

Application of SAN DIEGO GAS & ELECTRIC)
COMPANY for authority to update its gas and)
electric revenue requirement and base rates)
effective January 1, 2019 (U 902-M))

Application No. 17-10-007

Exhibit No.: (SDG&E-17-WP-R)

REVISED WORKPAPERS TO
PREPARED DIRECT TESTIMONY
OF GWEN R. MARELLI
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

DECEMBER 2017



2019 General Rate Case - REVISED
INDEX OF WORKPAPERS

Exhibit SDG&E-17-WP-R - CS - FIELD

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Overall Summary For Exhibit No. SDG&E-17-WP-R

Area:	CS - FIELD
Witness:	Gwen R. Marelli

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Non-Shared Services	21,439	22,372	22,797	23,733
Shared Services	0	0	0	0
Total	21,439	22,372	22,797	23,733

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
 2019 GRC - REVISED
 Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli

Summary of Non-Shared Services Workpapers:

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
A. Customer Services Field	21,439	22,372	22,797	23,733
Total	21,439	22,372	22,797	23,733

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Workpaper: VARIOUS

Summary for Category: A. Customer Services Field

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	20,257	21,030	21,460	22,236
Non-Labor	1,182	1,342	1,337	1,497
NSE	0	0	0	0
Total	21,439	22,372	22,797	23,733
FTE	231.8	241.4	245.8	256.3

Workpapers belonging to this Category:

1FC001.000 Customer Services Field - Operations

Labor	12,566	13,720	14,109	14,889
Non-Labor	646	818	850	999
NSE	0	0	0	0
Total	13,212	14,538	14,959	15,888
FTE	146.4	158.0	162.1	172.6

1FC002.000 Customer Services Field - Supervision

Labor	1,186	1,329	1,370	1,366
Non-Labor	51	51	52	56
NSE	0	0	0	0
Total	1,237	1,380	1,422	1,422
FTE	12.4	13.8	14.1	14.1

1FC003.000 Customer Services Field - Dispatch

Labor	4,261	3,816	3,816	3,816
Non-Labor	74	90	90	90
NSE	0	0	0	0
Total	4,335	3,906	3,906	3,906
FTE	45.8	42.6	42.6	42.6

1FC004.000 Customer Services Field - Support

Labor	2,244	2,165	2,165	2,165
Non-Labor	411	383	345	352
NSE	0	0	0	0
Total	2,655	2,548	2,510	2,517
FTE	27.2	27.0	27.0	27.0

Note: Totals may include rounding differences.

Beginning of Workpaper
1FC001.000 - Customer Services Field - Operations

San Diego Gas & Electric Company
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Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC001.000 - Customer Services Field - Operations

Activity Description:

The CSF Operations cost category consists of labor and non-labor expenses for field technicians who provide service at customer premises, including both customer- and company-generated work orders. Examples of customer-generated service orders include requests to establish/remove gas and electric service, light gas pilots, check gas appliances, shut off and restore gas service for fumigation, investigate the potential causes of high bills, respond to emergency incidents, investigate potential gas leaks, and other services. Examples of company-generated work orders include meter and regulator changes and other meter work to maintain company assets, and collecting customer payments for delinquent bills

Forecast Explanations:

Labor - Zero-Based

CSF Operations costs are primarily driven by work order volumes. Work order volumes, in turn, are largely driven by factors outside of SDG&E's control, such as customer growth, weather, the state of the economy, customer turnover, the level of natural gas and electric prices, customer appliances/equipment choices, emergency incidents such as structure fires and earthquakes, and laws/regulations. In order to forecast TY2019 expenses as accurately and transparently as possible, SDG&E utilized a three-year average (2014 – 2016) for most order types. A three-year average was chosen because 2014 – 2016 are the most recent historical years in which the full effects of Smart Meter implementation are reflected in work order volumes.

Non-Labor - Zero-Based

Non-labor expenses includes uniforms small tools and miscellaneous items used on the job. The non-labor expense per FTE is based on a three-year average (2014 – 2016) to be consistent with the order volume forecast.

NSE - Zero-Based

NSE is not applicable to his workgroup.

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		16,286	15,375	13,293	13,388	12,566	13,720	14,109	14,889	
Non-Labor		935	1,185	711	748	646	818	850	999	
NSE		0	0	0	0	0	0	0	0	
Total		17,221	16,559	14,004	14,136	13,212	14,538	14,959	15,888	
FTE		211.9	195.8	163.3	152.8	146.4	158.0	162.1	172.6	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC001.000 - Customer Services Field - Operations

Summary of Adjustments to Forecast:

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Zero-Based	0	0	0	13,720	14,109	14,889	13,720	14,109	14,889
Non-Labor	Zero-Based	0	0	0	818	850	999	818	850	999
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	14,538	14,959	15,888	14,538	14,959	15,888
FTE	Zero-Based	0.0	0.0	0.0	158.0	162.1	172.6	158.0	162.1	172.6

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	9,137	735	0	9,872	105.7	1-Sided Adj	TPTHT20170309201008223	
Explanation:		CS - Field Operations labor and non-labor costs associated with workload order forecast. Refer to Ex. SDG&E-17-WP - GMarelli - 1FC001, Supplemental Workpaper 1, for detailed calculations.							
2017	Other	18	70	0	88	0.2	1-Sided Adj	TPTHT20170309201436903	
Explanation:		Incremental ongoing O&M costs associated with the implementation of the Field Parts Replacement Services (FPRS) program. Refer to testimony of SDG&E witness G. Marelli, Ex. SDGE-17, Section III.A.5, for more information on the FPRS program.							
2017	RAMP Base	4,469	4	0	4,473	50.4	1-Sided Adj	TPTHT20170309201536013	
Explanation:		RAMP SDG&E-3 Employee Contractor & Public Safety: CS - Field Operations base workload forecast for emergency orders, atmospheric corrosion inspections, job observations, and behavior based safety. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.							
2017	RAMP Incremental	144	0	0	144	2.2	1-Sided Adj	TPTHT20170309202927647	
Explanation:		RAMP SDG&E-3 Employee Contractor & Public Safety and SDG&E-17 Workforce Planning: CS - Field Operations incremental workload forecast for emergency orders, atmospheric corrosion inspections, job observations, and workforce planning. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.							
2017	FOF-Ongoing	-48	9	0	-39	-0.5	1-Sided Adj	TPTHT20170309203829993	
Explanation:		CS - Field Operations net savings associated with Fueling our Future initiative							
2017 Total		13,720	818	0	14,538	158.0			

2018 Other 9,435 754 0 10,189 108.7 1-Sided Adj TPTHT20170309204041463

Note: Totals may include rounding differences.

SDG&E/CS - FIELD/Exh No:SDG&E-17-WP-R/Witness: G. Marelli

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC001.000 - Customer Services Field - Operations

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
Explanation: CS - Field Operations labor and non-labor costs associated with workload order forecast. Refer to Ex. SDG&E-17-WP - GMarelli - 1FC001, Supplemental Workpaper 1, for detailed calculations.								
2018	Other	84	70	0	154	0.9	1-Sided Adj	TPTHT20170309204226573
Explanation: Incremental ongoing O&M costs associated with the implementation of the Field Parts Replacement Services (FPRS) program. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section III.A.5, for more information on the FPRS program.								
2018	RAMP Base	4,469	4	0	4,473	50.4	1-Sided Adj	TPTHT20170309205110453
Explanation: RAMP SDG&E-3 Employee Contractor & Public Safety: CS - Field Operations base workload forecast for emergency orders, atmospheric corrosion inspections, job observations, and behavior based safety. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.								
2018	RAMP Incremental	211	0	0	211	2.8	1-Sided Adj	TPTHT20170309205845210
Explanation: RAMP SDG&E-3 Employee Contractor & Public Safety and SDG&E-17 Workforce Planning: CS - Field Operations incremental workload forecast for emergency orders, atmospheric corrosion inspections, job observations, and workforce planning. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.								
2018	FOF-Ongoing	-90	22	0	-68	-0.7	1-Sided Adj	TPTHT20170309210315240
Explanation: CS - Field Operations net savings associated with Fueling our Future initiative								
2018 Total		14,109	850	0	14,959	162.1		
2019	Other	10,127	903	0	11,030	117.7	1-Sided Adj	TPTHT20170309210621460
Explanation: CS - Field Operations labor and non-labor costs associated with workload order forecast. Refer to Ex. SDG&E-17-WP - GMarelli - 1FC001, Supplemental Workpaper 1, for detailed calculations.								
2019	Other	121	70	0	191	1.4	1-Sided Adj	TPTHT20170309210701457
Explanation: Incremental ongoing O&M costs associated with the implementation of the Field Parts Replacement Services (FPRS) program. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section III.5, for more information on the FPRS program.								
2019	RAMP Base	4,469	4	0	4,473	50.4	1-Sided Adj	TPTHT20170309210739557
Explanation: RAMP SDG&E-3 Employee Contractor & Public Safety: CS - Field Operations base workload forecast for emergency orders, atmospheric corrosion inspections, job observations, and behavior based safety. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.								

Note: Totals may include rounding differences.

SDG&E/CS - FIELD/Exh No:SDG&E-17-WP-R/Witness: G. Marelli

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC001.000 - Customer Services Field - Operations

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>
2019	RAMP Incremental	299	0	0	299	3.8	1-Sided Adj	TPTHT20170309211242230
Explanation:		RAMP SDG&E-3 Employee Contractor & Public Safety and SDG&E-17 Workforce Planning: CS - Field Operations incremental workload forecast for emergency orders, atmospheric corrosion inspections, job observations, and workforce planning. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.						
2019	FOF-Ongoing	-127	22	0	-105	-0.7	1-Sided Adj	TPTHT20170309211940597
Explanation:		CS - Field Operations net savings associated with Fueling our Future initiative						
2019 Total		14,889	999	0	15,888	172.6		

Note: Totals may include rounding differences.

SDG&E/CS - FIELD/Exh No:SDG&E-17-WP-R/Witness: G. Marelli

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC001.000 - Customer Services Field - Operations

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	13,391	12,949	11,355	11,160	11,642
Non-Labor	903	856	706	747	646
NSE	0	0	0	0	0
Total	14,294	13,804	12,061	11,907	12,288
FTE	188.2	174.7	144.2	129.7	133.6
Adjustments (Nominal \$) **					
Labor	-372	-540	-407	169	-864
Non-Labor	8	314	4	0	0
NSE	0	0	0	0	0
Total	-364	-226	-404	169	-864
FTE	-5.7	-8.1	-5.8	0.3	-9.7
Recorded-Adjusted (Nominal \$)					
Labor	13,019	12,409	10,948	11,328	10,778
Non-Labor	912	1,170	710	747	646
NSE	0	0	0	0	0
Total	13,930	13,578	11,658	12,075	11,424
FTE	182.5	166.6	138.4	130.0	123.9
Vacation & Sick (Nominal \$)					
Labor	1,886	1,968	1,748	1,749	1,788
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1,886	1,968	1,748	1,749	1,788
FTE	29.5	29.2	24.8	22.7	22.5
Escalation to 2016\$					
Labor	1,381	998	597	311	0
Non-Labor	23	15	1	1	0
NSE	0	0	0	0	0
Total	1,404	1,013	598	312	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	16,286	15,375	13,293	13,388	12,566
Non-Labor	935	1,185	711	748	646
NSE	0	0	0	0	0
Total	17,221	16,559	14,004	14,136	13,212
FTE	212.0	195.8	163.2	152.7	146.4

* 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.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC001.000 - Customer Services Field - Operations

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-372	-540	-407	169	-864
Non-Labor	8	314	4	0	0
NSE	0	0	0	0	0
Total	-364	-226	-404	169	-864
FTE	-5.7	-8.1	-5.8	0.3	-9.7

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-288	0	0	-4.1	1-Sided Adj	CTRINH20161027083753730
Explanation: Transfer CS - Field Supervision labor from 1FC001.000 to 1FC002.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2012	Other	-182	0	0	-2.7	1-Sided Adj	CTRINH20161027085125267
Explanation: Transfer CS - Field Instructors and BBS Instructors labor from 1FC001.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2012	Other	-45	0	0	-1.0	1-Sided Adj	CTRINH20161027134145213
Explanation: Transfer CS - Field Collections Support labor from 1FC001.000 to 1FC003.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2012	Other	26	0	0	0.4	1-Sided Adj	CTRINH20161027141650580
Explanation: Transfer CS - Field Operations labor from 1FC002.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2012	Other	117	0	0	1.7	1-Sided Adj	CTRINH20161101113442880
Explanation: Transfer CS - Field Operations labor from 1FC004.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2012	Other	0	8	0	0.0	1-Sided Adj	CTRINH20161101130057663
Explanation: Transfer CS - Field Operations non-labor from 1FC004.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2012 Total		-372	8	0	-5.7		

2013	Other	-348	0	0	-4.6	1-Sided Adj	CTRINH20161027084201533
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Explanation: Transfer CS - Field Supervisors labor from 1FC001.000 to 1FC002.000 in order to align historical costs with the workgroup in which the activity will be forecasted

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC001.000 - Customer Services Field - Operations

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2013	Other	-133	0	0	-2.0	1-Sided Adj	CTRINH20161027090345963
Explanation: Transfer CS - Field Instructors and BBS Instructors labor from 1FC001.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2013	Other	0	308	0	0.0	CCTR Transf From 2100-3459.000	ASUSTARI20161028110639530
Explanation: Moving CSF tools purchase from GD Operations Mgmt & training Director CC to CSF CC 0034. Aligns history based on reorg moving CSF out of GD.							
2013	Other	-76	0	0	-1.7	1-Sided Adj	CTRINH20161027135209107
Explanation: Transfer CS - Field Collections Support labor from 1FC001.000 to 1FC003.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2013	Other	5	0	0	0.0	1-Sided Adj	CTRINH20161027144116110
Explanation: Transfer CS - Field Operations labor from 1FC002.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2013	Other	12	0	0	0.2	1-Sided Adj	CTRINH20161101113534317
Explanation: Transfer CS - Field Operations labor from 1FC004.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2013	Other	0	6	0	0.0	1-Sided Adj	CTRINH20161101130138230
Explanation: Transfer CS - Field Operations non-labor from 1FC004.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2013 Total		-540	314	0	-8.1		
2014	Other	-225	0	0	-2.8	1-Sided Adj	CTRINH20161027084255753
Explanation: Transfer CS - Field Supervisors labor from 1FC001.000 to 1FC002.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	-135	0	0	-1.9	1-Sided Adj	CTRINH20161027090656650
Explanation: Transfer CS - Field Instructors and BBS Instructors labor from 1FC001.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	-57	0	0	-1.2	1-Sided Adj	CTRINH20161027135427350
Explanation: Transfer CS - Field Collections Support labor from 1FC001.000 to 1FC003.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	10	0	0	0.1	1-Sided Adj	CTRINH20161027144208740
Explanation: Transfer CS - Field Operations labor from 1FC002.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							

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San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC001.000 - Customer Services Field - Operations

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2014	Other	0	4	0	0.0	1-Sided Adj	CTRINH20161101130236547
Explanation: Transfer CS - Field Operations non-labor from 1FC004.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014 Total		-407	4	0	-5.8		
2015	Other	-171	0	0	-2.3	1-Sided Adj	CTRINH20161027084352227
Explanation: Transfer CS - Field Supervision labor from 1FC001.000 to 1FC002.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015	Other	-109	0	0	-1.5	1-Sided Adj	CTRINH20161027090734213
Explanation: Transfer CS - Field Instructors and BBS Instructors labor from 1FC001.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015	Other	-32	0	0	-0.6	1-Sided Adj	CTRINH20161027140133480
Explanation: Transfer CS - Field Collections Support labor from 1FC001.000 to 1FC003.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015	Other	4	0	0	0.0	1-Sided Adj	CTRINH20161027144304393
Explanation: Transfer CS - Field Operations labor from 1FC002.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015	Other	476	0	0	4.7	1-Sided Adj	CTRINH20161109154648510
Explanation: Adjustment to correct Dec 2015 My Time Missing Labor Accrual error.							
2015 Total		169	0	0	0.3		
2016	Other	-223	0	0	-2.7	1-Sided Adj	CTRINH20161027084426723
Explanation: Transfer CS - Field Supervision labor from 1FC001.000 to 1FC002.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2016	Other	-149	0	0	-1.8	1-Sided Adj	CTRINH20161027093116693
Explanation: Transfer CS - Field Instructors and BBS Instructors labor from 1FC001.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2016	Other	-24	0	0	-0.6	1-Sided Adj	CTRINH20161027140224450
Explanation: Transfer CS - Field Collections Support labor from 1FC001.000 to 1FC003.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2016	Other	7	0	0	0.1	1-Sided Adj	CTRINH20161027144331083

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
 2019 GRC - REVISED
 Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC001.000 - Customer Services Field - Operations

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
Explanation: Transfer CS - Field Operations labor from 1FC002.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2016	Other	-476	0	0	-4.7	1-Sided Adj	CTRINH20161109154921710
Explanation: Adjustment to correct Dec 2015 My Time Missing Labor Accrual error							
2016 Total		-864	0	0	-9.7		

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC001.000 - Customer Services Field - Operations

RAMP Item # 1

Ref ID: TPTHT20170309201536013

RAMP Chapter: SDG&E-3

Program Name: Refer Program Description

Program Description: CSF BBS program, CSF Field Observations performed by Supervisors, CSF Emergency orders include include Carbon Monoxide, Fumigation and Hazardous and non hazardous gas leaks, CSF Atmospheric Corrosion Orders

Risk/Mitigation:

Risk: Employee, Contractor, Customer and Public Safety

Mitigation: Refer to Program Description

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	4,560	4,562	4,564
High	5,471	5,473	5,476

Funding Source: CPUC-GRC

Forecast Method: Zero-Based

Work Type: Mandated

Work Type Citation: Includes 4 RAMP items both Mandated and Non Mandated

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 4473

Explanation: RAMP Item # 1 (RAMP-Base) refers CSF Operations base forecast for emergency orders, ACOR inspections, job observations, Behavioral Based Safety and workforce planning

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC001.000 - Customer Services Field - Operations

RAMP Item # 2

Ref ID: TPTHT20170309202927647

RAMP Chapter: SDG&E-3

Program Name: Refer to Program Description

Program Description: CSF BBS program, CSF Field Observations performed by Supervisors, CSF Emergency orders include include Carbon Monoxide, Fumigation and Hazardous and non hazardous gas leaks, CSF Atmospheric Corrosion Orders

Risk/Mitigation:

Risk: Employee, Contractor, Customer and Public Safety

Mitigation: Refer to Program Description

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	4,560	4,562	4,564
High	5,471	5,473	5,476

Funding Source: CPUC-GRC

Forecast Method: Zero-Based

Work Type: Mandated

Work Type Citation: This represents 4 RAMP items and are Mandated and Non Mandated

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 0

Explanation: 2016 RAMP Embedded Costs is reflected in RAMP Item # 1 (RAMP-Base).RAMP Item # 2 refers to CSF Operations incremental forecast for emergency orders, ACOR inspections, job observations, Behavioral Based Safety and workforce planning

Supplemental Workpapers for Workpaper 1FC001.000

SDGE-17-WP - 1FC001 CS - Field Operations
Supplemental Workpaper 1 (Page 1 of 37)

CS - Field Operations Order Volume Based Cost Model

This model estimates labor and non labor costs associated with the 2017 - 2019 estimated order volume by order type.

NOTES:

- 1) Adjustment to exclude Opt Out costs from 2016 - 2018 because these costs are covered in SDG&E's Opt Out Balancing Account. Refer to SDG&E-17 Gwen Marelli, Section IV.
- 2) When meter changes are performed, the meter is returned to the base where CS-Field Operations technicians remove the Smart Meter module and evaluate for re-use or replacement. This is not driven by order volume so the cost for this activity is based on a 3 year average.
- 3) Non-Labor Per FTE is based on three year (2014 - 2016) average.
- 4) Non-Labor adjustment to account for costs not included in the 3 year average such as: a) mobile phone for field technicians, b) parts used in the Field Parts Replacement Program, and c) purchase of multi-gas detector tool.
- 5) Training Factor is based on three year (2014 - 2016) average.
- 6) BY 2016 refers to actual recorded data. While 2016 Estimates refers to data that is not tracked at the individual order types level shown in the table therefore costs are estimated.
- 7) All costs shown are in BY 2016 dollars.

SDGE-17-WP - 1FC001 CS - Field Operations
 Supplemental Workpaper 1 (Page 2 of 37)

CS - Field Operations Order Volume Based Cost Model		Order Volume			
Calculation Steps --->>>		A			
Line #	Order Types	BY 2016	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	276	304	338	374
2	Change of Account - CA GAS	860	835	804	774
3	Change of Account - CA GAS AND ELEC	170	171	173	175
4	Change of Account - GIVE NOTICE	3,954	4,144	4,383	4,626
5	Change of Account - RTO	329	334	341	347
6	Collections - CREDIT SHUT OFF	1,529	1,498	1,460	1,420
7	Collections - FIRST CALL	1,655	1,801	1,986	2,173
8	Collections - SECOND CALL	14,708	14,368	13,940	13,505
9	Collections - THIRD CALL	1,778	1,763	1,744	1,724
10	CSO - APPLIANCE ADJUSTMENTS	26,614	27,843	29,427	30,932
11	CSO - APPLIANCE MECHANIC WORK	532	568	613	657
12	CSO - CARBON MONOXIDE-EMERGENCY	849	865	886	906
13	CSO - CARBON MONOXIDE-NON EMERGENCY	1,289	1,309	1,336	1,361
14	CSO - HIGH PRESSURE	130	134	138	143
15	CSO - NO GAS	10,504	10,658	10,856	11,044
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	9,718	9,893	10,118	10,333
17	CSO - SCHOOL LEAK SURVEYS	383	401	425	447
18	CSO - SEASONAL OFF	539	576	624	670
19	CSO - SEASONAL ON MULTIPLES	9,707	9,943	10,247	10,536
20	CSO - SEASONAL ON SINGLES	18,103	18,113	18,127	18,139
21	Fumigation - FUMIGATION/BUG FOGGER	44,639	44,408	44,110	43,827
22	Gas Leak - EMERGENCY B&B INSIDE	987	1,042	1,114	1,181
23	Gas Leak - EMERGENCY B&B OUTSIDE	341	329	314	299
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	754	763	775	786
25	Gas Leak - FIRE & EXPLOSIONS	9	9	10	10
26	Gas Leak - GAS LEAKS-HAZARD	24,884	25,682	26,711	27,688
27	Gas Leak - GAS LEAKS-NON HAZARD	3,855	3,812	3,757	3,705
28	HBI - HBI	390	403	420	437
29	Meter Work - O & M - ACOR	28	48	74	98
30	Meter Work - O & M - CURB	394	415	442	468
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	136	194	269	340
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	1,184	2,652	2,652	2,652

SDGE-17-WP - 1FC001 CS - Field Operations
 Supplemental Workpaper 1 (Page 3 of 37)

CS - Field Operations Order Volume Based Cost Model		Order Volume			
Calculation Steps ---->>>		A			
Line #	Order Types	BY 2016	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	25	56	56	56
34	Meter Work - O & M - MISC COMPANY WORK	8,934	20,008	20,008	20,008
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	4,894	10,960	10,960	10,960
36	Nonpay Turn On - CREDIT CUT INS	3,430	3,389	3,337	3,287
37	Read/Verify - REREADS	19,912	20,232	20,644	21,036
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	10	17	25	33
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	228	235	243	251
40	TurnOn/ShutOff - GIVE NOTICE CUT	1,996	2,126	2,294	2,454
41	TurnOn/ShutOff - SHUT OFF ELEC	4,001	4,075	4,171	4,261
42	TurnOn/ShutOff - SHUT OFF GAS	5,358	5,600	5,911	6,207
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	689	681	672	663
44	TurnOn/ShutOff - SHUT OFF IN ERROR	258	253	247	241
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	14,808	15,421	16,211	16,961
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	150	146	140	135
47	TurnOn/ShutOff - TURN ON ELEC	4,060	4,261	4,519	4,765
48	TurnOn/ShutOff - TURN ON G/E	654	709	779	846
49	TurnOn/ShutOff - TURN ON GAS	5,677	6,034	6,495	6,933
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	141	151	164	176
51	Miscellaneous - SMART METER	4,434	4,643	4,913	5,169
52	Collections - INCOMPLETE	3,377	2,522	2,513	2,504
53	CSF - INCOMPLETE	15,697	16,745	17,233	17,590
54	OPT-OUT READS ¹	16,579	16,691	16,832	16,976
55	Underset Regulators - Install Slam Shut Regulator	-	-	-	367
56	Underset Regulators - Relocate Regulator Outside	-	-	-	419
57	Underset Regulators - Vent Through Existing Screens	-	-	-	87
58	Underset Regulators - Incomplete	-	-	-	53
59	Clock Test (increase in on-prem time)	-	23,131	24,160	25,138
60	Field Parts Replacement Program (increase in on-prem time)	-	639	2,920	4,198
61	Non-Fielded Smart Meter Module Troubleshooting ²	-	-	-	-
62	Miscellaneous Non-Labor Adjustment ⁴	-	-	-	-
63	TOTAL	296,540	344,007	354,062	363,553

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 Supplemental Workpaper 1 (Page 4 of 37)

Line #	Order Types	On-Premises Time (On-Prem) (Hours)				
		CS - Field Operations Order Volume Based Cost Model		C = A x B / 60		
		Calculation Steps ---->>>				
		B				
		BY 2016 On-Prem Per Order (Minutes)	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	6.7	31	34	38	42
2	Change of Account - CA GAS	7.1	102	99	95	92
3	Change of Account - CA GAS AND ELEC	6.7	19	19	19	19
4	Change of Account - GIVE NOTICE	8.1	536	562	594	627
5	Change of Account - RTO	10.9	60	61	62	63
6	Collections - CREDIT SHUT OFF	9.3	237	232	226	220
7	Collections - FIRST CALL	4.6	127	139	153	167
8	Collections - SECOND CALL	8.9	2,194	2,143	2,079	2,014
9	Collections - THIRD CALL	10.4	309	306	303	300
10	CSO - APPLIANCE ADJUSTMENTS	29.1	12,908	13,504	14,273	15,003
11	CSO - APPLIANCE MECHANIC WORK	58.8	522	556	601	644
12	CSO - CARBON MONOXIDE-EMERGENCY	50.4	714	727	744	761
13	CSO - CARBON MONOXIDE-NON EMERGENCY	39.9	856	870	887	904
14	CSO - HIGH PRESSURE	41.3	90	92	95	98
15	CSO - NO GAS	40.2	7,037	7,140	7,273	7,399
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	33.2	5,380	5,477	5,602	5,721
17	CSO - SCHOOL LEAK SURVEYS	97.1	620	650	688	724
18	CSO - SEASONAL OFF	18.4	165	177	192	206
19	CSO - SEASONAL ON MULTIPLES	17.4	2,810	2,878	2,966	3,050
20	CSO - SEASONAL ON SINGLES	26.2	7,901	7,906	7,912	7,917
21	Fumigation - FUMIGATION/BUG FOGGER	33.7	25,044	24,914	24,747	24,588
22	Gas Leak - EMERGENCY B&B INSIDE	36.5	601	635	678	719
23	Gas Leak - EMERGENCY B&B OUTSIDE	84.1	478	461	440	419
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	50.2	631	638	648	657
25	Gas Leak - FIRE & EXPLOSIONS	29.4	4	5	5	5
26	Gas Leak - GAS LEAKS-HAZARD	41.2	17,072	17,619	18,325	18,996
27	Gas Leak - GAS LEAKS-NON HAZARD	33.8	2,169	2,145	2,114	2,084
28	HBI - HBI	46.1	300	310	323	336
29	Meter Work - O & M - ACOR	28.4	13	23	35	46
30	Meter Work - O & M - CURB	29.7	195	205	219	231
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	18.9	43	61	85	107
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	33.9	668	1,497	1,497	1,497

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 Supplemental Workpaper 1 (Page 5 of 37)

Line #	CS - Field Operations Order Volume Based Cost Model	On-Premises Time (On-Prem) (Hours)				
	Calculation Steps ---->>>	B	C = A x B / 60			
	Order Types	BY 2016 On-Prem Per Order (Minutes)	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	65.8	27	61	61	61
34	Meter Work - O & M - MISC COMPANY WORK	7.6	1,129	2,530	2,530	2,530
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	34.8	2,835	6,350	6,350	6,350
36	Nonpay Turn On - CREDIT CUT INS	14.4	825	815	803	791
37	Read/Verify - REREADS	5.2	1,711	1,739	1,774	1,808
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	11.0	2	3	5	6
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	15.3	58	60	62	64
40	TurnOn/ShutOff - GIVE NOTICE CUT	11.6	386	411	443	474
41	TurnOn/ShutOff - SHUT OFF ELEC	9.7	644	656	672	686
42	TurnOn/ShutOff - SHUT OFF GAS	8.2	732	765	808	848
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	14.0	161	159	157	155
44	TurnOn/ShutOff - SHUT OFF IN ERROR	21.9	94	92	90	88
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	7.7	1,896	1,974	2,075	2,171
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	13.8	34	33	32	31
47	TurnOn/ShutOff - TURN ON ELEC	13.9	938	985	1,044	1,101
48	TurnOn/ShutOff - TURN ON G/E	39.9	435	472	519	563
49	TurnOn/ShutOff - TURN ON GAS	36.0	3,410	3,625	3,901	4,164
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	95.4	225	241	261	280
51	Miscellaneous - SMART METER	16.2	1,195	1,252	1,324	1,393
52	Collections - INCOMPLETE	6.0	338	252	251	250
53	CSF - INCOMPLETE	11.9	3,113	3,321	3,418	3,488
54	OPT-OUT READS ¹	3.3	900	906	914	922
55	Underset Regulators - Install Slam Shut Regulator	120.0	-	-	-	734
56	Underset Regulators - Relocate Regulator Outside	90.0	-	-	-	629
57	Underset Regulators - Vent Through Existing Screens	40.0	-	-	-	58
58	Underset Regulators - Incomplete	11.9	-	-	-	11
59	Clock Test (increase in on-prem time)	3.0	-	1,157	1,208	1,257
60	Field Parts Replacement Program (increase in on-prem time)	30.0	-	320	1,460	2,099
61	Non-Fielded Smart Meter Module Troubleshooting ²	-	-	-	-	-
62	Miscellaneous Non-Labor Adjustment ⁴	-	-	-	-	-
63	TOTAL	-	110,924	120,261	124,078	128,668

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CS - Field Operations Order Volume Based Cost Model		Average Drive Time Per Order (Minutes)			
Calculation Steps ---->>>		D = 1% Increase From Previous Year			
Line #	Order Types	BY 2016	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	13.0	13.1	13.3	13.4
2	Change of Account - CA GAS	13.0	13.1	13.3	13.4
3	Change of Account - CA GAS AND ELEC	13.0	13.1	13.3	13.4
4	Change of Account - GIVE NOTICE	13.0	13.1	13.3	13.4
5	Change of Account - RTO	13.0	13.1	13.3	13.4
6	Collections - CREDIT SHUT OFF	13.0	13.1	13.3	13.4
7	Collections - FIRST CALL	9.2	9.3	9.4	9.5
8	Collections - SECOND CALL	9.2	9.3	9.4	9.5
9	Collections - THIRD CALL	9.2	9.3	9.4	9.5
10	CSO - APPLIANCE ADJUSTMENTS	13.0	13.1	13.3	13.4
11	CSO - APPLIANCE MECHANIC WORK	13.0	13.1	13.3	13.4
12	CSO - CARBON MONOXIDE-EMERGENCY	13.0	13.1	13.3	13.4
13	CSO - CARBON MONOXIDE-NON EMERGENCY	13.0	13.1	13.3	13.4
14	CSO - HIGH PRESSURE	13.0	13.1	13.3	13.4
15	CSO - NO GAS	13.0	13.1	13.3	13.4
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	13.0	13.1	13.3	13.4
17	CSO - SCHOOL LEAK SURVEYS	13.0	13.1	13.3	13.4
18	CSO - SEASONAL OFF	13.0	13.1	13.3	13.4
19	CSO - SEASONAL ON MULTIPLES	13.0	13.1	13.3	13.4
20	CSO - SEASONAL ON SINGLES	13.0	13.1	13.3	13.4
21	Fumigation - FUMIGATION/BUG FOGGER	13.0	13.1	13.3	13.4
22	Gas Leak - EMERGENCY B&B INSIDE	13.0	13.1	13.3	13.4
23	Gas Leak - EMERGENCY B&B OUTSIDE	13.0	13.1	13.3	13.4
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	13.0	13.1	13.3	13.4
25	Gas Leak - FIRE & EXPLOSIONS	13.0	13.1	13.3	13.4
26	Gas Leak - GAS LEAKS-HAZARD	13.0	13.1	13.3	13.4
27	Gas Leak - GAS LEAKS-NON HAZARD	13.0	13.1	13.3	13.4
28	HBI - HBI	13.0	13.1	13.3	13.4
29	Meter Work - O & M - ACOR	13.0	13.1	13.3	13.4
30	Meter Work - O & M - CURB	13.0	13.1	13.3	13.4
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	13.0	13.1	13.3	13.4
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	13.0	13.1	13.3	13.4

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CS - Field Operations Order Volume Based Cost Model		Average Drive Time Per Order (Minutes)			
Calculation Steps ---->>>		D = 1% Increase From Previous Year			
Line #	Order Types	BY 2016	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	13.0	13.1	13.3	13.4
34	Meter Work - O & M - MISC COMPANY WORK	13.0	13.1	13.3	13.4
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	13.0	13.1	13.3	13.4
36	Nonpay Turn On - CREDIT CUT INS	13.0	13.1	13.3	13.4
37	Read/Verify - REREADS	13.0	13.1	13.3	13.4
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	13.0	13.1	13.3	13.4
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	13.0	13.1	13.3	13.4
40	TurnOn/ShutOff - GIVE NOTICE CUT	13.0	13.1	13.3	13.4
41	TurnOn/ShutOff - SHUT OFF ELEC	13.0	13.1	13.3	13.4
42	TurnOn/ShutOff - SHUT OFF GAS	13.0	13.1	13.3	13.4
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	13.0	13.1	13.3	13.4
44	TurnOn/ShutOff - SHUT OFF IN ERROR	13.0	13.1	13.3	13.4
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	13.0	13.1	13.3	13.4
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	13.0	13.1	13.3	13.4
47	TurnOn/ShutOff - TURN ON ELEC	13.0	13.1	13.3	13.4
48	TurnOn/ShutOff - TURN ON G/E	13.0	13.1	13.3	13.4
49	TurnOn/ShutOff - TURN ON GAS	13.0	13.1	13.3	13.4
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	13.0	13.1	13.3	13.4
51	Miscellaneous - SMART METER	13.0	13.1	13.3	13.4
52	Collections - INCOMPLETE	9.2	9.3	9.4	9.5
53	CSF - INCOMPLETE	13.0	13.1	13.3	13.4
54	OPT-OUT READS ¹	9.2	9.3	9.4	9.5
55	Underset Regulators - Install Slam Shut Regulator	13.0	13.1	13.3	13.4
56	Underset Regulators - Relocate Regulator Outside	13.0	13.1	13.3	13.4
57	Underset Regulators - Vent Through Existing Screens	13.0	13.1	13.3	13.4
58	Underset Regulators - Incomplete	13.0	13.1	13.3	13.4
59	Clock Test (increase in on-prem time)	-	-	-	-
60	Field Parts Replacement Program (increase in on-prem time)	-	-	-	-
61	Non-Fielded Smart Meter Module Troubleshooting ²	-	-	-	-
62	Miscellaneous Non-Labor Adjustment ⁴	-	-	-	-
63	TOTAL				

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Line #	CS - Field Operations Order Volume Based Cost Model	Drive Time (Hours)			
	Calculation Steps ---->>>	E = A x D / 60			
	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	60	66	75	84
2	Change of Account - CA GAS	186	183	178	173
3	Change of Account - CA GAS AND ELEC	37	38	38	39
4	Change of Account - GIVE NOTICE	857	907	969	1,032
5	Change of Account - RTO	71	73	75	78
6	Collections - CREDIT SHUT OFF	331	328	323	317
7	Collections - FIRST CALL	254	279	311	343
8	Collections - SECOND CALL	2,255	2,225	2,180	2,133
9	Collections - THIRD CALL	273	273	273	272
10	CSO - APPLIANCE ADJUSTMENTS	5,766	6,093	6,503	6,903
11	CSO - APPLIANCE MECHANIC WORK	115	124	136	147
12	CSO - CARBON MONOXIDE-EMERGENCY	184	189	196	202
13	CSO - CARBON MONOXIDE-NON EMERGENCY	279	287	295	304
14	CSO - HIGH PRESSURE	28	29	31	32
15	CSO - NO GAS	2,276	2,332	2,399	2,465
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	2,106	2,165	2,236	2,306
17	CSO - SCHOOL LEAK SURVEYS	83	88	94	100
18	CSO - SEASONAL OFF	117	126	138	149
19	CSO - SEASONAL ON MULTIPLES	2,103	2,176	2,265	2,351
20	CSO - SEASONAL ON SINGLES	3,922	3,964	4,006	4,048
21	Fumigation - FUMIGATION/BUG FOGGER	9,672	9,718	9,748	9,781
22	Gas Leak - EMERGENCY B&B INSIDE	214	228	246	264
23	Gas Leak - EMERGENCY B&B OUTSIDE	74	72	69	67
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	163	167	171	175
25	Gas Leak - FIRE & EXPLOSIONS	2	2	2	2
26	Gas Leak - GAS LEAKS-HAZARD	5,392	5,620	5,903	6,179
27	Gas Leak - GAS LEAKS-NON HAZARD	835	834	830	827
28	HBI - HBI	85	88	93	97
29	Meter Work - O & M - ACOR	6	10	16	22
30	Meter Work - O & M - CURB	85	91	98	104
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	29	42	59	76
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	257	580	586	592

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Line #	CS - Field Operations Order Volume Based Cost Model	Drive Time (Hours)			
	Calculation Steps ---->>>	E = A x D / 60			
	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	5	12	12	12
34	Meter Work - O & M - MISC COMPANY WORK	1,936	4,378	4,422	4,465
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	1,060	2,399	2,422	2,446
36	Nonpay Turn On - CREDIT CUT INS	743	742	737	734
37	Read/Verify - REREADS	4,314	4,427	4,562	4,695
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	2	4	6	7
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	49	51	54	56
40	TurnOn/ShutOff - GIVE NOTICE CUT	432	465	507	548
41	TurnOn/ShutOff - SHUT OFF ELEC	867	892	922	951
42	TurnOn/ShutOff - SHUT OFF GAS	1,161	1,225	1,306	1,385
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	149	149	148	148
44	TurnOn/ShutOff - SHUT OFF IN ERROR	56	55	55	54
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	3,208	3,375	3,583	3,785
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	33	32	31	30
47	TurnOn/ShutOff - TURN ON ELEC	880	932	999	1,063
48	TurnOn/ShutOff - TURN ON G/E	142	155	172	189
49	TurnOn/ShutOff - TURN ON GAS	1,230	1,321	1,435	1,547
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	31	33	36	39
51	Miscellaneous - SMART METER	961	1,016	1,086	1,153
52	Collections - INCOMPLETE	518	391	393	396
53	CSF - INCOMPLETE	3,401	3,664	3,809	3,925
54	OPT-OUT READS ¹	2,542	2,585	2,633	2,681
55	Underset Regulators - Install Slam Shut Regulator	-	-	-	82
56	Underset Regulators - Relocate Regulator Outside	-	-	-	94
57	Underset Regulators - Vent Through Existing Screens	-	-	-	19
58	Underset Regulators - Incomplete	-	-	-	12
59	Clock Test (increase in on-prem time)	-	-	-	-
60	Field Parts Replacement Program (increase in on-prem time)	-	-	-	-
61	Non-Fielded Smart Meter Module Troubleshooting ²	-	-	-	-
62	Miscellaneous Non-Labor Adjustment ⁴	-	-	-	-
63	TOTAL	61,838	67,702	69,872	72,180

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Line #	CS - Field Operations Order Volume Based Cost Model	Productive Time = On-Prem Time + Drive Time (Hours)			
	Calculation Steps ---->>>	F = C + E			
	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	91	101	113	126
2	Change of Account - CA GAS	289	282	273	265
3	Change of Account - CA GAS AND ELEC	56	57	58	59
4	Change of Account - GIVE NOTICE	1,393	1,469	1,563	1,659
5	Change of Account - RTO	131	134	137	140
6	Collections - CREDIT SHUT OFF	568	560	549	537
7	Collections - FIRST CALL	381	418	463	510
8	Collections - SECOND CALL	4,449	4,368	4,259	4,147
9	Collections - THIRD CALL	581	579	576	572
10	CSO - APPLIANCE ADJUSTMENTS	18,674	19,597	20,776	21,906
11	CSO - APPLIANCE MECHANIC WORK	637	681	737	790
12	CSO - CARBON MONOXIDE-EMERGENCY	897	916	940	963
13	CSO - CARBON MONOXIDE-NON EMERGENCY	1,136	1,157	1,183	1,208
14	CSO - HIGH PRESSURE	118	121	126	130
15	CSO - NO GAS	9,313	9,472	9,672	9,863
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	7,486	7,642	7,838	8,026
17	CSO - SCHOOL LEAK SURVEYS	703	737	782	824
18	CSO - SEASONAL OFF	282	303	329	355
19	CSO - SEASONAL ON MULTIPLES	4,913	5,054	5,231	5,401
20	CSO - SEASONAL ON SINGLES	11,824	11,870	11,918	11,966
21	Fumigation - FUMIGATION/BUG FOGGER	34,716	34,632	34,495	34,369
22	Gas Leak - EMERGENCY B&B INSIDE	815	863	924	983
23	Gas Leak - EMERGENCY B&B OUTSIDE	552	533	509	486
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	794	805	819	833
25	Gas Leak - FIRE & EXPLOSIONS	6	7	7	7
26	Gas Leak - GAS LEAKS-HAZARD	22,463	23,239	24,228	25,175
27	Gas Leak - GAS LEAKS-NON HAZARD	3,004	2,979	2,944	2,911
28	HBI - HBI	384	398	416	433
29	Meter Work - O & M - ACOR	19	33	51	68
30	Meter Work - O & M - CURB	280	296	316	336
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	72	104	144	183
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	925	2,077	2,083	2,089

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Line #	CS - Field Operations Order Volume Based Cost Model	Productive Time = On-Prem Time + Drive Time (Hours)			
	Calculation Steps --->>>	F = C + E			
	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	33	74	74	74
34	Meter Work - O & M - MISC COMPANY WORK	3,065	6,908	6,951	6,995
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	3,896	8,748	8,772	8,796
36	Nonpay Turn On - CREDIT CUT INS	1,568	1,557	1,540	1,525
37	Read/Verify - REREADS	6,025	6,166	6,337	6,502
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	4	7	10	14
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	107	111	116	120
40	TurnOn/ShutOff - GIVE NOTICE CUT	818	876	950	1,022
41	TurnOn/ShutOff - SHUT OFF ELEC	1,511	1,548	1,593	1,637
42	TurnOn/ShutOff - SHUT OFF GAS	1,893	1,990	2,114	2,233
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	310	308	305	303
44	TurnOn/ShutOff - SHUT OFF IN ERROR	150	148	145	142
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	5,104	5,349	5,658	5,956
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	67	65	63	61
47	TurnOn/ShutOff - TURN ON ELEC	1,818	1,917	2,043	2,165
48	TurnOn/ShutOff - TURN ON G/E	577	627	691	752
49	TurnOn/ShutOff - TURN ON GAS	4,640	4,945	5,337	5,711
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	256	274	297	320
51	Miscellaneous - SMART METER	2,156	2,268	2,410	2,547
52	Collections - INCOMPLETE	855	643	644	646
53	CSF - INCOMPLETE	6,514	6,985	7,226	7,414
54	OPT-OUT READS ¹	3,442	3,491	3,547	3,603
55	Underset Regulators - Install Slam Shut Regulator	-	-	-	816
56	Underset Regulators - Relocate Regulator Outside	-	-	-	722
57	Underset Regulators - Vent Through Existing Screens	-	-	-	77
58	Underset Regulators - Incomplete	-	-	-	23
59	Clock Test (increase in on-prem time)	-	1,157	1,208	1,257
60	Field Parts Replacement Program (increase in on-prem time)	-	320	1,460	2,099
61	Non-Fielded Smart Meter Module Troubleshooting ²	2,973	2,973	2,973	2,973
62	Miscellaneous Non-Labor Adjustment ⁴	-	-	-	-
63	TOTAL	175,735	190,937	196,923	203,822

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CS - Field Operations Order Volume Based Cost Model		Productive Time + Non Job Time (NJT) (Hours)				
Calculation Steps ---->>>		G	H = F x (1 + G)			
Line #	Order Types	BY 2016 NJT Factor	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	34.75%	122	136	152	169
2	Change of Account - CA GAS	34.75%	389	380	368	356
3	Change of Account - CA GAS AND ELEC	34.75%	75	76	78	79
4	Change of Account - GIVE NOTICE	34.75%	1,877	1,979	2,106	2,236
5	Change of Account - RTO	34.75%	176	180	185	189
6	Collections - CREDIT SHUT OFF	34.75%	766	755	740	724
7	Collections - FIRST CALL	123.78%	853	934	1,037	1,142
8	Collections - SECOND CALL	123.78%	9,956	9,775	9,532	9,280
9	Collections - THIRD CALL	123.78%	1,301	1,296	1,288	1,280
10	CSO - APPLIANCE ADJUSTMENTS	34.75%	25,164	26,407	27,996	29,518
11	CSO - APPLIANCE MECHANIC WORK	34.75%	858	917	993	1,065
12	CSO - CARBON MONOXIDE-EMERGENCY	34.75%	1,209	1,235	1,267	1,298
13	CSO - CARBON MONOXIDE-NON EMERGENCY	34.75%	1,530	1,558	1,594	1,627
14	CSO - HIGH PRESSURE	34.75%	159	163	169	175
15	CSO - NO GAS	34.75%	12,549	12,764	13,032	13,290
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	34.75%	10,087	10,298	10,562	10,816
17	CSO - SCHOOL LEAK SURVEYS	34.75%	947	994	1,053	1,110
18	CSO - SEASONAL OFF	34.75%	380	408	444	478
19	CSO - SEASONAL ON MULTIPLES	34.75%	6,620	6,810	7,048	7,278
20	CSO - SEASONAL ON SINGLES	34.75%	15,932	15,994	16,059	16,123
21	Fumigation - FUMIGATION/BUG FOGGER	34.75%	46,779	46,666	46,482	46,312
22	Gas Leak - EMERGENCY B&B INSIDE	34.75%	1,098	1,163	1,245	1,325
23	Gas Leak - EMERGENCY B&B OUTSIDE	34.75%	743	718	686	655
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	34.75%	1,070	1,085	1,104	1,122
25	Gas Leak - FIRE & EXPLOSIONS	34.75%	9	9	9	10
26	Gas Leak - GAS LEAKS-HAZARD	34.75%	30,269	31,315	32,647	33,923
27	Gas Leak - GAS LEAKS-NON HAZARD	34.75%	4,048	4,014	3,967	3,923
28	HBI - HBI	34.75%	518	537	561	584
29	Meter Work - O & M - ACOR	34.75%	26	45	69	92
30	Meter Work - O & M - CURB	34.75%	377	399	426	453
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	34.75%	97	140	194	247
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	34.75%	1,246	2,799	2,807	2,814

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Line #	CS - Field Operations Order Volume Based Cost Model	Productive Time + Non Job Time (NJT) (Hours)				
	Calculation Steps ---->>>	G	H = F x (1 + G)			
	Order Types		BY 2016 NJT Factor	2016 Estimated	2017 Estimated	2018 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	34.75%	44	99	99	100
34	Meter Work - O & M - MISC COMPANY WORK	34.75%	4,130	9,308	9,367	9,425
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	34.75%	5,249	11,788	11,820	11,852
36	Nonpay Turn On - CREDIT CUT INS	34.75%	2,113	2,098	2,076	2,054
37	Read/Verify - REREADS	34.75%	8,119	8,309	8,538	8,762
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	34.75%	5	9	14	18
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	34.75%	145	150	156	162
40	TurnOn/ShutOff - GIVE NOTICE CUT	34.75%	1,102	1,181	1,281	1,377
41	TurnOn/ShutOff - SHUT OFF ELEC	34.75%	2,036	2,086	2,147	2,206
42	TurnOn/ShutOff - SHUT OFF GAS	34.75%	2,551	2,682	2,848	3,009
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	34.75%	418	415	411	408
44	TurnOn/ShutOff - SHUT OFF IN ERROR	34.75%	202	199	195	191
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	34.75%	6,877	7,207	7,624	8,026
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	34.75%	90	88	85	82
47	TurnOn/ShutOff - TURN ON ELEC	34.75%	2,450	2,583	2,753	2,917
48	TurnOn/ShutOff - TURN ON G/E	34.75%	777	845	931	1,014
49	TurnOn/ShutOff - TURN ON GAS	34.75%	6,252	6,663	7,191	7,696
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	34.75%	344	369	400	431
51	Miscellaneous - SMART METER	34.75%	2,905	3,056	3,248	3,432
52	Collections - INCOMPLETE	123.78%	1,914	1,438	1,442	1,445
53	CSF - INCOMPLETE	34.75%	8,778	9,412	9,737	9,990
54	OPT-OUT READS ¹	123.78%	7,704	7,813	7,937	8,063
55	Underset Regulators - Install Slam Shut Regulator	34.75%	-	-	-	1,099
56	Underset Regulators - Relocate Regulator Outside	34.75%	-	-	-	973
57	Underset Regulators - Vent Through Existing Screens	34.75%	-	-	-	104
58	Underset Regulators - Incomplete	34.75%	-	-	-	30
59	Clock Test (increase in on-prem time)	34.75%	-	1,558	1,628	1,694
60	Field Parts Replacement Program (increase in on-prem time)	34.75%	-	431	1,967	2,828
61	Non-Fielded Smart Meter Module Troubleshooting ²	34.75%	4,007	4,007	4,007	4,007
62	Miscellaneous Non-Labor Adjustment ⁴	34.75%	-	-	-	-
63	TOTAL		245,446	265,743	273,801	283,086

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CS - Field Operations Order Volume Based Cost Model		Adjustment To Exclude Opt Out Cost For 2016 - 2018 (Hours)			
Calculation Steps ---->>>		I = Opt Out hours from "H" for 2016-2018 were removed (applies to Line # 54 only)			
Line #	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	122	136	152	169
2	Change of Account - CA GAS	389	380	368	356
3	Change of Account - CA GAS AND ELEC	75	76	78	79
4	Change of Account - GIVE NOTICE	1,877	1,979	2,106	2,236
5	Change of Account - RTO	176	180	185	189
6	Collections - CREDIT SHUT OFF	766	755	740	724
7	Collections - FIRST CALL	853	934	1,037	1,142
8	Collections - SECOND CALL	9,956	9,775	9,532	9,280
9	Collections - THIRD CALL	1,301	1,296	1,288	1,280
10	CSO - APPLIANCE ADJUSTMENTS	25,164	26,407	27,996	29,518
11	CSO - APPLIANCE MECHANIC WORK	858	917	993	1,065
12	CSO - CARBON MONOXIDE-EMERGENCY	1,209	1,235	1,267	1,298
13	CSO - CARBON MONOXIDE-NON EMERGENCY	1,530	1,558	1,594	1,627
14	CSO - HIGH PRESSURE	159	163	169	175
15	CSO - NO GAS	12,549	12,764	13,032	13,290
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	10,087	10,298	10,562	10,816
17	CSO - SCHOOL LEAK SURVEYS	947	994	1,053	1,110
18	CSO - SEASONAL OFF	380	408	444	478
19	CSO - SEASONAL ON MULTIPLES	6,620	6,810	7,048	7,278
20	CSO - SEASONAL ON SINGLES	15,932	15,994	16,059	16,123
21	Fumigation - FUMIGATION/BUG FOGGER	46,779	46,666	46,482	46,312
22	Gas Leak - EMERGENCY B&B INSIDE	1,098	1,163	1,245	1,325
23	Gas Leak - EMERGENCY B&B OUTSIDE	743	718	686	655
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	1,070	1,085	1,104	1,122
25	Gas Leak - FIRE & EXPLOSIONS	9	9	9	10
26	Gas Leak - GAS LEAKS-HAZARD	30,269	31,315	32,647	33,923
27	Gas Leak - GAS LEAKS-NON HAZARD	4,048	4,014	3,967	3,923
28	HBI - HBI	518	537	561	584
29	Meter Work - O & M - ACOR	26	45	69	92
30	Meter Work - O & M - CURB	377	399	426	453
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	97	140	194	247
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	1,246	2,799	2,807	2,814

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Line #	CS - Field Operations Order Volume Based Cost Model	Adjustment To Exclude Opt Out Cost For 2016 - 2018 (Hours)			
	Calculation Steps --->>>	I = Opt Out hours from "H" for 2016-2018 were removed (applies to Line # 54 only)			
	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	44	99	99	100
34	Meter Work - O & M - MISC COMPANY WORK	4,130	9,308	9,367	9,425
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	5,249	11,788	11,820	11,852
36	Nonpay Turn On - CREDIT CUT INS	2,113	2,098	2,076	2,054
37	Read/Verify - REREADS	8,119	8,309	8,538	8,762
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	5	9	14	18
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	145	150	156	162
40	TurnOn/ShutOff - GIVE NOTICE CUT	1,102	1,181	1,281	1,377
41	TurnOn/ShutOff - SHUT OFF ELEC	2,036	2,086	2,147	2,206
42	TurnOn/ShutOff - SHUT OFF GAS	2,551	2,682	2,848	3,009
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	418	415	411	408
44	TurnOn/ShutOff - SHUT OFF IN ERROR	202	199	195	191
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	6,877	7,207	7,624	8,026
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	90	88	85	82
47	TurnOn/ShutOff - TURN ON ELEC	2,450	2,583	2,753	2,917
48	TurnOn/ShutOff - TURN ON G/E	777	845	931	1,014
49	TurnOn/ShutOff - TURN ON GAS	6,252	6,663	7,191	7,696
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	344	369	400	431
51	Miscellaneous - SMART METER	2,905	3,056	3,248	3,432
52	Collections - INCOMPLETE	1,914	1,438	1,442	1,445
53	CSF - INCOMPLETE	8,778	9,412	9,737	9,990
54	OPT-OUT READS ¹	-	-	-	8,063
55	Underset Regulators - Install Slam Shut Regulator	-	-	-	1,099
56	Underset Regulators - Relocate Regulator Outside	-	-	-	973
57	Underset Regulators - Vent Through Existing Screens	-	-	-	104
58	Underset Regulators - Incomplete	-	-	-	30
59	Clock Test (increase in on-prem time)	-	1,558	1,628	1,694
60	Field Parts Replacement Program (increase in on-prem time)	-	431	1,967	2,828
61	Non-Fielded Smart Meter Module Troubleshooting ²	4,007	4,007	4,007	4,007
62	Miscellaneous Non-Labor Adjustment ⁴	-	-	-	-
63	TOTAL	237,742	257,930	265,864	283,086

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Line #	<u>CS - Field Operations Order Volume Based Cost Model</u>	<u>Productive Time + NJT + Vacation & Sick (V&S) (Hours)</u>				
	Calculation Steps ---->>>	J	K = I x (1 + J)			
	Order Types	BY 2016 V&S Factor	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	18.16%	145	160	179	200
2	Change of Account - CA GAS	18.16%	459	449	435	421
3	Change of Account - CA GAS AND ELEC	18.16%	89	90	92	93
4	Change of Account - GIVE NOTICE	18.16%	2,218	2,338	2,488	2,642
5	Change of Account - RTO	18.16%	208	213	218	224
6	Collections - CREDIT SHUT OFF	18.16%	905	892	874	855
7	Collections - FIRST CALL	18.16%	1,008	1,104	1,225	1,350
8	Collections - SECOND CALL	18.16%	11,764	11,550	11,262	10,965
9	Collections - THIRD CALL	18.16%	1,538	1,532	1,522	1,512
10	CSO - APPLIANCE ADJUSTMENTS	18.16%	29,733	31,203	33,080	34,878
11	CSO - APPLIANCE MECHANIC WORK	18.16%	1,014	1,084	1,173	1,259
12	CSO - CARBON MONOXIDE-EMERGENCY	18.16%	1,429	1,459	1,497	1,533
13	CSO - CARBON MONOXIDE-NON EMERGENCY	18.16%	1,808	1,841	1,883	1,923
14	CSO - HIGH PRESSURE	18.16%	187	193	200	207
15	CSO - NO GAS	18.16%	14,828	15,082	15,399	15,704
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	18.16%	11,919	12,168	12,480	12,780
17	CSO - SCHOOL LEAK SURVEYS	18.16%	1,119	1,174	1,245	1,312
18	CSO - SEASONAL OFF	18.16%	449	482	525	565
19	CSO - SEASONAL ON MULTIPLES	18.16%	7,822	8,047	8,328	8,599
20	CSO - SEASONAL ON SINGLES	18.16%	18,826	18,899	18,976	19,051
21	Fumigation - FUMIGATION/BUG FOGGER	18.16%	55,274	55,141	54,923	54,722
22	Gas Leak - EMERGENCY B&B INSIDE	18.16%	1,297	1,374	1,472	1,565
23	Gas Leak - EMERGENCY B&B OUTSIDE	18.16%	878	849	810	774
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	18.16%	1,264	1,282	1,304	1,326
25	Gas Leak - FIRE & EXPLOSIONS	18.16%	10	10	11	11
26	Gas Leak - GAS LEAKS-HAZARD	18.16%	35,766	37,002	38,576	40,083
27	Gas Leak - GAS LEAKS-NON HAZARD	18.16%	4,783	4,743	4,687	4,635
28	HBI - HBI	18.16%	612	634	662	689
29	Meter Work - O & M - ACOR	18.16%	31	53	81	109
30	Meter Work - O & M - CURB	18.16%	446	471	504	535
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	18.16%	115	165	229	291
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	18.16%	1,473	3,307	3,316	3,325

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Line #	CS - Field Operations Order Volume Based Cost Model	Productive Time + NJT + Vacation & Sick (V&S) (Hours)				
	Calculation Steps ---->>>	J	K = I x (1 + J)			
	Order Types	BY 2016 V&S Factor	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	18.16%	52	117	117	118
34	Meter Work - O & M - MISC COMPANY WORK	18.16%	4,880	10,999	11,068	11,137
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	18.16%	6,202	13,929	13,966	14,004
36	Nonpay Turn On - CREDIT CUT INS	18.16%	2,497	2,479	2,453	2,427
37	Read/Verify - REREADS	18.16%	9,594	9,818	10,089	10,353
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	18.16%	6	11	16	22
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	18.16%	171	177	184	191
40	TurnOn/ShutOff - GIVE NOTICE CUT	18.16%	1,303	1,395	1,513	1,627
41	TurnOn/ShutOff - SHUT OFF ELEC	18.16%	2,406	2,465	2,537	2,607
42	TurnOn/ShutOff - SHUT OFF GAS	18.16%	3,014	3,169	3,366	3,556
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	18.16%	494	491	486	482
44	TurnOn/ShutOff - SHUT OFF IN ERROR	18.16%	239	235	230	225
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	18.16%	8,126	8,516	9,008	9,484
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	18.16%	107	104	100	97
47	TurnOn/ShutOff - TURN ON ELEC	18.16%	2,894	3,052	3,253	3,446
48	TurnOn/ShutOff - TURN ON G/E	18.16%	919	998	1,100	1,198
49	TurnOn/ShutOff - TURN ON GAS	18.16%	7,388	7,874	8,497	9,093
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	18.16%	407	436	473	509
51	Miscellaneous - SMART METER	18.16%	3,433	3,611	3,837	4,055
52	Collections - INCOMPLETE	18.16%	2,262	1,699	1,704	1,708
53	CSF - INCOMPLETE	18.16%	10,372	11,122	11,506	11,804
54	OPT-OUT READS ¹	18.16%	-	-	-	9,527
55	Underset Regulators - Install Slam Shut Regulator	18.16%	-	-	-	1,299
56	Underset Regulators - Relocate Regulator Outside	18.16%	-	-	-	1,150
57	Underset Regulators - Vent Through Existing Screens	18.16%	-	-	-	123
58	Underset Regulators - Incomplete	18.16%	-	-	-	36
59	Clock Test (increase in on-prem time)	18.16%	-	1,841	1,923	2,001
60	Field Parts Replacement Program (increase in on-prem time)	18.16%	-	509	2,325	3,342
61	Non-Fielded Smart Meter Module Troubleshooting ²	18.16%	4,734	4,734	4,734	4,734
62	Miscellaneous Non-Labor Adjustment ⁴	18.16%	-	-	-	-
63	TOTAL		280,916	304,770	314,145	334,494

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CS - Field Operations Order Volume Based Cost Model		Productive Time + NJT + V&S Labor Cost				
Calculation Steps ---->>>		L	M = K x L			
Line #	Order Types	BY 2016 Blended Wage Rate	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	\$ 42.68	\$ 6,171	\$ 6,833	\$ 7,659	\$ 8,533
2	Change of Account - CA GAS	\$ 42.68	\$ 19,604	\$ 19,167	\$ 18,558	\$ 17,977
3	Change of Account - CA GAS AND ELEC	\$ 42.68	\$ 3,786	\$ 3,844	\$ 3,910	\$ 3,978
4	Change of Account - GIVE NOTICE	\$ 42.68	\$ 94,640	\$ 99,789	\$ 106,192	\$ 112,765
5	Change of Account - RTO	\$ 42.68	\$ 8,892	\$ 9,081	\$ 9,310	\$ 9,543
6	Collections - CREDIT SHUT OFF	\$ 42.68	\$ 38,617	\$ 38,064	\$ 37,298	\$ 36,504
7	Collections - FIRST CALL	\$ 30.26	\$ 30,497	\$ 33,414	\$ 37,080	\$ 40,850
8	Collections - SECOND CALL	\$ 30.26	\$ 356,008	\$ 349,550	\$ 340,843	\$ 331,850
9	Collections - THIRD CALL	\$ 30.26	\$ 46,532	\$ 46,351	\$ 46,062	\$ 45,759
10	CSO - APPLIANCE ADJUSTMENTS	\$ 42.68	\$ 1,268,969	\$ 1,331,684	\$ 1,411,783	\$ 1,488,532
11	CSO - APPLIANCE MECHANIC WORK	\$ 42.68	\$ 43,278	\$ 46,250	\$ 50,069	\$ 53,714
12	CSO - CARBON MONOXIDE-EMERGENCY	\$ 42.68	\$ 60,986	\$ 62,269	\$ 63,892	\$ 65,446
13	CSO - CARBON MONOXIDE-NON EMERGENCY	\$ 42.68	\$ 77,177	\$ 78,589	\$ 80,362	\$ 82,063
14	CSO - HIGH PRESSURE	\$ 42.68	\$ 8,000	\$ 8,240	\$ 8,545	\$ 8,837
15	CSO - NO GAS	\$ 42.68	\$ 632,835	\$ 643,657	\$ 657,209	\$ 670,217
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	\$ 42.68	\$ 508,678	\$ 519,294	\$ 532,620	\$ 545,417
17	CSO - SCHOOL LEAK SURVEYS	\$ 42.68	\$ 47,772	\$ 50,114	\$ 53,122	\$ 55,990
18	CSO - SEASONAL OFF	\$ 42.68	\$ 19,174	\$ 20,583	\$ 22,388	\$ 24,121
19	CSO - SEASONAL ON MULTIPLES	\$ 42.68	\$ 333,829	\$ 343,412	\$ 355,428	\$ 367,003
20	CSO - SEASONAL ON SINGLES	\$ 42.68	\$ 803,453	\$ 806,581	\$ 809,845	\$ 813,084
21	Fumigation - FUMIGATION/BUG FOGGER	\$ 42.68	\$ 2,359,007	\$ 2,353,330	\$ 2,344,040	\$ 2,335,457
22	Gas Leak - EMERGENCY B&B INSIDE	\$ 42.68	\$ 55,371	\$ 58,629	\$ 62,805	\$ 66,800
23	Gas Leak - EMERGENCY B&B OUTSIDE	\$ 42.68	\$ 37,483	\$ 36,226	\$ 34,588	\$ 33,030
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	\$ 42.68	\$ 53,950	\$ 54,710	\$ 55,660	\$ 56,572
25	Gas Leak - FIRE & EXPLOSIONS	\$ 42.68	\$ 433	\$ 447	\$ 464	\$ 481
26	Gas Leak - GAS LEAKS-HAZARD	\$ 42.68	\$ 1,526,418	\$ 1,579,173	\$ 1,646,365	\$ 1,710,679
27	Gas Leak - GAS LEAKS-NON HAZARD	\$ 42.68	\$ 204,112	\$ 202,416	\$ 200,052	\$ 197,818
28	HBI - HBI	\$ 42.68	\$ 26,107	\$ 27,056	\$ 28,267	\$ 29,425
29	Meter Work - O & M - ACOR	\$ 42.68	\$ 1,311	\$ 2,254	\$ 3,473	\$ 4,640
30	Meter Work - O & M - CURB	\$ 42.68	\$ 19,035	\$ 20,114	\$ 21,496	\$ 22,820
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	\$ 42.68	\$ 4,911	\$ 7,038	\$ 9,794	\$ 12,434
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	\$ 42.68	\$ 62,847	\$ 141,140	\$ 141,530	\$ 141,921

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CS - Field Operations Order Volume Based Cost Model		Productive Time + NJT + V&S Labor Cost				
Calculation Steps ---->>>		L	M = K x L			
Line #	Order Types	BY 2016 Blended Wage Rate	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	\$ 42.68	\$ 2,230	\$ 5,002	\$ 5,011	\$ 5,019
34	Meter Work - O & M - MISC COMPANY WORK	\$ 42.68	\$ 208,286	\$ 469,415	\$ 472,361	\$ 475,307
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	\$ 42.68	\$ 264,711	\$ 594,452	\$ 596,065	\$ 597,679
36	Nonpay Turn On - CREDIT CUT INS	\$ 42.68	\$ 106,575	\$ 105,812	\$ 104,670	\$ 103,595
37	Read/Verify - REREADS	\$ 42.68	\$ 409,445	\$ 419,002	\$ 430,580	\$ 441,846
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	\$ 42.68	\$ 272	\$ 456	\$ 695	\$ 925
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	\$ 42.68	\$ 7,303	\$ 7,550	\$ 7,861	\$ 8,161
40	TurnOn/ShutOff - GIVE NOTICE CUT	\$ 42.68	\$ 55,596	\$ 59,538	\$ 64,576	\$ 69,425
41	TurnOn/ShutOff - SHUT OFF ELEC	\$ 42.68	\$ 102,684	\$ 105,187	\$ 108,267	\$ 111,251
42	TurnOn/ShutOff - SHUT OFF GAS	\$ 42.68	\$ 128,627	\$ 135,253	\$ 143,646	\$ 151,749
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	\$ 42.68	\$ 21,074	\$ 20,945	\$ 20,746	\$ 20,560
44	TurnOn/ShutOff - SHUT OFF IN ERROR	\$ 42.68	\$ 10,195	\$ 10,037	\$ 9,821	\$ 9,616
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	\$ 42.68	\$ 346,821	\$ 363,448	\$ 384,451	\$ 404,743
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	\$ 42.68	\$ 4,551	\$ 4,439	\$ 4,287	\$ 4,142
47	TurnOn/ShutOff - TURN ON ELEC	\$ 42.68	\$ 123,529	\$ 130,265	\$ 138,839	\$ 147,090
48	TurnOn/ShutOff - TURN ON G/E	\$ 42.68	\$ 39,204	\$ 42,593	\$ 46,950	\$ 51,115
49	TurnOn/ShutOff - TURN ON GAS	\$ 42.68	\$ 315,290	\$ 336,029	\$ 362,632	\$ 388,081
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	\$ 42.68	\$ 17,364	\$ 18,602	\$ 20,195	\$ 21,713
51	Miscellaneous - SMART METER	\$ 42.68	\$ 146,513	\$ 154,106	\$ 163,772	\$ 173,067
52	Collections - INCOMPLETE	\$ 30.26	\$ 68,450	\$ 51,433	\$ 51,560	\$ 51,683
53	CSF - INCOMPLETE	\$ 42.68	\$ 442,646	\$ 474,659	\$ 491,044	\$ 503,794
54	OPT-OUT READS ¹	\$ 30.26	\$ -	\$ -	\$ -	\$ 288,323
55	Underset Regulators - Install Slam Shut Regulator	\$ 42.68	\$ -	\$ -	\$ -	\$ 55,442
56	Underset Regulators - Relocate Regulator Outside	\$ 42.68	\$ -	\$ -	\$ -	\$ 49,062
57	Underset Regulators - Vent Through Existing Screens	\$ 42.68	\$ -	\$ -	\$ -	\$ 5,261
58	Underset Regulators - Incomplete	\$ 42.68	\$ -	\$ -	\$ -	\$ 1,531
59	Clock Test (increase in on-prem time)	\$ 42.68	\$ -	\$ 78,590	\$ 82,087	\$ 85,409
60	Field Parts Replacement Program (increase in on-prem time)	\$ 42.68	\$ -	\$ 21,711	\$ 99,210	\$ 142,632
61	Non-Fielded Smart Meter Module Troubleshooting ²	\$ 42.68	\$ 202,055	\$ 202,055	\$ 202,055	\$ 202,055
62	Miscellaneous Non-Labor Adjustment ⁴	\$ 42.68	\$ -	\$ -	\$ -	\$ -
63	TOTAL		\$ 11,783,304	\$ 12,809,882	\$ 13,212,094	\$ 13,964,535

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CS - Field Operations Order Volume Based Cost Model		Productive Time + NJT + V&S Labor FTE			
Calculation Steps ---->>>		N = K / Annual Paid Hours			
Line #	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	0.1	0.1	0.1	0.1
2	Change of Account - CA GAS	0.2	0.2	0.2	0.2
3	Change of Account - CA GAS AND ELEC	0.0	0.0	0.0	0.0
4	Change of Account - GIVE NOTICE	1.1	1.1	1.2	1.3
5	Change of Account - RTO	0.1	0.1	0.1	0.1
6	Collections - CREDIT SHUT OFF	0.4	0.4	0.4	0.4
7	Collections - FIRST CALL	0.5	0.5	0.6	0.6
8	Collections - SECOND CALL	5.6	5.6	5.4	5.3
9	Collections - THIRD CALL	0.7	0.7	0.7	0.7
10	CSO - APPLIANCE ADJUSTMENTS	14.2	15.0	15.8	16.7
11	CSO - APPLIANCE MECHANIC WORK	0.5	0.5	0.6	0.6
12	CSO - CARBON MONOXIDE-EMERGENCY	0.7	0.7	0.7	0.7
13	CSO - CARBON MONOXIDE-NON EMERGENCY	0.9	0.9	0.9	0.9
14	CSO - HIGH PRESSURE	0.1	0.1	0.1	0.1
15	CSO - NO GAS	7.1	7.3	7.4	7.5
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	5.7	5.8	6.0	6.1
17	CSO - SCHOOL LEAK SURVEYS	0.5	0.6	0.6	0.6
18	CSO - SEASONAL OFF	0.2	0.2	0.3	0.3
19	CSO - SEASONAL ON MULTIPLES	3.7	3.9	4.0	4.1
20	CSO - SEASONAL ON SINGLES	9.0	9.1	9.1	9.1
21	Fumigation - FUMIGATION/BUG FOGGER	26.5	26.5	26.3	26.2
22	Gas Leak - EMERGENCY B&B INSIDE	0.6	0.7	0.7	0.7
23	Gas Leak - EMERGENCY B&B OUTSIDE	0.4	0.4	0.4	0.4
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	0.6	0.6	0.6	0.6
25	Gas Leak - FIRE & EXPLOSIONS	0.0	0.0	0.0	0.0
26	Gas Leak - GAS LEAKS-HAZARD	17.1	17.8	18.5	19.2
27	Gas Leak - GAS LEAKS-NON HAZARD	2.3	2.3	2.2	2.2
28	HBI - HBI	0.3	0.3	0.3	0.3
29	Meter Work - O & M - ACOR	0.0	0.0	0.0	0.1
30	Meter Work - O & M - CURB	0.2	0.2	0.2	0.3
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	0.1	0.1	0.1	0.1
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	0.7	1.6	1.6	1.6

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Line #	CS - Field Operations Order Volume Based Cost Model	Productive Time + NJT + V&S Labor FTE			
	Calculation Steps ---->>>	N = K / Annual Paid Hours			
	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	0.0	0.1	0.1	0.1
34	Meter Work - O & M - MISC COMPANY WORK	2.3	5.3	5.3	5.3
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	3.0	6.7	6.7	6.7
36	Nonpay Turn On - CREDIT CUT INS	1.2	1.2	1.2	1.2
37	Read/Verify - REREADS	4.6	4.7	4.8	5.0
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	0.0	0.0	0.0	0.0
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	0.1	0.1	0.1	0.1
40	TurnOn/ShutOff - GIVE NOTICE CUT	0.6	0.7	0.7	0.8
41	TurnOn/ShutOff - SHUT OFF ELEC	1.2	1.2	1.2	1.2
42	TurnOn/ShutOff - SHUT OFF GAS	1.4	1.5	1.6	1.7
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	0.2	0.2	0.2	0.2
44	TurnOn/ShutOff - SHUT OFF IN ERROR	0.1	0.1	0.1	0.1
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	3.9	4.1	4.3	4.5
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	0.1	0.1	0.0	0.0
47	TurnOn/ShutOff - TURN ON ELEC	1.4	1.5	1.6	1.7
48	TurnOn/ShutOff - TURN ON G/E	0.4	0.5	0.5	0.6
49	TurnOn/ShutOff - TURN ON GAS	3.5	3.8	4.1	4.4
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	0.2	0.2	0.2	0.2
51	Miscellaneous - SMART METER	1.6	1.7	1.8	1.9
52	Collections - INCOMPLETE	1.1	0.8	0.8	0.8
53	CSF - INCOMPLETE	5.0	5.3	5.5	5.7
54	OPT-OUT READS ¹	-	-	-	4.6
55	Underset Regulators - Install Slam Shut Regulator	-	-	-	0.6
56	Underset Regulators - Relocate Regulator Outside	-	-	-	0.6
57	Underset Regulators - Vent Through Existing Screens	-	-	-	0.1
58	Underset Regulators - Incomplete	-	-	-	0.0
59	Clock Test (increase in on-prem time)	-	0.9	0.9	1.0
60	Field Parts Replacement Program (increase in on-prem time)	-	0.2	1.1	1.6
61	Non-Fielded Smart Meter Module Troubleshooting ²	2.3	2.3	2.3	2.3
62	Miscellaneous Non-Labor Adjustment ⁴	-	-	-	-
63	TOTAL	134.5	146.5	150.5	160.2

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CS - Field Operations Order Volume Based Cost Model		Productive Time + NJT + V&S Non-Labor Cost				
Calculation Steps ---->>>		O	P = O x N			
Line #	Order Types	Non Labor Per FTE³	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	\$ 4,491	\$ 311	\$ 346	\$ 386	\$ 430
2	Change of Account - CA GAS	\$ 4,491	\$ 988	\$ 970	\$ 935	\$ 906
3	Change of Account - CA GAS AND ELEC	\$ 4,491	\$ 191	\$ 194	\$ 197	\$ 200
4	Change of Account - GIVE NOTICE	\$ 4,491	\$ 4,770	\$ 5,049	\$ 5,352	\$ 5,683
5	Change of Account - RTO	\$ 4,491	\$ 448	\$ 459	\$ 469	\$ 481
6	Collections - CREDIT SHUT OFF	\$ 4,491	\$ 1,946	\$ 1,926	\$ 1,880	\$ 1,840
7	Collections - FIRST CALL	\$ 4,491	\$ 2,168	\$ 2,384	\$ 2,635	\$ 2,903
8	Collections - SECOND CALL	\$ 4,491	\$ 25,303	\$ 24,940	\$ 24,226	\$ 23,586
9	Collections - THIRD CALL	\$ 4,491	\$ 3,307	\$ 3,307	\$ 3,274	\$ 3,252
10	CSO - APPLIANCE ADJUSTMENTS	\$ 4,491	\$ 63,956	\$ 67,375	\$ 71,154	\$ 75,022
11	CSO - APPLIANCE MECHANIC WORK	\$ 4,491	\$ 2,181	\$ 2,340	\$ 2,523	\$ 2,707
12	CSO - CARBON MONOXIDE-EMERGENCY	\$ 4,491	\$ 3,074	\$ 3,150	\$ 3,220	\$ 3,298
13	CSO - CARBON MONOXIDE-NON EMERGENCY	\$ 4,491	\$ 3,890	\$ 3,976	\$ 4,050	\$ 4,136
14	CSO - HIGH PRESSURE	\$ 4,491	\$ 403	\$ 417	\$ 431	\$ 445
15	CSO - NO GAS	\$ 4,491	\$ 31,895	\$ 32,565	\$ 33,124	\$ 33,779
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	\$ 4,491	\$ 25,638	\$ 26,273	\$ 26,844	\$ 27,489
17	CSO - SCHOOL LEAK SURVEYS	\$ 4,491	\$ 2,408	\$ 2,535	\$ 2,677	\$ 2,822
18	CSO - SEASONAL OFF	\$ 4,491	\$ 966	\$ 1,041	\$ 1,128	\$ 1,216
19	CSO - SEASONAL ON MULTIPLES	\$ 4,491	\$ 16,825	\$ 17,375	\$ 17,914	\$ 18,497
20	CSO - SEASONAL ON SINGLES	\$ 4,491	\$ 40,494	\$ 40,808	\$ 40,816	\$ 40,980
21	Fumigation - FUMIGATION/BUG FOGGER	\$ 4,491	\$ 118,895	\$ 119,065	\$ 118,140	\$ 117,708
22	Gas Leak - EMERGENCY B&B INSIDE	\$ 4,491	\$ 2,791	\$ 2,966	\$ 3,165	\$ 3,367
23	Gas Leak - EMERGENCY B&B OUTSIDE	\$ 4,491	\$ 1,889	\$ 1,833	\$ 1,743	\$ 1,665
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	\$ 4,491	\$ 2,719	\$ 2,768	\$ 2,805	\$ 2,851
25	Gas Leak - FIRE & EXPLOSIONS	\$ 4,491	\$ 22	\$ 23	\$ 23	\$ 24
26	Gas Leak - GAS LEAKS-HAZARD	\$ 4,491	\$ 76,932	\$ 79,897	\$ 82,977	\$ 86,219
27	Gas Leak - GAS LEAKS-NON HAZARD	\$ 4,491	\$ 10,287	\$ 10,241	\$ 10,083	\$ 9,970
28	HBI - HBI	\$ 4,491	\$ 1,316	\$ 1,369	\$ 1,425	\$ 1,483
29	Meter Work - O & M - ACOR	\$ 4,491	\$ 66	\$ 114	\$ 175	\$ 234
30	Meter Work - O & M - CURB	\$ 4,491	\$ 959	\$ 1,018	\$ 1,083	\$ 1,150
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	\$ 4,491	\$ 247	\$ 356	\$ 494	\$ 627
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	\$ 4,491	\$ 3,167	\$ 7,141	\$ 7,133	\$ 7,153

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Line #	CS - Field Operations Order Volume Based Cost Model	Productive Time + NJT + V&S Non-Labor Cost				
	Calculation Steps ---->>>	O	P = O x N			
	Order Types	Non Labor Per FTE ³	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	\$ 4,491	\$ 112	\$ 253	\$ 253	\$ 253
34	Meter Work - O & M - MISC COMPANY WORK	\$ 4,491	\$ 10,498	\$ 23,750	\$ 23,807	\$ 23,956
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	\$ 4,491	\$ 13,342	\$ 30,076	\$ 30,042	\$ 30,123
36	Nonpay Turn On - CREDIT CUT INS	\$ 4,491	\$ 5,371	\$ 5,353	\$ 5,275	\$ 5,221
37	Read/Verify - REREADS	\$ 4,491	\$ 20,636	\$ 21,199	\$ 21,701	\$ 22,269
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	\$ 4,491	\$ 14	\$ 23	\$ 35	\$ 47
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	\$ 4,491	\$ 368	\$ 382	\$ 396	\$ 411
40	TurnOn/ShutOff - GIVE NOTICE CUT	\$ 4,491	\$ 2,802	\$ 3,012	\$ 3,255	\$ 3,499
41	TurnOn/ShutOff - SHUT OFF ELEC	\$ 4,491	\$ 5,175	\$ 5,322	\$ 5,457	\$ 5,607
42	TurnOn/ShutOff - SHUT OFF GAS	\$ 4,491	\$ 6,483	\$ 6,843	\$ 7,240	\$ 7,648
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	\$ 4,491	\$ 1,062	\$ 1,060	\$ 1,046	\$ 1,036
44	TurnOn/ShutOff - SHUT OFF IN ERROR	\$ 4,491	\$ 514	\$ 508	\$ 495	\$ 485
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	\$ 4,491	\$ 17,480	\$ 18,388	\$ 19,376	\$ 20,399
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	\$ 4,491	\$ 229	\$ 225	\$ 216	\$ 209
47	TurnOn/ShutOff - TURN ON ELEC	\$ 4,491	\$ 6,226	\$ 6,591	\$ 6,998	\$ 7,413
48	TurnOn/ShutOff - TURN ON G/E	\$ 4,491	\$ 1,976	\$ 2,155	\$ 2,366	\$ 2,576
49	TurnOn/ShutOff - TURN ON GAS	\$ 4,491	\$ 15,891	\$ 17,001	\$ 18,277	\$ 19,559
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	\$ 4,491	\$ 875	\$ 941	\$ 1,018	\$ 1,094
51	Miscellaneous - SMART METER	\$ 4,491	\$ 7,384	\$ 7,797	\$ 8,254	\$ 8,723
52	Collections - INCOMPLETE	\$ 4,491	\$ 4,865	\$ 3,670	\$ 3,665	\$ 3,673
53	CSF - INCOMPLETE	\$ 4,491	\$ 22,309	\$ 24,015	\$ 24,749	\$ 25,391
54	OPT-OUT READS ¹	\$ 4,491	\$ -	\$ -	\$ -	\$ 20,493
55	Underset Regulators - Install Slam Shut Regulator	\$ 4,491	\$ -	\$ -	\$ -	\$ 2,794
56	Underset Regulators - Relocate Regulator Outside	\$ 4,491	\$ -	\$ -	\$ -	\$ 2,473
57	Underset Regulators - Vent Through Existing Screens	\$ 4,491	\$ -	\$ -	\$ -	\$ 265
58	Underset Regulators - Incomplete	\$ 4,491	\$ -	\$ -	\$ -	\$ 77
59	Clock Test (increase in on-prem time)	\$ 4,491	\$ -	\$ 3,976	\$ 4,137	\$ 4,305
60	Field Parts Replacement Program (increase in on-prem time)	\$ 4,491	\$ -	\$ 1,098	\$ 5,000	\$ 7,189
61	Non-Fielded Smart Meter Module Troubleshooting ²	\$ 4,491	\$ 10,184	\$ 10,223	\$ 10,184	\$ 10,184
62	Miscellaneous Non-Labor Adjustment ⁴	\$ 4,491	\$ -	\$ -	\$ -	\$ -
63	TOTAL		\$ 604,250	\$ 658,083	\$ 675,725	\$ 719,498

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CS - Field Operations Order Volume Based Cost Model		Training Labor FTE				
Calculation Steps ---->>>		Q	R = N x Q			
Line #	Order Types	Training Factor ⁵	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	8.18%	0.0	0.0	0.0	0.0
2	Change of Account - CA GAS	8.18%	0.0	0.0	0.0	0.0
3	Change of Account - CA GAS AND ELEC	8.18%	0.0	0.0	0.0	0.0
4	Change of Account - GIVE NOTICE	8.18%	0.1	0.1	0.1	0.1
5	Change of Account - RTO	8.18%	0.0	0.0	0.0	0.0
6	Collections - CREDIT SHUT OFF	8.18%	0.0	0.0	0.0	0.0
7	Collections - FIRST CALL	8.18%	0.0	0.0	0.0	0.1
8	Collections - SECOND CALL	8.18%	0.5	0.5	0.4	0.4
9	Collections - THIRD CALL	8.18%	0.1	0.1	0.1	0.1
10	CSO - APPLIANCE ADJUSTMENTS	8.18%	1.2	1.2	1.3	1.4
11	CSO - APPLIANCE MECHANIC WORK	8.18%	0.0	0.0	0.0	0.0
12	CSO - CARBON MONOXIDE-EMERGENCY	8.18%	0.1	0.1	0.1	0.1
13	CSO - CARBON MONOXIDE-NON EMERGENCY	8.18%	0.1	0.1	0.1	0.1
14	CSO - HIGH PRESSURE	8.18%	0.0	0.0	0.0	0.0
15	CSO - NO GAS	8.18%	0.6	0.6	0.6	0.6
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	8.18%	0.5	0.5	0.5	0.5
17	CSO - SCHOOL LEAK SURVEYS	8.18%	0.0	0.0	0.0	0.1
18	CSO - SEASONAL OFF	8.18%	0.0	0.0	0.0	0.0
19	CSO - SEASONAL ON MULTIPLES	8.18%	0.3	0.3	0.3	0.3
20	CSO - SEASONAL ON SINGLES	8.18%	0.7	0.7	0.7	0.7
21	Fumigation - FUMIGATION/BUG FOGGER	8.18%	2.2	2.2	2.2	2.1
22	Gas Leak - EMERGENCY B&B INSIDE	8.18%	0.1	0.1	0.1	0.1
23	Gas Leak - EMERGENCY B&B OUTSIDE	8.18%	0.0	0.0	0.0	0.0
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	8.18%	0.0	0.1	0.1	0.1
25	Gas Leak - FIRE & EXPLOSIONS	8.18%	0.0	0.0	0.0	0.0
26	Gas Leak - GAS LEAKS-HAZARD	8.18%	1.4	1.5	1.5	1.6
27	Gas Leak - GAS LEAKS-NON HAZARD	8.18%	0.2	0.2	0.2	0.2
28	HBI - HBI	8.18%	0.0	0.0	0.0	0.0
29	Meter Work - O & M - ACOR	8.18%	0.0	0.0	0.0	0.0
30	Meter Work - O & M - CURB	8.18%	0.0	0.0	0.0	0.0
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	8.18%	0.0	0.0	0.0	0.0
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	8.18%	0.1	0.1	0.1	0.1

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Line #	CS - Field Operations Order Volume Based Cost Model	Training Labor FTE				
	Calculation Steps ---->>>	Q	R = N x Q			
	Order Types	Training Factor ⁵	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	8.18%	0.0	0.0	0.0	0.0
34	Meter Work - O & M - MISC COMPANY WORK	8.18%	0.2	0.4	0.4	0.4
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	8.18%	0.2	0.5	0.5	0.5
36	Nonpay Turn On - CREDIT CUT INS	8.18%	0.1	0.1	0.1	0.1
37	Read/Verify - REREADS	8.18%	0.4	0.4	0.4	0.4
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	8.18%	0.0	0.0	0.0	0.0
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	8.18%	0.0	0.0	0.0	0.0
40	TurnOn/ShutOff - GIVE NOTICE CUT	8.18%	0.1	0.1	0.1	0.1
41	TurnOn/ShutOff - SHUT OFF ELEC	8.18%	0.1	0.1	0.1	0.1
42	TurnOn/ShutOff - SHUT OFF GAS	8.18%	0.1	0.1	0.1	0.1
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	8.18%	0.0	0.0	0.0	0.0
44	TurnOn/ShutOff - SHUT OFF IN ERROR	8.18%	0.0	0.0	0.0	0.0
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	8.18%	0.3	0.3	0.4	0.4
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	8.18%	0.0	0.0	0.0	0.0
47	TurnOn/ShutOff - TURN ON ELEC	8.18%	0.1	0.1	0.1	0.1
48	TurnOn/ShutOff - TURN ON G/E	8.18%	0.0	0.0	0.0	0.0
49	TurnOn/ShutOff - TURN ON GAS	8.18%	0.3	0.3	0.3	0.4
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	8.18%	0.0	0.0	0.0	0.0
51	Miscellaneous - SMART METER	8.18%	0.1	0.1	0.2	0.2
52	Collections - INCOMPLETE	8.18%	0.1	0.1	0.1	0.1
53	CSF - INCOMPLETE	8.18%	0.4	0.4	0.5	0.5
54	OPT-OUT READS ¹	8.18%	-	-	-	0.4
55	Underset Regulators - Install Slam Shut Regulator	8.18%	-	-	-	0.1
56	Underset Regulators - Relocate Regulator Outside	8.18%	-	-	-	0.0
57	Underset Regulators - Vent Through Existing Screens	8.18%	-	-	-	0.0
58	Underset Regulators - Incomplete	8.18%	-	-	-	0.0
59	Clock Test (increase in on-prem time)	8.18%	-	0.1	0.1	0.1
60	Field Parts Replacement Program (increase in on-prem time)	8.18%	-	0.0	0.1	0.1
61	Non-Fielded Smart Meter Module Troubleshooting ²	8.18%	0.2	0.2	0.2	0.2
62	Miscellaneous Non-Labor Adjustment ⁴	8.18%	-	-	-	-
63	TOTAL		11.0	12.0	12.3	13.1

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Line #	<u>CS - Field Operations Order Volume Based Cost Model</u>	Training Labor Cost				
	Calculation Steps ---->>>	S	T = R x S x Annual Paid Hours			
	Order Types	By 2016 Training Wage Rate	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	\$ 38.44	\$ 454	\$ 503	\$ 564	\$ 628
2	Change of Account - CA GAS	\$ 38.44	\$ 1,444	\$ 1,411	\$ 1,367	\$ 1,324
3	Change of Account - CA GAS AND ELEC	\$ 38.44	\$ 279	\$ 283	\$ 288	\$ 293
4	Change of Account - GIVE NOTICE	\$ 38.44	\$ 6,969	\$ 7,348	\$ 7,820	\$ 8,304
5	Change of Account - RTO	\$ 38.44	\$ 655	\$ 669	\$ 686	\$ 703
6	Collections - CREDIT SHUT OFF	\$ 38.44	\$ 2,844	\$ 2,803	\$ 2,747	\$ 2,688
7	Collections - FIRST CALL	\$ 38.44	\$ 3,167	\$ 3,470	\$ 3,851	\$ 4,242
8	Collections - SECOND CALL	\$ 38.44	\$ 36,970	\$ 36,299	\$ 35,395	\$ 34,461
9	Collections - THIRD CALL	\$ 38.44	\$ 4,832	\$ 4,813	\$ 4,783	\$ 4,752
10	CSO - APPLIANCE ADJUSTMENTS	\$ 38.44	\$ 93,445	\$ 98,063	\$ 103,961	\$ 109,613
11	CSO - APPLIANCE MECHANIC WORK	\$ 38.44	\$ 3,187	\$ 3,406	\$ 3,687	\$ 3,955
12	CSO - CARBON MONOXIDE-EMERGENCY	\$ 38.44	\$ 4,491	\$ 4,585	\$ 4,705	\$ 4,819
13	CSO - CARBON MONOXIDE-NON EMERGENCY	\$ 38.44	\$ 5,683	\$ 5,787	\$ 5,918	\$ 6,043
14	CSO - HIGH PRESSURE	\$ 38.44	\$ 589	\$ 607	\$ 629	\$ 651
15	CSO - NO GAS	\$ 38.44	\$ 46,601	\$ 47,398	\$ 48,396	\$ 49,354
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	\$ 38.44	\$ 37,458	\$ 38,240	\$ 39,221	\$ 40,164
17	CSO - SCHOOL LEAK SURVEYS	\$ 38.44	\$ 3,518	\$ 3,690	\$ 3,912	\$ 4,123
18	CSO - SEASONAL OFF	\$ 38.44	\$ 1,412	\$ 1,516	\$ 1,649	\$ 1,776
19	CSO - SEASONAL ON MULTIPLES	\$ 38.44	\$ 24,583	\$ 25,288	\$ 26,173	\$ 27,025
20	CSO - SEASONAL ON SINGLES	\$ 38.44	\$ 59,165	\$ 59,395	\$ 59,636	\$ 59,874
21	Fumigation - FUMIGATION/BUG FOGGER	\$ 38.44	\$ 173,713	\$ 173,295	\$ 172,611	\$ 171,979
22	Gas Leak - EMERGENCY B&B INSIDE	\$ 38.44	\$ 4,077	\$ 4,317	\$ 4,625	\$ 4,919
23	Gas Leak - EMERGENCY B&B OUTSIDE	\$ 38.44	\$ 2,760	\$ 2,668	\$ 2,547	\$ 2,432
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	\$ 38.44	\$ 3,973	\$ 4,029	\$ 4,099	\$ 4,166
25	Gas Leak - FIRE & EXPLOSIONS	\$ 38.44	\$ 32	\$ 33	\$ 34	\$ 35
26	Gas Leak - GAS LEAKS-HAZARD	\$ 38.44	\$ 112,403	\$ 116,288	\$ 121,235	\$ 125,971
27	Gas Leak - GAS LEAKS-NON HAZARD	\$ 38.44	\$ 15,030	\$ 14,906	\$ 14,731	\$ 14,567
28	HBI - HBI	\$ 38.44	\$ 1,922	\$ 1,992	\$ 2,082	\$ 2,167
29	Meter Work - O & M - ACOR	\$ 38.44	\$ 97	\$ 166	\$ 256	\$ 342
30	Meter Work - O & M - CURB	\$ 38.44	\$ 1,402	\$ 1,481	\$ 1,583	\$ 1,680
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	\$ 38.44	\$ 362	\$ 518	\$ 721	\$ 916
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	\$ 38.44	\$ 4,628	\$ 10,393	\$ 10,422	\$ 10,451

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Line #	CS - Field Operations Order Volume Based Cost Model	Training Labor Cost				
	Calculation Steps ---->>>	S	T = R x S x Annual Paid Hours			
	Order Types		By 2016 Training Wage Rate	2016 Estimated	2017 Estimated	2018 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	\$ 38.44	\$ 164	\$ 368	\$ 369	\$ 370
34	Meter Work - O & M - MISC COMPANY WORK	\$ 38.44	\$ 15,338	\$ 34,567	\$ 34,784	\$ 35,001
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	\$ 38.44	\$ 19,493	\$ 43,774	\$ 43,893	\$ 44,012
36	Nonpay Turn On - CREDIT CUT INS	\$ 38.44	\$ 7,848	\$ 7,792	\$ 7,708	\$ 7,629
37	Read/Verify - REREADS	\$ 38.44	\$ 30,151	\$ 30,855	\$ 31,707	\$ 32,537
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	\$ 38.44	\$ 20	\$ 34	\$ 51	\$ 68
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	\$ 38.44	\$ 538	\$ 556	\$ 579	\$ 601
40	TurnOn/ShutOff - GIVE NOTICE CUT	\$ 38.44	\$ 4,094	\$ 4,384	\$ 4,755	\$ 5,112
41	TurnOn/ShutOff - SHUT OFF ELEC	\$ 38.44	\$ 7,561	\$ 7,746	\$ 7,973	\$ 8,192
42	TurnOn/ShutOff - SHUT OFF GAS	\$ 38.44	\$ 9,472	\$ 9,960	\$ 10,578	\$ 11,175
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	\$ 38.44	\$ 1,552	\$ 1,542	\$ 1,528	\$ 1,514
44	TurnOn/ShutOff - SHUT OFF IN ERROR	\$ 38.44	\$ 751	\$ 739	\$ 723	\$ 708
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	\$ 38.44	\$ 25,539	\$ 26,764	\$ 28,310	\$ 29,805
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	\$ 38.44	\$ 335	\$ 327	\$ 316	\$ 305
47	TurnOn/ShutOff - TURN ON ELEC	\$ 38.44	\$ 9,096	\$ 9,592	\$ 10,224	\$ 10,831
48	TurnOn/ShutOff - TURN ON G/E	\$ 38.44	\$ 2,887	\$ 3,136	\$ 3,457	\$ 3,764
49	TurnOn/ShutOff - TURN ON GAS	\$ 38.44	\$ 23,217	\$ 24,745	\$ 26,704	\$ 28,578
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	\$ 38.44	\$ 1,279	\$ 1,370	\$ 1,487	\$ 1,599
51	Miscellaneous - SMART METER	\$ 38.44	\$ 10,789	\$ 11,348	\$ 12,060	\$ 12,744
52	Collections - INCOMPLETE	\$ 38.44	\$ 7,108	\$ 5,341	\$ 5,354	\$ 5,367
53	CSF - INCOMPLETE	\$ 38.44	\$ 32,596	\$ 34,953	\$ 36,160	\$ 37,099
54	OPT-OUT READS ¹	\$ 38.44	\$ -	\$ -	\$ -	\$ 29,941
55	Underset Regulators - Install Slam Shut Regulator	\$ 38.44	\$ -	\$ -	\$ -	\$ 4,083
56	Underset Regulators - Relocate Regulator Outside	\$ 38.44	\$ -	\$ -	\$ -	\$ 3,613
57	Underset Regulators - Vent Through Existing Screens	\$ 38.44	\$ -	\$ -	\$ -	\$ 387
58	Underset Regulators - Incomplete	\$ 38.44	\$ -	\$ -	\$ -	\$ 113
59	Clock Test (increase in on-prem time)	\$ 38.44	\$ -	\$ 5,787	\$ 6,045	\$ 6,289
60	Field Parts Replacement Program (increase in on-prem time)	\$ 38.44	\$ -	\$ 1,599	\$ 7,306	\$ 10,503
61	Non-Fielded Smart Meter Module Troubleshooting ²	\$ 38.44	\$ 14,879	\$ 14,879	\$ 14,879	\$ 14,879
62	Miscellaneous Non-Labor Adjustment ⁴	\$ 38.44	\$ -	\$ -	\$ -	\$ -
63	TOTAL		\$ 882,850	\$ 957,819	\$ 987,280	\$ 1,051,235

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Line #	CS - Field Operations Order Volume Based Cost Model	Training Non-Labor Cost				
	Calculation Steps ---->>>	U	V = U x R			
	Order Types	Non Labor Per FTE ³	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	\$ 4,491	\$ 25	\$ 28	\$ 32	\$ 35
2	Change of Account - CA GAS	\$ 4,491	\$ 81	\$ 79	\$ 76	\$ 74
3	Change of Account - CA GAS AND ELEC	\$ 4,491	\$ 16	\$ 16	\$ 16	\$ 16
4	Change of Account - GIVE NOTICE	\$ 4,491	\$ 390	\$ 413	\$ 438	\$ 465
5	Change of Account - RTO	\$ 4,491	\$ 37	\$ 38	\$ 38	\$ 39
6	Collections - CREDIT SHUT OFF	\$ 4,491	\$ 159	\$ 157	\$ 154	\$ 150
7	Collections - FIRST CALL	\$ 4,491	\$ 177	\$ 195	\$ 215	\$ 237
8	Collections - SECOND CALL	\$ 4,491	\$ 2,069	\$ 2,039	\$ 1,981	\$ 1,929
9	Collections - THIRD CALL	\$ 4,491	\$ 270	\$ 270	\$ 268	\$ 266
10	CSO - APPLIANCE ADJUSTMENTS	\$ 4,491	\$ 5,229	\$ 5,509	\$ 5,818	\$ 6,134
11	CSO - APPLIANCE MECHANIC WORK	\$ 4,491	\$ 178	\$ 191	\$ 206	\$ 221
12	CSO - CARBON MONOXIDE-EMERGENCY	\$ 4,491	\$ 251	\$ 258	\$ 263	\$ 270
13	CSO - CARBON MONOXIDE-NON EMERGENCY	\$ 4,491	\$ 318	\$ 325	\$ 331	\$ 338
14	CSO - HIGH PRESSURE	\$ 4,491	\$ 33	\$ 34	\$ 35	\$ 36
15	CSO - NO GAS	\$ 4,491	\$ 2,608	\$ 2,663	\$ 2,708	\$ 2,762
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	\$ 4,491	\$ 2,096	\$ 2,148	\$ 2,195	\$ 2,248
17	CSO - SCHOOL LEAK SURVEYS	\$ 4,491	\$ 197	\$ 207	\$ 219	\$ 231
18	CSO - SEASONAL OFF	\$ 4,491	\$ 79	\$ 85	\$ 92	\$ 99
19	CSO - SEASONAL ON MULTIPLES	\$ 4,491	\$ 1,376	\$ 1,421	\$ 1,465	\$ 1,512
20	CSO - SEASONAL ON SINGLES	\$ 4,491	\$ 3,311	\$ 3,337	\$ 3,337	\$ 3,351
21	Fumigation - FUMIGATION/BUG FOGGER	\$ 4,491	\$ 9,721	\$ 9,735	\$ 9,660	\$ 9,624
22	Gas Leak - EMERGENCY B&B INSIDE	\$ 4,491	\$ 228	\$ 243	\$ 259	\$ 275
23	Gas Leak - EMERGENCY B&B OUTSIDE	\$ 4,491	\$ 154	\$ 150	\$ 143	\$ 136
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	\$ 4,491	\$ 222	\$ 226	\$ 229	\$ 233
25	Gas Leak - FIRE & EXPLOSIONS	\$ 4,491	\$ 2	\$ 2	\$ 2	\$ 2
26	Gas Leak - GAS LEAKS-HAZARD	\$ 4,491	\$ 6,290	\$ 6,533	\$ 6,785	\$ 7,050
27	Gas Leak - GAS LEAKS-NON HAZARD	\$ 4,491	\$ 841	\$ 837	\$ 824	\$ 815
28	HBI - HBI	\$ 4,491	\$ 108	\$ 112	\$ 116	\$ 121
29	Meter Work - O & M - ACOR	\$ 4,491	\$ 5	\$ 9	\$ 14	\$ 19
30	Meter Work - O & M - CURB	\$ 4,491	\$ 78	\$ 83	\$ 89	\$ 94
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	\$ 4,491	\$ 20	\$ 29	\$ 40	\$ 51
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	\$ 4,491	\$ 259	\$ 584	\$ 583	\$ 585

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Line #	CS - Field Operations Order Volume Based Cost Model	Training Non-Labor Cost				
	Calculation Steps ---->>>	U	V = U x R			
	Order Types	Non Labor Per FTE ³	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	\$ 4,491	\$ 9	\$ 21	\$ 21	\$ 21
34	Meter Work - O & M - MISC COMPANY WORK	\$ 4,491	\$ 858	\$ 1,942	\$ 1,947	\$ 1,959
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	\$ 4,491	\$ 1,091	\$ 2,459	\$ 2,456	\$ 2,463
36	Nonpay Turn On - CREDIT CUT INS	\$ 4,491	\$ 439	\$ 438	\$ 431	\$ 427
37	Read/Verify - REREADS	\$ 4,491	\$ 1,687	\$ 1,733	\$ 1,774	\$ 1,821
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	\$ 4,491	\$ 1	\$ 2	\$ 3	\$ 4
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	\$ 4,491	\$ 30	\$ 31	\$ 32	\$ 34
40	TurnOn/ShutOff - GIVE NOTICE CUT	\$ 4,491	\$ 229	\$ 246	\$ 266	\$ 286
41	TurnOn/ShutOff - SHUT OFF ELEC	\$ 4,491	\$ 423	\$ 435	\$ 446	\$ 458
42	TurnOn/ShutOff - SHUT OFF GAS	\$ 4,491	\$ 530	\$ 560	\$ 592	\$ 625
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	\$ 4,491	\$ 87	\$ 87	\$ 85	\$ 85
44	TurnOn/ShutOff - SHUT OFF IN ERROR	\$ 4,491	\$ 42	\$ 42	\$ 40	\$ 40
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	\$ 4,491	\$ 1,429	\$ 1,504	\$ 1,584	\$ 1,668
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	\$ 4,491	\$ 19	\$ 18	\$ 18	\$ 17
47	TurnOn/ShutOff - TURN ON ELEC	\$ 4,491	\$ 509	\$ 539	\$ 572	\$ 606
48	TurnOn/ShutOff - TURN ON G/E	\$ 4,491	\$ 162	\$ 176	\$ 193	\$ 211
49	TurnOn/ShutOff - TURN ON GAS	\$ 4,491	\$ 1,299	\$ 1,390	\$ 1,494	\$ 1,599
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	\$ 4,491	\$ 72	\$ 77	\$ 83	\$ 89
51	Miscellaneous - SMART METER	\$ 4,491	\$ 604	\$ 638	\$ 675	\$ 713
52	Collections - INCOMPLETE	\$ 4,491	\$ 398	\$ 300	\$ 300	\$ 300
53	CSF - INCOMPLETE	\$ 4,491	\$ 1,824	\$ 1,964	\$ 2,024	\$ 2,076
54	OPT-OUT READS ¹	\$ 4,491	\$ -	\$ -	\$ -	\$ 1,676
55	Underset Regulators - Install Slam Shut Regulator	\$ 4,491	\$ -	\$ -	\$ -	\$ 228
56	Underset Regulators - Relocate Regulator Outside	\$ 4,491	\$ -	\$ -	\$ -	\$ 202
57	Underset Regulators - Vent Through Existing Screens	\$ 4,491	\$ -	\$ -	\$ -	\$ 22
58	Underset Regulators - Incomplete	\$ 4,491	\$ -	\$ -	\$ -	\$ 6
59	Clock Test (increase in on-prem time)	\$ 4,491	\$ -	\$ 325	\$ 338	\$ 352
60	Field Parts Replacement Program (increase in on-prem time)	\$ 4,491	\$ -	\$ 90	\$ 409	\$ 588
61	Non-Fielded Smart Meter Module Troubleshooting ²	\$ 4,491	\$ 833	\$ 836	\$ 833	\$ 833
62	Miscellaneous Non-Labor Adjustment ⁴	\$ 4,491	\$ -	\$ -	\$ -	\$ -
63	TOTAL		\$ 49,407	\$ 53,808	\$ 55,251	\$ 58,830

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CS - Field Operations Order Volume Based Cost Model		Total Labor Cost			
Calculation Steps ---->>>		W = M + T			
Line #	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	\$ 6,626	\$ 7,337	\$ 8,223	\$ 9,162
2	Change of Account - CA GAS	\$ 21,048	\$ 20,578	\$ 19,925	\$ 19,301
3	Change of Account - CA GAS AND ELEC	\$ 4,065	\$ 4,127	\$ 4,198	\$ 4,270
4	Change of Account - GIVE NOTICE	\$ 101,610	\$ 107,137	\$ 114,012	\$ 121,069
5	Change of Account - RTO	\$ 9,546	\$ 9,750	\$ 9,995	\$ 10,246
6	Collections - CREDIT SHUT OFF	\$ 41,461	\$ 40,867	\$ 40,045	\$ 39,192
7	Collections - FIRST CALL	\$ 33,664	\$ 36,884	\$ 40,931	\$ 45,093
8	Collections - SECOND CALL	\$ 392,978	\$ 385,849	\$ 376,238	\$ 366,312
9	Collections - THIRD CALL	\$ 51,364	\$ 51,164	\$ 50,845	\$ 50,511
10	CSO - APPLIANCE ADJUSTMENTS	\$ 1,362,414	\$ 1,429,747	\$ 1,515,744	\$ 1,598,145
11	CSO - APPLIANCE MECHANIC WORK	\$ 46,465	\$ 49,656	\$ 53,756	\$ 57,669
12	CSO - CARBON MONOXIDE-EMERGENCY	\$ 65,477	\$ 66,855	\$ 68,597	\$ 70,265
13	CSO - CARBON MONOXIDE-NON EMERGENCY	\$ 82,860	\$ 84,377	\$ 86,279	\$ 88,106
14	CSO - HIGH PRESSURE	\$ 8,589	\$ 8,847	\$ 9,175	\$ 9,488
15	CSO - NO GAS	\$ 679,435	\$ 691,055	\$ 705,605	\$ 719,571
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	\$ 546,137	\$ 557,534	\$ 571,842	\$ 585,580
17	CSO - SCHOOL LEAK SURVEYS	\$ 51,289	\$ 53,804	\$ 57,034	\$ 60,113
18	CSO - SEASONAL OFF	\$ 20,586	\$ 22,098	\$ 24,037	\$ 25,897
19	CSO - SEASONAL ON MULTIPLES	\$ 358,411	\$ 368,700	\$ 381,601	\$ 394,028
20	CSO - SEASONAL ON SINGLES	\$ 862,618	\$ 865,976	\$ 869,481	\$ 872,958
21	Fumigation - FUMIGATION/BUG FOGGER	\$ 2,532,720	\$ 2,526,625	\$ 2,516,651	\$ 2,507,436
22	Gas Leak - EMERGENCY B&B INSIDE	\$ 59,448	\$ 62,947	\$ 67,430	\$ 71,719
23	Gas Leak - EMERGENCY B&B OUTSIDE	\$ 40,243	\$ 38,894	\$ 37,135	\$ 35,463
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	\$ 57,923	\$ 58,739	\$ 59,759	\$ 60,738
25	Gas Leak - FIRE & EXPLOSIONS	\$ 464	\$ 479	\$ 498	\$ 517
26	Gas Leak - GAS LEAKS-HAZARD	\$ 1,638,821	\$ 1,695,461	\$ 1,767,601	\$ 1,836,650
27	Gas Leak - GAS LEAKS-NON HAZARD	\$ 219,143	\$ 217,321	\$ 214,783	\$ 212,385
28	HBI - HBI	\$ 28,030	\$ 29,049	\$ 30,349	\$ 31,592
29	Meter Work - O & M - ACOR	\$ 1,408	\$ 2,420	\$ 3,729	\$ 4,981
30	Meter Work - O & M - CURB	\$ 20,436	\$ 21,596	\$ 23,079	\$ 24,500
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	\$ 5,272	\$ 7,557	\$ 10,515	\$ 13,350
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	\$ 67,475	\$ 151,533	\$ 151,952	\$ 152,371

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CS - Field Operations Order Volume Based Cost Model		Total Labor Cost			
Calculation Steps --->>>		W = M + T			
Line #	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	\$ 2,394	\$ 5,371	\$ 5,380	\$ 5,388
34	Meter Work - O & M - MISC COMPANY WORK	\$ 223,624	\$ 503,982	\$ 507,145	\$ 510,308
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	\$ 284,204	\$ 638,226	\$ 639,958	\$ 641,691
36	Nonpay Turn On - CREDIT CUT INS	\$ 114,423	\$ 113,604	\$ 112,378	\$ 111,224
37	Read/Verify - REREADS	\$ 439,596	\$ 449,857	\$ 462,287	\$ 474,382
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	\$ 292	\$ 490	\$ 747	\$ 993
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	\$ 7,840	\$ 8,106	\$ 8,440	\$ 8,762
40	TurnOn/ShutOff - GIVE NOTICE CUT	\$ 59,690	\$ 63,922	\$ 69,331	\$ 74,538
41	TurnOn/ShutOff - SHUT OFF ELEC	\$ 110,245	\$ 112,933	\$ 116,240	\$ 119,443
42	TurnOn/ShutOff - SHUT OFF GAS	\$ 138,099	\$ 145,213	\$ 154,224	\$ 162,924
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	\$ 22,626	\$ 22,487	\$ 22,274	\$ 22,074
44	TurnOn/ShutOff - SHUT OFF IN ERROR	\$ 10,946	\$ 10,776	\$ 10,544	\$ 10,324
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	\$ 372,361	\$ 390,212	\$ 412,761	\$ 434,548
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	\$ 4,886	\$ 4,766	\$ 4,603	\$ 4,447
47	TurnOn/ShutOff - TURN ON ELEC	\$ 132,626	\$ 139,857	\$ 149,063	\$ 157,921
48	TurnOn/ShutOff - TURN ON G/E	\$ 42,091	\$ 45,729	\$ 50,407	\$ 54,879
49	TurnOn/ShutOff - TURN ON GAS	\$ 338,508	\$ 360,774	\$ 389,336	\$ 416,658
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	\$ 18,643	\$ 19,972	\$ 21,682	\$ 23,312
51	Miscellaneous - SMART METER	\$ 157,302	\$ 165,454	\$ 175,832	\$ 185,811
52	Collections - INCOMPLETE	\$ 75,558	\$ 56,774	\$ 56,915	\$ 57,050
53	CSF - INCOMPLETE	\$ 475,242	\$ 509,613	\$ 527,203	\$ 540,893
54	OPT-OUT READS ¹	\$ -	\$ -	\$ -	\$ 318,264
55	Underset Regulators - Install Slam Shut Regulator	\$ -	\$ -	\$ -	\$ 59,525
56	Underset Regulators - Relocate Regulator Outside	\$ -	\$ -	\$ -	\$ 52,675
57	Underset Regulators - Vent Through Existing Screens	\$ -	\$ -	\$ -	\$ 5,648
58	Underset Regulators - Incomplete	\$ -	\$ -	\$ -	\$ 1,644
59	Clock Test (increase in on-prem time)	\$ -	\$ 84,378	\$ 88,132	\$ 91,698
60	Field Parts Replacement Program (increase in on-prem time)	\$ -	\$ 23,309	\$ 106,516	\$ 153,135
61	Non-Fielded Smart Meter Module Troubleshooting ²	\$ 216,934	\$ 216,934	\$ 216,934	\$ 216,934
62	Miscellaneous Non-Labor Adjustment ⁴	\$ -	\$ -	\$ -	\$ -
63	TOTAL	\$ 12,666,155	\$ 13,767,702	\$ 14,199,374	\$ 15,015,770

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CS - Field Operations Order Volume Based Cost Model		Total Non-Labor Cost			
Calculation Steps ---->>>		X = P + V			
Line #	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	\$ 336	\$ 374	\$ 418	\$ 465
2	Change of Account - CA GAS	\$ 1,069	\$ 1,049	\$ 1,012	\$ 980
3	Change of Account - CA GAS AND ELEC	\$ 206	\$ 210	\$ 213	\$ 217
4	Change of Account - GIVE NOTICE	\$ 5,160	\$ 5,462	\$ 5,790	\$ 6,148
5	Change of Account - RTO	\$ 485	\$ 497	\$ 508	\$ 520
6	Collections - CREDIT SHUT OFF	\$ 2,105	\$ 2,083	\$ 2,034	\$ 1,990
7	Collections - FIRST CALL	\$ 2,345	\$ 2,579	\$ 2,851	\$ 3,141
8	Collections - SECOND CALL	\$ 27,372	\$ 26,979	\$ 26,206	\$ 25,515
9	Collections - THIRD CALL	\$ 3,578	\$ 3,577	\$ 3,542	\$ 3,518
10	CSO - APPLIANCE ADJUSTMENTS	\$ 69,186	\$ 72,884	\$ 76,972	\$ 81,157
11	CSO - APPLIANCE MECHANIC WORK	\$ 2,360	\$ 2,531	\$ 2,730	\$ 2,929
12	CSO - CARBON MONOXIDE-EMERGENCY	\$ 3,325	\$ 3,408	\$ 3,483	\$ 3,568
13	CSO - CARBON MONOXIDE-NON EMERGENCY	\$ 4,208	\$ 4,301	\$ 4,381	\$ 4,474
14	CSO - HIGH PRESSURE	\$ 436	\$ 451	\$ 466	\$ 482
15	CSO - NO GAS	\$ 34,503	\$ 35,228	\$ 35,832	\$ 36,541
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	\$ 27,734	\$ 28,421	\$ 29,039	\$ 29,737
17	CSO - SCHOOL LEAK SURVEYS	\$ 2,605	\$ 2,743	\$ 2,896	\$ 3,053
18	CSO - SEASONAL OFF	\$ 1,045	\$ 1,127	\$ 1,221	\$ 1,315
19	CSO - SEASONAL ON MULTIPLES	\$ 18,201	\$ 18,795	\$ 19,378	\$ 20,009
20	CSO - SEASONAL ON SINGLES	\$ 43,805	\$ 44,145	\$ 44,154	\$ 44,330
21	Fumigation - FUMIGATION/BUG FOGGER	\$ 128,616	\$ 128,800	\$ 127,800	\$ 127,332
22	Gas Leak - EMERGENCY B&B INSIDE	\$ 3,019	\$ 3,209	\$ 3,424	\$ 3,642
23	Gas Leak - EMERGENCY B&B OUTSIDE	\$ 2,044	\$ 1,983	\$ 1,886	\$ 1,801
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	\$ 2,941	\$ 2,994	\$ 3,035	\$ 3,084
25	Gas Leak - FIRE & EXPLOSIONS	\$ 24	\$ 24	\$ 25	\$ 26
26	Gas Leak - GAS LEAKS-HAZARD	\$ 83,222	\$ 86,430	\$ 89,762	\$ 93,268
27	Gas Leak - GAS LEAKS-NON HAZARD	\$ 11,128	\$ 11,078	\$ 10,907	\$ 10,785
28	HBI - HBI	\$ 1,423	\$ 1,481	\$ 1,541	\$ 1,604
29	Meter Work - O & M - ACOR	\$ 72	\$ 123	\$ 189	\$ 253
30	Meter Work - O & M - CURB	\$ 1,038	\$ 1,101	\$ 1,172	\$ 1,244
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	\$ 268	\$ 385	\$ 534	\$ 678
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	\$ 3,426	\$ 7,725	\$ 7,716	\$ 7,738

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CS - Field Operations Order Volume Based Cost Model		Total Non-Labor Cost			
Calculation Steps ---->>>		X = P + V			
Line #	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	\$ 122	\$ 274	\$ 273	\$ 274
34	Meter Work - O & M - MISC COMPANY WORK	\$ 11,356	\$ 25,692	\$ 25,754	\$ 25,914
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	\$ 14,432	\$ 32,535	\$ 32,498	\$ 32,586
36	Nonpay Turn On - CREDIT CUT INS	\$ 5,811	\$ 5,791	\$ 5,707	\$ 5,648
37	Read/Verify - REREADS	\$ 22,323	\$ 22,932	\$ 23,476	\$ 24,090
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	\$ 15	\$ 25	\$ 38	\$ 50
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	\$ 398	\$ 413	\$ 429	\$ 445
40	TurnOn/ShutOff - GIVE NOTICE CUT	\$ 3,031	\$ 3,259	\$ 3,521	\$ 3,785
41	TurnOn/ShutOff - SHUT OFF ELEC	\$ 5,598	\$ 5,757	\$ 5,903	\$ 6,066
42	TurnOn/ShutOff - SHUT OFF GAS	\$ 7,013	\$ 7,403	\$ 7,832	\$ 8,274
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	\$ 1,149	\$ 1,146	\$ 1,131	\$ 1,121
44	TurnOn/ShutOff - SHUT OFF IN ERROR	\$ 556	\$ 549	\$ 535	\$ 524
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	\$ 18,909	\$ 19,892	\$ 20,961	\$ 22,067
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	\$ 248	\$ 243	\$ 234	\$ 226
47	TurnOn/ShutOff - TURN ON ELEC	\$ 6,735	\$ 7,130	\$ 7,570	\$ 8,020
48	TurnOn/ShutOff - TURN ON G/E	\$ 2,137	\$ 2,331	\$ 2,560	\$ 2,787
49	TurnOn/ShutOff - TURN ON GAS	\$ 17,190	\$ 18,391	\$ 19,771	\$ 21,159
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	\$ 947	\$ 1,018	\$ 1,101	\$ 1,184
51	Miscellaneous - SMART METER	\$ 7,988	\$ 8,434	\$ 8,929	\$ 9,436
52	Collections - INCOMPLETE	\$ 5,263	\$ 3,970	\$ 3,964	\$ 3,974
53	CSF - INCOMPLETE	\$ 24,134	\$ 25,979	\$ 26,772	\$ 27,468
54	OPT-OUT READS ¹	\$ -	\$ -	\$ -	\$ 22,168
55	Underset Regulators - Install Slam Shut Regulator	\$ -	\$ -	\$ -	\$ 3,023
56	Underset Regulators - Relocate Regulator Outside	\$ -	\$ -	\$ -	\$ 2,675
57	Underset Regulators - Vent Through Existing Screens	\$ -	\$ -	\$ -	\$ 287
58	Underset Regulators - Incomplete	\$ -	\$ -	\$ -	\$ 83
59	Clock Test (increase in on-prem time)	\$ -	\$ 4,301	\$ 4,476	\$ 4,657
60	Field Parts Replacement Program (increase in on-prem time)	\$ -	\$ 1,188	\$ 5,409	\$ 7,776
61	Non-Fielded Smart Meter Module Troubleshooting ²	\$ 11,016	\$ 11,059	\$ 11,016	\$ 11,016
62	Miscellaneous Non-Labor Adjustment ⁴		\$ 97,000	\$ 97,000	\$ 199,000
63	TOTAL	\$ 653,657	\$ 808,891	\$ 827,976	\$ 977,328

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CS - Field Operations Order Volume Based Cost Model		Total Cost			
Calculation Steps ---->>>		Y = W + X			
Line #	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	\$ 6,962	\$ 7,711	\$ 8,641	\$ 9,627
2	Change of Account - CA GAS	\$ 22,117	\$ 21,627	\$ 20,937	\$ 20,281
3	Change of Account - CA GAS AND ELEC	\$ 4,271	\$ 4,337	\$ 4,411	\$ 4,487
4	Change of Account - GIVE NOTICE	\$ 106,770	\$ 112,599	\$ 119,801	\$ 127,217
5	Change of Account - RTO	\$ 10,031	\$ 10,247	\$ 10,503	\$ 10,766
6	Collections - CREDIT SHUT OFF	\$ 43,566	\$ 42,951	\$ 42,078	\$ 41,182
7	Collections - FIRST CALL	\$ 36,009	\$ 39,463	\$ 43,782	\$ 48,233
8	Collections - SECOND CALL	\$ 420,350	\$ 412,828	\$ 402,444	\$ 391,827
9	Collections - THIRD CALL	\$ 54,942	\$ 54,742	\$ 54,386	\$ 54,029
10	CSO - APPLIANCE ADJUSTMENTS	\$ 1,431,599	\$ 1,502,632	\$ 1,592,716	\$ 1,679,302
11	CSO - APPLIANCE MECHANIC WORK	\$ 48,825	\$ 52,187	\$ 56,486	\$ 60,598
12	CSO - CARBON MONOXIDE-EMERGENCY	\$ 68,802	\$ 70,263	\$ 72,080	\$ 73,834
13	CSO - CARBON MONOXIDE-NON EMERGENCY	\$ 87,068	\$ 88,678	\$ 90,661	\$ 92,580
14	CSO - HIGH PRESSURE	\$ 9,026	\$ 9,298	\$ 9,641	\$ 9,970
15	CSO - NO GAS	\$ 713,938	\$ 726,283	\$ 741,436	\$ 756,112
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	\$ 573,870	\$ 585,956	\$ 600,881	\$ 615,317
17	CSO - SCHOOL LEAK SURVEYS	\$ 53,894	\$ 56,547	\$ 59,930	\$ 63,165
18	CSO - SEASONAL OFF	\$ 21,631	\$ 23,225	\$ 25,257	\$ 27,212
19	CSO - SEASONAL ON MULTIPLES	\$ 376,612	\$ 387,495	\$ 400,979	\$ 414,037
20	CSO - SEASONAL ON SINGLES	\$ 906,423	\$ 910,121	\$ 913,635	\$ 917,288
21	Fumigation - FUMIGATION/BUG FOGGER	\$ 2,661,337	\$ 2,655,425	\$ 2,644,451	\$ 2,634,768
22	Gas Leak - EMERGENCY B&B INSIDE	\$ 62,467	\$ 66,156	\$ 70,854	\$ 75,361
23	Gas Leak - EMERGENCY B&B OUTSIDE	\$ 42,287	\$ 40,877	\$ 39,021	\$ 37,263
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	\$ 60,865	\$ 61,733	\$ 62,794	\$ 63,822
25	Gas Leak - FIRE & EXPLOSIONS	\$ 488	\$ 504	\$ 524	\$ 543
26	Gas Leak - GAS LEAKS-HAZARD	\$ 1,722,043	\$ 1,781,891	\$ 1,857,363	\$ 1,929,919
27	Gas Leak - GAS LEAKS-NON HAZARD	\$ 230,271	\$ 228,400	\$ 225,690	\$ 223,170
28	HBI - HBI	\$ 29,453	\$ 30,530	\$ 31,890	\$ 33,197
29	Meter Work - O & M - ACOR	\$ 1,480	\$ 2,543	\$ 3,918	\$ 5,234
30	Meter Work - O & M - CURB	\$ 21,474	\$ 22,697	\$ 24,251	\$ 25,745
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	\$ 5,540	\$ 7,942	\$ 11,049	\$ 14,028
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	\$ 70,901	\$ 159,258	\$ 159,669	\$ 160,109

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CS - Field Operations Order Volume Based Cost Model		Total Cost			
Calculation Steps --->>>		Y = W + X			
Line #	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	\$ 2,516	\$ 5,645	\$ 5,653	\$ 5,662
34	Meter Work - O & M - MISC COMPANY WORK	\$ 234,980	\$ 529,674	\$ 532,899	\$ 536,222
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	\$ 298,636	\$ 670,761	\$ 672,457	\$ 674,277
36	Nonpay Turn On - CREDIT CUT INS	\$ 120,234	\$ 119,395	\$ 118,085	\$ 116,872
37	Read/Verify - REREADS	\$ 461,919	\$ 472,789	\$ 485,763	\$ 498,472
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	\$ 307	\$ 515	\$ 784	\$ 1,044
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	\$ 8,238	\$ 8,519	\$ 8,869	\$ 9,207
40	TurnOn/ShutOff - GIVE NOTICE CUT	\$ 62,721	\$ 67,180	\$ 72,852	\$ 78,323
41	TurnOn/ShutOff - SHUT OFF ELEC	\$ 115,844	\$ 118,690	\$ 122,143	\$ 125,509
42	TurnOn/ShutOff - SHUT OFF GAS	\$ 145,111	\$ 152,616	\$ 162,055	\$ 171,197
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	\$ 23,775	\$ 23,634	\$ 23,405	\$ 23,195
44	TurnOn/ShutOff - SHUT OFF IN ERROR	\$ 11,502	\$ 11,326	\$ 11,080	\$ 10,849
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	\$ 391,270	\$ 410,104	\$ 433,722	\$ 456,615
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	\$ 5,134	\$ 5,009	\$ 4,837	\$ 4,673
47	TurnOn/ShutOff - TURN ON ELEC	\$ 139,361	\$ 146,987	\$ 156,633	\$ 165,941
48	TurnOn/ShutOff - TURN ON G/E	\$ 44,228	\$ 48,060	\$ 52,967	\$ 57,665
49	TurnOn/ShutOff - TURN ON GAS	\$ 355,698	\$ 379,165	\$ 409,107	\$ 437,817
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	\$ 19,590	\$ 20,990	\$ 22,784	\$ 24,496
51	Miscellaneous - SMART METER	\$ 165,290	\$ 173,888	\$ 184,761	\$ 195,247
52	Collections - INCOMPLETE	\$ 80,821	\$ 60,744	\$ 60,879	\$ 61,023
53	CSF - INCOMPLETE	\$ 499,375	\$ 535,591	\$ 553,975	\$ 568,360
54	OPT-OUT READS ¹	\$ -	\$ -	\$ -	\$ 340,432
55	Underset Regulators - Install Slam Shut Regulator	\$ -	\$ -	\$ -	\$ 62,548
56	Underset Regulators - Relocate Regulator Outside	\$ -	\$ -	\$ -	\$ 55,350
57	Underset Regulators - Vent Through Existing Screens	\$ -	\$ -	\$ -	\$ 5,935
58	Underset Regulators - Incomplete	\$ -	\$ -	\$ -	\$ 1,727
59	Clock Test (increase in on-prem time)	\$ -	\$ 88,679	\$ 92,608	\$ 96,355
60	Field Parts Replacement Program (increase in on-prem time)	\$ -	\$ 24,498	\$ 111,925	\$ 160,911
61	Non-Fielded Smart Meter Module Troubleshooting ²	\$ 227,951	\$ 227,993	\$ 227,951	\$ 227,951
62	Miscellaneous Non-Labor Adjustment ⁴	\$ -	\$ 97,000	\$ 97,000	\$ 199,000
63	TOTAL	\$ 13,319,811	\$ 14,576,593	\$ 15,027,350	\$ 15,993,098

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CS - Field Operations Order Volume Based Cost Model		Total FTE			
Calculation Steps ---->>>		Z = N + R			
Line #	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
1	Change of Account - CA ELEC	0.1	0.1	0.1	0.1
2	Change of Account - CA GAS	0.2	0.2	0.2	0.2
3	Change of Account - CA GAS AND ELEC	0.0	0.0	0.0	0.0
4	Change of Account - GIVE NOTICE	1.1	1.2	1.3	1.4
5	Change of Account - RTO	0.1	0.1	0.1	0.1
6	Collections - CREDIT SHUT OFF	0.5	0.5	0.5	0.4
7	Collections - FIRST CALL	0.5	0.6	0.6	0.7
8	Collections - SECOND CALL	6.1	6.0	5.8	5.7
9	Collections - THIRD CALL	0.8	0.8	0.8	0.8
10	CSO - APPLIANCE ADJUSTMENTS	15.4	16.2	17.1	18.1
11	CSO - APPLIANCE MECHANIC WORK	0.5	0.6	0.6	0.7
12	CSO - CARBON MONOXIDE-EMERGENCY	0.7	0.8	0.8	0.8
13	CSO - CARBON MONOXIDE-NON EMERGENCY	0.9	1.0	1.0	1.0
14	CSO - HIGH PRESSURE	0.1	0.1	0.1	0.1
15	CSO - NO GAS	7.7	7.8	8.0	8.1
16	CSO - OTHER MISC GAS & ELEC CUSTOMER REQUESTS	6.2	6.3	6.5	6.6
17	CSO - SCHOOL LEAK SURVEYS	0.6	0.6	0.6	0.7
18	CSO - SEASONAL OFF	0.2	0.3	0.3	0.3
19	CSO - SEASONAL ON MULTIPLES	4.1	4.2	4.3	4.5
20	CSO - SEASONAL ON SINGLES	9.8	9.8	9.8	9.9
21	Fumigation - FUMIGATION/BUG FOGGER	28.6	28.7	28.5	28.4
22	Gas Leak - EMERGENCY B&B INSIDE	0.7	0.7	0.8	0.8
23	Gas Leak - EMERGENCY B&B OUTSIDE	0.5	0.4	0.4	0.4
24	Gas Leak - EMERGENCY-AGENCY REQUESTS	0.7	0.7	0.7	0.7
25	Gas Leak - FIRE & EXPLOSIONS	0.0	0.0	0.0	0.0
26	Gas Leak - GAS LEAKS-HAZARD	18.5	19.2	20.0	20.8
27	Gas Leak - GAS LEAKS-NON HAZARD	2.5	2.5	2.4	2.4
28	HBI - HBI	0.3	0.3	0.3	0.4
29	Meter Work - O & M - ACOR	0.0	0.0	0.0	0.1
30	Meter Work - O & M - CURB	0.2	0.2	0.3	0.3
31	Meter Work - O & M - CUST/COMPANY CHANGE - ELEC	0.1	0.1	0.1	0.2
32	Meter Work - O & M - CUST/COMPANY CHANGE - GAS	0.8	1.7	1.7	1.7

SDGE-17-WP - 1FC001 CS - Field Operations
 Supplemental Workpaper 1 (Page 37 of 37)

CS - Field Operations Order Volume Based Cost Model		Total FTE			
Calculation Steps ---->>>		Z = N + R			
Line #	Order Types	2016 Estimated	2017 Estimated	2018 Estimated	TY 2019 Estimated
33	Meter Work - O & M - CUST/COMPANY TEST(CHANGE) - GAS	0.0	0.1	0.1	0.1
34	Meter Work - O & M - MISC COMPANY WORK	2.5	5.7	5.7	5.8
35	Meter Work - O & M - PERIODIC TEST/CHANGE-GAS	3.2	7.2	7.2	7.3
36	Nonpay Turn On - CREDIT CUT INS	1.3	1.3	1.3	1.3
37	Read/Verify - REREADS	5.0	5.1	5.2	5.4
38	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - ELEC	0.0	0.0	0.0	0.0
39	TurnOn/ShutOff - CUST/COMPANY REMOVE/RESET - GAS	0.1	0.1	0.1	0.1
40	TurnOn/ShutOff - GIVE NOTICE CUT	0.7	0.7	0.8	0.8
41	TurnOn/ShutOff - SHUT OFF ELEC	1.2	1.3	1.3	1.4
42	TurnOn/ShutOff - SHUT OFF GAS	1.6	1.6	1.7	1.8
43	TurnOn/ShutOff - SHUT OFF GAS AND ELEC	0.3	0.3	0.3	0.2
44	TurnOn/ShutOff - SHUT OFF IN ERROR	0.1	0.1	0.1	0.1
45	TurnOn/ShutOff - SOFT SHUT OFF GAS ELEC	4.2	4.4	4.7	4.9
46	TurnOn/ShutOff - SOFT TURN ON GAS TURN ON ELEC	0.1	0.1	0.1	0.1
47	TurnOn/ShutOff - TURN ON ELEC	1.5	1.6	1.7	1.8
48	TurnOn/ShutOff - TURN ON G/E	0.5	0.5	0.6	0.6
49	TurnOn/ShutOff - TURN ON GAS	3.8	4.1	4.4	4.7
50	Miscellaneous - HOUSELINE TEST/PURGE - O&M	0.2	0.2	0.2	0.3
51	Miscellaneous - SMART METER	1.8	1.9	2.0	2.1
52	Collections - INCOMPLETE	1.2	0.9	0.9	0.9
53	CSF - INCOMPLETE	5.4	5.8	6.0	6.1
54	OPT-OUT READS ¹	-	-	-	4.9
55	Underset Regulators - Install Slam Shut Regulator	-	-	-	0.7
56	Underset Regulators - Relocate Regulator Outside	-	-	-	0.6
57	Underset Regulators - Vent Through Existing Screens	-	-	-	0.1
58	Underset Regulators - Incomplete	-	-	-	0.0
59	Clock Test (increase in on-prem time)	-	1.0	1.0	1.0
60	Field Parts Replacement Program (increase in on-prem time)	-	0.3	1.2	1.7
61	Non-Fielded Smart Meter Module Troubleshooting ²	2.5	2.5	2.5	2.5
62	Miscellaneous Non-Labor Adjustment ⁴	-	-	-	-
63	TOTAL	145.5	158.5	162.8	173.3

TY 2019 Estimated RAMP Costs For Field Observations

Line#	RAMP Job Observations	BY 2016	2017 Estimated	2018 Estimated	TY 2019 Estimated	Calculation Steps
1	Total Annual Paid Hours	2,080	2,080	2,088	2,088	A
2	BY 2016 Vacation & Sick Factor (\$)	0.17	0.17	0.17	0.17	B
3	BY 2016 Vacation & Sick Factor (FTE)	0.18	0.18	0.18	0.18	C
Line#	CS - Field Operations	BY 2016	2017 Estimated	2018 Estimated	TY 2019 Estimated	Calculation Steps
4	Number of Job Observations	575	633	696	765	D = 10% Increase Over Previous Year
5	Average Hours Per Job Observation	0.5	0.5	0.5	0.5	E
6	Total Hours Needed For Job Observation	288	316	348	383	F = D x E
7	2016 BY Average Wage Rate	\$ 37.74	\$ 37.74	\$ 37.74	\$ 37.74	G
8	Job Observation Costs	\$ 12,651	\$ 13,916	\$ 15,307	\$ 16,838	H = F x G x (1 + B)
9	FTE	0.16	0.18	0.20	0.22	I = H / A x (1 + C)
Line#	CS - Field Dispatch	BY 2016	2017 Estimated	2018 Estimated	TY 2019 Estimated	Calculation Steps
10	Number of Job Observations	42	46	51	56	J = 10% Increase Over Previous Year
11	Average Hours Per Job Observation	0.5	0.5	0.5	0.5	K
12	Total Hours Needed For Job Observation	21	23	25	28	L = J x K
13	2016 BY Average Wage Rate	\$ 41.50	\$ 41.50	\$ 41.50	\$ 41.50	M
14	Job Observation Costs	\$ 1,016	\$ 1,118	\$ 1,229	\$ 1,352	N = L x M x (1 + B)
15	FTE	0.01	0.01	0.01	0.02	O = N / A x (1 + C)

Beginning of Workpaper
1FC002.000 - Customer Services Field - Supervision

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC002.000 - 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 five operating bases and cover all of SDG&E'. Field supervisors hire and coach employees, conduct safety and job observations and coordinate with the dispatch office and others to address and resolve issues, respond to emergency incidents to provide on-site leadership, and manage the overall performance of the CSF employees.

Forecast Explanations:

Labor - Zero-Based

The estimated number of field supervisors in TY2019 is based on maintaining the three year (2014 – 2016) average employee-to-supervisor ratio of 12:1. A ratio of 12:1 is appropriate given the geographic areas covered by each operating base; the variety of work performed and conditions encountered at customer premises; and the expectation that supervisors spend as much time as possible in the field performing safety and job observations, coaching employees, and managing employee performance. A zero-based forecast is the only method that appropriately maintains the desired span of control.

Non-Labor - Zero-Based

Non-labor expenses include cell phones, office supplies and other miscellaneous expenses. The non-labor cost estimate is based on the three-year (2014 – 2016) average of historical non-labor expense per supervisor, multiplied by the forecasted number of supervisors. Because non-labor costs are driven by the number of supervisors, historical averaging or trending of expenses alone would not be appropriate because expenses would not be aligned with the forecasted workforce levels.

NSE - Zero-Based

NSE is not applicable to this workgroup.

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		1,676	1,698	1,350	1,213	1,186	1,329	1,370	1,366	
Non-Labor		89	50	38	59	51	51	52	56	
NSE		0	0	0	0	0	0	0	0	
Total		1,764	1,749	1,388	1,272	1,237	1,380	1,422	1,422	
FTE		18.6	18.9	14.6	13.1	12.4	13.8	14.1	14.1	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC002.000 - Customer Services Field - Supervision

Summary of Adjustments to Forecast:

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Zero-Based	0	0	0	1,329	1,370	1,366	1,329	1,370	1,366
Non-Labor	Zero-Based	0	0	0	51	52	56	51	52	56
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	1,380	1,422	1,422	1,380	1,422	1,422
FTE	Zero-Based	0.0	0.0	0.0	13.8	14.1	14.1	13.8	14.1	14.1

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	1,329	51	0	1,380	13.8	1-Sided Adj	TPHT20170309212738177	
Explanation:		Labor and non-labor cost for front-line CS - Field Supervision who provide direct supervision for CS - Field Operations technicians and collectors to maintain historical employee to supervisor ratio of 12:1. Refer to Ex. SDG&E-17-WP - GMarelli - 1FC002, Supplemental Workpaper 1, for detailed calculations.							
2017 Total		1,329	51	0	1,380	13.8			
2018	Other	1,370	52	0	1,422	14.1	1-Sided Adj	TPHT20170309212806490	
Explanation:		Labor and non-labor cost for front-line CS - Field Supervision who provide direct supervision for CS - Field Operations technicians and collectors to maintain historical employee to supervisor ratio of 12:1. Refer to Ex. SDG&E-17-WP - GMarelli - 1FC002, Supplemental Workpaper 1, for detailed calculations.							
2018 Total		1,370	52	0	1,422	14.1			
2019	Other	1,459	56	0	1,515	15.1	1-Sided Adj	TPHT20170309212914833	
Explanation:		Labor and non-labor cost for front-line CS - Field Supervision who provide direct supervision for CS - Field Operations technicians and collectors to maintain historical employee to supervisor ratio of 12:1. Refer to Ex. SDG&E-17-WP - GMarelli - 1FC002, Supplemental Workpaper 1, for detailed calculations.							
2019	FOF-Ongoing	-93	0	0	-93	-1.0	1-Sided Adj	TPHT20170309212945677	
Explanation:		CS - Field Supervision net savings associated with Fueling our Future initiative							
2019 Total		1,366	56	0	1,422	14.1			

Note: Totals may include rounding differences.

SDG&E/CS - FIELD/Exh No:SDG&E-17-WP-R/Witness: G. Marelli

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC002.000 - Customer Services Field - Supervision

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	1,527	1,481	1,317	1,288	1,224
Non-Labor	86	50	38	59	51
NSE	0	0	0	0	0
Total	1,613	1,531	1,355	1,347	1,275
FTE	18.5	17.6	15.8	15.2	13.8
Adjustments (Nominal \$) **					
Labor	-187	-110	-205	-262	-207
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	-187	-110	-205	-262	-207
FTE	-2.5	-1.5	-3.4	-4.0	-3.3
Recorded-Adjusted (Nominal \$)					
Labor	1,340	1,371	1,112	1,026	1,017
Non-Labor	86	50	38	59	51
NSE	0	0	0	0	0
Total	1,426	1,420	1,150	1,086	1,068
FTE	16.0	16.1	12.4	11.2	10.5
Vacation & Sick (Nominal \$)					
Labor	194	217	178	158	169
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	194	217	178	158	169
FTE	2.6	2.8	2.2	2.0	1.9
Escalation to 2016\$					
Labor	142	110	61	28	0
Non-Labor	2	1	0	0	0
NSE	0	0	0	0	0
Total	144	111	61	28	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	1,676	1,698	1,350	1,213	1,186
Non-Labor	89	50	38	59	51
NSE	0	0	0	0	0
Total	1,764	1,749	1,388	1,272	1,237
FTE	18.6	18.9	14.6	13.2	12.4

* 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.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC002.000 - Customer Services Field - Supervision

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-187	-110	-205	-262	-207
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	-187	-110	-205	-262	-207
FTE	-2.5	-1.5	-3.4	-4.0	-3.3

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	288	0	0	4.1	1-Sided Adj	CTRINH20161027083824030
Explanation:	Transfer CS - Field Supervisors labor from 1FC001.000 to 1FC002.000 in order to align historical costs with the workgroup in which the activity will be forecasted						
2012	Other	-26	0	0	-0.4	1-Sided Adj	CTRINH20161027141549440
Explanation:	Transfer CS - Field Operations labor from 1FC002.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted						
2012	Other	-155	0	0	-3.5	1-Sided Adj	CTRINH20161031090307123
Explanation:	Transfer CS - Field District Ops Assistants labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted						
2012	Other	-105	0	0	-1.0	1-Sided Adj	CTRINH20161101102443220
Explanation:	Transfer CS - Field District Operations Manager labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted						
2012	Other	-189	0	0	-1.7	CCTR Transf To 2100-0079.000	CTRINH20161101131343830
Explanation:	Transfer Gas Distribution District Operations Manager labor from 1FC002.000 to 1GD000.007 in order to align historical costs with the workgroup in which the activity will be forecasted						
2012 Total		-187	0	0	-2.5		
2013	Other	348	0	0	4.6	1-Sided Adj	CTRINH20161027084223923
Explanation:	Transfer CS - Field Supervisors labor from 1FC001.000 to 1FC002.000 in order to align historical costs with the workgroup in which the activity will be forecasted						
2013	Other	-5	0	0	0.0	1-Sided Adj	CTRINH20161027144101960
Explanation:	Transfer CS - Field Operations labor from 1FC002.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted						

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC002.000 - Customer Services Field - Supervision

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2013	Other	-148	0	0	-3.3	1-Sided Adj	CTRINH20161031091159293
Explanation: Transfer CS - Field District Ops Assistants labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2013	Other	-129	0	0	-1.2	1-Sided Adj	CTRINH20161101103750230
Explanation: Transfer CS - Field District Operations Manager labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2013	Other	-176	0	0	-1.6	CCTR Transf To 2100-0093.000	CTRINH20161101131512430
Explanation: Transfer Gas Distribution District Operations Manager labor from 1FC002.000 to 1GD000.007 in order to align historical costs with the workgroup in which the activity will be forecasted.							
2013 Total		-110	0	0	-1.5		
2014	Other	225	0	0	2.8	1-Sided Adj	CTRINH20161027084312707
Explanation: Transfer CS - Field Supervisors labor from 1FC001.000 to 1FC002.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	-10	0	0	-0.1	1-Sided Adj	CTRINH20161027144154880
Explanation: Transfer CS - Field Operations labor from 1FC002.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	-182	0	0	-3.9	1-Sided Adj	CTRINH20161031143754373
Explanation: Transfer CS - Field District Ops Assistants labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	-25	0	0	-0.3	1-Sided Adj	CTRINH20161031144203683
Explanation: Transfer CS - Field Instructors labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	-164	0	0	-1.5	1-Sided Adj	CTRINH20161101104310620
Explanation: Transfer CS - Field District Operations Manager labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	-49	0	0	-0.4	CCTR Transf To 2100-3927.000	CTRINH20161101131613097
Explanation: Transfer Gas Distribution District Operations Manager labor from 1FC002.000 to 1GD000.007 in order to align historical costs with the workgroup in which the activity will be forecasted.							
2014 Total		-205	0	0	-3.4		

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC002.000 - Customer Services Field - Supervision

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2015	Other	171	0	0	2.3	1-Sided Adj	CTRINH20161027084406333
Explanation: Transfer CS - Field Supervision labor from 1FC001.000 to 1FC002.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015	Other	-4	0	0	0.0	1-Sided Adj	CTRINH20161027144250130
Explanation: Transfer CS - Field Operations labor from 1FC002.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015	Other	-227	0	0	-4.5	1-Sided Adj	CTRINH20161031143836200
Explanation: Transfer CS - Field District Ops Assistants labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015	Other	-19	0	0	-0.2	1-Sided Adj	CTRINH20161101080142913
Explanation: Transfer CS - Field Instructors labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015	Other	-184	0	0	-1.6	1-Sided Adj	CTRINH20161101112656477
Explanation: Transfer CS - Field District Operations Manager labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015 Total		-262	0	0	-4.0		
2016	Other	223	0	0	2.7	1-Sided Adj	CTRINH20161027084442483
Explanation: Transfer CS - Field Supervision labor from 1FC001.000 to 1FC002.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2016	Other	-7	0	0	-0.1	1-Sided Adj	CTRINH20161027144318643
Explanation: Transfer CS - Field Operations labor from 1FC002.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2016	Other	-212	0	0	-4.0	1-Sided Adj	CTRINH20161031143919870
Explanation: Transfer CS - Field District Ops Assistants labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2016	Other	-42	0	0	-0.5	1-Sided Adj	CTRINH20161101080211527
Explanation: Transfer CS - Field Instructors labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2016	Other	-167	0	0	-1.4	1-Sided Adj	CTRINH20161101112737047
Explanation: Transfer CS - Field District Operations Manager labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC002.000 - Customer Services Field - Supervision

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2016 Total		-207	0	0	-3.3		

Note: Totals may include rounding differences.

Supplemental Workpapers for Workpaper 1FC002.000

SDGE-17-WP - 1FC002 CS - Field Supervision
Supplemental Workpaper 1 (Page 1 of 1)

TY 2019 CS - Field Supervision Estimated Cost

Line #	Calculation Factors	BY 2016	2017 Estimate	2018 Estimate	TY 2019 Estimate	Calculation Steps
1	CS - Field Operations FTE ¹	154	159	163	173	A
2	2016 BY Operations FTE Per Supervisor FTE	12	12	12	12	B
3	2016 BY Average Supervisor Wage Rate	\$ 46.38	\$ 46.38	\$ 46.38	\$ 46.38	C
4	2016 BY Average Supervisor Non-Labor Per FTE	\$ 3,688.66	\$ 3,688.66	\$ 3,688.66	\$ 3,688.66	D
5	Total Annual Paid Hours	2,080	2,080	2,088	2,088	E

Line #	CS - Field Supervision Costs	BY 2016	2017 Estimate	2018 Estimate	TY 2019 Estimate	Calculation Steps
6	Total Labor FTE	13	14	14	15	F = A / B
7	Total Labor Costs	\$ 1,292,500	\$ 1,329,254	\$ 1,370,140	\$ 1,458,896	G = F x E x C
8	Total Non-Labor Costs	\$ 49,416	\$ 50,821	\$ 52,184	\$ 55,564	H = F x D
9	Total Costs	\$ 1,341,916	\$ 1,380,075	\$ 1,422,323	\$ 1,514,460	I = G + H

Notes:
1) For detailed calculations of CS - Field Operations FTE refer to SDGE-17-WP - 1FC001 CS - Field Operations-Supplemental Workpaper 1.
 Total estimated FTE for 2017 thru 2019 is on page 37, line# 64.

Beginning of Workpaper
1FC003.000 - Customer Services Field - Dispatch

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC003.000 - Customer Services Field - Dispatch

Activity Description:

Dispatch personnel route and dispatch work orders to CSF field employees on a day before and same day basis, 24 hours a day, 365 days a year. Dispatchers are centrally located and handle all matters that arise during the day, including dispatch of emergency orders real time as they are received; redistribution of work when employees call in sick or otherwise are unavailable; and redistribution of work orders when employees are not able to complete all work that has been assigned for the day.

Forecast Explanations:

Labor - Zero-Based

A three-year average was used because SDG&E believes this methodology best reflects the effects of Smart Meter implementation.

Non-Labor - Zero-Based

Non-labor expenses include communication equipment, office materials and other miscellaneous expenses. A three-year average was used because SDG&E believes this methodology best reflects the effects of Smart Meter implementation.

NSE - Zero-Based

NSE is not applicable to this workgroup.

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		3,733	3,947	3,737	3,889	4,261	3,816	3,816	3,816	
Non-Labor		83	101	92	104	74	90	90	90	
NSE		0	0	0	0	0	0	0	0	
Total		3,816	4,047	3,830	3,992	4,335	3,906	3,906	3,906	
FTE		41.8	44.8	42.9	42.1	45.7	42.6	42.6	42.6	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC003.000 - Customer Services Field - Dispatch

Summary of Adjustments to Forecast:

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Zero-Based	0	0	0	3,816	3,816	3,816	3,816	3,816	3,816
Non-Labor	Zero-Based	0	0	0	90	90	90	90	90	90
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	3,906	3,906	3,906	3,906	3,906	3,906
FTE	Zero-Based	0.0	0.0	0.0	42.6	42.6	42.6	42.6	42.6	42.6

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	3,961	90	0	4,051	43.6	1-Sided Adj	TPHT20170511123730500	
Explanation:		Labor and non-labor costs for Dispatch personnel who route and dispatch work orders to CS - Field Operations employees. A three-year average was used because SDG&E believes this methodology best reflects the effects of Smart Meter implementation.							
2017	RAMP Base	1	0	0	1	0.0	1-Sided Adj	TPHT20170309213713213	
Explanation:		RAMP SDG&E-3 Employee Contractor & Public Safety: CS - Field Dispatch base forecast for job observations. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.							
2017	FOF-Ongoing	-146	0	0	-146	-1.0	1-Sided Adj	TPHT20170309215459253	
Explanation:		CS - Field Dispatch savings associated with Fueling our Future initiative							
2017 Total		3,816	90	0	3,906	42.6			

2018 Other 3,961 90 0 4,051 43.6 1-Sided Adj TPHT20170511123852303

Explanation: Labor and non-labor costs for Dispatch personnel who route and dispatch work orders to CS - Field Operations employees. A three-year average was used because SDG&E believes this methodology best reflects the effects of Smart Meter implementation.

2018 RAMP Base 1 0 0 1 0.0 1-Sided Adj TPHT20170309214727890

Explanation: RAMP SDG&E-3 Employee Contractor & Public Safety: CS - Field Dispatch base forecast for job observations. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.

2018 FOF-Ongoing -146 0 0 -146 -1.0 1-Sided Adj TPHT20170309215516223

Explanation: CS - Field Dispatch savings associated with Fueling our Future initiative

Note: Totals may include rounding differences.

SDG&E/CS - FIELD/Exh No:SDG&E-17-WP-R/Witness: G. Marelli

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC003.000 - Customer Services Field - Dispatch

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>
2018 Total		3,816	90	0	3,906	42.6		
2019	Other	3,961	90	0	4,051	43.6	1-Sided Adj	TPTHT20170511123907173
Explanation:		Labor and non-labor costs for Dispatch personnel who route and dispatch work orders to CS - Field Operations employees. A three-year average was used because SDG&E believes this methodology best reflects the effects of Smart Meter implementation.						
2019	RAMP Base	1	0	0	1	0.0	1-Sided Adj	TPTHT20170309215122530
Explanation:		RAMP SDG&E-3 Employee Contractor & Public Safety: CS - Field Dispatch base forecast for job observations. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.						
2019	FOF-Ongoing	-146	0	0	-146	-1.0	1-Sided Adj	TPTHT20170309215542777
Explanation:		CS - Field Dispatch savings associated with Fueling our Future initiative						
2019 Total		3,816	90	0	3,906	42.6		

Note: Totals may include rounding differences.

SDG&E/CS - FIELD/Exh No:SDG&E-17-WP-R/Witness: G. Marelli

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC003.000 - Customer Services Field - Dispatch

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	2,475	2,460	2,436	2,599	2,996
Non-Labor	35	33	33	68	37
NSE	0	0	0	0	0
Total	2,511	2,492	2,469	2,667	3,033
FTE	28.9	28.0	27.9	27.8	30.5
Adjustments (Nominal \$) **					
Labor	509	726	642	692	659
Non-Labor	46	67	59	36	37
NSE	0	0	0	0	0
Total	555	793	701	727	696
FTE	7.0	10.1	8.5	8.0	8.2
Recorded-Adjusted (Nominal \$)					
Labor	2,984	3,185	3,078	3,291	3,655
Non-Labor	81	99	92	103	74
NSE	0	0	0	0	0
Total	3,065	3,285	3,170	3,394	3,729
FTE	35.9	38.1	36.4	35.8	38.7
Vacation & Sick (Nominal \$)					
Labor	432	505	492	508	606
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	432	505	492	508	606
FTE	5.8	6.7	6.5	6.3	7.0
Escalation to 2016\$					
Labor	317	256	168	90	0
Non-Labor	2	1	0	0	0
NSE	0	0	0	0	0
Total	319	257	168	90	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	3,733	3,947	3,737	3,889	4,261
Non-Labor	83	101	92	104	74
NSE	0	0	0	0	0
Total	3,816	4,047	3,830	3,992	4,335
FTE	41.7	44.8	42.9	42.1	45.7

* 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.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC003.000 - Customer Services Field - Dispatch

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	509	726	642	692	659
Non-Labor	46	67	59	36	37
NSE	0	0	0	0	0
Total	555	793	701	727	696
FTE	7.0	10.1	8.5	8.0	8.2

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	45	0	0	1.0	1-Sided Adj	CTRINH20161027134513443
Explanation: Transfer CS - Field Collections Support labor from 1FC001.000 to 1FC003.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2012	Other	70	8	0	1.2	CCTR Transf From 2100-3792.000	RPISANES20161121051049283
Explanation: move dispatch-related costs to customer service as part of reorganization							
2012	Other	229	23	0	2.4	CCTR Transf From 2100-3793.000	RPISANES20161121051302140
Explanation: move dispatch-related costs to customer service as part of reorganization							
2012	Other	165	16	0	2.4	CCTR Transf From 2100-3794.000	RPISANES20161121051755123
Explanation: move dispatch-related costs to customer service as part of reorganization							
2012 Total		509	46	0	7.0		
2013	Other	76	0	0	1.7	1-Sided Adj	CTRINH20161027135225483
Explanation: Transfer CS - Field Collections Support labor from 1FC001.000 to 1FC003.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2013	Other	174	22	0	1.6	CCTR Transf From 2100-3792.000	RPISANES20161121051935080
Explanation: move dispatch-related costs to customer service as part of reorganization							
2013	Other	289	31	0	3.4	CCTR Transf From 2100-3793.000	RPISANES20161121052523723
Explanation: move dispatch-related costs to customer service as part of reorganization							
2013	Other	156	14	0	2.8	CCTR Transf From 2100-3794.000	RPISANES20161121052758250
Explanation: move dispatch-related costs to customer service as part of reorganization							

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC003.000 - Customer Services Field - Dispatch

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2013	Other	31	0	0	0.6	CCTR Transf From 2100-0648.000	CSCHRAMM20170206124648153
Explanation: Transfer labor and FTE associated with Relief District Crew Dispatcher from cost center 2100-0648 in work paper group 100001 Advanced Metering Operations to cost center 2100-0129 in work paper group 1FC003.000 Customer Service Field to align costs where activity/function resides.							
2013 Total		726	67	0	10.1		
2014	Other	57	0	0	1.2	1-Sided Adj	CTRINH20161027135622397
Explanation: Transfer CS - Field Collections Support labor from 1FC001.000 to 1FC003.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	42	17	0	0.5	CCTR Transf From 2100-3792.000	RPISANES20161121053203130
Explanation: move dispatch-related costs to customer service as part of reorganization							
2014	Other	308	25	0	4.0	CCTR Transf From 2100-3793.000	RPISANES20161121053341473
Explanation: move dispatch-related costs to customer service as part of reorganization							
2014	Other	236	17	0	2.8	CCTR Transf From 2100-3794.000	RPISANES20161121053505237
Explanation: move dispatch-related costs to customer service as part of reorganization							
2014 Total		642	59	0	8.5		
2015	Other	32	0	0	0.6	1-Sided Adj	CTRINH20161027140152590
Explanation: Transfer CS - Field Collections Support labor from 1FC001.000 to 1FC003.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015	Other	59	0	0	0.6	1-Sided Adj	CTRINH20161109154823950
Explanation: Adjustment to correct Dec 2015 My Time Missing Labor Accrual error							
2015	Other	36	4	0	0.4	CCTR Transf From 2100-3792.000	RPISANES20161121053734377
Explanation: move dispatch-related costs to customer service as part of reorganization							
2015	Other	357	16	0	3.6	CCTR Transf From 2100-3793.000	RPISANES20161121053901130
Explanation: move dispatch-related costs to customer service as part of reorganization							
2015	Other	207	16	0	2.8	CCTR Transf From 2100-3794.000	RPISANES20161121054025473
Explanation: move dispatch-related costs to customer service as part of reorganization							
2015 Total		692	36	0	8.0		

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC003.000 - Customer Services Field - Dispatch

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2016	Other	24	0	0	0.6	1-Sided Adj	CTRINH20161027140244993
Explanation: Transfer CS - Field Collections Support labor from 1FC001.000 to 1FC003.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2016	Other	73	37	0	0.9	CCTR Transf From 2100-3792.000	RPISANES20170226172514473
Explanation: move dispatch-related costs to customer service as part of reorganization							
2016	Other	251	0	0	3.0	CCTR Transf From 2100-3793.000	RPISANES20170226172618157
Explanation: move dispatch-related costs to customer service as part of reorganization							
2016	Other	251	0	0	3.1	CCTR Transf From 2100-3794.000	RPISANES20170226172706937
Explanation: move dispatch-related costs to customer service as part of reorganization							
2016	Other	59	0	0	0.6	1-Sided Adj	CTRINH20161109154950783
Explanation: Adjustment to correct Dec 2015 My Time Missing Labor Accrual error							
2016 Total		659	37	0	8.2		

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC003.000 - Customer Services Field - Dispatch

RAMP Item # 1

Ref ID: TPTHT20170309213713213

RAMP Chapter: SDG&E-3

Program Name: Behavior Based Safety (BBS) Program

Program Description: CSF BBS program

Risk/Mitigation:

Risk: Employee, Contractor, Customer and Public Safety

Mitigation: Field observations of employee and contractors activities and safety behaviors

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	872	872	872
High	1,046	1,046	1,046

Funding Source: CPUC-GRC

Forecast Method: Average

Work Type: Non-Mandated

Work Type Citation: This portion is for CSF Dispatch only but the forecast incl other orgs

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 1

Explanation: CSF Dispatch base forecast for job observations

Beginning of Workpaper
1FC004.000 - Customer Services Field - Support

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC004.000 - Customer Services Field - Support

Activity Description:

The CSF Support cost category includes: (1) centralized training (classroom instructors and training manager located at SDG&E's skills training center); (2) field instructors who accompany new field employees immediately following their formal training; (3) quality assurance ("QA") inspectors and QA supervisor who inspect the work of technicians; (4) district operations clerks who are located at the field operating bases; (5) District Operations Managers who oversee the day to day operations of each field operating base; (6) a Meter Access group that resolves any difficulty field technicians might be experiencing in gaining safe access to meters at customer premises' (7) a Safety group that fosters safe work practices among CSF employees; and (8) a financial analyst.

Forecast Explanations:

Labor - Zero-Based

Forecasted TY2019 expenses are based on a three-year average. A three-year average was used because SDG&E believes this methodology best reflects the effects of Smart Meter implementation.

Non-Labor - Zero-Based

Non-labor costs include cell phones, office supplies and other miscellaneous expenses. Forecasted TY2019 expenses are based on a three-year average. A three-year average was used because SDG&E believes this methodology best reflects the effects of Smart Meter implementation.

NSE - Zero-Based

NSE is not applicable to this workgroup.

Summary of Results:

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		2,293	2,369	2,010	2,241	2,244	2,165	2,165	2,165	
Non-Labor		510	408	385	373	411	383	345	352	
NSE		0	0	0	0	0	0	0	0	
Total		2,803	2,777	2,395	2,613	2,655	2,548	2,510	2,517	
FTE		29.2	29.9	25.7	28.0	27.2	27.0	27.0	27.0	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC004.000 - Customer Services Field - Support

Summary of Adjustments to Forecast:

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Zero-Based	0	0	0	2,165	2,165	2,165	2,165	2,165	2,165
Non-Labor	Zero-Based	0	0	0	383	345	352	383	345	352
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	2,548	2,510	2,517	2,548	2,510	2,517
FTE	Zero-Based	0.0	0.0	0.0	27.0	27.0	27.0	27.0	27.0	27.0

Forecast Adjustment Details:

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	2,101	69	0	2,170	26.1	1-Sided Adj	TPTHT20170309220725180	
Explanation:		CS - Field Support labor and non-labor expenses to support CS - Field Operations. A three-year average was used because SDG&E believes this methodology best reflects the effects of Smart Meter implementation							
2017	Other	0	304	0	304	0.0	1-Sided Adj	TPTHT20170309220957387	
Explanation:		Incremental ongoing O&M costs for software license and maintenance costs associated with the implementation of the SORT Extension Capital Project. Refer to SDG&E witness G. Marelli, Ex. SDG&E-17, Section V, for more information on this project.							
2017	RAMP Base	79	17	0	96	0.9	1-Sided Adj	TPTHT20170309221301297	
Explanation:		RAMP SDG&E-3 Employee Contractor & Public Safety: CS - Field Support labor and non-labor base expense for Behavior Based Safety Instructor. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.							
2017	RAMP Incremental	-15	-7	0	-22	0.0	1-Sided Adj	TPTHT20170628121453537	
Explanation:		RAMP SDG&E-3 Employee, Contractor & Public Safety: CS - Field Support labor and non-labor incremental expense for Behavior Based Safety Instructo. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.							
2017 Total		2,165	383	0	2,548	27.0			

2018	Other	2,101	49	0	2,150	26.1	1-Sided Adj	TPTHT20170309220753400	
Explanation:		CS - Field Support labor and non-labor expenses to support CS - Field Operations. A three-year average was used because SDG&E believes this methodology best reflects the effects of Smart Meter implementation							

Note: Totals may include rounding differences.

SDG&E/CS - FIELD/Exh No:SDG&E-17-WP-R/Witness: G. Marelli

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC004.000 - Customer Services Field - Support

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>
2018	Other	0	286	0	286	0.0	1-Sided Adj	TPTHT20170309221011073
Explanation:		Incremental ongoing O&M costs for software license and maintenance costs associated with the implementation of the SORT Extension Capital Project. Refer to SDG&E witness G. Marelli, Ex. SDG&E-17, Section V, for more information on this project.						
2018	RAMP Base	79	17	0	96	0.9	1-Sided Adj	TPTHT20170309222608183
Explanation:		RAMP SDG&E-3 Employee Contractor & Public Safety: CS - Field Support labor and non-labor base expense for Behavior Based Safety Instructor. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.						
2018	RAMP Incremental	-15	-7	0	-22	0.0	1-Sided Adj	TPTHT20170628122332783
Explanation:		RAMP SDG&E-3 Employee Contractor & Public Safety: CS - Field Support labor and non-labor incremental expense for Behavior Based Safety Instructor. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.						
2018 Total		2,165	345	0	2,510	27.0		
2019	Other	2,101	50	0	2,151	26.1	1-Sided Adj	TPTHT20170309220809530
Explanation:		CS - Field Support labor and non-labor expenses to support CS - Field Operations. A three-year average was used because SDG&E believes this methodology best reflects the effects of Smart Meter implementation						
2019	Other	0	292	0	292	0.0	1-Sided Adj	TPTHT20170309221026827
Explanation:		Incremental ongoing O&M costs for software license and maintenance costs associated with the implementation of the SORT Extension Capital Project. Refer to SDG&E witness G. Marelli, Ex. SDG&E-17, Section V, for more information on this project.						
2019	RAMP Base	79	17	0	96	0.9	1-Sided Adj	TPTHT20170309222945100
Explanation:		RAMP SDG&E-3 Employee Contractor & Public Safety: CS - Field Support labor and non-labor base expense for Behavior Based Safety Instructor. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.						
2019	RAMP Incremental	-15	-7	0	-22	0.0	1-Sided Adj	TPTHT20170628122443993
Explanation:		RAMP SDG&E-3 Employee Contractor & Public Safety: CS - Field Support labor and non-labor incremental expense for Behavior Based Safety Instructor. Refer to testimony of SDG&E witness G. Marelli, Ex. SDG&E-17, Section II, for more information on RAMP-related activities.						
2019 Total		2,165	352	0	2,517	27.0		

Note: Totals may include rounding differences.

SDG&E/CS - FIELD/Exh No:SDG&E-17-WP-R/Witness: G. Marelli

San Diego Gas & Electric Company
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Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC004.000 - Customer Services Field - Support

Determination of Adjusted-Recorded (Incurred Costs):

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
Recorded (Nominal \$)*					
Labor	1,641	1,534	1,258	1,349	1,354
Non-Labor	506	409	388	372	447
NSE	0	0	0	0	0
Total	2,147	1,943	1,646	1,721	1,801
FTE	20.5	19.1	15.3	16.0	15.4
Adjustments (Nominal \$) **					
Labor	192	378	398	546	571
Non-Labor	-8	-6	-4	0	-36
NSE	0	0	0	0	0
Total	184	372	394	546	535
FTE	4.6	6.4	6.5	7.8	7.7
Recorded-Adjusted (Nominal \$)					
Labor	1,833	1,912	1,656	1,896	1,925
Non-Labor	497	403	384	372	411
NSE	0	0	0	0	0
Total	2,331	2,315	2,040	2,268	2,336
FTE	25.1	25.5	21.8	23.8	23.1
Vacation & Sick (Nominal \$)					
Labor	266	303	264	293	319
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	266	303	264	293	319
FTE	4.0	4.5	3.9	4.2	4.2
Escalation to 2016\$					
Labor	194	154	90	52	0
Non-Labor	13	5	0	1	0
NSE	0	0	0	0	0
Total	207	159	91	53	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2016\$)					
Labor	2,293	2,369	2,010	2,241	2,244
Non-Labor	510	408	385	373	411
NSE	0	0	0	0	0
Total	2,803	2,777	2,395	2,613	2,655
FTE	29.1	30.0	25.7	28.0	27.3

* 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.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC004.000 - Customer Services Field - Support

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	192	378	398	546	571
Non-Labor	-8	-6	-4	0	-36
NSE	0	0	0	0	0
Total	184	372	394	546	535
FTE	4.6	6.4	6.5	7.8	7.7

Detail of Adjustments to Recorded:

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	82	0	0	1.3	CCTR Transf From 2100-3547.000	CSCHRAMM20161004145624107
Explanation: Transfer labor and FTE associated with Meter Access positions from 2100-3547 in work paper group 100001 Advanced Metering Operations to cost center 2100-3753 in work paper group 1FC004 CSF Office Support to align costs where activity/function resides.							
2012	Other	182	0	0	2.7	1-Sided Adj	CTRINH20161027085323927
Explanation: Transfer CS - Field Instructors and BBS Instructors labor from 1FC001.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2012	Other	155	0	0	3.5	1-Sided Adj	CTRINH20161031090322633
Explanation: Transfer CS - Field District Ops Assistants labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2012	Other	105	0	0	1.0	1-Sided Adj	CTRINH20161101102459120
Explanation: Transfer CS - Field District Operations Manager labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2012	Other	-117	0	0	-1.7	1-Sided Adj	CTRINH20161101113359380
Explanation: Transfer CS - Field Operations labor from 1FC004.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2012	Other	0	-8	0	0.0	1-Sided Adj	CTRINH20161101125909790
Explanation: Transfer CS - Field Operations non-labor from 1FC004.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2012	Other	-118	0	0	-1.3	CCTR Transf To 2100-3576.000	CTRINH20161116081011527
Explanation: Adjustment Due To Re-Org Of Service Order Routing Technology (SORT) Team. Transfer CSF Support labor and FTE from cost center 2100-3584 in work paper group 1FC004 CSF Support to cost center 2100-3576 in work paper group 100008 Customer Operations Support & Projects to align historical costs where activity/function resides.							

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC004.000 - Customer Services Field - Support

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2012	Other	-98	0	0	-0.9	CCTR Transf To 2100-0643.000	CTRINH20161116081741073
Explanation: Adjustment Due To Re-Org Of Service Order Routing Technology (SORT) Team. Transfer CSF Support labor and FTE from cost center 2100-3584 in work paper group 1FC004.000 CSF Support to cost center 2100-0643 in 1IN004.000 Customer Programs, Pricing, and Other Office to align historical costs where activity/function resides.							
2012 Total		192	-8	0	4.6		
2013	Other	70	0	0	0.7	CCTR Transf From 2100-3889.000	ASUSTARI20161028095453787
Explanation: Transfer due to reorg in 2014 separating CSF from Gas Distribution. Moving Safety Advisor historical labor out of Gas Dist to appropriate CSF CC 0639							
2013	Other	54	0	0	0.8	CCTR Transf From 2100-3547.000	CSCHRAMM20161004145939057
Explanation: Transfer labor and FTE associated with Meter Access positions from cost center 2100-3547 in work paper group 1OO001 Advanced Metering Operations to cost center 2100-3753 in work group 1FC004.000 CSF Office Support to align historical costs where activity/function resides.							
2013	Other	133	0	0	2.0	1-Sided Adj	CTRINH20161027090557653
Explanation: Transfer CS - Field Instructors and BBS Instructors labor from 1FC001.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2013	Other	148	0	0	3.3	1-Sided Adj	CTRINH20161031091221850
Explanation: Transfer CS - Field District Ops Assistants labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2013	Other	129	0	0	1.2	1-Sided Adj	CTRINH20161101103802990
Explanation: Transfer CS - Field District Operations Manager labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2013	Other	-12	0	0	-0.2	1-Sided Adj	CTRINH20161101113521487
Explanation: Transfer CS - Field Operations labor from 1FC004.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2013	Other	0	-6	0	0.0	1-Sided Adj	CTRINH20161101130126547
Explanation: Transfer CS - Field Operations non-labor from 1FC004.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2013	Other	-43	0	0	-0.5	CCTR Transf To 2100-3576.000	CTRINH20161116081142197
Explanation: Adjustment Due To Re-Org Of SORT Team. Transfer CSF Support labor from cost center 2100-3584 in work paper group 1FC004.000 CSF Support to cost center 2100-3576 in work paper group 1OO008.000 Customer Operations Support & Projects to align historical costs where the activity/function resides.							

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC004.000 - Customer Services Field - Support

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2013	Other	-101	0	0	-0.9	CCTR Transf To 2100-0643.000	CTRINH20161116081846980
Explanation: Adjustment Due To Re-Org Of SORT Team. Transfer CSF Support labor and FTE from cost center 2100-3584 in work paper group 1FC004.000 CSF Support to cost center 2100-0643 in work paper group 1IN004.000 Customer Programs, Pricing, and Other Office to align historical costs where activity/function resides.							
2013 Total		378	-6	0	6.4		
2014	Other	73	0	0	0.7	CCTR Transf From 2100-3889.000	ASUSTARI20161028095634320
Explanation: Transfer due to reorg in 2014 separating CSF from Gas Distribution. Moving Safety Advisor historical labor out of Gas Dist to appropriate CSF CC 0639							
2014	Other	135	0	0	1.9	1-Sided Adj	CTRINH20161027090711977
Explanation: Transfer CS - Field Instructors and BBS Instructors labor from 1FC001.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	182	0	0	3.9	1-Sided Adj	CTRINH20161031143816010
Explanation: Transfer CS - Field District Ops Assistants labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	25	0	0	0.3	1-Sided Adj	CTRINH20161101080109727
Explanation: Transfer CS - Field Instructors labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	164	0	0	1.5	1-Sided Adj	CTRINH20161101104324070
Explanation: Transfer CS - Field District Operations Manager labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	0	-4	0	0.0	1-Sided Adj	CTRINH20161101130226843
Explanation: Transfer CS - Field Operations non-labor from 1FC004.000 to 1FC001.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2014	Other	-67	0	0	-0.7	CCTR Transf To 2100-0712.000	CTRINH20161101133213653
Explanation: Transfer Business Advisor labor from 1FC004.000 to 1AG001.000 in order to align historical costs with the workgroup in which the activity will be forecasted. Transfer due to re-org centralizing Business Planning.							
2014	Other	-33	0	0	-0.4	CCTR Transf To 2100-3576.000	CTRINH20161116081225853
Explanation: Adjustment Due To Re-Org Of SORT Team. Transfer CSF Support labor and FTE from cost center 2100-3584 in work paper group 1FC004.000 CSF Support to cost center 2100-3576 in work paper group 1OO008.000 Customer Operations Support & Projects to align historical costs where the activity/function resides.							

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC004.000 - Customer Services Field - Support

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2014	Other	-81	0	0	-0.7	CCTR Transf To 2100-0643.000	CTRINH20161116081933713
Explanation: Adjustment Due To Re-Org Of SORT Team. Transfer CSF Support labor and FTE from cost center 2100-3584 in work paper group 1FC004.000 CSF Support to cost center 2100-0643 in work paper group 1IN004.000 Customer Programs, Pricing, and Other Office to align historical costs where activity/function resides.							
2014 Total		398	-4	0	6.5		
2015	Other	109	0	0	1.5	1-Sided Adj	CTRINH20161027093029430
Explanation: Transfer CS - Field Instructors and BBS Instructors labor from 1FC001.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015	Other	227	0	0	4.5	1-Sided Adj	CTRINH20161031143852450
Explanation: Transfer CS - Field District Ops Assistants labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015	Other	19	0	0	0.2	1-Sided Adj	CTRINH20161101080154517
Explanation: Transfer CS - Field Instructors labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015	Other	184	0	0	1.6	1-Sided Adj	CTRINH20161101112710177
Explanation: Transfer CS - Field District Operations Manager labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2015	Other	-5	0	0	-0.1	CCTR Transf To 2100-3576.000	CTRINH20161116081312557
Explanation: Adjustment Due To Re-Org Of SORT Team. Transfer CSF Support labor and FTE from cost center 2100-3584 in work paper group 1FC004.000 CSF Support to cost center 2100-3576 in work paper group 1OO008.000 Customer Operations Support & Projects to align historical costs where the activity/function resides.							
2015	Other	14	0	0	0.1	CCTR Transf To 2100-0643.000	CTRINH20161116082045313
Explanation: Adjustment Due To Re-Org Of SORT Team. Transfer CSF Support labor and FTE from cost center 2100-3584 in work paper group 1FC004.000 CSF Support to cost center 2100-0643 in work paper group 1IN004.000 Customer Programs, Pricing, and Other Office to align historical costs where activity/function resides.							
2015 Total		546	0	0	7.8		
2016	Other	149	0	0	1.8	1-Sided Adj	CTRINH20161027093129647
Explanation: Transfer CS - Field Instructors and BBS Instructors labor from 1FC001.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
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Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC004.000 - Customer Services Field - Support

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2016	Other	212	0	0	4.0	1-Sided Adj	CTRINH20161031143935123
Explanation: Transfer CS - Field District Ops Assistants labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2016	Other	42	0	0	0.5	1-Sided Adj	CTRINH20161101080223050
Explanation: Transfer CS - Field Instructors labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2016	Other	167	0	0	1.4	1-Sided Adj	CTRINH20161101113010127
Explanation: Transfer CS - Field District Operations Manager labor from 1FC002.000 to 1FC004.000 in order to align historical costs with the workgroup in which the activity will be forecasted							
2016	Other	0	-167	0	0.0	1-Sided Adj	CTRINH20161201154632043
Explanation: Adjustment to reflect credit received from Itron Warranty Claims. Forecast for module work will be zero based and adjustment is needed to remove impact from historical.							
2016	Other	0	104	0	0.0	1-Sided Adj	CTRINH20161201154700617
Explanation: Adjustment to reflect E-waste disposal fees associated with module work. Forecast for module work will be zero based and adjustment is needed to remove impact from historical.							
2016	Other	0	27	0	0.0	1-Sided Adj	CTRINH20161201154735580
Explanation: Adjustment to reflect Agile1 expenses associated with module work. Forecast for module work will be zero based and adjustment is needed to remove impact from historical.							
2016 Total		571	-36	0	7.7		

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
 Witness: Gwen R. Marelli
 Category: A. Customer Services Field
 Category-Sub: 1. Customer Services Field
 Workpaper: 1FC004.000 - Customer Services Field - Support

RAMP Item # 1

Ref ID: TPTHT20170309221301297

RAMP Chapter: SDG&E-3

Program Name: Behavior Based Safety (BBS) Program

Program Description: CSF BBS program

Risk/Mitigation:

Risk: Employee, Contractor, Customer and Public Safety

Mitigation: Field observations of employee and contractors activities and safety behaviors

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	872	872	872
High	1,046	1,046	1,046

Funding Source: CPUC-GRC

Forecast Method: Average

Work Type: Non-Mandated

Work Type Citation: This not mandated. This is the CSF Support portion only. The RAMP cost includes other orgs

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 96

Explanation: CSF Support base forecast for the Behavior Based Safety (BBS) Program

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Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli
Category: A. Customer Services Field
Category-Sub: 1. Customer Services Field
Workpaper: 1FC004.000 - Customer Services Field - Support

RAMP Item # 2

Ref ID: TPTHT20170628121453537

RAMP Chapter: SDG&E-3

Program Name: Behavior Based Safety (BBS) Program

Program Description: CSF BBS Program

Risk/Mitigation:

Risk: Employee, Contractor, Customers and Public Safety

Mitigation: Field observations of employees and contractors activities and safety behaviors

Forecast CPUC Cost Estimates (\$000)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Low	872	872	872
High	1,046	1,046	1,046

Funding Source: CPUC-GRC

Forecast Method: Average

Work Type: Non-Mandated

Work Type Citation: This not mandated. This is the CSF Support portion only. The RAMP cost includes other orgs

Historical Embedded Cost Estimates (\$000)

Embedded Costs: 0

Explanation: 2016 Embedded costs is reflected in RAMP Item # 1 (RAMP-Base)

San Diego Gas & Electric Company
2019 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD
Witness: Gwen R. Marelli

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2100-0024	000	FIELD COLLECTIONS SDGE SOUTHERN
2100-0025	000	FIELD COLLECTIONS SDGE NORTHERN
2100-0030	000	CUSTOMER SERVICES FIELD BEACH CITIES
2100-0031	000	CUSTOMER SERVICES FIELD EASTERN
2100-0032	000	CUSTOMER SERVICES FIELD METRO
2100-0033	000	CUSTOMER SERVICES FIELD NORTHEAST
2100-0034	000	CUSTOMER SERVICES FIELD NORTH COAST
2100-0129	000	DISPATCH MANAGER
2100-0639	000	CUSTOMER SERVICES FIELD MANAGER
2100-0640	000	LOS MANAGER SEASONALS
2100-3456	000	CUSTOMER SERVICES FIELD STAFF
2100-3457	000	CUSTOMER SERVICES FIELD TRAINING MANAGER
2100-3584	000	CST - SORT
2100-3605	000	QUALITY ASSURANCE
2100-3664	000	CUSTOMER SERVICES FIELD DOM BEACH CITIES
2100-3665	000	CUSTOMER SERVICES FIELD DOM METRO
2100-3666	000	CUSTOMER SERVICES FIELD DOM EASTERN
2100-3667	000	CUSTOMER SERVICES FIELD DOM NORTH COAST
2100-3668	000	CUSTOMER SERVICES FIELD DOM NORTHEAST
2100-3753	000	CUSTOMER SERVICES FIELD METER ACCESS