9	1-Sided Adj	N/A	TPKAJ201312061 05020883
Transfer Field Instructor expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align historical costs with the workgroup in which the activity will be forecasted							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 4. Customer Service Field - Support
 Workpaper: 2FC004.000 - Customer Services Field - Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	95	2	0	1.0	1-Sided Adj	N/A	TPKAJ201312061 05750607
Transfer Quality Assurance expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align historical costs with the workgroup in which the activity will be forecasted							
2009	1,176	4	0	19.4	1-Sided Adj	N/A	TPKAJ201312061 10009230
Transfer District Operations Clerk expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align historical costs with the workgroup in which the activity will be forecasted							
2009	273	129	0	3.6	1-Sided Adj	N/A	TPKAJ201312061 12300177
Transfer Field Instructor expense from 2FC003.000 Dispatch to 2FC004.000 Support in order to align historical costs with the workgroup in which the activity will be forecasted							
2009	0	-11	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 12524163
Transfer Operations non-labor expense from 2FC004.000 Support to 2FC001.000 Operations in order to align historical costs with the workgroup in which the activity will be forecasted							
2009 Total	5,084	222	0	71.7			

2010	590	0	0	9.5	1-Sided Adj	N/A	CTRINH2014022 1121629633
Transfer Distirct Operations Clerks (DOCs) labor and FTE from GOGD to CSFC in order to align history with forecast. Typically there a 2 DOCs located at each district base, 1 supporting CSFC and 1 supporting GOGD. This adjustment reflects the proper allocation of DOCs to the 2 operational areas. See offsetting adjustment in GOGD workgroup 2GD000.000							
2010	1,124	126	0	14.1	1-Sided Adj	N/A	CTRINH2014040 8094458290
Adjustment to move costs from shared service cost center 2200-0345 to non-shared workgroup 2FC004.000 Support as activities in this cost center will no longer be shared.							
2010	119	5	0	1.4	1-Sided Adj	N/A	CTRINH2014040 9100021613
Adjustment to move costs from shared service cost center 2200-2342 to non-shared workgroup 2FC004.000 Support as activities in this cost center will no longer be shared.							
2010	170	0	0	2.7	1-Sided Adj	N/A	CTRINH2014100 1201423137
Transfer District Operations Clerk expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align historical costs with the workgroup in which the activity will be forecasted							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 4. Customer Service Field - Support
 Workpaper: 2FC004.000 - Customer Services Field - Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2010	-78	0	0	-0.8	CCTR Transf	From 2200-0331.000	RMCHRIST20140 501145543480
Budget Planner transferred in 2013. This Budget Planner was transferred from cost center 2200-0571 in work paper 2FC004 to cost center 2200-0331 in work paper group 2OO006.							
2010	139	0.500	0	2.0	1-Sided Adj	N/A	TPDXV20131015 145233243
Transfer of remapped training costs for customer service field portion of Field Instructor costs to workgroup 2FC004.000 Support where field instructor activities are forecasted							
2010	-33	-12	0	-0.4	CCTR Transf	To 2200-2475.000	TPKAJ201311211 32419030
Transfer of Field Environmental Representative labor and non-labor expense from Field Services to Environmental Services in order to align the historical expense with the forecast.							
2010	2	0	0	0.0	1-Sided Adj	N/A	TPKAJ201312060 95746770
Transfer District Operations Clerk retro pay from Operations 2FC001.000 to Support 2FC004.000 in order to align the history with the forecast. Although this retro pay posted in 2011, the adjustment to add to Staff will be reflected in 2010 as the retro pay was related to hours worked in 2010							
2010	1,173	0	0	13.6	1-Sided Adj	N/A	TPKAJ201312061 01658630
Transfer District Operations Manager labor expense from 2FC002.000 Supervision workgroup to 2FC004.000 Support workgroup in order to align the history with the forecast							
2010	59	0	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 02358357
Transfer District Operations Clerk retro pay from Supervision 2FC002.000 to Support 2FC004.000 in order to align the history with the forecast. Although this retro pay posted in 2011, the adjustment to add to Staff will be reflected in 2010 as the retro pay was related to hours worked in 2010							
2010	442	0	0	6.1	1-Sided Adj	N/A	TPKAJ201312061 05127720
Transfer Field Instructor expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align the history with the forecast							
2010	1,224	3	0	19.4	1-Sided Adj	N/A	TPKAJ201312061 10720100
Transfer District Operations Clerk expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align the history with the forecast							
2010	204	113	0	2.6	1-Sided Adj	N/A	TPKAJ201312061 12404213
Transfer Field Instructor expense from 2FC003.000 Dispatch to 2FC004.000 Support in order to align the history with the forecast							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 4. Customer Service Field - Support
 Workpaper: 2FC004.000 - Customer Services Field - Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2010	0	-3	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 12601357
Transfer Operations non-labor expense from 2FC004.000 Support to 2FC001.000 Operations in order to align the history with the forecast							
2010 Total	5,134	232	0	70.2			
2011	865	0	0	13.2	1-Sided Adj	N/A	CTRINH2014022 1121754153
Transfer District Operations Clerks (DOCs) labor and FTE from GOGD to CSFC in order to align history with forecast. Typically there a 2 DOCs located at each district base, 1 supporting CSFC and 1 supporting GOGD. This adjustment reflects the proper allocation of DOCs to the 2 operational areas. See offsetting adjustment in GOGD workgroup 2GD000.000							
2011	1,186	138	0	14.7	1-Sided Adj	N/A	CTRINH2014040 8100312230
Adjustment to move costs from shared service cost center 2200-0345 to non-shared workgroup 2FC004.000 Support as activities in this cost center will no longer be shared.							
2011	223	0.331	0	2.5	1-Sided Adj	N/A	CTRINH2014040 9100637270
Adjustment to move costs from shared service cost center 2200-2342 to non-shared workgroup 2FC004.000 Support as activities in this cost center will no longer be shared.							
2011	-82	0	0	-0.9	CCTR Transf	From 2200-0331.000	RMCHRIST20140 501145626073
Budget Planner transfered in 2013. This Budget Planner was transferred from cost center 2200-0571 in work paper 2FC004 to cost center 2200-0331 in work paper group 2OO006.							
2011	-82	0	0	-0.9	CCTR Transf	From 2200-0331.000	RMCHRIST20140 502160001067
Budget Planner transfered in 2013. This Budget Planner was transferred from cost center 2200-0437 in work paper group 2FC004 to cost center 2200-0331 in work paper group 2OO006.							
2011	2,439	510	0	30.0	CCTR Transf	From 2200-0442.001	TPDXV20131016 100308930
Transfer up to primary WPG from sub, due to remap							
2011	51	33	0	0.6	CCTR Transf	To 2200-2475.000	TPKAJ201311202 10813887
Transfer of Field Environmental Representative labor and non-labor expense from Field Services to Environmental Services in order to align the historical expense with the forecast.							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 4. Customer Service Field - Support
 Workpaper: 2FC004.000 - Customer Services Field - Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2011	-101	-66	0	-1.2	1-Sided Adj	N/A	TPKAJ201311211 15745627
Adjustment to correct signage error in the adjustment transferring historical field environmental representative costs out of 2200-2115 and into 2200-2475							
2011	-1,902	-491	0	-23.0	1-Sided Adj	N/A	TPKAJ201312052 15729657
Transfer gas distribution portion of remapped training costs to 2GD004.000 and shared cost center 2200-2344 in order to align the history with the forecast.							
2011	1,195	0	0	13.2	1-Sided Adj	N/A	TPKAJ201312061 01753933
Transfer District Operations Manager labor expense from 2FC002.000 Supervision workgroup to 2FC004.000 Support workgroup in order to align the history with the forecast							
2011	9	0	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 02548900
Transfer District Operations Clerk retro pay from 2FC002.000 Supervision to 2FC004.000 Support in order to align the history with the forecast. This retro pay is relative to the hours worked in 2011 to retained in 2011.							
2011	376	0	0	5.0	1-Sided Adj	N/A	TPKAJ201312061 05239630
Transfer Field Instructor expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align historical costs with the workgroup in which the activity will be forecasted							
2011	1,261	1	0	18.3	1-Sided Adj	N/A	TPKAJ201312061 10851683
Transfer District Operations Clerk expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align the history with the forecast							
2011 Total	5,437	125	0	71.5			
2012	828	0	0	12.3	1-Sided Adj	N/A	CTRINH2014022 1121839347
Transfer Distinct Operations Clerks (DOCs) labor and FTE from GOGD to CSFC in order to align history with forecast. Typically there a 2 DOCs located at each district base, 1 supporting CSFC and 1 supporting GOGD. This adjustment reflects the proper allocation of DOCs to the 2 operational areas. See offsetting adjustment in GOGD workgroup 2GD000.000							
2012	1,275	133	0	15.2	1-Sided Adj	N/A	CTRINH2014040 8100449300
Adjustment to move costs from shared service cost center 2200-0345 to non-shared workgroup 2FC004.000 Support as activities in this cost center will no longer be shared.							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 4. Customer Service Field - Support
 Workpaper: 2FC004.000 - Customer Services Field - Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2012	251	0.123	0	2.8	1-Sided Adj	N/A	CTRINH2014040 9130414577
Adjustment to move costs from shared service cost center 2200-2342 to non-shared workgroup 2FC004.000 Support as activities in this cost center will no longer be shared.							
2012	-84	0	0	-0.9	CCTR Transf	From 2200-0331.000	RMCHRIST20140 501145839720
Budget Planner transferred in 2013. This Budget Planner was transferred from cost center 2200-0571 in work paper 2FC004 to cost center 2200-0331 in work paper group 2OO006.							
2012	-84	0	0	-0.9	CCTR Transf	From 2200-0331.000	RMCHRIST20140 502160046370
Budget Planner transferred in 2013. This Budget Planner was transferred from cost center 2200-0437 in work paper group 2FC004 to cost center 2200-0331 in work paper group 2OO006.							
2012	2,807	764	0	33.1	CCTR Transf	From 2200-0442.001	TPDXV20131016 100645943
Transfer up to primary WPG from sub, due to remap							
2012	-51	-48	0	-0.6	CCTR Transf	To 2200-2475.000	TPKAJ201311211 32802417
Transfer of Field Environmental Representative labor and non-labor expense from Field Services to Environmental Services in order to align the historical expense with the forecast.							
2012	-2,289	-744	0	-26.5	1-Sided Adj	N/A	TPKAJ201312052 20127427
Transfer of gas distribution remapped training costs back to the GOGD witness area, non-shared workpaper 2GD004.000 and shared cost centers 2200-2344 and 2200-2144, where distribution training costs are forecast							
2012	19	0	0	0.3	1-Sided Adj	N/A	TPKAJ201312061 00623827
Transfer field instructor labor expense from 2FC003.000 Dispatch to 2FC004.000 Support workgroup in order to align the history with the forecast							
2012	1,290	0	0	13.7	1-Sided Adj	N/A	TPKAJ201312061 01848160
Transfer District Operations Manager labor expense from 2FC002 Supervision workgroup to 2FC004 Support workgroup in order to align the history with the forecast							
2012	566	0	0	7.4	1-Sided Adj	N/A	TPKAJ201312061 05331773
Transfer Field Instructor expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align the history with the forecast							
2012	1,373	2	0	19.4	1-Sided Adj	N/A	TPKAJ201312061 10944720
Transfer District Operations Clerk expense from 2FC002.000 Supervision to 2FC004.000 Support in order to align the history with the forecast							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 4. Customer Service Field - Support
 Workpaper: 2FC004.000 - Customer Services Field - Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2012	0	-79	0	0.0	1-Sided Adj	N/A	TPKAJ201312061 12654330
Transfer non-labor expense from 2FC004.000 Support to 2FC001.000 Operations in order to align the history with the forecast							
2012 Total	5,902	27	0	75.3			
2013	638	0	0	8.1	1-Sided Adj	N/A	CTRINH2014021 1183637370
Transfer Field Instructor labor/fte from 2FC002.000 (Supervision) to 2FC004.000 (Operation Support), to align historical costs with forecast							
2013	0	13	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1183812733
Transfer Field Instructor non-labor from 2FC002.000 (Supervision) to 2FC004.000 (Operation Support), to align historical costs with forecast							
2013	0	0.654	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1183940207
Transfer Field Instructor non-labor from 2FC002.000 (Supervision) to 2FC004.000 (Operation Support), to align historical costs with forecast							
2013	1,326	0	0	18.0	1-Sided Adj	N/A	CTRINH2014021 1184317263
Transfer District Operations Clerk labor/fte from 2FC002.000 (Supervision) to 2FC004.000 (Operations Support), to align historical costs with forecast							
2013	0	4	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1184423667
Transfer District Operations Clerk non-labor from 2FC002.000 (Supervision) to 2FC004.000 (Operations Support), to align historical costs with forecast							
2013	0	-4	0	0.0	1-Sided Adj	N/A	CTRINH2014021 1190706600
Transfer Customer Services Field non-labor tools expense from 2FC004.000 (Operation Support) to 2FC001.000 (Operations), to align historical costs with forecast							
2013	2,481	897	0	28.1	CCTR Transf	From 2200-0442.001	CTRINH2014021 2144704997
Transfer to primary WPG from sub due to remap							
2013	-2,269	-896	0	-25.4	1-Sided Adj	N/A	CTRINH2014021 2161512673
Transfer of gas distribution remapped training costs back to the GOGD witness area, non-shared workpaper 2GD004.000 and shared cost center 2200-2344, where distribution training costs are forecast							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 4. Customer Service Field - Support
 Workpaper: 2FC004.000 - Customer Services Field - Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2013	1,187	0	0	12.4	1-Sided Adj	N/A	CTRINH2014021 2173110753
Transfer District Operations Manager labor expense from 2FC002.000 Supervision workgroup to 2FC004.000 Staff workgroup in order to align the history with the forecast							
2013	954	0	0	13.6	1-Sided Adj	N/A	CTRINH2014022 1122003463
Transfer Distirct Operations Clerks (DOCs) labor and FTE from GOGD to CSFC in order to align history with forecast. Typically there a 2 DOCs located at each district base, 1 supporting CSFC and 1 supporting GOGD. This adjustment reflects the proper allocation of DOCs to the 2 operational areas. See offsetting adjustment in GOGD workgroup 2GD000.000							
2013	-19	0	0	0.0	1-Sided Adj	N/A	CTRINH2014022 7104730103
Transfer field instructor labor/fte from 2FC001.000 (Operations) to 2FC004.000 (Operations Support), in order to align historical costs with forecast							
2013	1,309	168	0	15.4	1-Sided Adj	N/A	CTRINH2014040 8100601700
Adjustment to move costs from shared service cost center 2200-0345 to non-shared workgroup 2FC004.000 Support as activities in this cost center will no longer be shared.							
2013	128	0	0	1.4	1-Sided Adj	N/A	CTRINH2014040 9130702923
Adjustment to move costs from shared service cost center 2200-2342 to non-shared workgroup 2FC004.000 NSS as activities in this cost center will no longer be shared.							
2013	-39	0	0	-0.4	CCTR Transf	From 2200-0331.000	RMCHRIST20140 501145929563
Budget Planner transfered in 2013. This Budget Planner was transferred from cost center 2200-0571 in work paper 2FC004 to cost center 2200-0331 in work paper group 2OO006.							
2013	-44	0	0	-0.4	CCTR Transf	From 2200-0331.000	RMCHRIST20140 502160522080
Budget Planner transfered in 2013. This Budget Planner was transferred from cost center 2200-0437 in work paper group 2FC004 to cost center 2200-0331 in work paper group 2OO006.							
2013	0	-76	0	0.0	1-Sided Adj	N/A	TPGMG20140616 161731093
Adjustment to remove partial year AT&T wireless expense from historical year 2013 in order not to overstate non-labor when using the 5 year average forecast methodology. Full annual impact of AT&T wireless expense are entered as forecast adjustments for years 2014, 2015, and 2016.							
2013 Total	5,651	106	0	70.8			

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: B. Meter Reading
Workpaper: VARIOUS

Summary for Category: B. Meter Reading

	In 2013\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	33,026	34,123	34,227	35,453
Non-Labor	2,456	2,515	2,522	2,588
NSE	0	0	0	0
Total	35,482	36,638	36,749	38,041
FTE	788.1	780.1	785.0	804.7

Workpapers belonging to this Category:

2FC005.000 Meter Reading - Operations

Labor	27,178	28,397	28,501	28,849
Non-Labor	1,758	1,507	1,514	1,533
NSE	0	0	0	0
Total	28,936	29,904	30,015	30,382
FTE	709.7	701.7	706.6	714.6

2FC006.000 Meter Reading - Clerical

Labor	1,059	1,078	1,078	1,092
Non-Labor	20	21	21	21
NSE	0	0	0	0
Total	1,079	1,099	1,099	1,113
FTE	15.7	16.2	16.2	16.3

2FC007.000 Meter Reading - Supervision & Training

Labor	3,114	3,143	3,143	3,601
Non-Labor	312	432	432	457
NSE	0	0	0	0
Total	3,426	3,575	3,575	4,058
FTE	42.4	44.4	44.4	50.5

2FC008.000 Meter Reading - Support

Labor	1,675	1,505	1,505	1,911
Non-Labor	366	555	555	577
NSE	0	0	0	0
Total	2,041	2,060	2,060	2,488
FTE	20.3	17.8	17.8	23.3

Note: Totals may include rounding differences.

Beginning of Workpaper
2FC005.000 - Meter Reading - Operations

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 1. Meter Reading - Operations
 Workpaper: 2FC005.000 - Meter Reading - Operations

Activity Description:

The Meter Reading Operations cost category includes full- and part-time meter readers who are dispersed across SoCalGas' operating bases. Meter readers are equipped with MDTs (aka handheld devices) which are used to record customers' gas consumption. Meter readers capture monthly meter reads at customer premises and read over 68 million meters per year. Data from the meter readers' MDTs are uploaded each night and transferred to the company's mainframe computer for processing and billing. Meter readers are also supported by meter reading technicians.

Forecast Explanations:

Labor - Zero-Based

The forecast of TY 2016 labor costs is based on using 2010 as a base year in order to eliminate the effects of Advanced Metering Infrastructure (AMI) implementation on meter reading costs given that those costs and benefits will be trued up through the Advanced Metering Infrastructure Balancing Account (AMIBA). Incremental funding requests, which are forecasted using the zero based methodology, are then added to determine total funding requirements. Use of an alternative forecast methodology would not be appropriate because alternative methodologies would not properly account for the effects of AMI implementation.

Non-Labor - Zero-Based

For the same reasons noted above, non-labor costs are based on using 2010 as a base year. Non-labor costs include uniforms and other miscellaneous expenses. Incremental funding requests, which are forecasted using the zero based methodology, are then added to determine total funding requirements. A non-labor forecast based on historical averages of expenses alone would not take into account forecasted workforce levels and would therefore not be suitable.

NSE - Zero-Based

NSE is not applicable to this workgroup.

Summary of Results:

		In 2013\$ (000) Incurred Costs							
		Adjusted-Recorded					Adjusted-Forecast		
Years		2009	2010	2011	2012	2013	2014	2015	2016
Labor		26,686	27,347	27,852	28,127	27,178	28,397	28,501	28,849
Non-Labor		1,634	1,489	1,763	1,909	1,758	1,507	1,514	1,533
NSE		0	0	0	0	0	0	0	0
Total		28,320	28,836	29,615	30,037	28,937	29,904	30,015	30,382
FTE		663.1	665.3	720.2	734.0	709.7	701.7	706.6	714.6

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 1. Meter Reading - Operations
 Workpaper: 2FC005.000 - Meter Reading - Operations

Forecast Summary:

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Zero-Based	0	0	0	28,397	28,501	28,849	28,397	28,501	28,849
Non-Labor	Zero-Based	0	0	0	1,507	1,514	1,533	1,507	1,514	1,533
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	29,904	30,015	30,382	29,904	30,015	30,382
FTE	Zero-Based	0.0	0.0	0.0	701.7	706.6	714.6	701.7	706.6	714.6

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2014	84	0	0	84	1.4	1-Sided Adj

Incremental meter reader training expenses for changes in Operator Qualification training. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Operator Qualification Training" for detailed analysis.

2014	27,563	1,500	0	29,063	673.3	1-Sided Adj
------	--------	-------	---	--------	-------	-------------

Labor and non-labor expenses for meter readers to capture monthly meter reads at customer premises and read over 68 million meters per year. Zero based forecast methodology was used to eliminate historical impact of Advanced Metering Infrastructure (AMI). See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Meter Reading Zero Based Forecast & Meter Growth" for detailed analysis.

2014	65	7	0	72	1.9	1-Sided Adj
------	----	---	---	----	-----	-------------

Incremental labor and non-labor expenses for meter readers to capture monthly meter reads at additional customer premises due to forecasted 2014 meter growth. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Meter Reading Zero Based Forecast & Meter Growth" for detailed analysis.

2014	231	0	0	231	8.5	1-Sided Adj
------	-----	---	---	-----	-----	-------------

Incremental training costs due to increased part time meter reader attrition not related to AMI implementation. Training expenses are required to train new part-time meter readers who are hired to fill behind part-time meter readers who leave their positions. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Incremental Training Costs Due Increased Attrition" for detailed analysis.

2014	454	0	0	454	16.6	1-Sided Adj
------	-----	---	---	-----	------	-------------

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 1. Meter Reading - Operations
 Workpaper: 2FC005.000 - Meter Reading - Operations

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
-------------------	--------------	-------------	------------	--------------	------------	-----------------

Incremental learning curve costs due to increased part-time meter reader attrition not related to AMI implementation. This cost is associated with the time it takes new part-time meter readers to "climb the learning curve" and transition from being paid for actual hours worked to "pay-per-route". It takes new meter readers longer to read the meters in their meter reading routes than it does a more experienced meter reader therefore costs go up when attrition is higher. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Learning Curve Cost" for detailed analysis.

2014 Total	28,397	1,507	0	29,904	701.7	
-------------------	---------------	--------------	----------	---------------	--------------	--

2015	27,563	1,500	0	29,063	673.3	1-Sided Adj
------	--------	-------	---	--------	-------	-------------

Labor and non-labor expenses for meter readers to capture monthly meter reads at customer premises and read over 68 million meters per year. Zero based forecast methodology was used to eliminate historical impact of Advanced Metering Infrastructure (AMI). See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Meter Reading Zero Based Forecast & Meter Growth" for detailed analysis.

2015	131	14	0	145	3.7	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Incremental labor and non-labor expenses for meter readers to capture monthly meter reads at additional customer premises due to forecasted 2014 meter growth. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Meter Reading Zero Based Forecast & Meter Growth" for detailed analysis.

2015	576	0	0	576	21.1	1-Sided Adj
------	-----	---	---	-----	------	-------------

Incremental learning curve costs due to increased part-time meter reader attrition not related to AMI implementation. This cost is associated with the time it takes new part-time meter readers to "climb the learning curve" and transition from being paid for actual hours worked to "pay-per-route". It takes new meter readers longer to read the meters in their meter reading routes than it does a more experienced meter reader therefore costs go up when attrition is higher. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Learning Curve Cost" for detailed analysis.

2015	231	0	0	231	8.5	1-Sided Adj
------	-----	---	---	-----	-----	-------------

Incremental training costs due to increased part time meter reader attrition not related to AMI implementation. Training expenses are required to train new part-time meter readers who are hired to fill behind part-time meter readers who leave their positions. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Incremental Training Costs Due Increased Attrition" for detailed analysis.

2015 Total	28,501	1,514	0	30,015	706.6	
-------------------	---------------	--------------	----------	---------------	--------------	--

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 1. Meter Reading - Operations
 Workpaper: 2FC005.000 - Meter Reading - Operations

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2016	127	0	0	127	2.2	1-Sided Adj

Incremental meter reader training expenses for changes in Operator Qualification training. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Operator Qualification Training" for detailed analysis.

2016	27,563	1,500	0	29,063	673.3	1-Sided Adj
------	--------	-------	---	--------	-------	-------------

Labor and non-labor expenses for meter readers to capture monthly meter reads at customer premises and read over 68 million meters per year. Zero based forecast methodology was used to eliminate historical impact of Advanced Metering Infrastructure (AMI). See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Meter Reading Zero Based Forecast & Meter Growth" for detailed analysis.

2016	219	23	0	242	6.3	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Incremental labor and non-labor expenses for meter readers to capture monthly meter reads at additional customer premises due to forecasted 2014 meter growth. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Meter Reading Zero Based Forecast & Meter Growth" for detailed analysis.

2016	134	10	0	144	3.2	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Incremental training expense to train part time and full time meter reader on the new meter reading hand held system. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Saturday Handheld System Training" for detailed analysis.

2016	575	0	0	575	21.1	1-Sided Adj
------	-----	---	---	-----	------	-------------

Incremental learning curve costs due to increased part-time meter reader attrition not related to AMI implementation. This cost is associated with the time it takes new part-time meter readers to "climb the learning curve" and transition from being paid for actual hours worked to "pay-per-route". It takes new meter readers longer to read the meters in their meter reading routes than it does a more experienced meter reader therefore costs go up when attrition is higher. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Learning Curve Cost" for detailed analysis.

2016	231	0	0	231	8.5	1-Sided Adj
------	-----	---	---	-----	-----	-------------

Incremental training costs due to increased part time meter reader attrition not related to AMI implementation. Training expenses are required to train new part-time meter readers who are hired to fill behind part-time meter readers who leave their positions. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Incremental Training Costs Due Increased Attrition" for detailed analysis.

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: B. Meter Reading
Category-Sub: 1. Meter Reading - Operations
Workpaper: 2FC005.000 - Meter Reading - Operations

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2016 Total	28,849	1,533	0	30,382	714.6	

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: B. Meter Reading
Category-Sub: 1. Meter Reading - Operations
Workpaper: 2FC005.000 - Meter Reading - Operations

Determination of Adjusted-Recorded (Incurred Costs):

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	20,507	21,665	22,848	23,676	21,809
Non-Labor	1,475	1,378	1,696	1,876	1,636
NSE	0	0	0	0	0
Total	21,982	23,043	24,544	25,552	23,444
FTE	557.6	563.4	615.4	629.6	565.0
Adjustments (Nominal \$) **					
Labor	0	0	-40	0	1,496
Non-Labor	0	0	0	0	123
NSE	0	0	0	0	0
Total	0	0	-40	0	1,619
FTE	0.0	0.0	-0.4	0.0	42.1
Recorded-Adjusted (Nominal \$)					
Labor	20,507	21,665	22,808	23,676	23,305
Non-Labor	1,475	1,378	1,696	1,876	1,758
NSE	0	0	0	0	0
Total	21,982	23,043	24,503	25,552	25,063
FTE	557.6	563.4	615.0	629.6	607.1
Vacation & Sick (Nominal \$)					
Labor	3,706	3,787	3,788	3,790	3,873
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	3,706	3,787	3,788	3,790	3,873
FTE	105.4	101.9	105.2	104.4	102.6
Escalation to 2013\$					
Labor	2,474	1,895	1,256	661	0
Non-Labor	159	111	68	33	0
NSE	0	0	0	0	0
Total	2,633	2,006	1,324	694	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	26,686	27,347	27,852	28,127	27,178
Non-Labor	1,634	1,489	1,763	1,909	1,758
NSE	0	0	0	0	0
Total	28,320	28,836	29,615	30,037	28,937
FTE	663.0	665.3	720.2	734.0	709.7

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 1. Meter Reading - Operations
 Workpaper: 2FC005.000 - Meter Reading - Operations

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	0	0	-40	0	1,496
Non-Labor	0	0	0	0	123
NSE	0	0	0	0	0
Total	0	0	-40	0	1,619
FTE	0.0	0.0	-0.4	0.0	42.1

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009 Total	0	0	0	0.0			
2010 Total	0	0	0	0.0			
2011	-40	0	0	-0.4	CCTR Transf	To 2200-2270.000	TP4DJS20131121 152843027
Two sided adjustment for two Industrial Hygeniests from a Meter Reading cost center into a Safety cost center in order to align the historical costs with where they are forecast							
2011 Total	-40	0	0	-0.4			
2012 Total	0	0	0	0.0			
2013	1,496	123	0	42.1	1-Sided Adj	N/A	TP4DJS20140221 143859003
Adjustment to add AMI benefit reductions into 2013 recorded expenses in order to reflect the business without advanced meter impacts. Since advanced meter related costs and benefits are recorded in the Advanced Meter Balancing Account (AMIBA) for this GRC period, historical expenses are being adjusted to reflect costs without advanced meter benefits. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Meter Reading Operations AMI Benefit" for detailed analysis.							
2013 Total	1,496	123	0	42.1			

Note: Totals may include rounding differences.

Supplemental Workpapers for Workpaper 2FC005.000

2014

Number of New Hires Per Month		January	February	March	April	May	June	July	August	September	October	November	December
January	14	\$ 4,388	\$ 12,799	\$ 9,233	\$ 7,588	\$ 5,531	\$ 4,342	\$ 2,743	\$ 1,371				
February	14		\$ 2,925	\$ 14,262	\$ 9,599	\$ 7,222	\$ 5,531	\$ 4,480	\$ 2,605	\$ 1,371			
March	14			\$ 4,388	\$ 14,170	\$ 9,325	\$ 6,948	\$ 5,622	\$ 3,977	\$ 2,468	\$ 1,097		
April	14				\$ 5,120	\$ 13,439	\$ 8,959	\$ 7,314	\$ 5,394	\$ 4,068	\$ 2,788	\$ 914	
May	14					\$ 4,388	\$ 13,713	\$ 9,416	\$ 7,039	\$ 5,439	\$ 4,571	\$ 2,057	\$ 1,371
June	14						\$ 4,388	\$ 14,170	\$ 8,959	\$ 7,039	\$ 6,125	\$ 3,337	\$ 2,697
July	14							\$ 5,120	\$ 13,439	\$ 8,959	\$ 7,862	\$ 4,388	\$ 4,388
August	14								\$ 4,388	\$ 13,713	\$ 10,148	\$ 5,759	\$ 5,759
September	14									\$ 4,388	\$ 15,084	\$ 7,314	\$ 7,496
October	14										\$ 6,582	\$ 11,062	\$ 9,508
November	14											\$ 1,463	\$ 15,267
December	14												\$ 5,120
		\$ 4,388	\$ 15,724	\$ 27,883	\$ 36,477	\$ 39,905	\$ 43,882	\$ 48,864	\$ 47,173	\$ 47,447	\$ 54,258	\$ 36,294	\$ 51,607

Calculation Steps: The number of read cycles are entered into the formulas on page 7, along with the incremental hours for each read. Results are shown on page 4-6. Page 1-3 merely summarizes the calculations results of all three years (2014 - 2016)

2014	\$453,900.30
TTL HRS	34,755.0
FTE	16.6

2015

January	February	March	April	May	June	July	August	September	October	November	December
\$ 3,657	\$ 13,073	\$ 9,691	\$ 7,588	\$ 5,302	\$ 4,571	\$ 2,743	\$ 1,371				
	\$ 2,925	\$ 14,719	\$ 9,508	\$ 6,857	\$ 5,759	\$ 4,388	\$ 2,560	\$ 1,280			
		\$ 5,120	\$ 13,896	\$ 9,233	\$ 7,131	\$ 5,531	\$ 3,794	\$ 2,377	\$ 914		
			\$ 5,120	\$ 12,982	\$ 9,416	\$ 7,314	\$ 5,394	\$ 4,068	\$ 2,697	\$ 1,006	
				\$ 3,657	\$ 14,444	\$ 9,416	\$ 7,039	\$ 5,439	\$ 4,434	\$ 2,194	\$ 1,371
\$ 1,280					\$ 5,120	\$ 13,896	\$ 8,868	\$ 6,948	\$ 5,851	\$ 3,474	\$ 2,651
\$ 2,468	\$ 1,371					\$ 5,120	\$ 13,439	\$ 8,959	\$ 7,588	\$ 4,662	\$ 4,388
\$ 4,114	\$ 2,468	\$ 1,646					\$ 4,388	\$ 13,713	\$ 9,782	\$ 6,125	\$ 5,759
\$ 5,257	\$ 4,068	\$ 2,834	\$ 1,554					\$ 4,388	\$ 14,627	\$ 7,771	\$ 7,496
\$ 6,857	\$ 5,074	\$ 4,662	\$ 2,788	\$ 1,463					\$ 5,851	\$ 11,793	\$ 9,508
\$ 8,959	\$ 6,948	\$ 5,988	\$ 4,845	\$ 2,697	\$ 1,828					\$ 2,194	\$ 14,993
\$ 12,982	\$ 8,319	\$ 7,588	\$ 5,759	\$ 4,114	\$ 2,743	\$ 1,371					\$ 5,120
<u>\$ 45,573</u>	<u>\$ 44,247</u>	<u>\$ 52,247</u>	<u>\$ 51,058</u>	<u>\$ 46,304</u>	<u>\$ 51,012</u>	<u>\$ 49,778</u>	<u>\$ 46,853</u>	<u>\$ 47,173</u>	<u>\$ 51,744</u>	<u>\$ 39,219</u>	<u>\$ 51,287</u>

2015	\$ 576,494.52
TTL HRS	44,142
FTE	21.1

2016

January	February	March	April	May	June	July	August	September	October	November	December
\$ 2,925	\$ 13,804	\$ 10,056	\$ 7,222	\$ 5,531	\$ 4,480	\$ 2,514	\$ 1,463				
	\$ 3,657	\$ 14,901	\$ 8,959	\$ 7,039	\$ 5,668	\$ 3,931	\$ 2,743	\$ 1,097			
		\$ 5,851	\$ 13,164	\$ 9,233	\$ 7,131	\$ 5,074	\$ 4,251	\$ 2,377	\$ 914		
			\$ 4,388	\$ 13,713	\$ 9,416	\$ 6,765	\$ 5,942	\$ 4,068	\$ 2,605	\$ 1,097	
				\$ 4,388	\$ 14,170	\$ 8,593	\$ 7,679	\$ 5,394	\$ 4,205	\$ 2,286	\$ 1,280
\$ 1,188					\$ 5,120	\$ 12,982	\$ 9,782	\$ 6,948	\$ 5,622	\$ 3,703	\$ 2,560
\$ 2,468	\$ 1,371					\$ 3,657	\$ 14,901	\$ 8,959	\$ 7,314	\$ 4,937	\$ 4,251
\$ 4,114	\$ 2,468	\$ 1,646					\$ 5,851	\$ 13,164	\$ 9,233	\$ 6,308	\$ 5,439
\$ 5,257	\$ 4,068	\$ 2,834	\$ 1,554					\$ 4,388	\$ 14,170	\$ 8,228	\$ 7,222
\$ 6,857	\$ 5,074	\$ 4,662	\$ 2,788	\$ 1,463					\$ 5,120	\$ 12,525	\$ 9,142
\$ 8,868	\$ 6,857	\$ 5,942	\$ 4,754	\$ 2,651	\$ 1,737					\$ 2,925	\$ 14,262
\$ 12,982	\$ 8,319	\$ 7,588	\$ 5,759	\$ 4,114	\$ 2,743	\$ 1,371					\$ 4,388
\$ 44,659	\$ 45,619	\$ 53,481	\$ 48,590	\$ 48,133	\$ 50,464	\$ 44,887	\$ 52,612	\$ 46,396	\$ 49,184	\$ 42,007	\$ 48,544

2016	\$574,574.70
TTL HRS	43,995
FTE	21.1

2014

		2014												
		Cycles	21	19	21	22	21	21	22	21	21	24	17	22
			January	February	March	April	May	June	July	August	September	October	November	December
January	Employees													
	14 Incremental Hours		\$4,388	\$12,799	\$9,233	\$7,588	\$5,531	\$4,342	\$2,743	\$1,371				
February	14 Incremental Hours			\$2,925	\$14,262	\$9,599	\$7,222	\$5,531	\$4,480	\$2,605	\$1,371			
March	14 Incremental Hours				\$4,388	\$14,170	\$9,325	\$6,948	\$5,622	\$3,977	\$2,468	\$1,097		
April	14 Incremental Hours					\$5,120	\$13,439	\$8,959	\$7,314	\$5,394	\$4,068	\$2,788	\$914	
May	14 Incremental Hours						\$4,388	\$13,713	\$9,416	\$7,039	\$5,439	\$4,571	\$2,057	\$1,371
June	14 Incremental Hours							\$4,388	\$14,170	\$8,959	\$7,039	\$6,125	\$3,337	\$2,697
July	14 Incremental Hours								\$5,120	\$13,439	\$8,959	\$7,862	\$4,388	\$4,388
August	14 Incremental Hours									\$4,388	\$13,713	\$10,148	\$5,759	\$5,759
September	14 Incremental Hours										\$4,388	\$15,084	\$7,314	\$7,496
October	14 Incremental Hours											\$6,582	\$11,062	\$9,508
November	14 Incremental Hours												\$1,463	\$15,267
December	14 Incremental Hours													\$5,120
TOTALS			\$4,388	\$15,724	\$27,883	\$36,477	\$39,905	\$43,882	\$48,864	\$47,173	\$47,447	\$54,258	\$36,294	\$51,607

2014 Total \$453,900

SCG-10-SFranke Supplemental Workpaper - Learning Curve Cost

2015

20	19	22	22	20	22	22	21	21	23	18	22
January	February	March	April	May	June	July	August	September	October	November	December
\$1,280											
\$2,468	\$1,371										
\$4,114	\$2,468	\$1,646									
\$5,257	\$4,068	\$2,834	\$1,554								
\$6,857	\$5,074	\$4,662	\$2,788	\$1,463							
\$8,959	\$6,948	\$5,988	\$4,845	\$2,697	\$1,828						
\$12,982	\$8,319	\$7,588	\$5,759	\$4,114	\$2,743	\$1,371					
\$41,916	\$28,249	\$22,718	\$14,947	\$8,274	\$4,571	\$1,371	\$575,946				

SCG-10-SFranke Supplemental Workpaper - Learning Curve Cost

2016

19	20	23	21	21	22	20	23	21	22	19	21
January	February	March	April	May	June	July	August	September	October	November	December

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

Incremental	4	2.5	2	1.5	1.25	0.75	0.5		
Months	1	2	3	4	5	6	7	8	
January	Cycles for Month	21	19	21	22	21	21	22	21
	Training/Previous Incremental Days	15	15	17	17	16	16	16	15
	Actual reads at cycle incremental	6	4	4	5	5	5	6	6
	Total Incremental hours	24	70	50.5	41.5	30.25	23.75	15	7.5
February	Cycles for Month	19	21	22	21	21	22	21	21
	Training/Previous Incremental Days	15	17	17	16	16	16	15	15
	Actual reads at cycle incremental	4	4	5	5	5	6	6	6
	Total Incremental hours	16	78	52.5	39.5	30.25	24.5	14.25	7.5
March	Cycles for Month	21	22	22	21	22	21	21	24
	Training/Previous Incremental Days	15	15	14	13	13	12	12	12
	Actual reads at cycle incremental	6	7	8	8	9	9	9	12
	Total Incremental hours	24	77.5	51	38	30.75	21.75	13.5	6
April	Cycles for Month	22	21	21	22	21	21	24	17
	Training/Previous Incremental Days	15	14	14	14	13	13	13	10
	Actual reads at cycle incremental	7	7	7	8	8	8	11	7
	Total Incremental hours	28	73.5	49	40	29.5	22.25	15.25	5
May	Cycles for Month	21	21	22	21	21	24	17	22
	Training/Previous Incremental Days	15	15	15	14	14	14	11	15
	Actual reads at cycle incremental	6	6	7	7	7	10	6	7
	Total Incremental hours	24	75	51.5	38.5	29.75	25	11.25	7.5
June	Cycles for Month	21	22	21	21	24	17	22	20
	Training/Previous Incremental Days	15	15	14	14	14	11	15	14
	Actual reads at cycle incremental	6	7	7	7	10	6	7	6
	Total Incremental hours	24	77.5	49	38.5	33.5	18.25	14.75	7
July	Cycles for Month	22	21	21	24	17	22	20	19
	Training/Previous Incremental Days	15	14	14	14	11	15	14	15
	Actual reads at cycle incremental	7	7	7	10	6	7	6	4
	Total Incremental hours	28	73.5	49	43	24	24	13.5	7.5
August	Cycles for Month	21	21	24	17	22	20	19	22
	Training/Previous Incremental Days	15	15	15	12	16	15	16	18
	Actual reads at cycle incremental	6	6	9	5	6	5	3	4
	Total Incremental hours	24	75	55.5	31.5	31.5	22.5	13.5	9
September	Cycles for Month	21	24	17	22	20	19	22	22
	Training/Previous Incremental Days	15	15	12	16	15	16	18	17
	Actual reads at cycle incremental	6	9	5	6	5	3	4	5
	Total Incremental hours	24	82.5	40	41	28.75	22.25	15.5	8.5
October	Cycles for Month	24	17	22	20	19	22	22	20
	Training/Previous Incremental Days	15	12	16	15	16	18	17	16
	Actual reads at cycle incremental	9	5	6	5	3	4	5	4
	Total Incremental hours	36	60.5	52	37.5	27.75	25.5	15.25	8
November	Cycles for Month	17	22	20	19	22	20	20	22
	Training/Previous Incremental Days	15	19	18	19	21	22	19	20
	Actual reads at cycle incremental	2	3	2	0	1	2	1	2
	Total Incremental hours	8	83.5	49	38	32.75	26.5	14.75	10
December	Cycles for Month	22	20	19	22	22	20	22	22
	Training/Previous Incremental Days	15	14	15	17	16	15	16	15
	Actual reads at cycle incremental	7	6	4	5	6	5	6	7
	Total Incremental hours	28	71	45.5	41.5	31.5	22.5	15	7.5

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

Number of Part-Time Meter Reader Moves to Other SoCalGas Positions								
SoCalGas Full-Time Positions	2006	2007	2008	2009	2010	2011	2012	2013
Admin Clerk	2	5	1				2	3
Base Assistant	1							
Cashier		1						
Construction Tech	91	54	34	1	6	82	91	67
Customer Contact Rep		1						
Customer Service Rep	1				1		1	
Dispatch Specialist		1						
District Operations Clerk	1							
Energy Technician - Apprentice	61	51	12			121	88	80
Energy Tech - Residential	2				2	1	2	1
Facilities Helper		1						
Field Collector	1	1	1				1	
Field Services Assistant	12	37	2	5		7	3	
Fleet Assistant	4		1					
Leakage Control Clerk	2	3	1	2			1	
Logistics Rep						1		
Mail Payments Clerk							1	
Mapping Assistant		1						
Meter Reader-R	54	41	47	8	8	74	31	11
Meter Reading Clerk		1						
Meter Reading Technician							2	1
Meter Repair Technician	2						1	
Pipeline Technician		1						
Station Operations Specialist	3					1	1	
Transportation Logistics Rep	1		1			1	1	
Total	238	199	100	16	17	288	226	163

(A)	2006 - 2008 Average Number of FTEs Lost to Attrition	179
(B)	2010 Number of FTEs Lost to Attrition	17
(C) = (A - B)	Annual Incremental FTEs Needed To Reach Historical Average	162
(D) = (C / 12)	Monthly Incremental FTEs Needed To Reach Historical Average	14

Learning Curve Progression	
Month	Additional Hour Needed To Finish A Route
1	4
2	2.5
3	2
4	1.5
5	1.25
6	0.75
7	0.5

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

Number of Part-Time Meter Reader Moves to Other SoCalGas Positions								
SoCalGas Full-Time Positions	2006	2007	2008	2009	2010	2011	2012	2013
Admin Clerk	2	5	1				2	3
Base Assistant	1							
Cashier		1						
Construction Tech	91	54	34	1	6	82	91	67
Customer Contact Rep		1						
Customer Service Rep	1				1		1	
Dispatch Specialist		1						
District Operations Clerk	1							
Energy Technician - Apprentice	61	51	12			121	88	80
Energy Tech - Residential	2				2	1	2	1
Facilities Helper		1						
Field Collector	1	1	1				1	
Field Services Assistant	12	37	2	5		7	3	
Fleet Assistant	4		1					
Leakage Control Clerk	2	3	1	2			1	
Logistics Rep						1		
Mail Payments Clerk							1	
Mapping Assistant		1						
Meter Reader-R	54	41	47	8	8	74	31	11
Meter Reading Clerk		1						
Meter Reading Technician							2	1
Meter Repair Technician	2						1	
Pipeline Technician		1						
Station Operations Specialist	3					1	1	
Transportation Logistics Rep	1		1			1	1	
Total	238	199	100	16	17	288	226	163

(A)	2006 - 2008 Average Attrition	179
(B)	2010 Attrition	17
(C) = (A - B)	Annual Incremental Hires Needed To Reach Historical Average	162
(D)	Total Training Hours Per New Employee	109
(E)	Meter Reader Part Time 1 Hourly Wage Rate	\$ 13.06

		(\$)
	2014 - Incremental Training Costs Due to Increased Part-Time Meter Reader Attrition Not Related to AMI (In 2013 Dollars)	\$ 230,613
(F) = (E * D * C)	2015 - Incremental Training Costs Due to Increased Part-Time Meter Reader Attrition Not Related to AMI (In 2013 Dollars)	\$ 230,613
	2016 - Incremental Training Costs Due to Increased Part-Time Meter Reader Attrition Not Related to AMI (In 2013 Dollars)	\$ 230,613
	2014 - Incremental Training Costs Due to Increased Part-Time Meter Reader Attrition Not Related to AMI (FTE)	8.5
(G) = (D * C) / 2088	2015 - Incremental Training Costs Due to Increased Part-Time Meter Reader Attrition Not Related to AMI (FTE)	8.5
	2016 - Incremental Training Costs Due to Increased Part-Time Meter Reader Attrition Not Related to AMI (FTE)	8.5

**SoCalGas Customer Service Field - Meter Reading
A. Detailed Workpaper Calculations - NSS**

NSS - 2FC 005.000

Year		FTEs	Total\$	Labor\$	Non-Labor\$
	Saturday Training for New Handheld TY 2016	3.2	\$143,752	\$133,792	\$9,960
2016	Training of MR Techs, MR-Rs and PT Rdrs - Saturdays (OT for FT and ST for PT); learning curve (non-productive time) in first week readers are out on their meter routes using the new units. Non-labor covers non-management and others.				
	Labor: (6 hrs) x (MRR 1.5 hourly rate - \$33.38) x 100 MR-Rs NLB: (100 MR-Rs x \$10/person lunch) FTE: (6 hrs x 100 MR-Rs) / 2088 hrs/year	0.29	\$21,028	\$20,028	\$1,000
	Labor: (6 hrs) x (MR Tech 1.5 hourly rate - \$49.04) x 46 MR Techs NLB: (46 MR Techs x \$10/person lunch) FTE: (6 hrs x 46 MR Techs) / 2088 hrs/year	0.13	\$13,995	\$13,535	\$460
	Labor: (6 hrs x V&S factor of 1.1601) x (hrly wage of \$19.02/hr ST) x 561 PT-3 Mtr Rdrs NLB: (812 PT Meter Readers x \$10/person lunch) FTE: (6 hrs x 8 Fld Instructors) / 2088 hrs/year	1.85	\$79,649	\$74,039	\$5,610
	Labor: (6 hrs x V&S factor of 1.1601) x (hrly wage of \$13.06/hr ST) x 289 PT-1 Mtr Rdrs NLB: (289 PT Meter Readers x \$10/person lunch) FTE: (6 hrs x 289 PT-1) / 2088 hrs/year	0.96	\$29,080	\$26,189.7	\$2,890

NSS - 2FC 006.000

Year		FTEs	Total\$	Labor\$	Non-Labor\$
2016	MR System & Handheld Training on new or upgraded system	0.1	\$14,122	\$14,122	\$0
	18 MR Clerks 2 Saturdays - Overtime	0.12	\$14,122	\$14,122	\$0
	Labor: (2 days x 8 hrs/day) x (\$32.69/hr ST x 1.5) x 18 clerks				
	NLB: (18 clerks x \$10/person lunch x 2 days - shown in 2FC 005.000)				
	FTE: (2 days x 8 hrs/day x 16 clerks) / 2088 hrs/year				

NSS - 2FC 007.000

Year 2016

[MR System & Handheld Training on new or upgraded system](#)

	#Hours	# Days	# EEs	Over Time Wage Rate	Lbr \$	Nlb/lunch	NLB TTL	hours	FTE	Yrly Hours
MR Supvs	6	1	29	\$ 54.48	\$ 9,479.52	\$ 10.00	\$ 290.00	174	0.08	2088
MR Ops	8	2	2	\$ 56.28	\$ 1,800.96	\$ 10.00	\$ 40.00	32	0.02	2088
Trainers	6	1	8	\$ 50.84	\$ 2,440.08	\$ 10.00	\$ 80.00	48	0.02	2088
Trainers	8	1	4	\$ 50.84	\$ 1,626.72	\$ 10.00	\$ 40.00	32	0.02	2088
serving as Handheld Session Instructors (Meter Readers split into 4 groups) - 1 Instructor per group, running concurrently										
				Labor\$	Non-Labor\$		FTE			
Total				\$ 15,347.28	\$ 450.00		0.14			

SCG METER READIG OPERATIONS AMI BENEFIT FROM AUTOMATED METERS

2013 Labor Cost Per Read \$ 0.34
 2013 Non-Labor Cost Per Read \$ 0.03

		LABOR										
	Number of Automated Meters	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total	
APR	10,086	\$ 3,440	\$ 3,440	\$ 3,440	\$ 3,440	\$ 3,440	\$ 3,440	\$ 3,440	\$ 3,440	\$ 3,440	\$ 30,958	
MAY	118,255		\$ 40,330	\$ 40,330	\$ 40,330	\$ 40,330	\$ 40,330	\$ 40,330	\$ 40,330	\$ 40,330	\$ 322,640	
JUN	65,427			\$ 22,313	\$ 22,313	\$ 22,313	\$ 22,313	\$ 22,313	\$ 22,313	\$ 22,313	\$ 156,194	
JUL	69,733				\$ 23,782	\$ 23,782	\$ 23,782	\$ 23,782	\$ 23,782	\$ 23,782	\$ 142,692	
AUG	196,499					\$ 67,015	\$ 67,015	\$ 67,015	\$ 67,015	\$ 67,015	\$ 335,073	
SEP	159,714						\$ 54,469	\$ 54,469	\$ 54,469	\$ 54,469	\$ 217,878	
OCT	161,112							\$ 54,946	\$ 54,946	\$ 54,946	\$ 164,838	
NOV	125,174								\$ 42,690	\$ 42,690	\$ 85,379	
DEC	119,135									\$ 40,630	\$ 40,630	
										Total	\$ 1,496,283	

		NON-LABOR										
	Number of Automated Meters	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total	
APR	10,086	\$ 282	\$ 282	\$ 282	\$ 282	\$ 282	\$ 282	\$ 282	\$ 282	\$ 282	\$ 2,541	
MAY	118,255		\$ 3,310	\$ 3,310	\$ 3,310	\$ 3,310	\$ 3,310	\$ 3,310	\$ 3,310	\$ 3,310	\$ 26,480	
JUN	65,427			\$ 1,831	\$ 1,831	\$ 1,831	\$ 1,831	\$ 1,831	\$ 1,831	\$ 1,831	\$ 12,819	
JUL	69,733				\$ 1,952	\$ 1,952	\$ 1,952	\$ 1,952	\$ 1,952	\$ 1,952	\$ 11,711	
AUG	196,499					\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 27,501	
SEP	159,714						\$ 4,471	\$ 4,471	\$ 4,471	\$ 4,471	\$ 17,882	
OCT	161,112							\$ 4,510	\$ 4,510	\$ 4,510	\$ 13,529	
NOV	125,174								\$ 3,504	\$ 3,504	\$ 7,007	
DEC	119,135									\$ 3,335	\$ 3,335	
										Total	\$ 122,806	

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

Beginning of Workpaper
2FC006.000 - Meter Reading - Clerical

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 2. Meter Reading - Clerical
 Workpaper: 2FC006.000 - Meter Reading - Clerical

Activity Description:

Meter reading clerks handle the timekeeping, payroll, scheduling of part-time meter readers, and various customer facility record updates necessary for meter reading operations. The clerical group also handles meter access issues and provides general administrative support to the meter reading organization.

Forecast Explanations:

Labor - 5-YR Average

Forecasted TY 2016 expenses are based on a five-year average of historical costs because Advanced Metering Infrastructure (AMI) implementation has not impacted this group yet. In addition, the TY 2016 forecast includes Advanced Metering Infrastructure Balancing Account (AMIBA)-related adjustments to avoid the double counting of benefits that will be trued up through the AMIBA. Use of an alternative forecast methodology would not be appropriate because any shorter period of time would potentially artificially inflate or deflate results based on short-term change and/or not properly account for the impacts of AMI implementation.

Non-Labor - 5-YR Average

Non-labor costs were similarly forecasted using a five-year average of historical costs for the same reasons noted above.

NSE - 5-YR Average

NSE is not applicable to this workgroup.

Summary of Results:

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		1,112	1,070	1,058	1,089	1,059	1,078	1,078	1,092	
Non-Labor		21	21	21	23	20	21	21	21	
NSE		0	0	0	0	0	0	0	0	
Total		1,133	1,092	1,079	1,111	1,079	1,099	1,099	1,113	
FTE		16.7	16.1	16.3	16.4	15.7	16.2	16.2	16.3	

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 2. Meter Reading - Clerical
 Workpaper: 2FC006.000 - Meter Reading - Clerical

Forecast Summary:

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Average	1,078	1,078	1,078	0	0	14	1,078	1,078	1,092
Non-Labor	5-YR Average	21	21	21	0	0	0	21	21	21
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		1,099	1,099	1,099	0	0	14	1,099	1,099	1,113
FTE	5-YR Average	16.2	16.2	16.2	0.0	0.0	0.1	16.2	16.2	16.3

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2014 Total	0	0	0	0	0.0	
2015 Total	0	0	0	0	0.0	
2016	14	0	0	14	0.1	1-Sided Adj
Incremental training expense to train meter reading clerks on the new meter reading hand held system. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Saturday Handheld System Training" for detailed analysis.						
2016 Total	14	0	0	14	0.1	

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: B. Meter Reading
Category-Sub: 2. Meter Reading - Clerical
Workpaper: 2FC006.000 - Meter Reading - Clerical

Determination of Adjusted-Recorded (Incurred Costs):

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	854	848	867	916	908
Non-Labor	19	20	20	22	20
NSE	0	0	0	0	0
Total	873	868	887	939	929
FTE	14.0	13.7	13.9	14.1	13.5
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	854	848	867	916	908
Non-Labor	19	20	20	22	20
NSE	0	0	0	0	0
Total	873	868	887	939	929
FTE	14.0	13.7	13.9	14.1	13.5
Vacation & Sick (Nominal \$)					
Labor	154	148	144	147	151
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	154	148	144	147	151
FTE	2.7	2.5	2.4	2.3	2.3
Escalation to 2013\$					
Labor	103	74	48	26	0
Non-Labor	2	2	1	0	0
NSE	0	0	0	0	0
Total	105	76	49	26	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	1,112	1,070	1,058	1,089	1,059
Non-Labor	21	21	21	23	20
NSE	0	0	0	0	0
Total	1,133	1,092	1,079	1,111	1,079
FTE	16.7	16.2	16.3	16.4	15.8

* 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
2016 GRC - APP
Non-Shared Service Workpapers

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 2. Meter Reading - Clerical
 Workpaper: 2FC006.000 - Meter Reading - Clerical

Summary of Adjustments to Recorded:

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

Detail of Adjustments to Recorded:

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

Note: Totals may include rounding differences.

Beginning of Workpaper
2FC007.000 - Meter Reading - Supervision & Training

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 3. Meter Reading - Supervisor & Training
 Workpaper: 2FC007.000 - Meter Reading - Supervision & Training

Activity Description:

This cost category includes meter reading supervisors, meter reading training instructors and meter reading field instructors. Supervisors are distributed across SoCalGas' operating bases from which meter readers work, to supervise, coach and manage the performance of meter reading employees. Training instructors conduct the formal training that is required in order to become a meter reader. Field instructors accompany new meter readers out in the field immediately following their completion of formal training to ensure that newly trained meter readers are capable of safely and accurately performing their jobs out in the field on their own.

Forecast Explanations:

Labor - 5-YR Average

Forecasted TY 2016 expenses are based on a five-year average of historical costs. Forecasted expenses also include Advanced Meter Infrastructure Balancing Account (AMIBA)-related adjustments to avoid double counting of benefits. Use of an alternative forecast methodology would not be appropriate because any shorter period of time would potentially artificially inflate or deflate results based on short-term anomalies.

Non-Labor - 5-YR Average

A five-year average forecast methodology was used to forecast non-labor expenses. Any shorter period of time would potentially artificially inflate or deflate costs based on short-term anomalies.

NSE - 5-YR Average

NSE is not applicable to this workgroup.

Summary of Results:

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years	2009	2010	2011	2012	2013	2014	2015	2016		
Labor	3,109	3,130	3,234	3,127	3,114	3,143	3,143	3,601		
Non-Labor	453	470	460	465	312	432	432	457		
NSE	0	0	0	0	0	0	0	0		
Total	3,561	3,600	3,694	3,592	3,426	3,575	3,575	4,058		
FTE	43.1	45.3	47.0	44.3	42.4	44.4	44.4	50.5		

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 3. Meter Reading - Supervisor & Training
 Workpaper: 2FC007.000 - Meter Reading - Supervision & Training

Forecast Summary:

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Average	3,143	3,143	3,143	0	0	458	3,143	3,143	3,601
Non-Labor	5-YR Average	432	432	432	0	0	25	432	432	457
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		3,575	3,575	3,575	0	0	483	3,575	3,575	4,058
FTE	5-YR Average	44.4	44.4	44.4	0.0	0.0	6.1	44.4	44.4	50.5

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2014 Total	0	0	0	0	0.0	
2015 Total	0	0	0	0	0.0	
2016	15	1	0	16	0.1	1-Sided Adj
<p>Incremental expense for meter reading supervisors and Field instructors to serve as Saturday training instructors to conduct training on the new meter reading handheld system for all meter readers and meter reading clerks. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Saturday Handheld System Training" for detailed analysis.</p>						
2016	443	24	0	467	6.0	1-Sided Adj
<p>Unfilled Meter Reading positions from 2008 GRC. These additional meter reading supervisor and field instructor positions were approved in the 2008 GRC. However due to AMI implementation, SoCalGas did not add these positions in anticipation of AMI implementation and associated job reductions that would result. Because these costs are included in the AMIBA benefits, they need to be added here to avoid double counting of AMI benefits. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Unfilled Positions From 2008 GRC" for detailed analysis.</p>						
2016 Total	458	25	0	483	6.1	

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: B. Meter Reading
Category-Sub: 3. Meter Reading - Supervisor & Training
Workpaper: 2FC007.000 - Meter Reading - Supervision & Training

Determination of Adjusted-Recorded (Incurred Costs):

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	2,389	2,521	2,655	2,632	2,505
Non-Labor	313	341	414	457	312
NSE	0	0	0	0	0
Total	2,702	2,862	3,068	3,089	2,817
FTE	36.2	38.7	40.3	38.0	34.1
Adjustments (Nominal \$) **					
Labor	0	-42	-6	0	165
Non-Labor	95	94	29	0	0
NSE	0	0	0	0	0
Total	95	53	23	0	165
FTE	0.0	-0.3	-0.1	0.0	2.2
Recorded-Adjusted (Nominal \$)					
Labor	2,389	2,479	2,648	2,632	2,670
Non-Labor	408	435	443	457	312
NSE	0	0	0	0	0
Total	2,797	2,915	3,091	3,089	2,982
FTE	36.2	38.4	40.2	38.0	36.3
Vacation & Sick (Nominal \$)					
Labor	432	433	440	421	444
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	432	433	440	421	444
FTE	6.9	6.9	6.9	6.3	6.1
Escalation to 2013\$					
Labor	288	217	146	73	0
Non-Labor	44	35	18	8	0
NSE	0	0	0	0	0
Total	332	252	163	82	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	3,109	3,130	3,234	3,127	3,114
Non-Labor	453	470	460	465	312
NSE	0	0	0	0	0
Total	3,561	3,600	3,694	3,592	3,426
FTE	43.1	45.3	47.1	44.3	42.4

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 3. Meter Reading - Supervisor & Training
 Workpaper: 2FC007.000 - Meter Reading - Supervision & Training

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	0	-42	-6	0	165
Non-Labor	95	94	29	0	0
NSE	0	0	0	0	0
Total	95	53	23	0	165
FTE	0.0	-0.3	-0.1	0.0	2.2

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	0	95	0	0.0	CCTR Transf	From 2200-0005.018	DSREED2013120 6141420760

Transfer Safety & Performance Incentive Program costs recorded in Employee Recognition Cost Element 6120012 from Employee Recognition to SCG Meter Reading. These program costs are specific to the Meter Reading Organization and have historically been forecast in Meter Reading's work papers.

2009 Total	0	95	0	0.0			
-------------------	----------	-----------	----------	------------	--	--	--

2010	0	96	0	0.0	CCTR Transf	From 2200-0005.018	DSREED2013120 6143109780
------	---	----	---	-----	-------------	--------------------	-----------------------------

Transfer Safety & Performance Incentive Program costs recorded in Employee Recognition Cost Element 6120012 from Employee Recognition to SCG Meter Reading. These program costs are specific to the Meter Reading Organization and have historically been forecast in Meter Reading's work papers.

2010	-42	-1	0	-0.3	CCTR Transf	To 2100-0705.000	TP4DJS20131121 151948150
------	-----	----	---	------	-------------	------------------	-----------------------------

Transfer costs associated with SDG&E AMO Manager into the correct SDG&E cost center.

2010 Total	-42	94	0	-0.3			
-------------------	------------	-----------	----------	-------------	--	--	--

2011	0	29	0	0.0	CCTR Transf	From 2200-0005.018	DSREED2013120 6143215897
------	---	----	---	-----	-------------	--------------------	-----------------------------

Transfer Safety & Performance Incentive Program costs recorded in Employee Recognition Cost Element 6120012 from Employee Recognition to SCG Meter Reading. These program costs are specific to the Meter Reading Organization and have historically been forecast in Meter Reading's work papers.

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 3. Meter Reading - Supervisor & Training
 Workpaper: 2FC007.000 - Meter Reading - Supervision & Training

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2011	-6	-0.154	0	-0.1	CCTR Transf	To 2100-0705.000	TP4DJS20131121 152242403

Two sided adjustment for SDG&E AMO Manager to the the correct SDG&E cost center.

2011 Total	-6	29	0	-0.1			
-------------------	-----------	-----------	----------	-------------	--	--	--

2012 Total	0	0	0	0.0			
-------------------	----------	----------	----------	------------	--	--	--

2013	165	0	0	2.2	1-Sided Adj	N/A	TPKAJ201405061 84146180
------	-----	---	---	-----	-------------	-----	----------------------------

Adjustment to add benefits related to automoated metering infrastruuctuce (AMI) deployment for meter reading supervisor and field instructor positions that were eliminated back to 2013 reocrded costs. TY2016 GRC assumes no AMI, therefore, benefits are added back to the base year to reflect costs without AMI benefits. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Meter Reading Supervisor AMI Benefit" for detailed analysis.

2013 Total	165	0	0	2.2			
-------------------	------------	----------	----------	------------	--	--	--

Note: Totals may include rounding differences.

Supplemental Workpapers for Workpaper 2FC007.000

SCG AM Benefits: 2013 Historical Adjustment
 Workgroup 2FC007.000 Meter Reading Supervisor / Training / Programs

Average Annual Salary \$ 74,000 based on 2013 actual annual salary of supervisors/field instructors
 Average Hourly Rate \$ 35.44

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Work Hours Per Month	184	160	168	176	176	168	184	168	176	184	160	184	2088
Meter Reading Supervisor													
Monthly Headcount	31	31	30	28	29	30	30	29	29	28	28	27	
Avoided Supervisor Due to AM								-1	-1	-2	-2	-3	
Avoided Hours								168	176	368	320	552	1584
Avoided Labor \$s								\$ 5,954	\$ 6,238	\$ 13,042	\$ 11,341	\$ 19,563	\$ 56,138
Avoided FTE													0.8
Meter Reading Field Instructor													
Monthly Headcount	14	15	14	16	14	12	11	11	10	9	9	9	
Avoided Field Instructor Due to AM						-2	-3	-3	-4	-5	-5	-5	
Avoided Hours						336	552	504	704	920	800	920	3848
Avoided Labor \$s						\$ 11,908	\$ 19,563	\$ 17,862	\$ 24,950	\$ 32,605	\$ 28,352	\$ 32,605	\$ 136,375
Avoided FTE													1.8
											With V&S		
											Labor	\$ 192,513	
											FTE	2.6	
								2013 V&S Rate			W/O V&S		
								0.1662			Labor Adjustment	\$ 165,078	
								0.1690			FTE Adjustment	2.2	

**SoCalGas Customer Service Field - Meter Reading
A. Detailed Workpaper Calculations - NSS**

NSS - 2FC 007.000

Meter Reading Management (unfilled positions from 2008 GRC)

	<u># EEs</u>	<u>Yrly Hrs</u>	<u>NLB</u>	<u>ST-2 Salary</u>	<u>TTL Labor</u>	<u>TTL NLB</u>	<u>TTL Hrs</u>	<u>TTL FTE</u>
Supv / FI	6	2088	\$ 3,945	\$ 73,750.00	\$ 442,500.00	\$ 23,667	12528	6.0

NSS - 2FC 008.000

Meter Reading Management (unfilled positions from 2008 GRC)

	<u># EEs</u>	<u>Yrly Hrs</u>	<u>NLB</u>	<u>ST-2 Salary</u>	<u>TTL Labor</u>	<u>TTL NLB</u>	<u>TTL Hrs</u>	<u>TTL FTE</u>
AMR/Analysts	3	2088	\$ 3,945	\$ 73,750.00	\$ 221,250.00	\$ 11,833.50	6264	3.0
Route Analysts	2.5	2088	\$ 3,945	\$ 73,750.00	\$ 184,375.00	\$ 9,861.25	5220	2.5
Total					\$ 405,625.00	\$ 21,694.75		5.5

Beginning of Workpaper
2FC008.000 - Meter Reading - Support

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 4. Meter Reading - Support
 Workpaper: 2FC008.000 - Meter Reading - Support

Activity Description:

The Meter Reading Support cost category consists of meter reading managers who support meter reading operations and business analysts who support the meter reading technologies, including the daily process to download and upload data to meter reading handheld computers, conduct meter reading route analyses and route realignments, project management, and other reporting and analysis.

Forecast Explanations:

Labor - 5-YR Average

Forecasted TY 2016 expenses are based on a five-year average of historical costs because, similar to the clerical group, the support function has not yet been impacted by Advanced Metering Infrastructure (AMI). Forecasted expenses also include AMIBA-related adjustments to avoid the double counting of AMI benefits. Use of an alternative forecast methodology would not be appropriate because any shorter period of time would potentially artificially inflate or deflate results based on short-term change.

Non-Labor - 5-YR Average

The same forecasting methodology used for labor expenses was also used for non-labor costs, for the same reasons noted above.

NSE - 5-YR Average

NSE is not applicable to this workgroup.

Summary of Results:

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		1,461	1,258	1,418	1,712	1,675	1,505	1,505	1,911	
Non-Labor		906	484	543	475	366	555	555	577	
NSE		0	0	0	0	0	0	0	0	
Total		2,366	1,742	1,961	2,186	2,042	2,060	2,060	2,488	
FTE		16.0	14.7	16.8	21.1	20.3	17.8	17.8	23.3	

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 4. Meter Reading - Support
 Workpaper: 2FC008.000 - Meter Reading - Support

Forecast Summary:

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Average	1,505	1,505	1,505	0	0	406	1,505	1,505	1,911
Non-Labor	5-YR Average	555	555	555	0	0	22	555	555	577
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		2,060	2,060	2,060	0	0	428	2,060	2,060	2,488
FTE	5-YR Average	17.8	17.8	17.8	0.0	0.0	5.5	17.8	17.8	23.3

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2014 Total	0	0	0	0	0.0	
2015 Total	0	0	0	0	0.0	
2016	406	22	0	428	5.5	1-Sided Adj
Unfilled Meter Reading positions from 2008 GRC. Additional AMR and route analyst positions were approved in the 2008 GRC. However due to AMI implementation, SoCalGas did not add these positions in anticipation of AMI implementation and associated job reductions that would result. Because these costs are included in the AMIBA benefits, they need to be added here to avoid double counting of AMI benefits. See supplemental workpaper "SCG-10-SFranke Supplemental Workpaper - Unfilled Positions From 2008 GRC" for detailed analysis.						
2016 Total	406	22	0	428	5.5	

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: B. Meter Reading
Category-Sub: 4. Meter Reading - Support
Workpaper: 2FC008.000 - Meter Reading - Support

Determination of Adjusted-Recorded (Incurred Costs):

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	1,253	1,089	1,236	1,290	1,270
Non-Labor	767	448	523	455	355
NSE	0	0	0	0	0
Total	2,020	1,537	1,759	1,745	1,624
FTE	15.2	13.5	15.3	15.7	14.7
Adjustments (Nominal \$) **					
Labor	-131	-92	-75	151	167
Non-Labor	51	0	0	12	12
NSE	0	0	0	0	0
Total	-80	-92	-75	163	178
FTE	-1.7	-1.1	-0.9	2.4	2.7
Recorded-Adjusted (Nominal \$)					
Labor	1,122	997	1,161	1,441	1,436
Non-Labor	817	448	523	467	366
NSE	0	0	0	0	0
Total	1,940	1,445	1,684	1,907	1,803
FTE	13.5	12.4	14.4	18.1	17.4
Vacation & Sick (Nominal \$)					
Labor	203	174	193	231	239
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	203	174	193	231	239
FTE	2.6	2.2	2.5	3.0	2.9
Escalation to 2013\$					
Labor	135	87	64	40	0
Non-Labor	88	36	21	8	0
NSE	0	0	0	0	0
Total	224	123	85	48	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	1,461	1,258	1,418	1,712	1,675
Non-Labor	906	484	543	475	366
NSE	0	0	0	0	0
Total	2,366	1,742	1,961	2,186	2,042
FTE	16.1	14.6	16.9	21.1	20.3

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 4. Meter Reading - Support
 Workpaper: 2FC008.000 - Meter Reading - Support

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2009	2010	2011	2012	2013
Labor	-131	-92	-75	151	167
Non-Labor	51	0	0	12	12
NSE	0	0	0	0	0
Total	-80	-92	-75	163	178
FTE	-1.7	-1.1	-0.9	2.4	2.7

Detail of Adjustments to Recorded:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From CCtr</u>	<u>RefID</u>
2009	-74	0	0	-0.8	CCTR Transf	From 2200-0331.000	RMCHRIST20140 423121426320
Budget Planner transfered in 2013. This Budget Planner was transferred from cost center 2200-2025 in work paper 2FC008 to cost center 2200-0331 in work paper group 2OO006.							
2009	-57	-6	0	-0.9	1-Sided Adj	N/A	TP4DJS20131114 102412400
Removal of the incremental SCG AMI Project Management Office (PMO) related expenses for adminstrative, deployment planning and information technology tasks.							
2009	0	179	0	0.0	1-Sided Adj	N/A	TP4DJS20131121 100755320
Reversal of one time vendor credits as a result of a buy back of excess RAMR products.							
2009	0	-123	0	0.0	1-Sided Adj	N/A	TP4DJS20131121 100914993
Credit to Accumulated Depreciation taken for vendor credit issued on RAMR products.							

2009 Total	-131	51	0	-1.7			
-------------------	-------------	-----------	----------	-------------	--	--	--

2010	-77	0	0	-0.9	CCTR Transf	From 2200-0331.000	RMCHRIST20140 423121507910
Budget Planner transfered in 2013. This Budget Planner was transferred from cost center 2200-2025 in work paper 2FC008 to cost center 2200-0331 in work paper group 2OO006.							
2010	-16	0	0	-0.2	1-Sided Adj	N/A	TP4DJS20131114 103006983
Removal of the incremental SCG AMI Project Management (PMO) related expenses for adminstrative, deployment planning and information technology tasks.							

Note: Totals may include rounding differences.

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

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: B. Meter Reading
 Category-Sub: 4. Meter Reading - Support
 Workpaper: 2FC008.000 - Meter Reading - Support

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>From Cctr</u>	<u>RefID</u>
2010 Total	-92	0	0	-1.1			
2011	-75	0	0	-0.9	CCTR Transf	From 2200-0331.000	RMCHRIST20140 423152330897
Budget Planner transfered in 2013. This Budget Planner was transferred from cost center 2200-2025 in work paper 2FC008 to cost center 2200-0331 in work paper group 2OO006.							
2011 Total	-75	0	0	-0.9			
2012	-70	0	0	-0.9	CCTR Transf	From 2200-0331.000	RMCHRIST20140 423121634150
Budget Planner transfered in 2013. This Budget Planner was transferred from cost center 2200-2025 in work paper 2FC008 to cost center 2200-0331 in work paper group 2OO006.							
2012	221	12	0	3.3	1-Sided Adj	N/A	TP4DJS20131126 115341583
Transfer Meter Reading Route Analysts costs from Advanced Meter cost center to 2FC008 Meter Reading Support workpaper in order to align the historical costs with the forecast.							
2012 Total	151	12	0	2.4			
2013	-5	0	0	-0.1	CCTR Transf	From 2200-0331.000	RMCHRIST20140 423121741837
Budget Planner transfered in 2013. This Budget Planner was transferred from cost center 2200-2025 in work paper 2FC008 to cost center 2200-0331 in work paper group 2OO006.							
2013	-50	0	0	-0.5	CCTR Transf	From 2200-0331.000	RMCHRIST20140 423121843740
Budget Planner Transfer in 2013. Transfer 2013 Budget Planner dollars from cost center 2200-0357 in work paper group 2GFC008 to cost center 2200-0331 in work paper group 2OO006.							
2013	221	12	0	3.3	1-Sided Adj	N/A	TP4DJS20140224 113057717
Transfer Route Analysts costs from Advanced Meter cost center in orderto align the history with the forecast.							
2013 Total	167	12	0	2.7			

Note: Totals may include rounding differences.

Southern California Gas Company
 2016 GRC - APP
 Shared Services Workpapers

Area: CS - FIELD & METER READING
 Witness: Sara Franke

Summary of Shared Services Workpapers:

Description	In 2013 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
		2013	2014	2015
A. Customer Service Field	1,571	1,923	1,923	2,406
Total	1,571	1,923	1,923	2,406

Note: Totals may include rounding differences.

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Cost Center: 2200-0942.000

Summary for Category: A. Customer Service Field

	In 2013\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	1,461	1,810	1,810	2,275
Non-Labor	110	113	113	131
NSE	0	0	0	0
Total	1,571	1,923	1,923	2,406
FTE	15.8	18.8	18.8	23.8

Cost Centers belonging to this Category:

2200-0942.000 CS FIELD STAFF MANAGER

Labor	1,461	1,810	1,810	2,275
Non-Labor	110	113	113	131
NSE	0	0	0	0
Total	1,571	1,923	1,923	2,406
FTE	15.8	18.8	18.8	23.8

Note: Totals may include rounding differences.

Beginning of Workpaper
2200-0942.000 - CS FIELD STAFF MANAGER

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field Staff
 Cost Center: 2200-0942.000 - CS FIELD STAFF MANAGER

Activity Description:

CSF Staff is comprised primarily of management personnel who develop and implement processes, policies and procedures, including Gas Standards and Information Bulletins; track, analyze and report operational data; and manage special projects for CSF operations. The CSF Staff cost category also includes an administrative assistant who provides clerical support to the CSF Staff organization. Although the CSF Staff is primarily centralized in SoCalGas' Los Angeles headquarters building, this organization supports both SoCalGas' and SDG&E's CSF organizations.

Forecast Explanations:

Labor - 5-YR Average

A five-year historical average was used to avoid the potential for artificially inflating or deflating results based on short-term anomalies. The TY 2016 forecast also includes incremental funding requests. The shared services allocation percentage is based on an assessment of the specific activities performed by each individual CSF Staff employee. Some positions assigned to this cost category perform work solely for SoCalGas and their costs are allocated accordingly. As a result of assessing the work performed by positions in this cost category, 9.66% of CSF Staff costs are allocated to SDG&E in 2016.

Non-Labor - 5-YR Average

Non-labor costs include cell phone expenses, office supplies, travel and other miscellaneous expenses. A five-year historical average was used to avoid the potential for artificially inflating or deflating results based on short-term anomalies. Non-labor costs for proposed incremental positions are based 2013 costs for similar positions.

NSE - 5-YR Average

Not applicable.

Summary of Results:

		In 2013\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016	
Labor		1,887	1,774	1,539	1,511	1,461	1,810	1,810	2,275	
Non-Labor		151	107	77	71	110	113	113	131	
NSE		0	0	0	0	0	0	0	0	
Total		2,037	1,881	1,615	1,582	1,571	1,923	1,923	2,406	
FTE		20.4	19.3	17.0	16.5	15.8	18.8	18.8	23.8	

Note: Totals may include rounding differences.

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field Staff
 Cost Center: 2200-0942.000 - CS FIELD STAFF MANAGER

Cost Center Allocations (Incurred Costs):

	2013 Adjusted-Recorded					2014 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.00	0	11	0	11	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	1,461	110	0	1,571	15.84	1,810	102	0	1,912	18.82
Total Incurred	1,461	110	0	1,571	15.84	1,810	113	0	1,923	18.82
% Allocation										
Retained	83.69%	83.69%				90.34%	90.34%			
SEU	16.31%	16.31%				9.66%	9.66%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2015 Adjusted-Forecast					2016 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	11	0	11	0.00	0	11	0	11	0.00
Directly Allocated	0	0	0	0	0.00	0	0	0	0	0.00
Subj. To % Alloc.	1,810	102	0	1,912	18.82	2,275	120	0	2,395	23.82
Total Incurred	1,810	113	0	1,923	18.82	2,275	131	0	2,406	23.82
% Allocation										
Retained	90.34%	90.34%				90.34%	90.34%			
SEU	9.66%	9.66%				9.66%	9.66%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: A. Customer Service Field
Category-Sub: 1. Customer Service Field Staff
Cost Center: 2200-0942.000 - CS FIELD STAFF MANAGER

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2013

Cost Center Allocation Percentage for 2014

The shared services allocation percentage is based on the cost center managers' or team leads' assessment of the activities and contributions of each individual employee, with input from each employee. It was determined that drilling down to the individual employee level was the most accurate way to determine how much of each employee's time is spent performing shared services.

Cost Center Allocation Percentage for 2015

The shared services allocation percentage is based on the cost center managers' or team leads' assessment of the activities and contributions of each individual employee, with input from each employee. It was determined that drilling down to the individual employee level was the most accurate way to determine how much of each employee's time is spent performing shared services.

Cost Center Allocation Percentage for 2016

The shared services allocation percentage is based on the cost center managers' or team leads' assessment of the activities and contributions of each individual employee, with input from each employee. It was determined that drilling down to the individual employee level was the most accurate way to determine how much of each employee's time is spent performing shared services.

Note: Totals may include rounding differences.

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field Staff
 Cost Center: 2200-0942.000 - CS FIELD STAFF MANAGER

Forecast Summary:

In 2013 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Average	1,634	1,634	1,634	176	176	641	1,810	1,810	2,275
Non-Labor	5-YR Average	103	103	103	10	10	28	113	113	131
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		1,737	1,737	1,737	186	186	669	1,923	1,923	2,406
FTE	5-YR Average	17.8	17.8	17.8	1.0	1.0	6.0	18.8	18.8	23.8

Forecast Adjustment Details:

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2014	176	10	0	186	1.0	1-Sided Adj

Adjustment to reflect labor and non-labor expenses for incremental Customer Services Field Staff Director. This is a new position created in 2014 that is not reflected in historical expenses and is therefore not reflected in the five-year average forecast methodology.

2014 Total	176	10	0	186	1.0	
-------------------	------------	-----------	----------	------------	------------	--

2015	176	10	0	186	1.0	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Adjustment to reflect labor and non-labor expenses for incremental Customers Service Field Staff Director. This is a new position created in 2014 that is not reflected in historical expenses and is therefore not reflected in the five-year average forecast methodology.

2015 Total	176	10	0	186	1.0	
-------------------	------------	-----------	----------	------------	------------	--

2016	176	10	0	186	1.0	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Adjustment to reflect labor and non-labor expenses for incremental Customers Service Field Staff Director. This is a new position created in 2014 that is not reflected in historical expenses and is therefore not reflected in the five-year average forecast methodology.

2016	465	18	0	483	5.0	1-Sided Adj
------	-----	----	---	-----	-----	-------------

Adjustment to reflect labor and non-labor expenses for one incremental diversion investigation supervisor position and four incremental diversion investigator positions.
 Diversion investigation supervisor labor = \$97k, non-labor = \$3.6k. Diversion investigator labor = 4 x \$92k, non-labor = 4 x \$3.6k.
 100% of incremental diversion investigation costs are allocated to SoCalGas since these incremental positions will be focused solely on SoCalGas.

Note: Totals may include rounding differences.

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: A. Customer Service Field
Category-Sub: 1. Customer Service Field Staff
Cost Center: 2200-0942.000 - CS FIELD STAFF MANAGER

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adi Type</u>
2016 Total	641	28	0	669	6.0	

Note: Totals may include rounding differences.

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Area: CS - FIELD & METER READING
Witness: Sara Franke
Category: A. Customer Service Field
Category-Sub: 1. Customer Service Field Staff
Cost Center: 2200-0942.000 - CS FIELD STAFF MANAGER

Determination of Adjusted-Recorded (Incurred Costs):

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	1,454	1,407	1,263	1,274	1,253
Non-Labor	137	100	73	70	110
NSE	0	0	0	0	0
Total	1,591	1,507	1,337	1,344	1,363
FTE	17.2	16.4	14.5	14.2	13.6
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	1,454	1,407	1,263	1,274	1,253
Non-Labor	137	100	73	70	110
NSE	0	0	0	0	0
Total	1,591	1,507	1,337	1,344	1,363
FTE	17.2	16.4	14.5	14.2	13.6
Vacation & Sick (Nominal \$)					
Labor	263	246	210	204	208
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	263	246	210	204	208
FTE	3.3	3.0	2.5	2.3	2.3
Escalation to 2013\$					
Labor	170	121	66	33	0
Non-Labor	14	7	3	2	0
NSE	0	0	0	0	0
Total	183	128	69	34	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	1,887	1,774	1,539	1,511	1,461
Non-Labor	151	107	77	71	110
NSE	0	0	0	0	0
Total	2,037	1,881	1,615	1,582	1,571
FTE	20.5	19.4	17.0	16.5	15.9

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Area: CS - FIELD & METER READING
 Witness: Sara Franke
 Category: A. Customer Service Field
 Category-Sub: 1. Customer Service Field Staff
 Cost Center: 2200-0942.000 - CS FIELD STAFF MANAGER

Summary of Adjustments to Recorded:

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

Detail of Adjustments to Recorded:

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

Note: Totals may include rounding differences.

Supplemental Workpapers for Workpaper 2200-0942.000

RESPONSES TO INFORMAL DATA REQUESTS & DEFICIENCIES

ORA INFORMAL-SDG&E/SOCALSGAS-DR-05, SOCALGAS-ORA-DEF-004-TLG, and SOCALGAS-ORA-DEF-028-TLG

Supporting the Request of Sara A. Franke

Customer Services Field And Meter Reading

Note 1: Responses to ORA-DR-05 has been updated to reflect Application Testimony & Workpapers from NOI Testimony & Workpapers.

Note 2: Responses to ORA-DEF-004-TLG has been updated to reflect Application Testimony & Workpapers from NOI Testimony & Workpapers.

Note 3: Responses to ORA-DEF-028-TLG has been updated to reflect Application Testimony & Workpapers from NOI Testimony & Workpapers.

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

**ORA INFORMAL DATA REQUEST
ORA INFORMAL-SDG&E/SOCALGAS-DR-05
SDG&E/SOCALGAS 2016 GRC – A.14-11-XXX
SDG&E/SOCALGAS RESPONSE
DATE RECEIVED: AUGUST 15, 2014
DATE RESPONDED: AUGUST 20, 2014**

1. Please provide a reference document for all Customer Service witness exhibits, showing the links between the Testimony Exhibit sections, Workpaper Exhibit page numbers, relevant MDR responses, and the cost centers included in each workpaper grouping.

SDG&E-SoCalGas Response:

SoCalGas and SDG&E Customer Service witnesses provided roadmaps of all Customer Service witness exhibits, to ORA witness Tamera Godfrey during their meeting in San Francisco on Wednesday, August 20, 2014.

**ORA INFORMAL DATA REQUEST
ORA INFORMAL-SDG&E/SOCALGAS-DR-05
SDG&E/SOCALGAS 2016 GRC – A.14-11-XXX
SDG&E/SOCALGAS RESPONSE
DATE RECEIVED: AUGUST 15, 2014
DATE RESPONDED: AUGUST 20, 2014**

2. Please provide summaries for all Customer Service witness O&M requests, by workpaper group, broken out to show the labor and non-labor details, for the years 2009 - 2016.

SDG&E-SoCalGas Response:

SoCalGas and SDG&E Customer Service witnesses provided summaries of all Customer Service witness O&M requests, by workpaper group, broken out to show the labor and non-labor details, for the years 2009 – 2016, to ORA witness Tamera Godfrey during their meeting in San Francisco on Wednesday, August 20, 2014.

**ORA INFORMAL DATA REQUEST
ORA INFORMAL-SDG&E/SOCALGAS-DR-05
SDG&E/SOCALGAS 2016 GRC – A.14-11-XXX
SDG&E/SOCALGAS RESPONSE
DATE RECEIVED: AUGUST 15, 2014
DATE RESPONDED: AUGUST 20, 2014**

3. Please provide copies of IT Capital project workpapers for all Customer Service witness sponsored projects.

SDG&E-SoCalGas Response:

SoCalGas and SDG&E Customer Service witnesses provided copies of all Customer Service witness sponsored projects within the IT capital workpaper exhibits to ORA witness Tamera Godfrey during their meeting in San Francisco on Wednesday, August 20, 2014.

Each witness packet includes the IT Capital Workpaper cover page and the overall summary by sponsoring witness (page 1) prior to the page ranges listed below.

SDG&E Ex. SDG&E-19-CWP sponsored by witness Stephen J. Mikovits, as follows:

- a. Sara Franke Ex. SDG&E-13 IT capital projects are contained on pages 3 of 513 through 7 of 513
- b. Brad Baugh Ex. SDG&E-14 IT capital projects are contained on pages 8 of 513 through 174 of 842

SoCalGas Ex. SCG-18-CWP sponsored by witness Christopher R. Olmsted, as follows:

- a. Sara Franke Ex. SCG-10 IT capital projects are contained on pages 2 of 842 through 17 of 842
- b. Evan Goldman Ex. SCG-11 IT capital projects are contained on pages 18 of 842 through 121 of 842
- c. Gwen Marelli Ex. SCG-12 IT capital projects are contained on pages 122 of 842 through 184 of 842

**ORA INFORMAL DATA REQUEST
ORA INFORMAL-SDG&E/SOCALGAS-DR-05
SDG&E/SOCALGAS 2016 GRC – A.14-11-XXX
SDG&E/SOCALGAS RESPONSE
DATE RECEIVED: AUGUST 15, 2014
DATE RESPONDED: AUGUST 20, 2014**

5. Please provide a mapping of the total forecasted order counts shown in Ex. SDG&E-13, Table SAF-6 on p. SAF-11, to the workpapers in Ex. SDG&E-13-WP.

SDG&E-SoCalGas Response:

The SDG&E Customer Services Field witness team provided ORA witness Tamera Godfrey with a workpaper that compares Table SAF-6 in testimony Ex. SDG&E-13 to the workpaper table shown on page SAF-16 of Ex. SDG&E-13-WP. Included in the comparison is a reconciliation of the tables. The workpaper was provided to Ms. Godfrey on Wednesday, August 20, 2014.

File name: ORA Informal DR-05 Q5 Attachment.xlsx

ORA Informal Data Request
 ORA INFORMAL-SDG&E/SoCalGas-DR-05 Question 1 Attachments

Functional Area	Testimony Area	Work Paper Group	Ex. SCG-10 Testimony Pages	Ex. SCG-10-WP Workpaper Pages X of 178	MDR Chapter 9 Question #	WP Group FERC Accounts	FERC Allocation %	Cost Centers in Group	Cost Center Name
Customer Services Field and Meter Reading; Witness: Sara A. Franke									
	Section I: Introduction		SAF-1-4						
	Section II: Non-Shared Costs		SAF-4-42	2-164	Q. 10				
	A - Introduction		SAF-4-5						
	B - Customer Services Field		SAF-5-34	3-121					
	B.1 - CSF Operations	2FC001.000 Customer Services Field - Operations	SAF-5-23	4-16	Q. 1-3, 5	879.0	90.5%	2200-0445	SO INL FSVC SAN BERNARDINO
		Supplemental Workpapers for Workpaper 2FC001.000				903.1	5.4%	2200-0449	SO INL FSVC CHINO
		Work Order Volume (Section 1 of 4) Work Order Volume Model		18-24		184.7	2.7%	2200-0452	SO INL FSVC FONTANA
		Work Order Volume (Section 2 of 4) Operations Training Labor		25		892.0	0.6%	2200-0455	SO INL FSVC PLM DESERT
		Work Order Volume (Section 3 of 4) Operations Non-labor		26		880.2	0.5%	2200-0458	SO INL FSVC RIVERSIDE
		Work Order Volume Charts		28-77		878.2	0.4%	2200-0462	SO INL FSVC RAMONA
		MSA Inspection Program		78-82		Total	100%	2200-0464	SO INL FSVC EL CENTRO
		Job Shadowing		83				2200-0467	SO INL FSVC RIM FOREST
		Refresher Training		84				2200-0470	NORTHERN FSVC ALHAMBRA
		Operator Qualification Training		85-87				2200-0473	NORTHERN FSVC AZUSA
		Curb Meter Regulator Replacement		88				2200-0475	SO INL FSVC CORONA
		CSF Operations AMI Benefit Adjustment-2013		89				2200-0477	NORTHERN FSVC PASADENA
								2200-0493	NORTHERN FSVC VISALIA/HANFORD
								2200-0497	NORTHERN FSVC BAKERSFIELD
								2200-0502	NORTHERN FSVC SLO/TEMPLETON
								2200-0505	NORTHERN FSVC SANTA MARIA
								2200-0509	NORTHERN FSVC VENTURA
								2200-0513	NORTHERN FSVC SANTA BARBARA
								2200-0516	NORTHERN FSVC CANOGA
								2200-0519	NORTHERN FSVC SIMI VALLEY
								2200-0522	NORTHERN FSVC SATICOY
								2200-0525	NORTHERN FSVC BRANDFORD
								2200-0529	NORTHERN FSVC GLENDALE
								2200-0531	NORTHERN FSVC VALENCIA
								2200-0534	NORTHERN FSVC LANCASTER
								2200-0546	PACIFIC COAST FSVC DOWNEY
								2200-0550	PACIFIC COAST FSVC WHITTIER
								2200-0552	PACIFIC COAST FSVC ANAHEIM
								2200-0556	PACIFIC COAST FSVC LA JOLLA
								2200-0560	PACIFIC COAST FSVC ALISO VIEJO
								2200-0563	PACIFIC COAST FSVC GARDEN GROVE
								2200-0566	PACIFIC COAST FSVC SANTA ANA
								2200-0570	NORTHERN FSVC INDUSTRY
								2200-0574	PACIFIC COAST FSVC BELVEDERE
								2200-0578	PACIFIC COAST FSVC JUANITA
								2200-0582	HUNTINGTON PARK FIELD SERVICES
								2200-0585	COMPTON FIELD SERVICE
								2200-0589	PACIFIC COAST FSVC CRENSHAW
								2200-0591	PACIFIC COAST FSVC SANTA MONICA
								2200-0594	PACIFIC COAST FSVC REDONDO BEACH
								2200-0597	PACIFIC COAST FSVC SAN PEDRO
								2200-0600	PACIFIC COAST FSVC HOLLYWOOD
								2200-2081	SO INL FSVC MURRIETA
								2200-2082	SO INL FSVC BEAUMONT
								2200-2113	PACIFIC COAST FSVC - YUKON
								2200-2231	SO INL FSVC YUCCA VLY

ORA Informal Data Request
 ORA INFORMAL-SDG&E/SoCalGas-DR-05 Question 1 Attachments

Functional Area	Testimony Area	Work Paper Group	Ex. SCG-10 Testimony Pages	Ex. SCG-10-WP Workpaper Pages X of 178	MDR Chapter 9 Question #	WP Group FERC Accounts	FERC Allocation %	Cost Centers in Group	Cost Center Name	
B.2 - CSF Supervision	2FC002.000 Customer Services Field - Supervision Supplemental Workpapers for Workpaper 2FC002.000 Work Order Volume (Section 4 of 4) Supervisor Labor & Non-labor	SAF-24-25	90-100	Q. 1-3	879.0	87.4%	2200-0451	SO INL CS DOM SAN BERNARDINO		
							2200-0454	SO INL CS DOM PALM DESERT		
							Total	100.0%	2200-0460	SO INL CS DOM RAMONA
									2200-0466	SO INL CS DOM CHINO
									2200-0476	NORTHERN DOM ALHAMBRA/PASADENA
									2200-0495	NORTHERN DOM BAKERSFIELD
									2200-0503	NORTHERN DOM SLO/SANTA MARIA/TEMPLETON
									2200-0511	NORTHERN DOM VENTURA & SIMI
									2200-0518	NORTHERN DOM VISALIA/HANFORD
									2200-0521	NORTHERN DOM CANOGA/SATICOY
									2200-0527	NORTHERN DOM BRANDFORD/GENDALE
									2200-0533	NORTHERN DOM LANCASTER
									2200-0554	PACIFIC COAST DOM ANAHEIM/LA JOLLA
									2200-0558	PACIFIC COAST DOM SANTA ANA/ALISO VIEJO
									2200-0561	PACIFIC COAST DOM DOWNEY/GARDEN GROVE
									2200-0568	NORTHERN DOM AZUSA/INDUSTRY
									2200-0573	PACIFIC COAST DOM WHITTIER/BELVEDERE
									2200-0579	SO INL CS DOM EL CENTRO
									2200-0584	COMPTON/HUNTINGTON PARK DOM
									2200-0587	PACIFIC COAST DOM SANTA MONICA/CRENSHAW
									2200-0596	PACIFIC COAST DOM REDONDO/SAN PEDRO
									2200-0599	PACIFIC COAST DOM JUANITA/HOLLYWOOD
									2200-2114	PACIFIC COAST DOM - YUKON
		2200-2150	NORTHERN DOM SANTA BARBARA							
		2200-2192	NORTHERN DOM VALENCIA							
		2200-2223	SO INL CS DOM FONTANA							
		2200-2224	SO INL CS DOM RIM FOREST							
		2200-2225	SO INL CS DOM BEAUMONT							
		2200-2226	SO INL CS DOM CORONA							
		2200-2227	SO INL CS DOM RIVERSIDE							
		2200-2228	SO INL CS DOM MURRIETA							
		2200-2230	SO INL CS DOM YUCCA VLY							
B.3 - CSF Dispatch	2FC003.000 Customer Services Field - Dispatch	SAF-25-26	101-107	Q. 1-3	880.3	100.0%	2200-0440	REDLANDS DISPATCH SOUTH INLAND		
							2200-0498	CHATSWORTH DISPATCH NORTHERN		
							2200-0506	COMPTON DISPATCH PACIFIC COAST		
							2200-0507	ANAHEIM DISPATCH PACIFIC COAST		
B.4 - CSF Support	2FC004.000 Customer Service Field - Support	SAF-26-34	108-121	Q. 1-3	880.4	28.8%	2200-0343	CST - PACER		
							2200-0432	SOUTH INLAND REGION DIRECTOR		
							2200-0437	CUSTOMER SERVICES SOUTH INLAND DIRECTOR		
							2200-0442	FIELD OP MGR REDLANDS		
							2200-0442	FIELD OP MGR REDLANDS		
							2200-0442	FIELD OP MGR REDLANDS		
							2200-0442	FIELD OP MGR REDLANDS		
							2200-0571	CUSTOMER SERVICES PACIFIC COAST DIRECTOR		
							2200-0572	FIELD OP MGR1 COMPTON		
							2200-0572	FIELD OP MGR1 COMPTON		
2200-2029	MGR FIELD COLLECTIONS									
2200-2111	CUSTOMER SERVICE STAFF - FIELD SYSTEMS									
2200-2115	PACIFIC RGN ENV									
2200-2141	SOUTH INLAND FOM									
2200-2183	CUSTOMER SERVICE-MASS MARKETS VP - NSS									
2200-2206	QUALITY ASSURANCE									
2200-2255	CS TECHNOLOGY - ART									
2200-2500	TRAINING - OFFICE									

ORA Informal Data Request
ORA INFORMAL-SDG&E/SoCalGas-DR-05 Question 1 Attachments

Functional Area	Testimony Area	Work Paper Group	Ex. SCG-10 Testimony Pages	Ex. SCG-10-WP Workpaper Pages X of 178	MDR Chapter 9 Question #	WP Group FERC Accounts	FERC Allocation %	Cost Centers in Group	Cost Center Name
	C - Meter Reading		SAF-34-42	122-164					
	C.1 - Meter Reading Operations	2FC005.000 Meter Reading - Operations	SAF-34-38	123-130	Q. 1-3, 4	902.0	82.8%	2200-0359	METER READING RIVERSIDE - BEAUMONT
		Supplemental Workpapers for Workpaper 2FC005.000				902.1	15.7%	2200-0361	MTR READING RIM-FOREST
		Meter Reading Zero Based Forecast & Meter Growth		132		879.0	1.5%	2200-0362	METER READING FONTANA
		Learning Curve Cost		133-140		Total	100.0%	2200-0363	METER READING CORONA
		Handheld System Training		141				2200-0364	METER READING CHINO
		Meter Reading Operations AMI Benefit-2013		143				2200-0365	METER READING MURRIETA
		Training Costs Due to Increased Attrition		144				2200-0366	METER READING RAMONA
								2200-0367	METER READING EL CENTRO & BLYTHE
								2200-0368	MTR READ PALM DESERT & YUCCA
								2200-0369	MTR READ SBRNDO-WRTWD-VICTORVILLE
								2200-0370	METER READING ALISO VIEJO
								2200-0371	METER READING SANTA ANA
								2200-0372	METER READING DOWNEY
								2200-0373	METER READING WHITTIER
								2200-0374	METER READING ANAHEIM
								2200-0375	METER READING LA JOLLA
								2200-0376	METER READING GARDEN GROVE
								2200-0377	METER READING INDUSTRY
								2200-0378	METER READING AZUSA
								2200-0381	METER READING VALENCIA
								2200-0382	METER READING BAKERSFIELD & PORTERVILLE
								2200-0383	METER READING LANCASTER & MOJAVE
								2200-0384	METER READING OXNARD
								2200-0385	METER READING CANOGA
								2200-0386	METER READING SIMI
								2200-0387	METER READING VISALIA & HANDFORD
								2200-0388	METER READING YUKON
								2200-0389	METER READING TEMPLETON & SLO
								2200-0390	METER READING SANTA MARIA & LOMPOC
								2200-0391	METER READING SANTA BARBARA
								2200-0392	METER READING SATICOY
								2200-0393	METER READING HOLLYWOOD
								2200-0394	METER READING 182ND STREET
								2200-0395	METER READING SANTA MONICA
								2200-0396	METER READING COMPTON
								2200-0397	METER READING PASADENA
								2200-0398	METER READING OPERATIONS MGT
								2200-0399	METER READING GLENDALE
								2200-2237	METER READING MONTEREY PARK
	C.2 - Meter Reading Clerical	2FC006.000 Meter Reading - Clerical	SAF-38-39	145-149	Q. 1-3	902.1	100.0%	2200-0379	METER READING OPER SUPPORT CENTRAL
		Supplemental Workpapers for Workpaper 2FC006.000						2200-0400	METER READING OPER SUPPORT NORTH
		Handheld System Training		142					

ORA Informal Data Request
ORA INFORMAL-SDG&E/SoCalGas-DR-05 Question 1 Attachments

Functional Area	Testimony Area	Work Paper Group	Ex. SCG-10 Testimony Pages	Ex. SCG-10-WP Workpaper Pages X of 178	MDR Chapter 9 Question #	WP Group FERC Accounts	FERC Allocation %	Cost Centers in Group	Cost Center Name
C.3 - Meter Reading Supervision, Training and Programs	2FC007.000 Meter Reading - Supervision & Training Supplemental Workpapers for Workpaper 2FC007.000	SAF-40-41	150-155	Q. 1-3	902.5	100.0%	2200-0358	MTR READING CENTRAL AREA MGR	
							2200-0380	MTR READING NORTH MGR	
			142					2200-1146	METER READING TRAINING OPERATIONS
			157					2200-2024	MTR READING EAST MGR
			158					2200-2153	METER READING OPERATIONS MGR
								2200-2359	SDGE METER READING MANAGER
								2200-2364	MTR RDG OCOAST MGR
C.4 - Meter Reading Support	2FC008.000 Meter Reading - Support	SAF-41-42	159-164	Q. 1-3	902.5	100.0%	2200-0357	METER READING OPERATIONS STAFF	
							2200-2025	METER READING PLANNING & ANALYSIS	
								2200-2105	METER READING MANAGER
								2200-2152	METER READING SYSTEMS
								2200-2404	METER READING ROUTE ANALYSIS
Section III: Shared Costs (USS)		SAF-43-47		Q. 2-3, 6-9					
A. Introduction		SAF-43							
B. Customer Services Field Staff		2200-0942.000 CS Field Staff Manager	SAF-43-47	165-174					
Section IV: Capital		SAF-47-49		Q. 12					
GRID WP #	Capital Project #	Capital Project Name							
81396	00777D	PACER MDT Replacement	SAF-47-48	Witness C. Olmsted; Ex. SCG-18-CWP; pp. 3-7					
15934	00776W	MDTs to Support Workforce Growth	SAF-48	Witness C. Olmsted; Ex. SCG-18-CWP; pp. 8-12					
N/A	00775A	Meter Reading Handheld System Replacement	SAF-48	Witness C. Olmsted; Ex. SCG-18-CWP; pp.13-17					
Section V: Continuous Improvement		SAF-49-50							
Section VI: SoCalGas Response Times for A1 Gas Leak Orders		SAF-50-52							
Section VII: Conclusion		SAF-52							
Section VIII: Witness Qualifications		SAF-53							
List of Appendices									
A. Glossary of Acronyms		A-1							
B. Customer Services Field Adjustments to 2013-Recorded Costs		B-1-3							
C. Illustrative Examples of Work Order Volume Forecasts by Individual Order Type		C-1-2							
D. Report Prepared by INRIX, Inc. Regarding Traffic Congestion in Southern California		D-1							
E. SoCalGas Response Time Performance for All A1 and A2 Orders		E-1-2							

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

ORA Informal Data Request
ORA INFORMAL-SDG&E/SoCalGas-DR-05 Question 2 Attachments

Witness Name	Sara Franke								
Constant 2013\$ in Thousands									
	Adjusted Recorded					Forecast			Workpaper Page
	2009	2010	2011	2012	2013	2014	2015	2016	
SCG									
Exh No:SCG-10-WP									
OM Total	176,823	179,978	178,221	175,729	172,866	181,278	185,836	203,050	
Non-Shared									
2FC001.000 - Customer Services Field Operations									
Labor	101,547	103,974	99,901	97,883	99,210	104,931	108,870	120,942	
NLbr	6,727	6,804	6,844	7,053	6,699	6,143	6,356	7,003	
NSE	-	-	-	-	-	-	-	-	
2FC001.000 Total	108,273	110,778	106,745	104,936	105,908	111,074	115,226	127,945	Page 6 of 178
2FC002.000 - Customer Services Field Supervision									
Labor	10,154	10,874	12,519	11,930	10,144	10,716	10,985	12,158	
NLbr	1,247	1,196	1,166	1,115	974	1,084	1,111	1,230	
NSE	-	-	-	-	-	-	-	-	
2FC002.000 Total	11,401	12,070	13,685	13,046	11,118	11,800	12,096	13,388	Page 88 of 178
2FC003.000 - Customer Services Field Dispatch									
Labor	9,020	8,967	8,868	8,870	8,762	8,617	8,617	8,617	
NLbr	220	213	180	171	158	188	188	188	
NSE	-	-	-	-	-	-	-	-	
2FC003.000 Total	9,240	9,180	9,048	9,040	8,921	8,806	8,806	8,806	Page 99 of 178
2FC004.000 - Customer Services Field Support									
Labor	9,744	9,734	9,621	9,368	8,804	9,659	9,659	10,980	
NLbr	1,191	1,281	1,158	828	954	1,532	1,532	1,643	
NSE	-	-	-	-	-	-	-	-	
2FC004.000 Total	10,935	11,015	10,779	10,196	9,758	11,191	11,191	12,623	Page 106 of 178

Note: Totals may include rounding differences.

SCG/CS - FIELD & METER READING/Exh No:SCG-10-WP/Witness: S. Franke

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

ORA Informal Data Request
ORA INFORMAL-SDG&E/SoCalGas-DR-05 Question 2 Attachments

Witness Name	Sara Franke									
Constant 2013\$ in Thousands										
	Adjusted Recorded					Forecast				Workpaper Page
	2009	2010	2011	2012	2013	2014	2015	2016		
2FC005.000 - Meter Reading Operations										
Labor	26,686	27,347	27,852	28,127	27,178	28,397	28,501	28,849		
NLbr	1,634	1,489	1,763	1,909	1,758	1,507	1,514	1,533		
NSE	-	-	-	-	-	-	-	-		
2FC005.000 Total	28,320	28,836	29,615	30,037	28,937	29,904	30,015	30,382	Page 122 of 178	
2FC006.000 - Meter Reading Clerical										
Labor	1,112	1,070	1,058	1,089	1,059	1,078	1,078	1,092		
NLbr	21	21	21	23	20	21	21	21		
NSE	-	-	-	-	-	-	-	-		
2FC006.000 Total	1,133	1,092	1,079	1,111	1,079	1,099	1,099	1,113	Page 144 of 178	
2FC007.000 - Meter Reading Supervision & Training										
Labor	3,109	3,130	3,234	3,127	3,114	3,143	3,143	3,601		
NLbr	453	470	460	465	312	432	432	457		
NSE	-	-	-	-	-	-	-	-		
2FC007.000 Total	3,561	3,599	3,694	3,592	3,427	3,574	3,574	4,057	Page 149 of 178	
2FC008.000 - Meter Reading Support										
Labor	1,461	1,258	1,418	1,712	1,675	1,505	1,505	1,911		
NLbr	906	484	543	475	366	555	555	577		
NSE	-	-	-	-	-	-	-	-		
2FC008.000 Total	2,366	1,742	1,961	2,186	2,042	2,060	2,060	2,488	Page 158 of 178	
Shared Services										
2200-0942.000 - Customer Service Field Staff Manager										
Labor	1,887	1,774	1,539	1,511	1,461	1,810	1,810	2,275		
NLbr	151	107	77	71	110	113	113	131		
NSE	-	-	-	-	-	-	-	-		
2200-0942.000 Total	2,037	1,881	1,615	1,582	1,571	1,923	1,923	2,406	Page 166 of 178	

Note: Totals may include rounding differences.

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

Beginning of Workpaper Group
00777D - PT81396 PACER MDT REPLACEMENT

SCG/INFORMATION TECHNOLOGY/Exh No:SCG-18-CWP/Witness: C. Olmsted
Page 1 of 5

SCG/CS - FIELD & METER READING/Exh No:SCG-10-WP/Witness: S. Franke
Page 187 of 231

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

Area: INFORMATION TECHNOLOGY
 Witness: Christopher R. Olmsted
 Budget Code: 00777.0
 Category: A. CS - Field & SCG Mtr Reading
 Category-Sub: 1. Technical Obsolescence
 Workpaper Group: 00777D - PT81396 PACER MDT REPLACEMENT

Summary of Results (Constant 2013 \$ in 000s):

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0	0	0	297	0	0
Non-Labor	Zero-Based	0	0	0	0	0	2,378	0	0
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	2,675	0	0
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0

Business Purpose:

The project is primarily a technical refresh that will replace ~1450 mission critical/Tier 1 model CF-18 MDTs used by SCG Customer Service employees, associated hardware, ancillary equipment and introduce an interim solution to provide increased wireless data capacity using a public broadband system or systems.
 Continue high level of Employee/Customer Safety
 Maintain high Customer Satisfaction
 Avoid increased MDT maintenance cost
 Reduce Field Tech down time
 Fully Support SCG Advanced Meter Initiative
 Support future customer experience initiatives and projects
 Support Sempra's Operating System standard, Windows 7 & Support Sempra's hard Drive Encryption mandate
 Provide infrastructure that will support New SCG Customer Service Dispatching application

Physical Description:

Replace ~1450 CF-18 MDTs with a Panasonic Ruggedized Tablet or Laptop MDT
 Provide interim solution to expand wireless data capacity using public broadband network until an enterprise solution is built

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Project Justification: Southern California Gas Company 2016 GRC - APP

~~Capital Workpapers~~

The project is primarily a technical refresh that will replace ~1450 mission critical/Tier 1 model CF-18 MDTs used by SCG Customer Service employees, associated hardware, ancillary equipment and introduce an interim solution to provide increased wireless data capacity using a public broadband system or systems.

- Continue high level of Employee/Customer Safety
- Maintain high Customer Satisfaction
- Avoid increased MDT maintenance cost
- Reduce Field Tech down time
- Fully Support SCG Advanced Meter Initiative
- Support future customer experience initiatives and projects
- Support Sempra's Operating System standard, Windows 7 & Support Sempra's hard Drive Encryption mandate
- Provide infrastructure that will support New SCG Customer Service Dispatching application

Note: Totals may include rounding differences.

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

Area: INFORMATION TECHNOLOGY
Witness: Christopher R. Olmsted
Budget Code: 00777.0
Category: A. CS - Field & SCG Mtr Reading
Category-Sub: 1. Technical Obsolescence
Workpaper Group: 00777D - PT81396 PACER MDT REPLACEMENT

Forecast Methodology:

Labor - Zero-Based

The forecast is based upon the current project timeline.

Non-Labor - Zero-Based

The forecast is based upon the current project timeline.

NSE - Zero-Based

N/A

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

**Beginning of Workpaper Sub Details for
Workpaper Group 00777D**

SCG/INFORMATION TECHNOLOGY/Exh No:SCG-18-CWP/Witness: C. Olmsted
Page 5 of 5

SCG/CS - FIELD & METER READING/Exh No:SCG-10-WP/Witness: S. Franke
Page 191 of 231

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

Area: INFORMATION TECHNOLOGY
 Witness: Christopher R. Olmsted
 Budget Code: 00777.0
 Category: A. CS - Field & SCG Mtr Reading
 Category-Sub: 1. Technical Obsolescence
 Workpaper Group: 00777D - PT81396 PACER MDT REPLACEMENT
 Workpaper Detail: 00777D.001 - PACER MDT REPLACEMENT
 In-Service Date: 06/30/2014
 Description:

		Forecast In 2013 \$(000)		
Years		<u>2014</u>	<u>2015</u>	<u>2016</u>
Labor		297	0	0
Non-Labor		2,378	0	0
NSE		0	0	0
	Total	<u>2,675</u>	<u>0</u>	<u>0</u>
FTE		2.9	0.0	0.0

Note: Totals may include rounding differences.

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

Beginning of Workpaper Group
00775A - SCG Meter Reading Handheld System Replacement

SCG/INFORMATION TECHNOLOGY/Exh No:SCG-18-CWP/Witness: C. Olmsted
Page 1 of 5

SCG/CS - FIELD & METER READING/Exh No:SCG-10-WP/Witness: S. Franke
Page 193 of 231

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

Area: INFORMATION TECHNOLOGY
 Witness: Christopher R. Olmsted
 Budget Code: 00775.0
 Category: A. CS - Field & SCG Mtr Reading
 Category-Sub: 1. Technical Obsolescence
 Workpaper Group: 00775A - SCG Meter Reading Handheld System Replacement

Summary of Results (Constant 2013 \$ in 000s):

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0	0	0	0	234	523
Non-Labor	Zero-Based	0	0	0	0	0	0	10	6,150
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	244	6,673
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	2.3	5.1

Business Purpose:

The cost for a new Meter Reading Handheld System was included as a benefit in SoCalGas' Advanced Meter business case. Because Advanced Meter related costs and benefits are recorded in the Advanced Meter Infrastructure Balancing Account ("AMIBA") for this GRC period, historical and forecast expenses are being adjusted to reflect costs without Advanced Meter benefits. SCG meter reading handheld computers will reach the end of its serviceable life because the vendor will no longer be supporting the current DAP 9500 and 9800 model handhelds. As the revenue billing cycle is dependent on a reliable collection and transmission system of meter reads to the customer information system (CIS), operating with hardware that is extremely old and non-supported leaves the revenue billing cycle vulnerable to not being able to accurately obtain the read and bill the customer. Options will be investigated to determine whether used models that are not at the end of their life might be available and/or whether vendors would be willing to continue to support end of life equipment.

Physical Description:

The project has two main components – hardware acquisition and integration of software with CIS. The hardware component involves upgrade of approximately 980 current handheld computer units (and 15 units for growth in the next two years) with new radio frequency (RF) based units, cradles, antennas, and set-up of the associated software into the units. The other component primarily involves the integration of new system software with CIS. This work involves SCG Information Technology (IT) working with the vendor consultants and includes necessary CIS testing with the Customer Service Systems and Technology (CSST) group. Other alternative solutions such as purchasing used hardware and/or extension of support on existing hardware will also be evaluated.

Project Justification:

There is risk to the revenue cycle process at SCG if handhelds fail and no other unit is available, resulting in an ever growing number of customer accounts estimated each month. Potential revenue loss and violation of CPUC tariff rules.

Note: Totals may include rounding differences.

SCG/INFORMATION TECHNOLOGY/Exh No:SCG-18-CWP/Witness: C. Olmsted

SCG/CS - FIELD & METER READING/Exh No:SCG-10-WP/Witness: S. Franke

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

Area: INFORMATION TECHNOLOGY
Witness: Christopher R. Olmsted
Budget Code: 00775.0
Category: A. CS - Field & SCG Mtr Reading
Category-Sub: 1. Technical Obsolescence
Workpaper Group: 00775A - SCG Meter Reading Handheld System Replacement

Forecast Methodology:

Labor - Zero-Based

Estimated cost is based on informal vendor quotes and IT estimates for CIS IT and CSST related work. Also, historic costs from prior system/handheld replacement projects were used as a framework for the two major components.

- Handheld unit costs estimated at 995 units x \$5025 = \$5,000,000
- Miscellaneous hardware, unit software and system software from vendor for \$900,000
- Vendor consulting/travel costs of \$250,000
- SCG IT labor of approximately 9,906 hours at \$49/hr = \$485,400
- CSST labor of approximately 1,800 hours at \$40/hr = \$72,000
- Meter Reading labor of approximately 2,646 hours at \$35/hr = \$92,600

Non-Labor - Zero-Based

Estimated cost is based on informal vendor quotes and IT estimates for CIS IT and CSST related work. Also, historic costs from prior system/handheld replacement projects were used as a framework for the two major components.

- Handheld unit costs estimated at 995 units x \$5025 = \$5,000,000
- Miscellaneous hardware, unit software and system software from vendor for \$900,000
- Vendor consulting/travel costs of \$250,000
- SCG IT labor of approximately 9,906 hours at \$49/hr = \$485,400
- CSST labor of approximately 1,800 hours at \$40/hr = \$72,000
- Meter Reading labor of approximately 2,646 hours at \$35/hr = \$92,600

NSE - Zero-Based

N/A

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

**Beginning of Workpaper Sub Details for
Workpaper Group 00775A**

SCG/INFORMATION TECHNOLOGY/Exh No:SCG-18-CWP/Witness: C. Olmsted
Page 4 of 5

SCG/CS - FIELD & METER READING/Exh No:SCG-10-WP/Witness: S. Franke
Page 196 of 231

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

Area: INFORMATION TECHNOLOGY
 Witness: Christopher R. Olmsted
 Budget Code: 00775.0
 Category: A. CS - Field & SCG Mtr Reading
 Category-Sub: 1. Technical Obsolescence
 Workpaper Group: 00775A - SCG Meter Reading Handheld System Replacement
 Workpaper Detail: 00775A.001 - SCG Meter Reading Handheld System Replacement
 In-Service Date: 12/31/2016
 Description:

		Forecast In 2013 \$(000)		
Years		2014	2015	2016
Labor		0	234	523
Non-Labor		0	10	6,150
NSE		0	0	0
	Total	0	244	6,673
FTE		0.0	2.3	5.1

Note: Totals may include rounding differences.

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

Beginning of Workpaper Group
00776W - PT15934 SoCalGas Customer Service Fields Supervision & Technicians
MDTs

SCG/INFORMATION TECHNOLOGY/Exh No:SCG-18-CWP/Witness: C. Olmsted
Page 1 of 5

SCG/CS - FIELD & METER READING/Exh No:SCG-10-WP/Witness: S. Franke
Page 198 of 231

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

Area: INFORMATION TECHNOLOGY
 Witness: Christopher R. Olmsted
 Budget Code: 00776.0
 Category: A. CS - Field & SCG Mtr Reading
 Category-Sub: 10. Growth/Capacity
 Workpaper Group: 00776W - PT15934 SoCalGas Customer Service Fields Supervision & Technicians MDTs

Summary of Results (Constant 2013 \$ in 000s):

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Years									
Labor	Zero-Based	0	0	0	0	0	7	3	9
Non-Labor	Zero-Based	0	0	0	0	0	414	190	535
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	421	193	544
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1

Business Purpose:

This project will install Mobile Data Terminals (MDTs), vehicle hardware (docking stations, mobile mounts, charge guards, etc.), and cabinet docks for incremental new hire Customer Service Fields (CSF) technicians and supervisors. The MDTs are the company standard device and are used by the CSF technicians to work customer service orders. The project cost is for new MDTs over the 2015 - 2016 timeframe

Physical Description:

"Blanket" project estimates are the purchase of Panasonic Toughbook MDTs and ancillary equipment that will be deployed to incremental new hire CSF technicians and supervisors over the 2015 - 2016 timeframe.

Project Justification:

Company standards are to issue MDTs to all CSF employees in order for them to receive routes and complete customer and company service orders. It is also a standard to issue Toughbook MDTs to field supervisors.

Note: Totals may include rounding differences.

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

Area: INFORMATIONTECHNOLOGY
Witness: Christopher R. Olmsted
Budget Code: 00776.0
Category: A. CS - Field & SCG Mtr Reading
Category-Sub: 10. Growth/Capacity
Workpaper Group: 00776W - PT15934 SoCalGas Customer Service Fields Supervision & Technicians MDTs

Forecast Methodology:

Labor - Zero-Based

Current MDT, ancillary equipment, and contractor labor pricing was used to estimate total costs.

Non-Labor - Zero-Based

MDT deployment will be coordinated with CSF Operations and Telecommunications to determine new hire dates and arrivals to ensure MDTs are deployed as needed.

NSE - Zero-Based

N/A

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

**Beginning of Workpaper Sub Details for
Workpaper Group 00776W**

SCG/INFORMATION TECHNOLOGY/Exh No:SCG-18-CWP/Witness: C. Olmsted
Page 4 of 5

SCG/CS - FIELD & METER READING/Exh No:SCG-10-WP/Witness: S. Franke
Page 201 of 231

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

Southern California Gas Company 2016 GRC - APP
Capital Workpapers

Area: INFORMATION TECHNOLOGY
 Witness: Christopher R. Olmsted
 Budget Code: 00776.0
 Category: A. CS - Field & SCG Mtr Reading
 Category-Sub: 10. Growth/Capacity
 Workpaper Group: 00776W - PT15934 SoCalGas Customer Service Fields Supervision & Technicians MDTs
 Workpaper Detail: 00776W.001 - SoCalGas Customer Service Field Supervision
 In-Service Date: Not Applicable
 Description:

		Forecast In 2013 \$(000)		
Years		<u>2014</u>	<u>2015</u>	<u>2016</u>
Labor		7	3	9
Non-Labor		414	190	535
NSE		0	0	0
	Total	421	193	544
FTE		0.1	0.1	0.1

Note: Totals may include rounding differences.

**ORA DEFICIENCY DATA REQUEST
SOCALGAS 2016 GRC – A.14-11-XXX
SOCALGAS-ORA-DEF-004-TLG
FINAL RESPONSE
DATE RECEIVED: AUGUST 21, 2014
DATE RESPONDED: SEPTEMBER 6, 2014**

Reference: SCG-10, SCG-11, SCG-12, and SCG-13

Deficiency:

A. D.89-01-040 Appendix B, page B-22 item F requires SoCalGas to include “at least five years of recorded data for each FERC account used in the development of the test year revenues and revenue requirement. **Where subaccounts and/or other than FERC accounts are used to develop test year values, include at least five years of recorded data supporting those values also...**”.

SoCalGas needs to:

1. Provide five years of recorded data for Customer Service capital projects (including shared and non-shared capital projects) and the specific accounts/line items as shown within Customer Service Field and Meter Reading, Customer Service Office Operations, Customer Service Information, Customer Service Technologies, Policies and Solutions where SoCalGas’ testimony shows in detail where it is requesting increases for 2014-2016. See SCG-10 pages SAF-47 through SAF-48, SCG-11 pages EDG-58 through EDG-75, and SCG-12 pages GRM-70 through GRM-78 as some of the examples of the detailed manner in which SoCalGas forecasted its TY capital projects but failed to provide five years of historical data for its capital expenditures associated with its Customer Service. SoCalGas requested and was authorized funding in its 2008 and 2012 GRCs to address Customer Service capital projects and there should be historical data associated with the capital projects.

SoCalGas Response:

Please see separate attachments:

SCG-ORA-DEF-004-TLG-A1-CAP-SCG-10 (Sara Franke)
SCG-ORA-DEF-004-TLG-A1-CAP-SCG-11 (Evan Goldman)
SCG-ORA-DEF-004-TLG-A1-CAP-SCG-12 (Gwen Marelli)

**ORA DEFICIENCY DATA REQUEST
SOCALGAS 2016 GRC – A.14-11-XXX
SOCALGAS-ORA-DEF-004-TLG
FINAL RESPONSE
DATE RECEIVED: AUGUST 21, 2014
DATE RESPONDED: SEPTEMBER 6, 2014**

B. D.89-01-040 Appendix B, page B-22 item 4 requires SoCalGas to furnish base year historical and estimated data and subsequent years with evaluation of changes up to and including the test year.

SoCalGas needs to:

1. Provide account/line item detail that shows explanations **“and”** a breakdown of the calculation for **“all”** recorded increases/decreases in the last five years for “labor and non-labor” expenses and capital expenditures. In the sections included in SCG-10, SCG-11 SCG-12, and SCG-13, SoCalGas did not provide discussions in its testimony or workpapers on the increases/decreases of the changes in expense levels during the last five years.

SoCalGas Response:

Please see separate attachments:

SCG-ORA-DEF-004-TLG-B1-O&M-SCG-10 (Sara Franke)
SCG-ORA-DEF-004-TLG-B1-O&M-SCG-11 (Evan Goldman)
SCG-ORA-DEF-004-TLG-B1-O&M-SCG-12 (Gwen Marelli)
SCG-ORA-DEF-004-TLG-B1-O&M-SCG-13 (Jeffrey Reed)

**ORA DEFICIENCY DATA REQUEST
SOCALGAS 2016 GRC – A.14-11-XXX
SOCALGAS-ORA-DEF-004-TLG
FINAL RESPONSE
DATE RECEIVED: AUGUST 21, 2014
DATE RESPONDED: SEPTEMBER 6, 2014**

C. In SCG-10 page SAF-iii, second line of the paragraph of its testimony on Customer Services Field, SoCalGas shows its TY 2016 O&M expense forecast as \$162.604 million and shows it as an increase of \$26.824 million above 2013 adjusted-recorded costs. SCG’s Summary Table on page SAF-iii and Table SAF-1 on page SAF-1 shows a TY 2016 forecast of \$203.051 million and shows it as an increase of \$30.187 million above 2013 adjusted-recorded costs.

SoCalGas needs to:

1. Provide the documentation that clarifies SoCalGas’ TY 2016 O&M expense forecast for Customer Services Field.

SoCalGas Response:

Please see the table below for a breakdown of the \$203.051 million and \$30.187 million figure in question.

	TY 2016 Forecast (millions)	Change From Adjusted Recorded 2013 (millions)
Customer Services Field (Non-Shared Services)	\$162.604	\$26.824
Customer Services Field (Shared Services)	\$2.406	\$0.835
Meter Reading	\$38.041	\$2.528
Total	\$203.051	\$30.187

As shown in the above table, the TY O&M expense forecast of \$162.604 million with an increase of \$26.824 million over 2013 adjusted recorded costs is specific to Customer Services Field (CSF) non-shared services. The TY 2016 forecast of \$203.051 million with an increase of \$30.187 million over 2013 adjusted recorded costs includes (1) CSF non-shared services, (2) CSF shared services and (3) Meter Reading and is a summary of the request included in Witness Sara Franke’s testimony Ex. SCG-10. An explanation of the three components is provided within the three bullet points on pages SAF-iii and SAF-iv of Ex. SCG-10.

SOCALGAS-ORA-DEF-004-TLG
RESPONSE QUESTION 1 ATTACHMENT

Exh No:SCG-10-IT Capital Projects										
Witness Name		Sara A. Franke								
Constant 2013\$ in Thousands										
			Adjusted Recorded					Forecast		
Capital Project Name	WP#	Project #	2009	2010	2011	2012	2013	2014	2015	2016
PACER MDT Replacement	00777D	81396	(\$226)	\$1,797	\$298	\$2,765	\$8,177	\$2,675		
Meter Reading Handheld System Replacement	00775A	00775A							\$244	\$6,673
Sub-Total Technical Obsolescence			(\$226)	\$1,797	\$298	\$2,765	\$8,177	\$2,675	\$244	\$6,673
MDTs to Support Workforce Growth	00776W	15934						\$421	\$193	\$544
Sub-Total Growth/Capacity			\$0	\$0	\$0	\$0	\$0	\$421	\$193	\$544
Other Customer Service projects in IT Capital History			\$1,008	\$694	\$1,172	\$321	\$7			
GRAND TOTAL ALL			\$782	\$2,491	\$1,470	\$3,086	\$8,184	\$3,096	\$437	\$7,217
Year to Year Explanations:										
Year to year change is attributable to fluctuations in operating requirements and the number and types of Information Technology (IT) projects that are implemented each year. IT investments are typically made to enable/improve operations, meet regulatory requirements, address technology obsolescence and/or other reasons. As described in the testimony of Witness Christopher R. Olmsted, Ex. SCG-18 page CRO-21, IT investments are prioritized in a manner that takes into consideration a number of different factors. Additionally, the timing of any project may be affected by the availability of vendor services/products and operational impacts.										
2009 spending was for deployment of Customer Service Field Operating Efficiency ("CSFOE") project.										
2010 spending was for mobile data terminal ("MDT") replacement for field supervisors, MDT deployment for Industrial Service Techs ("IST"), and first year deployment of the Forecasting & Scheduling Project ("FSP") approved in the 2008 GRC.										
2011 spending was for second year of deployment for FSP, and MDT deployment for Commercial Service Techs ("CST").										
2012 spending was for the 3rd year of deployment for FSP, and the 1st year of deployment for the PACER MDT Refresh project which replaced MDTs for the rest of the Customer Services Field employees.										
2013 spending was for the 2nd year of deployment for the PACER MDT Refresh project, and some residual immaterial spending closing out FSP.										
All the historical spending for new or replacement MDTs have been aligned with the "PACER MDT Replacement" on Excel row 8. CSFOE and FSP projects have been aligned with "Other Customer Service Projects" on Excel row 13.										

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

SOCALGAS-ORA-DEF-004-TLG
RESPONSE QUESTION 2 ATTACHMENT

Exh No: SCG-10										
Witness Name: Sara Franke										
Constant 2013\$ in Thousands										
	Adjusted Recorded					Variance				Workpaper Page
	2009	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012-13	
2FC001.000 - Customer Services Field Operations										
Labor	101,547	103,974	99,901	97,883	99,210	2,427	(4,073)	(2,018)	1,327	
NLbr	6,727	6,804	6,844	7,053	6,699	77	40	209	(354)	
NSE	-	-	-	-	-	-	-	-	-	
2FC001.000 Total	108,273	110,778	106,745	104,936	105,908	2,505	(4,033)	(1,809)	972	Page 6 of 178
Variance Explanation						Variance Amount				
2009-10										
Labor										
Increase in Labor is due to the net result of a decrease in O&M work order volume offset by increases in both on-premise time and drive time associated with completing work orders.										
						2,427				
NLbr										
Relatively small compared to the total spend.										
						77				
						2,505				
2010-11										
Labor										
Decrease in Labor is due to the net result of a decrease in O&M order volume offset by increases in both on-premise time and drive time. Additionally, the order types for which there was a decrease in volume were those with higher average on-premise time, resulting in a greater impact to overall Labor spending. Witness Sara Franke's testimony, Ex. SCG-10 provides additional details regarding order volumes, drive time and on-premise time. For more details on order volumes please see Table SAF-7. For more details on drive time please see Table SAF-8. For more details regarding on-premise time please see Table SAF-9.										
						(4,073)				
NLbr										
Relatively small compared to the total spend.										
						40				
						(4,033)				
2011-12										
Labor										
Decrease in Labor is due to the net result of a decrease in O&M order volume offset by increases in both on-premise time and drive time. Additionally, the order types for which there was a decrease in volume were those with higher average on-premise time, resulting in a greater impact to overall Labor spending. Witness Sara Franke's testimony, Ex. SCG-10 provides additional details regarding order volumes, drive time and on-premise time. For more details on order volumes please see Table SAF-7. For more details on drive time please see Table SAF-8. For more details regarding on-premise time please see Table SAF-9.										
						(2,018)				
NLbr										
Increase in Non-Labor is due to higher spending in small tools and pre-charged materials.										
						209				
						(1,809)				
2012-13										
Labor										
Increase in Labor is due to the net result of a reduction in O&M order volume offset by increases in both on-premise time and drive time.										
						1,327				
NLbr										
Decrease in Non-Labor is due to reduced use of temporary contract labor during the winter heating season to supplement the regular workforce.										
						(354)				
						972				

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

SOCALGAS-ORA-DEF-004-TLG
RESPONSE QUESTION 2 ATTACHMENT

Exh No: SCG-10										
Witness Name: Sara Franke										
Constant 2013\$ in Thousands										
	Adjusted Recorded					Variance				Workpaper Page
	2009	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012-13	
2FC002.000 - Customer Services Field Supervision										
Labor	10,154	10,874	12,519	11,930	10,144	720	1,645	(589)	(1,786)	
NLbr	1,247	1,196	1,166	1,115	974	(51)	(30)	(51)	(141)	
NSE	-	-	-	-	-	-	-	-	-	
2FC002.000 Total	11,401	12,070	13,685	13,046	11,118	669	1,615	(639)	(1,928)	Page 91 of 178
Variance Explanation						Variance Amount				
2009-10										
Labor										
The increase in Labor is related to a shift in the allocation of field supervision labor charged to O&M and capital. As a result of the May 2010 reorganization integrating CSF and distribution field operations management, there was a shift in the allocation of labor charged to O&M and capital. The labor allocation is estimated on an annual basis and is based on the types of activities expected to be performed in the field in						720				
NLbr										
Non-Labor increase in employee expense (including cell phones), offset by a reduction in stationary, forms and paper stock.						(51)				
						669				
2010-11										
Labor										
The change in Labor is a result of the fluctuation in the allocation of supervision labor being charged to O&M and capital. The labor allocation is estimated on an annual basis and is based on the types of activities expected to be performed in the field in the coming year.						1,645				
NLbr										
Non-Labor increase in employee expense (including cell phones), offset by a reduction in stationary, forms and paper stock.						(30)				
						1,615				
2011-12										
Labor										
The change in Labor is a result of the fluctuation in the allocation of supervision labor being charged to O&M and capital. The labor allocation is estimated on an annual basis and is based on the types of activities expected to be performed in the field in the coming year.						(589)				
NLbr										
Non-Labor reduction in employee expense, offset by an increase in stationary, forms and paper stock.						(51)				
						(639)				
2012-13										
Labor										
The change in Labor is a result of the fluctuation in the allocation of supervision labor being charged to O&M and capital. The labor allocation is estimated on an annual basis and is based on the types of activities expected to be performed in the field in the coming year.						(1,786)				
NLbr										
Non-Labor reduction in employee expense (including cell phones).						(141)				
						(1,928)				

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

SOCALGAS-ORA-DEF-004-TLG
RESPONSE QUESTION 2 ATTACHMENT

Exh No: SCG-10										
Witness Name: Sara Franke										
Constant 2013\$ in Thousands										
	Adjusted Recorded					Variance				Workpaper Page
	2009	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012-13	
2FC003.000 - Customer Services Field Dispatch										
Labor	9,020	8,967	8,868	8,870	8,762	(53)	(99)	2	(108)	
NLbr	220	213	180	171	158	(7)	(33)	(9)	(13)	
NSE	-	-	-	-	-	-	-	-	-	
2FC003.000 Total	9,240	9,180	9,048	9,040	8,921	(60)	(132)	(8)	(119)	Page 102 of 178
Variance Explanation						Variance Amount				
2009-10										
Labor										
Decrease in Labor is due to a reduction in overtime expenses.										
						(53)				
NLbr										
Relatively small compared to the total spend.										
						(7)				
						(60)				
2010-11										
Labor										
Decrease in Labor is due to timing of backfilling of positions.										
						(99)				
NLbr										
Decrease in Non-Labor is due to lower spending for employee travel and miscellaneous office supplies.										
						(33)				
						(132)				
2011-12										
Labor										
Relatively small compared to the total spend.										
						2				
NLbr										
Decrease in Non-Labor is due to lower spending for employee travel.										
						(9)				
						(8)				
2012-13										
Labor										
Decrease in Labor is due to timing of backfilling of positions.										
						(108)				
NLbr										
Decrease in Non-Labor is due to lower spending for miscellaneous office supplies.										
						(13)				
						(119)				

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

SOCALGAS-ORA-DEF-004-TLG
RESPONSE QUESTION 2 ATTACHMENT

Exh No: SCG-10										
Witness Name: Sara Franke										
Constant 2013\$ in Thousands										
	Adjusted Recorded					Variance				Workpaper Page
	2009	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012-13	
2FC004.000 - Customer Services Field Support										
Labor	9,744	9,734	9,621	9,368	8,804	(10)	(113)	(253)	(564)	
NLbr	1,191	1,281	1,158	828	954	90	(123)	(330)	126	
NSE	-	-	-	-	-	-	-	-	-	
2FC004.000 Total	10,935	11,015	10,779	10,196	9,758	80	(236)	(583)	(438)	Page 109 of 178
Variance Explanation						Variance Amount				
2009-10										
Labor										
There is an error in a historical adjustment for 2009 and 2010 labor that will be corrected in the final application. Once corrected the labor for 2009 should be \$9,743k, and 2010 should be \$9,733. This will result in a variance of (\$10k) that is relatively small compared to the total spend for the period 2009 - 2010.						(10)				
NLbr										
Increase in Non-Labor is due to timing of when expenses are recorded. Variance from year to year is relatively small compared to the total spend and follows a cyclical pattern.						90				
						80				
2010-11										
Labor										
Relatively small compared to the total spend.										
								(113)		
NLbr										
Decrease in Non-Labor is due to timing of when expenses are recorded. Variance from year to year is relatively small compared to the total spend and follows a cyclical pattern.										
								(123)		
								(236)		
2011-12										
Labor										
Decrease in Labor is due to timing of backfilling positions.										
								(253)		
NLbr										
Decrease in Non-Labor is due to timing of when expenses are recorded, lower spending for employee travel, and timing of payment of software licenses.										
								(330)		
								(583)		
2012-13										
Labor										
Decrease in Labor is due to transfer of management positions to support the PACER Mobile Data Terminal (MDT) Refresh project.										
									(564)	
NLbr										
Increase in Non-Labor is due to timing of when expenses are recorded, timing of contractor labor, and timing of payment of software licenses.										
									126	
									(438)	

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

SOCALGAS-ORA-DEF-004-TLG
RESPONSE QUESTION 2 ATTACHMENT

Exh No: SCG-10										
Witness Name: Sara Franke										
Constant 2013\$ in Thousands										
	Adjusted Recorded					Variance				Workpaper Page
	2009	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012-13	
2FC005.000 - Meter Reading Operations										
Labor	26,686	27,347	27,852	28,127	27,178	661	505	275	(949)	
NLbr	1,634	1,489	1,763	1,909	1,758	(145)	274	146	(151)	
NSE			-		-	-	-	-	-	
2FC005.000 Total	28,320	28,836	29,615	30,037	28,937	516	779	422	(1,100)	Page 124 of 178
Variance Explanation						Variance Amount				
2009-10										
Labor										
Increase in Labor is due to hiring of incremental part time meter readers.										
						661				
NLbr										
Decrease in Non-Labor is due to lower mileage reimbursement and lower spending on miscellaneous tools and supplies.										
						(145)				
						516				
2010-11										
Labor										
Increase in Labor is due to hiring of incremental part-time meter readers.										
						505				
NLbr										
Increase in Non-Labor is due to increased expenses for mileage reimbursement and vendor services such as uniforms.										
						274				
						779				
2011-12										
Labor										
Increase in Labor is due to hiring of incremental part-time meter readers.										
						275				
NLbr										
Increase in Non-Labor is due to increased expenses for mileage reimbursement and vendor services such as uniforms.										
						146				
						422				
2012-13										
Labor										
Decrease in Labor is due to timing of hiring of meter readers. 2012 had a higher number of new meter readers and therefore the learning curve expense was higher. By 2013 the number of new meter readers was relatively lower, with reduced learning curve expenses. For a detailed description of what "learning curve expense" is please see the testimony of Witness Sara Franke, Ex. SCG-10, pages SAF-36 and SAF-37.										
						(949)				
NLbr										
Decrease in Non-Labor is due to lower mileage reimbursement and lower spending on vendor services such as uniforms.										
						(151)				
						(1,100)				

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

SOCALGAS-ORA-DEF-004-TLG
RESPONSE QUESTION 2 ATTACHMENT

Exh No: SCG-10										
Witness Name: Sara Franke										
Constant 2013\$ in Thousands										
	Adjusted Recorded					Variance				Workpaper Page
	2009	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012-13	
2FC006.000 - Meter Reading Clerical										
Labor	1,112	1,070	1,058	1,089	1,059	(42)	(12)	31	(30)	
NLbr	21	21	21	23	20	-	-	2	(3)	
NSE						-	-	-	-	
2FC006.000 Total	1,133	1,092	1,079	1,111	1,079	(41)	(13)	32	(32)	Page 146 of 178
Variance Explanation						Variance Amount				
2009-10										
Labor										
Decrease in Labor is due to an employee being off on disability and not backfilling the position.										
						(42)				
NLbr										
Relatively small compared to the total spend.										
						-				
						(41)				
2010-11										
Labor										
Decrease in Labor is due to an employee being off on disability and not backfilling the position.										
						(12)				
NLbr										
Relatively small compared to the total spend.										
						-				
						(13)				
2011-12										
Labor										
Increase in Labor is due to hiring temporary clerical support to fill in for the employee on disability. This was temporary given the anticipated reduction in meter readers resulting from Advanced Metering Infrastructure ("AMI") deployment.										
						31				
NLbr										
Relatively small compared to the total spend.										
						-				
						2				
						32				
2012-13										
Labor										
Decrease in Labor is due to an employee being off on disability and not backfilling the position. The temporary clerical support hired in 2012 was reduced.										
						(30)				
NLbr										
Relatively small compared to the total spend.										
						-				
						(3)				
						(32)				

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

SOCALGAS-ORA-DEF-004-TLG
RESPONSE QUESTION 2 ATTACHMENT

Exh No: SCG-10										
Witness Name: Sara Franke										
Constant 2013\$ in Thousands										
	Adjusted Recorded					Variance				Workpaper Page
	2009	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012-13	
2FC007.000 - Meter Reading Supervision & Training										
Labor	3,109	3,130	3,234	3,127	3,114	21	104	(107)	(13)	
NLbr	453	470	460	465	312	17	(10)	5	(153)	
NSE	-	-	-	-	-	-	-	-	-	
2FC007.000 Total	3,561	3,599	3,694	3,592	3,427	38	95	(102)	(165)	Page 151 of 178
Variance Explanation						Variance Amount				
2009-10										
Labor										
Relatively small compared to the total spend.										
						21				
NLbr										
Increase in Non-Labor is due to timing of when expenses are recorded. Variance from year to year is relatively small compared to the total spend and follows a cyclical pattern.										
						17				
						38				
2010-11										
Labor										
Increase in Labor is due to hiring of incremental supervisors and field instructors.										
						104				
NLbr										
Decrease in Non-Labor is due to timing of when expenses are recorded. Variance from year to year is relatively small compared to the total spend and follows a cyclical pattern.										
						(10)				
						95				
2011-12										
Labor										
Decrease in Labor is due to a reduction in the number of field instructors as compared to 2011. Staffing levels were increased in 2011 in anticipation of higher turnover of meter readers resulting from Advanced Metering Infrastructure ("AMI") deployment. 2012 turn over in meter reading was not as high as expected and staffing levels were adjusted accordingly.										
						(107)				
NLbr										
Increase in Non-Labor is due to timing of when expenses are recorded. Variance from year to year is relatively small compared to the total spend and follows a cyclical pattern.										
						5				
						(102)				
2012-13										
Labor										
Relatively small compared to the total spend.										
						(13)				
NLbr										
Decrease in Non-Labor is due to lower spending on employee travel expense, miscellaneous office supplies and computer equipment.										
						(153)				
						(165)				

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

SOCALGAS-ORA-DEF-004-TLG
RESPONSE QUESTION 2 ATTACHMENT

Exh No: SCG-10										
Witness Name: Sara Franke										
Constant 2013\$ in Thousands										
	Adjusted Recorded					Variance				Workpaper Page
	2009	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012-13	
2FC008.000 - Meter Reading Support										
Labor	1,461	1,258	1,418	1,712	1,676	(203)	160	294	(36)	
NLbr	906	484	543	474	367	(422)	59	(69)	(107)	
NSE	-	-	-	-	-	-	-	-	-	
2FC008.000 Total	2,367	1,742	1,961	2,186	2,043	(625)	219	225	(143)	Page 160 of 178
Variance Explanation						Variance Amount				
2009-10										
Labor										
Decrease in Labor is due to staff supporting the Advanced Metering Infrastructure ("AMI") project being charged to the AMI refundable budget, and timing of backfilling of manager position.										
						(203)				
NLbr										
Decrease in Non-Labor is due to timing of payment of software licensing fees.										
						(422)				
						(625)				
2010-11										
Labor										
Increase in Labor is due to timing of backfilling of manager position, and incremental business analyst position.										
							160			
NLbr										
Increase in Non-Labor is due to timing of when expenses are recorded. Variance from year to year is relatively small compared to the total spend and follows a cyclical pattern.										
							59			
							219			
2011-12										
Labor										
Increase in Labor is due to incremental route analyst positions and staff support analyst. The route analysts were responsible for optimizing meter reading route efficiency, and updating route time. The staff support analysts were responsible for prepapring operational analyses.										
								294		
NLbr										
Decrease in Non-Labor is due to timing of when expenses are recorded. Variance from year to year is relatively small compared to the total spend and follows a cyclical pattern.										
								(69)		
								225		
2012-13										
Labor										
Relatively small compared to the total spend.										
									(36)	
NLbr										
Decrease in Non-Labor is due to timing of when expenses are recorded. Variance from year to year is relatively small compared to the total spend and follows a cyclical pattern.										
									(107)	
									(143)	

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

SOCALGAS-ORA-DEF-004-TLG
RESPONSE QUESTION 2 ATTACHMENT

Exh No: SCG-10										
Witness Name: Sara Franke										
Constant 2013\$ in Thousands										
	Adjusted Recorded					Variance				Worksheet Page
	2009	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012-13	
2200-0942.000 - Customer Service Field Staff Manager										
Labor	1,887	1,774	1,539	1,511	1,461	(113)	(235)	(28)	(50)	
NLbr	151	107	77	71	110	(44)	(30)	(6)	39	
NSE	-	-	-	-	-	-	-	-	-	
2200-0942.000 Total	2,037	1,881	1,615	1,582	1,571	(156)	(266)	(33)	(11)	Page 168 of 178
Variance Explanation						Variance Amount				
2009-10										
Labor										
Decrease in labor is due to the timing of staff transfer to support the Forecasting & Scheduling project.										
						(113)				
NLbr										
Decrease in Non-Labor is due to the timing of when expenses are recorded. Variance from year to year is relatively small compared to the total spend and follows a cyclical pattern.										
						(44)				
						(156)				
2010-11										
Labor										
Decrease in labor is due to the timing of staff transfer to support the Forecasting & Scheduling project.										
						(235)				
NLbr										
Decrease in Non-Labor is due to the timing of when expenses are recorded. Variance from year to year is relatively small compared to the total spend and follows a cyclical pattern.										
						(30)				
						(266)				
2011-12										
Labor										
Relatively small compared to the total spend.										
						(28)				
NLbr										
Decrease in Non-Labor is due to the timing of when expenses are recorded. Variance from year to year is relatively small compared to the total spend and follows a cyclical pattern.										
						(6)				
						(33)				
2012-13										
Labor										
Relatively small compared to the total spend.										
						(50)				
NLbr										
Increase in Non-Labor is due to the timing of when expenses are recorded. Variance from year to year is relatively small compared to the total spend and follows a cyclical pattern.										
						39				
						(11)				

**ORA DEFICIENCY DATA REQUEST
SOCALGAS 2016 GRC – A.14-11-XXX
SOCALGAS-ORA-DEF-028-TLG
FINAL RESPONSE**

**DATE RECEIVED: SEPTEMBER 3, 2014
DATE RESPONDED: SEPTEMBER 12, 2014**

Deficiency Item #: SCG-DEF-028-TLG

Reference: SCG-10, SCG-11, SCG-12, and SCG-13

Deficiency:

A. D.89-01-040 Appendix B, page B-21 item 5 requires SoCalGas to provide complete explanations of exhibits and special studies. Items 6 require SoCalGas to provide workpapers that show the calculation and documentation supporting the exhibits. The workpapers are also required to be arranged in an orderly sequence and be appropriately indexed and cross referenced. Appendix B, page B-21 item B requires SoCalGas to “Show the derivation of each individual estimate” that is included in the Test Year forecast. Number B-7 on page B-22 requires that SoCalGas’ “Supporting material must have a clear tieback to base data from the stated expenditure”.

SoCalGas needs to:

1. Provide complete and detailed explanations “**and**” a breakdown of the calculation for “**all**” forecast estimates, including detail on expected positions (i.e., provide all line item detail included in the calculation of the costs). SoCalGas needs to show complete explanations, calculations and documentations to support Test Year forecasts. For example in Exhibit SCG-12 pp. 2 through 9 of the workpapers SoCalGas requests an increase of \$7.556 million for Non-Shared expenses, an increase of 44.29% over 2013 expenses, yet SoCalGas did not provide the detailed documentation or the breakdown of each individual estimate included in the calculation for the requested increase of \$7.562 million. There are similar problems with lacking full explanations and documentation and workpapers failing to show the calculations for forecast in SCG-10, SCG-11, SCG-12, and SCG-13 (note that workpapers are arranged in a similar manner) that are too burdensome to mention.
2. Provide the detailed discussion on Test Year forecast in testimony as well as the associated calculations in workpapers showing the derivation of each individual estimate included in the forecast that is proposed to increase expenses over 2013 recorded expenses (the requested data should be provided for figures included in tables that are similar to the table on page 2 of workpapers and GRM-iii of testimony in SCG-12). Note that SoCalGas includes lump sum numbers and summarizes the expenses (for example see Table 5 on page GRM-18, Table 6 on page GRM-26, Table 8 on page GRM-34, and Table 18 on page GRM-70 in SCG-12) but does not provide any documentation that demonstrates specifically how each of these costs and individual line items included in the forecast were calculated (also see workpapers pp. 7-9 in SCG-12 as an example).

**ORA DEFICIENCY DATA REQUEST
SOCALGAS 2016 GRC – A.14-11-XXX
SOCALGAS-ORA-DEF-028-TLG
FINAL RESPONSE
DATE RECEIVED: SEPTEMBER 3, 2014
DATE RESPONDED: SEPTEMBER 12, 2014**

Question 1A (Continued)

3. Provide the associated calculation and supporting documentation on the specifics of how the forecasts were determined/basis for numbers.

SoCalGas Response:

Please see separate attachments as consolidated responses for A.1, A.2, and A.3 in one file per witness exhibit as described below:

SCG-ORA-DEF-028-TLG-SCG-10 (Sara Franke)
SCG-ORA-DEF-028-TLG-SCG-11 (Evan Goldman)
SCG-ORA-DEF-028-TLG-SCG-12 (Gwen Marelli)
SCG-ORA-DEF-028-TLG-SCG-13 (Jeffrey Reed)

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

SOCALGAS-ORA-DEF-028-TLG
RESPONSE SARA FRANKE ATTACHMENT

Witness Name	Sara Franke				
Constant 2013\$ in Thousands					
	Base Year Adjusted Recorded	Test Year Request	Incremental Request	Testimony Page	Workpaper Page
	2013	2016			
SCG					
Exh No:SCG-10-WP					
OM Total	172,761	203,208	30,447		
Non-Shared					
2FC001.000 - Customer Services Field Operations					
Labor	99,210	120,942	21,732		
NLbr	6,699	7,003	304		
NSE	-	-	-		
2FC001.000 Total	105,908	127,945	22,037	SAF-5-23	Page 6 of 178
2FC002.000 - Customer Services Field Supervision					
Labor	10,144	12,158	2,014		
NLbr	974	1,230	256		
NSE	-	-	-		
2FC002.000 Total	11,118	13,388	2,270	SAF-24-25	Page 91 of 178
2FC003.000 - Customer Services Field Dispatch					
Labor	8,762	8,617	(145)		
NLbr	158	188	30		
NSE	-	-	-		
2FC003.000 Total	8,921	8,806	(115)	SAF-25-26	Page 102 of 178
2FC004.000 - Customer Services Field Support					
Labor	8,804	10,980	2,176		
NLbr	954	1,643	689		
NSE	-	-	-		
2FC004.000 Total	9,758	12,623	2,865	SAF-26-34	Page 109 of 178

Southern California Gas Company
2016 GRC - APP
Shared Services Workpapers

SOCALGAS-ORA-DEF-028-TLG
RESPONSE SARA FRANKE ATTACHMENT

Witness Name	Sara Franke				
Constant 2013\$ in Thousands					
	Base Year Adjusted Recorded	Test Year Request	Incremental Request	Testimony Page	Workpaper Page
	2013	2016			
2FC005.000 - Meter Reading Operations					
Labor	27,178	28,849	1,671		
NLbr	1,758	1,533	(225)		
NSE	-	-	-		
2FC005.000 Total	28,937	30,382	1,445	SAF-34-38	Page 124 of 178
2FC006.000 - Meter Reading Clerical					
Labor	1,059	1,092	33		
NLbr	20	21	1		
NSE		-	-		
2FC006.000 Total	1,079	1,113	34	SAF-38-39	Page 146 of 178
2FC007.000 - Meter Reading Supervision & Training					
Labor	3,114	3,601	487		
NLbr	312	457	145		
NSE	-	-	-		
2FC007.000 Total	3,427	4,057	630	SAF-40-41	Page 151 of 178
2FC008.000 - Meter Reading Support					
Labor	1,675	1,911	236		
NLbr	366	577	211		
NSE	-	-	-		
2FC008.000 Total	2,042	2,488	446	SAF-41-42	Page 160 of 178
Shared Services					
2200-0942.000 - Customer Service Field Staff Manager					
Labor	1,461	2,275	814		
NLbr	110	131	21		
NSE	-	-	-		
2200-0942.000 Total	1,571	2,406	835	SAF-43-47	Page 168 of 178

Testimony	Testimony Page #	Workpaper Group	Workpaper Page #	Forecast Methodology	Work Group Name	Cost Driver	Total (\$000)	Labor (\$000)	Non-Labor (\$000)	NSE	FTE	Note	
II B 1 b	23	2FC001.000	8-10, 18-27	Zero Based	Customer Services Field - Operations	Base Workload Forecast	\$ 6,940	\$ 7,387	\$ (447)	\$ -	98.9	These figures represent the incremental change from Base Year 2013 adjusted recorded to Test Year 2016 due to the individual order type forecasts. For more details on the individual order type forecast please refer to testimony pages 6 - 11. For details on the calculations please refer to "Forecast Model Info" tab or page 5 - 6 of this document.	
II B 1 b	23	2FC001.000	8-10, 18-27		Customer Services Field - Operations	Customer Growth	\$ 1,904	\$ 1,799	\$ 105	\$ -	22.9	These figures represent the incremental change from Base Year 2013 adjusted recorded to Test Year 2016 due to the upward pressures listed here. For an explanation of these upward pressure please refer to testimony pages 12 - 17. For details on the calculations please refer to "Forecast Model Info" tab or page 5 - 6 of this document.	
II B 1 c 1	23	2FC001.000	8-10, 18-27		Customer Services Field - Operations	Increase in Drive Time due to increasing traffic congestion	\$ 1,395	\$ 1,318	\$ 77	\$ -	16.8		
II B 1	23	2FC001.000	8-10, 18-27		Customer Services Field - Operations	Efficiency Improvement from PACER MDT Refresh Project	\$ (75)	\$ (75)	\$ -	\$ -	(1.0)		
II B 1 d 1	23	2FC001.000	8-10, 18-27		Customer Services Field - Operations	Enhanced Appliance Safety Checks	\$ 1,337	\$ 1,263	\$ 74	\$ -	16.1		
II B 1 d 2	23	2FC001.000	8-10, 18-27		Customer Services Field - Operations	Enhanced Customer Education	\$ 1,367	\$ 1,291	\$ 76	\$ -	16.3		
II B 1 d 3	23	2FC001.000	8-10, 18-27		Customer Services Field - Operations	Customer Outreach Safety Checks	\$ 2,509	\$ 2,370	\$ 139	\$ -	30.3		
II B 1 e 1	23	2FC001.000	8-10, 84		Customer Services Field - Operations	Refresher Training	\$ 447	\$ 371	\$ 76	\$ -	4.7	For detailed calculations please see workpaper page 84.	
II B 1 e 2	23	2FC001.000	8-10, 83		Customer Services Field - Operations	Job Shadowing/Knowledge Transfer with Retiring Technicians	\$ 398	\$ 376	\$ 22	\$ -	4.8	For detailed calculations please see workpaper page 83.	
II B 1 e 3	23	2FC001.000	8-10, 85-87		Customer Services Field - Operations	Operator Qualification Training	\$ 738	\$ 738	\$ -	\$ -	6.6	For detailed calculations please see workpaper pages 85 - 87	
II B 1 f	23	2FC001.000	8-10, 78-82	Customer Services Field - Operations	MSA Inspection	\$ 4,899	\$ 4,717	\$ 182	\$ -	73.7	For detailed calculations please see workpaper pages 78 - 82		
II B 1 g	23	2FC001.000	8-10, 88	Customer Services Field - Operations	Curb Meter Regulator Replacements	\$ 177	\$ 177	\$ -	\$ -	2.2	For detailed calculations please see workpaper page 88		
							Subtotal	\$ 22,036	\$ 21,732	\$ 304	\$ -	292.5	
II B 2 c	24	2FC002.000	24, 27, 80, 92-93	Zero Based	Customer Services Field - Supervision	Maintaining a span of control of 12 : 1, and geographic coverage.	\$ 2,264	\$ 2,014	\$ 250		20.9	Supervisors are forecasted based on a span of control of 12 : 1. Please see workpaper pages 24 & 27 for CSF supervision forecast, and workpaper page 80 for MSA Inspection supervision forecast.	
							Subtotal	\$ 2,270	\$ 2,014	\$ 256		20.9	
II B 3 c	26	2FC003.000	103	5 Year Average	Customer Services Field - Dispatch	Efficiency Improvement from Forecasting & Scheduling Project	\$ (280)	\$ (280)	\$ -	\$ -	(3.5)	For more details on the costs & benefits associated with FSP please refer to SoCalGas A-10-12-006, Exhibit No. SCG-07-WP-R, Supplemental workpaper 2FC000.000_Suppl.pdf, "SCG Customer Services Field E. Benefit-Forecasting & Scheduling Project".	
II B 3 c	26	2FC003.000	103		Customer Services Field - Dispatch	Number of dispatchers needed to provide 24/7, 365 days per year coverage.	\$ 165	\$ 135	\$ 30	\$ -	3.5	Increase is due to the difference between the applicable forecast methodology and the base year.	
							Subtotal	\$ (115)	\$ (145)	\$ 30	\$ -	-	
II B 4 d 1	28	2FC004.000	111	5 Year Average	Customer Services Field - Support	MSA Inspection Program manager	\$ 130	\$ 120	\$ 10	\$ -	1.0		
II B 4 d 2	28	2FC004.000	111		Customer Services Field - Support	Meter access clerks for MSA Inspection Program	\$ 290	\$ 273	\$ 17	\$ -	4.0	For detailed calculations please see workpaper pages 78 - 82	
II B 4 d 3	29	2FC004.000	111		Customer Services Field - Support	Quality assurance inspector for MSA Inspection Program	\$ 90	\$ 80	\$ 10	\$ -	1.0	For detailed calculations please see workpaper pages 78 - 82	
II B 4 d 4	29	2FC004.000	111		Customer Services Field - Support	Technical specialist for MSA Inspection Program	\$ 91	\$ 86	\$ 5	\$ -	1.0	For detailed calculations please see workpaper pages 78 - 82	
II B 4 d 5	29	2FC004.000	112		Customer Services Field - Support	Field technician training improvements	\$ 523	\$ 498	\$ 25	\$ -	5.0		
II B 4 d 5	30	2FC004.000	112		Customer Services Field - Support	Training video/equipment	\$ 40	\$ -	\$ 40	\$ -	-		
II B 4 d 6	31	2FC004.000	111		Customer Services Field - Support	Commercial/Industrial field instructors	\$ 398	\$ 384	\$ 14	\$ -	4.0		
II B 4 d 7	32	2FC004.000	112		Customer Services Field - Support	Technology Specialist to manage new wireless access for new MDTs	\$ 87	\$ 85	\$ 2	\$ -	1.0		
II B 4 d 8	32	2FC004.000	112		Customer Services Field - Support	AT&T wireless network access fee for new MDTs	\$ 438	\$ -	\$ 438	\$ -	-	Based on contract agreement with service provider.	
II B 4 b	27	2FC004.000			Customer Services Field - Support	Costs are primarily driven by the need to train new employees, maintain a technically skilled and proficient workforce, and ensure work is performed in a manner that meets the company's quality standards.	\$ 586	\$ 519	\$ 67		5.7	Increase is due to the difference between the applicable forecast methodology and the base year.	
							Subtotal	\$ 2,673	\$ 2,045	\$ 628	\$ -	22.7	

Testimony	Testimony Page #	Workpaper Group	Workpaper Page #	Forecast Methodology	Work Group Name	Cost Driver	Total (\$000)	Labor (\$000)	Non-Labor (\$000)	NSE	FTE	Note	
II C 1 b	35	2FC005.000	127, 132	Zero Based	Meter Reading - Operations	Meter growth from 2013 - 2016	\$ 242	\$ 219	\$ 23	\$ -	6.3	For detailed calculations please see workpaper page 132.	
II C 1 b	35	2FC005.000	127, 132		Meter Reading - Operations	Escalation from 2010S to 2013S, and meter growth from 2011 - 2013	\$ 97	\$ 355	\$ (258)		(36.4)	We used 2010 as the base year, escalated to 2013S, then added meter growth for 2011-2013. For detailed calculations please see workpaper page 132.	
II C 1 d 1	36	2FC005.000	127, 144		Meter Reading - Operations	Incremental training costs to account for normal part-time meter reader attrition	\$ 231	\$ 231	\$ -	\$ -		8.5	
II C 1 d 2	37	2FC005.000	127, 133-140		Meter Reading - Operations	Incremental "Learning Curve" costs to account for normal part-time meter reader attrition	\$ 575	\$ 575	\$ -	\$ -		21.1	
II C 1 d 3	37	2FC005.000	127, 85-87		Meter Reading - Operations	Operator qualification training	\$ 127	\$ 127	\$ -	\$ -		2.2	
II C 1 d 4	37	2FC005.000	12, 141-142		Meter Reading - Operations	Adjustment to Account for Advanced Metering Infrastructure ("AMI") benefit included in AMIBA - Training on new meter reading handheld system.	\$ 144	\$ 134	\$ 10	\$ -		3.2	Because the forecast assumes continuing operations without AMI implementation since the benefits of AMI will be accounted for in the Advanced Metering Infrastructure Balancing Account ("AMIBA") pursuant to Commission Decision ("D") 10-04-027, historical and forecast expenses are being adjusted to reflect costs without AMI benefits.
Subtotal							\$ 1,416	\$ 1,641	\$ (225)	\$ -	4.9		
II C 2 b	39	2FC006.000	146	5 Year Average	Meter Reading - Clerical	Costs for the meter reading clerical group are primarily driven by the number of clerical personnel and applicable wage rates.	\$ 20	\$ 19	\$ 1	0	0.5	Increase is due to the difference between the applicable forecast methodology and the base year.	
II C 2 d	39	2FC006.000	142, 147		Meter Reading - Clerical	Adjustment to Account for Advanced Metering Infrastructure ("AMI") benefit included in AMIBA - Training on new meter reading handheld system.	\$ 14	\$ 14	\$ -	\$ -		0.1	Because the forecast assumes continuing operations without AMI implementation since the benefits of AMI will be accounted for in the Advanced Metering Infrastructure Balancing Account ("AMIBA") pursuant to Commission Decision ("D") 10-04-027, historical and forecast expenses are being adjusted to reflect costs without AMI benefits.
Subtotal							\$ 34	\$ 33	\$ 1	\$ -	0.6		
II C 3 b	40	2FC007.000	151	5 Year Average	Meter Reading - Supervision & Training	The number of supervisors, training instructors and field instructors, and applicable wage rates, are the primary driver of costs in this category.	\$ 149	\$ 29	\$ 120	\$ -	2.0	Increase is due to the difference between the applicable forecast methodology and the base year.	
II C 3 d 1	40	2FC007.000	152, 158		Meter Reading - Supervision & Training	Adjustment to Account for Advanced Metering Infrastructure ("AMI") benefit included in AMIBA - Unfilled positions.	\$ 467	\$ 443	\$ 24	\$ -		6.0	Because the forecast assumes continuing operations without AMI implementation since the benefits of AMI will be accounted for in the Advanced Metering Infrastructure Balancing Account ("AMIBA") pursuant to Commission Decision ("D") 10-04-027, historical and forecast expenses are being adjusted to reflect costs without AMI benefits.
II C 3 d 2	41	2FC007.000	142, 152		Meter Reading - Supervision & Training	Adjustment to Account for Advanced Metering Infrastructure ("AMI") benefit included in AMIBA - Training on new meter reading handheld system.	\$ 16	\$ 15	\$ 1	\$ -		0.1	Because the forecast assumes continuing operations without AMI implementation since the benefits of AMI will be accounted for in the Advanced Metering Infrastructure Balancing Account ("AMIBA") pursuant to Commission Decision ("D") 10-04-027, historical and forecast expenses are being adjusted to reflect costs without AMI benefits.
Subtotal							\$ 632	\$ 487	\$ 145	\$ -	8.1		
II C 4 d	42	2FC008.000	158, 161		Meter Reading - Support	Adjustment to Account for Advanced Metering Infrastructure ("AMI") benefit included in AMIBA - Unfilled positions.	\$ 428	\$ 406	\$ 22	\$ -	5.5	Because the forecast assumes continuing operations without AMI implementation since the benefits of AMI will be accounted for in the Advanced Metering Infrastructure Balancing Account ("AMIBA") pursuant to Commission Decision ("D") 10-04-027, historical and forecast expenses are being adjusted to reflect costs without AMI benefits.	
II C 4 b	42	2FC008.000	161		Meter Reading - Support	The primary cost driver for this cost category is the number of meter reading support personnel and applicable wage rates.	\$ 19	\$ (170)	\$ 189	\$ -	(2.5)	Increase is due to the difference between the applicable forecast methodology and the base year.	
Subtotal							\$ 447	\$ 236	\$ 211	\$ -	3.0		
III B 4 a	44	2200-0942.000	171		Customer Services Field Staff	Incremental customer services staff director	\$ 186	\$ 176	\$ 10	\$ -	1.0		
III B 4 b	45	2200-0942.000	171		Customer Services Field Staff	Incremental 4 diversion investigators and 1 supervisor.	\$ 483	\$ 465	\$ 18	\$ -	5.0	For detailed calculations please see the forecast adjustment note in workpaper page 171	
III B 3	44	2200-0942.000	171		Customer Services Field Staff	Costs associated with this category are primarily labor costs and are driven by the size of the CSF Staff Organization which is in turn driven by the breadth and depth of the various CSF operational functions supported.	\$ 166	\$ 173	\$ (7)	\$ -	2.0	Increase is due to the difference between the applicable forecast methodology and the base year.	
Subtotal							\$ 835	\$ 814	\$ 21	\$ -	8.0		

Explanation of Customer Services Field ("CSF") Forecast Model:

Workgroup 2FC001.000 expenses are forecasted using a work order volume forecast model (workpaper pages 18 - 27 for CSF. The forecast model starts with a forecast for each order type, as performed by CSF. This results in a forecast work order volume, which is then multiplied by the sum of (average on premise time per order + average drive time per order) to arrive at the total time required to complete all the forecasted work. Then loaders Non Job Time, Vacation/Sick, and Formalized training time are added. This results in the total number of total hours needed. Total hours is translated into FTEs, and total dollars required by using a blended wage rate. Non-Labor is then added by taking the forecasted total FTEs and multiplying with the five year average non-labor spending per FTE.

VARIATIONS OF CUSTOMER SERVICES FIELD FORECAST MODEL SHOWN ON WORKPAPER PAGE 18 - 27

	(A) Forecast Model			(B) Forecast Model without Customer Outreach Safety Checks			(C) Forecast Model without Customer Outreach Safety Checks, Without increase in Drive Time due to increasing traffic congestion			(D) Forecast Model without increase in Drive Time due to increasing traffic congestion, without new services for customers, without Customer Growth		
	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	\$ 104,446,964	\$ 107,068,728	\$ 114,638,140	\$ 104,446,964	\$ 107,068,728	\$ 112,268,141	\$ 104,031,056	\$ 106,213,602	\$ 110,950,260	\$ 103,457,998	\$ 105,031,269	\$ 106,597,820
Non-Labor	\$ 6,125,065	\$ 6,278,813	\$ 6,722,705	\$ 6,125,065	\$ 6,278,813	\$ 6,583,721	\$ 6,100,675	\$ 6,228,666	\$ 6,506,437	\$ 6,067,070	\$ 6,159,331	\$ 6,251,198
FTE	1,333.7	1,367.2	1,463.9	1,333.7	1,367.2	1,433.6	1,328.4	1,356.3	1,416.8	1,321.1	1,341.2	1,361.2
TOTAL (\$)	\$ 110,572,030	\$ 113,347,541	\$ 121,360,845	\$ 110,572,030	\$ 113,347,541	\$ 118,851,862	\$ 110,131,731	\$ 112,442,268	\$ 117,456,697	\$ 109,525,067	\$ 111,190,599	\$ 112,849,017

	(B - C) Impact of increase in Drive Time due to increasing traffic congestion			(E - D) Impact of Customer Growth			(A - F) Impact of Customer Outreach Safety Checks			(A - G) Impact of Enhanced Customer Education		
	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	\$ 415,909	\$ 855,125	\$ 1,317,881	\$ 573,058	\$ 1,182,334	\$ 1,798,675	\$ -	\$ -	\$ 2,370,000	\$ -	\$ -	\$ 1,290,658
Non-Labor	\$ 24,390	\$ 50,147	\$ 77,284	\$ 33,606	\$ 69,335	\$ 105,479	\$ -	\$ -	\$ 138,983	\$ -	\$ -	\$ 75,688
FTE	5.3	10.9	16.8	7.3	15.1	22.9	-	-	30.3	-	-	16.5
TOTAL (\$)	\$ 440,299	\$ 905,272	\$ 1,395,165	\$ 606,664	\$ 1,251,669	\$ 1,904,155	\$ -	\$ -	\$ 2,508,983	\$ -	\$ -	\$ 1,366,346

(E)			
Forecast Model without increase in Drive Time due to increasing traffic congestion, without new services for customers, with Customer Growth			
	2014	2015	2016
Labor	\$ 104,031,056	\$ 106,213,602	\$ 108,396,495
Non-Labor	\$ 6,100,675	\$ 6,228,666	\$ 6,356,677
FTE	1,328.4	1,356.3	1,384.2
TOTAL (\$)	\$ 110,131,731	\$ 112,442,268	\$ 114,753,172

(F)			
Forecast Model without Customer Outreach Safety Checks			
	2014	2015	2016
Labor	\$ 104,446,964	\$ 107,068,728	\$ 112,268,141
Non-Labor	\$ 6,125,065	\$ 6,278,813	\$ 6,583,721
FTE	1,333.7	1,367.2	1,433.6
TOTAL (\$)	\$ 110,572,030	\$ 113,347,541	\$ 118,851,862

(G)			
Forecast Model without Enhanced Customer Education			
	2014	2015	2016
Labor	\$ 104,446,964	\$ 107,068,728	\$ 113,347,483
Non-Labor	\$ 6,125,065	\$ 6,278,813	\$ 6,647,017
FTE	1,333.7	1,367.2	1,447.4
TOTAL (\$)	\$ 110,572,030	\$ 113,347,541	\$ 119,994,499

(H)			
Forecast Model without Enhanced Appliance Safety Checks			
	2014	2015	2016
Labor	\$ 104,446,964	\$ 107,068,728	\$ 113,375,034
Non-Labor	\$ 6,125,065	\$ 6,278,813	\$ 6,648,633
FTE	1,333.7	1,367.2	1,447.7
TOTAL (\$)	\$ 110,572,030	\$ 113,347,541	\$ 120,023,666

(A - H)			
Impact of Enhanced Appliance Safety Checks			
	2014	2015	2016
Labor	\$ -	\$ -	\$ 1,263,106
Non-Labor	\$ -	\$ -	\$ 74,072
FTE	-	-	16.1
TOTAL (\$)	\$ -	\$ -	\$ 1,337,179

SOCALGAS-ORA-DEF-028-TLG
RESPONSE SARA FRANKE ATTACHMENT

Functional Area	Testimony Area	Work Paper Group	Ex. SCG-10 Testimony Pages	Ex. SCG-10-WP Workpaper Pages X of 178	MDR Chapter 9 Question #	WP Group FERC	FERC Allocation %	Cost Centers in Group	Cost Center Name
Customer Services Field and Meter Reading; Witness: Sara A. Franke									
	Section I: Introduction		SAF-1-4						
	Section II: Non-Shared Costs		SAF-4-42	2-164	Q. 10				
	A - Introduction		SAF-4-5						
	B - Customer Services Field		SAF-5-34	3-121					
	B.1 - CSF Operations	2FC001.000 Customer Services Field - Operations	SAF-5-23	4-16	Q. 1-3, 5	879.0	90.5%	2200-0445	SO INL FSVC SAN BERNARDINO
		Supplemental Workpapers for Workpaper 2FC001.000				903.1	5.4%	2200-0449	SO INL FSVC CHINO
		Work Order Volume (Section 1 of 4) Work Order Volume Model		18-24		184.7	2.7%	2200-0452	SO INL FSVC FONTANA
		Work Order Volume (Section 2 of 4) Operations Training Labor		25		892.0	0.6%	2200-0455	SO INL FSVC PLM DESERT
		Work Order Volume (Section 3 of 4) Operations Non-labor		26		880.2	0.5%	2200-0458	SO INL FSVC RIVERSIDE
		Work Order Volume Charts		28-77		878.2	0.4%	2200-0462	SO INL FSVC RAMONA
		MSA Inspection Program		78-82		Total	100%	2200-0464	SO INL FSVC EL CENTRO
		Job Shadowing		83				2200-0467	SO INL FSVC RIM FOREST
		Refresher Training		84				2200-0470	NORTHERN FSVC ALHAMBRA
		Operator Qualification Training		85-87				2200-0473	NORTHERN FSVC AZUSA
		Curb Meter Regulator Replacement		88				2200-0475	SO INL FSVC CORONA
		CSF Operations AMI Benefit Adjustment-2013		89				2200-0477	NORTHERN FSVC PASADENA
								2200-0493	NORTHERN FSVC VISALIA/HANFORD
								2200-0497	NORTHERN FSVC BAKERSFIELD
								2200-0502	NORTHERN FSVC SLO/TEMPLETON
								2200-0505	NORTHERN FSVC SANTA MARIA
								2200-0509	NORTHERN FSVC VENTURA
								2200-0513	NORTHERN FSVC SANTA BARBARA
								2200-0516	NORTHERN FSVC CANOGA
								2200-0519	NORTHERN FSVC SIMI VALLEY
								2200-0522	NORTHERN FSVC SATICOY
								2200-0525	NORTHERN FSVC BRANDFORD
								2200-0529	NORTHERN FSVC GLENDALE
								2200-0531	NORTHERN FSVC VALENCIA
								2200-0534	NORTHERN FSVC LANCASTER
								2200-0546	PACIFIC COAST FSVC DOWNEY
								2200-0550	PACIFIC COAST FSVC WHITTIER
								2200-0552	PACIFIC COAST FSVC ANAHEIM
								2200-0556	PACIFIC COAST FSVC LA JOLLA
								2200-0560	PACIFIC COAST FSVC ALISO VIEJO
								2200-0563	PACIFIC COAST FSVC GARDEN GROVE
								2200-0566	PACIFIC COAST FSVC SANTA ANA
								2200-0570	NORTHERN FSVC INDUSTRY
								2200-0574	PACIFIC COAST FSVC BELVEDERE
								2200-0578	PACIFIC COAST FSVC JUANITA
								2200-0582	HUNTINGTON PARK FIELD SERVICES
								2200-0585	COMPTON FIELD SERVICE
								2200-0589	PACIFIC COAST FSVC CRENSHAW
								2200-0591	PACIFIC COAST FSVC SANTA MONICA
								2200-0594	PACIFIC COAST FSVC REDONDO BEACH
								2200-0597	PACIFIC COAST FSVC SAN PEDRO
								2200-0600	PACIFIC COAST FSVC HOLLYWOOD
								2200-2081	SO INL FSVC MURRIETA
								2200-2082	SO INL FSVC BEAUMONT
								2200-2113	PACIFIC COAST FSVC - YUKON
								2200-2231	SO INL FSVC YUCCA VLY

SOCALGAS-ORA-DEF-028-TLG
 RESPONSE SARA FRANKE ATTACHMENT

Functional Area	Testimony Area	Work Paper Group	EX. SCG-10 Testimony Pages	EX. SCG-10-WP Workpaper Pages X of 178	MDR Chapter 9 Question #	WP Group FERC	FERC Allocation %	Cost Centers in Group	Cost Center Name				
B.2 - CSF Supervision	2FC002.000 Customer Services Field - Supervision	SAF-24-25	90-100	Q. 1-3	879.0	87.4%	2200-0451	SO INL CS DOM SAN BERNARDINO					
							2200-0454	SO INL CS DOM PALM DESERT					
							Supplemental Workpapers for Workpaper 2FC002.000		27	Total	100.0%	2200-0460	SO INL CS DOM RAMONA
							2200-0466	SO INL CS DOM CHINO					
							2200-0476	NORTHERN DOM ALHAMBRA/PASADENA					
							2200-0495	NORTHERN DOM BAKERSFIELD					
							2200-0503	NORTHERN DOM SLO/SANTA MARIA/TEMPLE					
							2200-0511	NORTHERN DOM VENTURA & SIMI					
							2200-0518	NORTHERN DOM VISALIA/HANFORD					
							2200-0521	NORTHERN DOM CANOGA/SATICOY					
							2200-0527	NORTHERN DOM BRANDFORD/GENDALE					
							2200-0533	NORTHERN DOM LANCASTER					
							2200-0554	PACIFIC COAST DOM ANAHEIM/LA JOLLA					
							2200-0558	PACIFIC COAST DOM SANTA ANA/ALISO VIEJO					
							2200-0561	PACIFIC COAST DOM DOWNEY/GARDEN GROVE					
							2200-0568	NORTHERN DOM AZUSA/INDUSTRY					
							2200-0573	PACIFIC COAST DOM WHITTIER/BELVEDERE					
							2200-0579	SO INL CS DOM EL CENTRO					
							2200-0584	COMPTON/HUNTINGTON PARK DOM					
							2200-0587	PACIFIC COAST DOM SANTA MONICA/CRENSHAW					
							2200-0596	PACIFIC COAST DOM REDONDO/SAN PEDRO					
							2200-0599	PACIFIC COAST DOM JUANITA/HOLLYWOOD					
							2200-2114	PACIFIC COAST DOM - YUKON					
2200-2150	NORTHERN DOM SANTA BARBARA												
2200-2192	NORTHERN DOM VALENCIA												
2200-2223	SO INL CS DOM FONTANA												
2200-2224	SO INL CS DOM RIM FOREST												
2200-2225	SO INL CS DOM BEAUMONT												
2200-2226	SO INL CS DOM CORONA												
2200-2227	SO INL CS DOM RIVERSIDE												
2200-2228	SO INL CS DOM MURRIETA												
2200-2230	SO INL CS DOM YUCCA VLY												
B.3 - CSF Dispatch	2FC003.000 Customer Services Field - Dispatch	SAF-25-26	101-107	Q. 1-3	880.3	100.0%	2200-0440	REDLANDS DISPATCH SOUTH INLAND					
							2200-0498	CHATSWORTH DISPATCH NORTHERN					
							2200-0506	COMPTON DISPATCH PACIFIC COAST					
							2200-0507	ANAHEIM DISPATCH PACIFIC COAST					
B.4 - CSF Support	2FC004.000 Customer Service Field - Support	SAF-26-34	108-121	Q. 1-3	880.4	28.8%	2200-0343	CST - PACER					
							870.6	25.0%	2200-0432	SOUTH INLAND REGION DIRECTOR			
							870.5	22.2%	2200-0437	CUSTOMER SERVICES SOUTH INLAND DIRECTOR			
							879.3	21.1%	2200-0442	FIELD OP MGR REDLANDS			
							879.0	2.9%	2200-0571	CUSTOMER SERVICES PACIFIC COAST DIRECTOR			
							Total	100.0%	2200-0572	FIELD OP MGR1 COMPTON			
									2200-2029	MGR FIELD COLLECTIONS			
									2200-2111	CUSTOMER SERVICE STAFF - FIELD SYSTEMS			
									2200-2115	PACIFIC RGN ENV			
									2200-2141	SOUTH INLAND FOM			
									2200-2183	CUSTOMER SERVICE-MASS MARKET'S VP - NS			
		2200-2206	QUALITY ASSURANCE										
		2200-2255	CS TECHNOLOGY - ART										
		2200-2500	TRAINING - OFFICE										

SOCALGAS-ORA-DEF-028-TLG
 RESPONSE SARA FRANKE ATTACHMENT

Functional Area	Testimony Area	Work Paper Group	Ex. SCG-10 Testimony Pages	Ex. SCG-10-WP Workpaper Pages X of 178	MDR Chapter 9 Question #	WP Group FERC	FERC Allocation %	Cost Centers in Group	Cost Center Name
	C - Meter Reading		SAF-34-42	122-164					
	C.1 - Meter Reading Operations	2FC005.000 Meter Reading - Operations	SAF-34-38	123-130	Q. 1-3, 4	902.0	82.8%	2200-0359	METER READING RIVERSIDE - BEAUMONT
		Supplemental Workpapers for Workpaper 2FC005.000				902.1	15.7%	2200-0361	MTR READING RIM-FOREST
		Meter Reading Zero Based Forecast & Meter Growth		132		879.0	1.5%	2200-0362	METER READING FONTANA
		Learning Curve Cost		133-140		Total	100.0%	2200-0363	METER READING CORONA
		Handheld System Training		141				2200-0364	METER READING CHINO
		Meter Reading Operations AMI Benefit-2013		143				2200-0365	METER READING MURRIETA
		Training Costs Due to Increased Attrition		144				2200-0366	METER READING RAMONA
								2200-0367	METER READING EL CENTRO & BLYTHE
								2200-0368	MTR READ PALM DESERT & YUCCA
								2200-0369	MTR READ SBRNDO-WRTWD-VICTORVILLE
								2200-0370	METER READING ALISO VIEJO
								2200-0371	METER READING SANTA ANA
								2200-0372	METER READING DOWNEY
								2200-0373	METER READING WHITTIER
								2200-0374	METER READING ANAHEIM
								2200-0375	METER READING LA JOLLA
								2200-0376	METER READING GARDEN GROVE
								2200-0377	METER READING INDUSTRY
								2200-0378	METER READING AZUSA
								2200-0381	METER READING VALENCIA
								2200-0382	METER READING BAKERSFIELD & PORTERVIL
								2200-0383	METER READING LANCASTER & MOJAVE
								2200-0384	METER READING OXNARD
								2200-0385	METER READING CANOGA
								2200-0386	METER READING SIMI
								2200-0387	METER READING VISALIA & HANDFORD
								2200-0388	METER READING YUKON
								2200-0389	METER READING TEMPLETON & SLO
								2200-0390	METER READING SANTA MARIA & LOMPOC
								2200-0391	METER READING SANTA BARBARA
								2200-0392	METER READING SATICOY
								2200-0393	METER READING HOLLYWOOD
								2200-0394	METER READING 182ND STREET
								2200-0395	METER READING SANTA MONICA
								2200-0396	METER READING COMPTON
								2200-0397	METER READING PASADENA
								2200-0398	METER READING OPERATIONS MGT
								2200-0399	METER READING GLENDALE
								2200-2237	METER READING MONTEREY PARK

SOCALGAS-ORA-DEF-028-TLG
 RESPONSE SARA FRANKE ATTACHMENT

Functional Area	Testimony Area	Work Paper Group	Ex. SCG-10 Testimony Pages	Ex. SCG-10-WP Workpaper Pages X of 178	MDR Chapter 9 Question #	WP Group FERC	FERC Allocation %	Cost Centers in Group	Cost Center Name
	C.2 - Meter Reading Clerical	2FC006.000 Meter Reading - Clerical	SAF-38-39	145-149	Q. 1-3	902.1	100.0%	2200-0379	METER READING OPER SUPPORT CENTRAL
		Supplemental Workpapers for Workpaper 2FC006.000 Handheld System Training		142				2200-0400	METER READING OPER SUPPORT NORTH
	C.3 - Meter Reading Supervision, Training and Programs	2FC007.000 Meter Reading - Supervision & Training	SAF-40-41	150-155	Q. 1-3	902.5	100.0%	2200-0358	MTR READING CENTRAL AREA MGR
		Supplemental Workpapers for Workpaper 2FC007.000 Handheld System Training		142				2200-0380	MTR READING NORTH MGR
		Meter Reading Supervisor AMI Benefit-2013		157				2200-1146	METER READING TRAINING OPERATIONS
		Unfilled Positions From 2008 GRC		158				2200-2024	MTR READING EAST MGR
								2200-2153	METER READING OPERATIONS MGR
						2200-2359	SDGE METER READING MANAGER		
						2200-2364	MTR RDG OCOAST MGR		
	C.4 - Meter Reading Support	2FC008.000 Meter Reading - Support	SAF-41-42	159-164	Q. 1-3	902.5	100.0%	2200-0357	METER READING OPERATIONS STAFF
							2200-2025	METER READING PLANNING & ANALYSIS	
							2200-2105	METER READING MANAGER	
							2200-2152	METER READING SYSTEMS	
						2200-2404	METER READING ROUTE ANALYSIS		
	Section III: Shared Costs (USS)		SAF-43-47		Q. 2-3, 6-9				
	A. Introduction		SAF-43						
	B. Customer Services Field Staff	2200-0942.000 CS Field Staff Manager	SAF-43-47	165-174					
	Section IV: Capital		SAF-47-49		Q. 12				
GRID WP #	Capital Project #	Capital Project Name							
81396	00777D	PACER MDT Replacement	SAF-47-48						
15934	00776W	MDTs to Support Workforce Growth	SAF-48						
N/A	00775A	Meter Reading Handheld System Replacement	SAF-48						
	Section V: Continuous Improvement		SAF-49-50						
	Section VI: SoCalGas Response Times for A1 Gas Leak Orders		SAF-50-52						
	Section VII: Conclusion		SAF-52						
	Section VIII: Witness Qualifications		SAF-53						
	List of Appendices								
	A. Glossary of Acronyms		A-1						
	B. Customer Services Field Adjustments to 2013-Recorded Costs		B-1-3						
	C. Illustrative Examples of Work Order Volume Forecasts by Individual Order Type		C-1-2						
	D. Report Prepared by INRIX, Inc. Regarding Traffic Congestion in Southern California		D-1						
	E. SoCalGas Response Time Performance for All A1 and A2 Orders		E-1-2						

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

Area: CS - FIELD & METER READING
Witness: Sara Franke

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2200-0343	000	CST - PACER
2200-0357	000	METER READING OPERATIONS STAFF
2200-0358	000	MTR READING CENTRAL AREA MGR
2200-0359	000	METER READING RIVERSIDE - BEAUMONT
2200-0361	000	MTR READING RIM-FOREST
2200-0362	000	METER READING FONTANA
2200-0363	000	METER READING CORONA
2200-0364	000	METER READING CHINO
2200-0365	000	METER READING MURRIETA
2200-0366	000	METER READING RAMONA
2200-0367	000	METER READING EL CENTRO & BLYTHE
2200-0368	000	MTR READ PALM DESERT & YUCCA
2200-0369	000	MTR READ SBRNDO-WRTWD-VICTORVILLE
2200-0370	000	METER READING ALISO VIEJO
2200-0371	000	METER READING SANTA ANA
2200-0372	000	METER READING DOWNEY
2200-0373	000	METER READING WHITTIER
2200-0374	000	METER READING ANAHEIM
2200-0375	000	METER READING LA JOLLA
2200-0376	000	METER READING GARDEN GROVE
2200-0377	000	METER READING INDUSTRY
2200-0378	000	METER READING AZUSA
2200-0379	000	METER READING OPER SUPPORT CENTRAL
2200-0380	000	MTR READING NORTH MGR
2200-0381	000	METER READING VALENCIA
2200-0382	000	METER READING BAKERSFIELD & PORTERVILLE
2200-0383	000	METER READING LANCASTER & MOJAVE
2200-0384	000	METER READING OXNARD
2200-0385	000	METER READING CANOGA
2200-0386	000	METER READING SIMI
2200-0387	000	METER READING VISALIA & HANDFORD
2200-0388	000	METER READING YUKON
2200-0389	000	METER READING TEMPLETON & SLO
2200-0390	000	METER READING SANTA MARIA & LOMPOC
2200-0391	000	METER READING SANTA BARBARA
2200-0392	000	METER READING SATICOY
2200-0393	000	METER READING HOLLYWOOD
2200-0394	000	METER READING 182ND STREET
2200-0395	000	METER READING SANTA MONICA
2200-0396	000	METER READING COMPTON
2200-0397	000	METER READING PASADENA
2200-0398	000	METER READING OPERATIONS MGT
2200-0399	000	METER READING GLENDALE
2200-0400	000	METER READING OPER SUPPORT NORTH
2200-0432	000	SOUTH INLAND REGION DIRECTOR

SCG/CS - FIELD & METER READING/Exh No:SCG-10-WP/Witness: S. Franke

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

Area: CS - FIELD & METER READING
Witness: Sara Franke

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2200-0437	000	CUSTOMER SERVICES SOUTH INLAND DIRECTOR
2200-0440	000	REDLANDS DISPATCH SOUTH INLAND
2200-0442	000	FIELD OP MGR REDLANDS
2200-0445	000	SO INL FSVC SAN BERNARDINO
2200-0449	000	SO INL FSVC CHINO
2200-0451	000	SO INL CS DOM SAN BERNARDINO
2200-0452	000	SO INL FSVC FONTANA
2200-0454	000	SO INL CS DOM PALM DESERT
2200-0455	000	SO INL FSVC PLM DESERT
2200-0458	000	SO INL FSVC RIVERSIDE
2200-0460	000	SO INL CS DOM RAMONA
2200-0462	000	SO INL FSVC RAMONA
2200-0464	000	SO INL FSVC EL CENTRO
2200-0466	000	SO INL CS DOM CHINO
2200-0467	000	SO INL FSVC RIM FOREST
2200-0470	000	NORTHERN FSVC ALHAMBRA
2200-0473	000	NORTHERN FSVC AZUSA
2200-0475	000	SO INL FSVC CORONA
2200-0476	000	NORTHERN DOM ALHAMBRA/PASADENA
2200-0477	000	NORTHERN FSVC PASADENA
2200-0493	000	NORTHERN FSVC VISALIA/HANFORD
2200-0495	000	NORTHERN DOM BAKERSFIELD
2200-0497	000	NORTHERN FSVC BAKERSFIELD
2200-0498	000	CHATSWORTH DISPATCH NORTHERN
2200-0502	000	NORTHERN FSVC SLO/TEMPLETON
2200-0503	000	NORTHERN DOM SLO/SANTA MARIA/TEMPLETON
2200-0505	000	NORTHERN FSVC SANTA MARIA
2200-0506	000	COMPTON DISPATCH PACIFIC COAST
2200-0507	000	ANAHIEM DISPATCH PACIFIC COAST
2200-0509	000	NORTHERN FSVC VENTURA
2200-0511	000	NORTHERN DOM VENTURA & SIMI
2200-0513	000	NORTHERN FSVC SANTA BARBARA
2200-0516	000	NORTHERN FSVC CANOGA
2200-0518	000	NORTHERN DOM VISALIA/HANFORD
2200-0519	000	NORTHERN FSVC SIMI VALLEY
2200-0521	000	NORTHERN DOM CANOGA/SATICOY
2200-0522	000	NORTHERN FSVC SATICOY
2200-0525	000	NORTHERN FSVC BRANDFORD
2200-0527	000	NORTHERN DOM BRANDFORD/GENDALE
2200-0529	000	NORTHERN FSVC GLENDALE
2200-0531	000	NORTHERN FSVC VALENCIA
2200-0533	000	NORTHERN DOM LANCASTER
2200-0534	000	NORTHERN FSVC LANCASTER
2200-0546	000	PACIFIC COAST FSVC DOWNEY
2200-0550	000	PACIFIC COAST FSVC WHITTIER

SCG/CS - FIELD & METER READING/Exh No:SCG-10-WP/Witness: S. Franke

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

Area: CS - FIELD & METER READING
Witness: Sara Franke

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2200-0552	000	PACIFIC COAST FSVK ANAHEIM
2200-0554	000	PACIFIC COAST DOM ANAHEIM/LA JOLLA
2200-0556	000	PACIFIC COAST FSVK LA JOLLA
2200-0558	000	PACIFIC COAST DOM SANTA ANA/ALISO VIEJO
2200-0560	000	PACIFIC COAST FSVK ALISO VIEJO
2200-0561	000	PACIFIC COAST DOM DOWNEY/GARDEN GROVE
2200-0563	000	PACIFIC COAST FSVK GARDEN GROVE
2200-0566	000	PACIFIC COAST FSVK SANTA ANA
2200-0568	000	NORTHERN DOM AZUSA/INDUSTRY
2200-0570	000	NORTHERN FSVK INDUSTRY
2200-0571	000	CUSTOMER SERVICES PACIFIC COAST DIRECTOR
2200-0572	000	FIELD OP MGR1 COMPTON
2200-0573	000	PACIFIC COAST DOM WHITTIER/BELVEDERE
2200-0574	000	PACIFIC COAST FSVK BELVEDERE
2200-0578	000	PACIFIC COAST FSVK JUANITA
2200-0579	000	SO INL CS DOM EL CENTRO
2200-0582	000	HUNTINGTON PARK FIELD SERVICES
2200-0584	000	COMPTON/HUNTINGTON PARK DOM
2200-0585	000	COMPTON FIELD SERVICE
2200-0587	000	PACIFIC COAST DOM SANTA MONICA/CRENSHAW
2200-0589	000	PACIFIC COAST FSVK CRENSHAW
2200-0591	000	PACIFIC COAST FSVK SANTA MONICA
2200-0594	000	PACIFIC COAST FSVK REDONDO BEACH
2200-0596	000	PACIFIC COAST DOM REDONDO/SAN PEDRO
2200-0597	000	PACIFIC COAST FSVK SAN PEDRO
2200-0599	000	PACIFIC COAST DOM JUANITA/HOLLYWOOD
2200-0600	000	PACIFIC COAST FSVK HOLLYWOOD
2200-1146	000	METER READING TRAINING OPERATIONS
2200-2024	000	MTR READING EAST MGR
2200-2025	000	METER READING PLANNING & ANALYSIS
2200-2029	000	MGR FIELD COLLECTIONS
2200-2081	000	SO INL FSVK MURRIETA
2200-2082	000	SO INL FSVK BEAUMONT
2200-2105	000	METER READING MANAGER
2200-2111	000	CUSTOMER SERVICE STAFF - FIELD SYSTEMS
2200-2113	000	PACIFIC COAST FSVK - YUKON
2200-2114	000	PACIFIC COAST DOM - YUKON
2200-2115	000	PACIFIC RGN ENV
2200-2141	000	SOUTH INLAND FOM
2200-2150	000	NORTHERN DOM SANTA BARBARA
2200-2152	000	METER READING SYSTEMS
2200-2153	000	METER READING OPERATIONS MGR
2200-2183	000	CUSTOMER SERVICE-MASS MARKETS VP - NSS
2200-2192	000	NORTHERN DOM VALENCIA
2200-2206	000	QUALITY ASSURANCE

SCG/CS - FIELD & METER READING/Exh No:SCG-10-WP/Witness: S. Franke

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

Area: CS - FIELD & METER READING
Witness: Sara Franke

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2200-2223	000	SO INL CS DOM FONTANA
2200-2224	000	SO INL CS DOM RIM FOREST
2200-2225	000	SO INL CS DOM BEAUMONT
2200-2226	000	SO INL CS DOM CORONA
2200-2227	000	SO INL CS DOM RIVERSIDE
2200-2228	000	SO INL CS DOM MURRIETA
2200-2230	000	SO INL CS DOM YUCCA VLY
2200-2231	000	SO INL FSVC YUCCA VLY
2200-2237	000	METER READING MONTEREY PARK
2200-2255	000	CS TECHNOLOGY - ART
2200-2359	000	SDGE METER READING MANAGER
2200-2364	000	MTR RDG OCOAST MGR
2200-2404	000	METER READING ROUTE ANALYSIS
2200-2500	000	TRAINING - OFFICE
2200-2539	000	CURB/AG SIZE 3 MTR CHG