

Application of SAN DIEGO GAS & ELECTRIC)
COMPANY for authority to update its gas and)
electric revenue requirement and base rates)
effective January 1, 2024 (U 902-M))

Application No. 22-05-016

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

REVISED WORKPAPERS TO
PREPARED DIRECT TESTIMONY
OF DAVID H. THAI
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

AUGUST 2022



**2024 General Rate Case - REVISED
INDEX OF WORKPAPERS**

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

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

Area:	CS - FIELD OPERATIONS
Witness:	David H. Thai

Description	In 2021 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Non-Shared Services	33,342	34,461	36,503	40,337
Shared Services	0	0	0	0
Total	33,342	34,461	36,503	40,337

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
 2024 GRC - REVISED
 Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai

Summary of Non-Shared Services Workpapers:

Description	In 2021 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
A. Customer Services Field Operations	33,342	34,461	36,503	40,337
Total	33,342	34,461	36,503	40,337

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
Witness: David H. Thai
Category: A. Customer Services Field Operations
Workpaper: VARIOUS

Summary for Category: A. Customer Services Field Operations

	In 2021\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	30,841	32,015	32,837	34,223
Non-Labor	2,502	2,447	3,667	6,115
NSE	0	0	0	0
Total	33,343	34,462	36,504	40,338
FTE	290.4	301.9	310.3	324.7

Workpapers belonging to this Category:

1FC001.000 Customer Field Operations

Labor	15,046	15,321	15,544	15,689
Non-Labor	1,040	1,063	1,078	1,081
NSE	0	0	0	0
Total	16,086	16,384	16,622	16,770
FTE	144.1	147.1	149.3	149.4

1FC002.000 Customer Field Operations Supervision

Labor	1,239	1,402	1,422	1,435
Non-Labor	33	33	33	33
NSE	0	0	0	0
Total	1,272	1,435	1,455	1,468
FTE	10.9	12.4	12.5	12.6

1FC003.000 Work Management

Labor	3,285	3,473	3,473	3,473
Non-Labor	61	61	61	61
NSE	0	0	0	0
Total	3,346	3,534	3,534	3,534
FTE	28.5	30.4	30.4	30.4

1FC004.000 Customer Field Operations Support

Labor	2,861	3,465	3,742	3,742
Non-Labor	715	637	1,537	1,537
NSE	0	0	0	0
Total	3,576	4,102	5,279	5,279
FTE	25.8	31.2	33.5	33.5

1FC005.000 Smart Meter Operations

Labor	8,410	8,354	8,656	9,884
Non-Labor	653	653	958	3,403
NSE	0	0	0	0
Total	9,063	9,007	9,614	13,287
FTE	81.1	80.8	84.6	98.8

Note: Totals may include rounding differences.

Beginning of Workpaper
1FC001.000 - Customer Field Operations

San Diego Gas & Electric Company
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Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC001.000 - Customer Field Operations

Activity Description:

The Customer Field Operations cost category consists of labor and non-labor costs for field technicians to provide service at customer premises, including both customer and company generated work orders. Examples of customer-generated work 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 include meter and regulator changes, and other meter work necessary to maintain company assets, and collecting customer payments for delinquent bills.

Forecast Explanations:

Labor - Base YR Rec

Labor costs are primarily driven by work order volumes. Work order volumes, in turn, are largely driven by outside factors including 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 fires and earthquakes, and changes to applicable laws and regulations. A base year was chosen because 2021 is the last recorded year that accurately reflects the expense level associated with current departmental activity.

Non-Labor - Base YR Rec

Non-labor expenses include Personal Protective Equipment (PPE), uniforms, small tools, mobile devices, and miscellaneous items used on the jobs. Non-labor costs are driven by the forecasted workforce levels.

NSE - Base YR Rec

N/A

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		14,661	14,019	14,523	14,826	15,046	15,320	15,543	15,688	
Non-Labor		742	1,353	937	1,354	1,040	1,063	1,078	1,081	
NSE		0	0	0	0	0	0	0	0	
Total		15,404	15,372	15,459	16,181	16,085	16,383	16,621	16,769	
FTE		146.6	136.0	136.4	139.2	144.1	147.1	149.3	149.4	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
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Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC001.000 - Customer Field Operations

Summary of Adjustments to Forecast:

In 2021 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	15,046	15,046	15,046	275	498	643	15,321	15,544	15,689
Non-Labor	Base YR Rec	1,040	1,040	1,040	23	38	41	1,063	1,078	1,081
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		16,085	16,085	16,085	298	536	684	16,383	16,621	16,769
FTE	Base YR Rec	144.1	144.1	144.1	3.0	5.2	5.3	147.1	149.3	149.4

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	208	16	0	224	2.0	1-Sided Adj
Explanation:	Customer Field Operations labor and non-labor costs related to order volume forecast. Reference Customer Field Operations 1FC001.000 Supplemental Workpaper 1 - Order Volume Based Cost Model for detailed calculations.					
2022	67	7	0	74	1.0	1-Sided Adj
Explanation:	RAMP SDGE-Risk-9-C19 Incident Related to the Medium Pressure System: labor and non-labor costs for orders related to field and public safety. Reference Customer Field Operations 1FC001.000 Supplemental Workpaper 1 - Order Volume Based Cost Model for detailed calculations.					
2022 Total	275	23	0	298	3.0	
2023	257	19	0	276	2.5	1-Sided Adj
Explanation:	Customer Field Operations labor and non-labor costs related to order volume forecast. Reference Customer Field Operations 1FC001.000 Supplemental Workpaper 1 - Order Volume Based Cost Model for detailed calculations.					
2023	84	6	0	90	0.8	1-Sided Adj
Explanation:	SM 2.0 Capital Project Impacts: labor and non-labor costs for the removal of gas modules. Reference Exhibit SDG&E-25 Information Technology, Chapter 2: IT Forecasts, Capital Witness (William J. Exon), SM 2.0 Capital Project CWP 218810. Reference Customer Field Operations 1FC001.000 Supplemental Workpaper 1 - Order Volume Based Cost Model for detailed calculations of O&M cost.					
2023	157	13	0	170	1.9	1-Sided Adj
Explanation:	RAMP SDGE-Risk-9-C19 Incident Related to the Medium Pressure System: labor and non-labor costs for orders related to field and public safety. Reference Customer Field Operations 1FC001.000 Supplemental Workpaper 1 - Order Volume Based Cost Model for detailed calculations.					
2023 Total	498	38	0	536	5.2	
2024	309	20	0	329	2.5	1-Sided Adj
Explanation:	Customer Field Operations labor and non-labor costs related to order volume forecast. Reference Customer Field Operations 1FC001.000 Supplemental Workpaper 1 - Order Volume Based Cost Model for detailed calculations.					
2024	84	6	0	90	0.8	1-Sided Adj

Note: Totals may include rounding differences.

SDG&E/CS - FIELD OPERATIONS/Exh No:SDG&E-17-WP-R/Witness: D. Thai

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC001.000 - Customer Field Operations

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
Explanation:	SM 2.0 Capital Project Impacts: labor and non-labor costs for the removal of gas modules. Reference Exhibit SDG&E-25 Information Technology, Chapter 2: IT Forecasts, Capital Witness (William J. Exon), SM 2.0 Capital Project CWP 218810. Reference Customer Field Operations 1FC001.000 Supplemental Workpaper 1 - Order Volume Based Cost Model for detailed calculations of O&M cost.					
2024	250	15	0	265	2.0	1-Sided Adj
Explanation:	RAMP SDGE-Risk-9-C19 Incident Related to the Medium Pressure System: labor and non-labor costs for orders related to field and public safety. Reference Customer Field Operations 1FC001.000 Supplemental Workpaper 1 - Order Volume Based Cost Model for detailed calculations.					
2024 Total	643	41	0	684	5.3	

Note: Totals may include rounding differences.

SDG&E/CS - FIELD OPERATIONS/Exh No:SDG&E-17-WP-R/Witness: D. Thai

San Diego Gas & Electric Company
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Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
Witness: David H. Thai
Category: A. Customer Services Field Operations
Category-Sub: 1. Customer Services Field Operations
Workpaper: 1FC001.000 - Customer Field Operations

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	11,952	11,651	12,541	12,767	13,391
Non-Labor	632	1,192	910	1,194	999
NSE	0	0	0	0	0
Total	12,583	12,843	13,451	13,960	14,390
FTE	131.7	121.7	123.6	120.9	124.6
Adjustments (Nominal \$) **					
Labor	-514	-440	-536	-184	-310
Non-Labor	19	34	-42	61	40
NSE	0	0	0	0	0
Total	-495	-406	-578	-124	-269
FTE	-6.2	-5.2	-6.2	-1.2	-1.6
Recorded-Adjusted (Nominal \$)					
Labor	11,438	11,211	12,005	12,582	13,081
Non-Labor	651	1,225	869	1,254	1,040
NSE	0	0	0	0	0
Total	12,088	12,436	12,874	13,837	14,120
FTE	125.6	116.5	117.4	119.7	123.0
Vacation & Sick (Nominal \$)					
Labor	1,697	1,698	1,719	1,784	1,965
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1,697	1,698	1,719	1,784	1,965
FTE	21.0	19.5	19.0	19.5	21.1
Escalation to 2021\$					
Labor	1,526	1,110	799	460	0
Non-Labor	92	128	68	100	0
NSE	0	0	0	0	0
Total	1,618	1,238	866	560	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	14,661	14,019	14,523	14,826	15,046
Non-Labor	742	1,353	937	1,354	1,040
NSE	0	0	0	0	0
Total	15,404	15,372	15,459	16,181	16,085
FTE	146.6	136.0	136.4	139.2	144.1

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC001.000 - Customer Field Operations

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	-514	-440	-536	-184	-310
Non-Labor	19	34	-42	61	40
NSE	0	0	0	0	0
Total	-495	-406	-578	-124	-269
FTE	-6.2	-5.2	-6.2	-1.2	-1.6

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017	-5	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2017	0	12	0	0.0	CCTR Transf From 2100-3584.000
Explanation:	Transfer of telecommunication expense from cost center 2100-3584 in 1SM004 Business Technology Safety Management System to CSFC workpaper 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2017	23	32	0	0.3	CCTR Transf From 2100-3664.000
Explanation:	Transfer of field technician labor and associated non-labor from 1FC002 Customer Field Operations Supervision to 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2017	-8	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2017	-29	0	0	-0.2	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2017	0	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2017	-18	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2017	-1	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
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Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC001.000 - Customer Field Operations

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
2017	-99	-5	0	-1.3	1-Sided Adj
Explanation:	One-sided adjustment to transfer portion of training costs to Capital pool to align historical costs with the accounting change in 2021 base year and forecast years.				
2017	-105	0	0	-1.1	CCTR Transf To 2100-3664.000
Explanation:	Transfer of Field Supervisors from 1FC001 Customer Field Operations to 1FC002 Customer Field Operations Supervision to align historical costs with the workgroup in which the activity will be forecasted.				
2017	-74	-6	0	-0.8	CCTR Transf To 2100-3890.000
Explanation:	Transfer of Field Safety Advisor and associated non-labor from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	-164	0	0	-1.9	CCTR Transf To 2100-3457.000
Explanation:	Transfer of Field Instructors and QA Inspectors from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	-8	0	0	-0.1	CCTR Transf To 2100-3605.000
Explanation:	Transfer of District Operations Assistants from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	-26	0	0	-0.6	CCTR Transf To 2100-3792.000
Explanation:	Transfer of Field Collection Support Person from 1FC001 Customer Field Operations to 1FC003 Work Management to align historical costs with the workgroup in which the activity will be forecasted.				
2017	0	-19	0	0.0	1-Sided Adj
Explanation:	One-sided adjustment to offset 2017 and 2018 year over year impact of accrual reversal for Long-Term Disability benefits.				
2017	0	5	0	0.0	1-Sided Adj
Explanation:	One-sided adjustment to offset 2016 and 2017 year over year impact of accrual reversal for mobile application software maintenance.				
2017 Total	-514	19	0	-6.2	
2018	5	0	0	0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2018	0	18	0	0.0	CCTR Transf From 2100-3584.000
Explanation:	Transfer of telecommunication expense from cost center 2100-3584 in 1SM004 Business Technology Safety Management System to CSFC workpaper 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2018	8	0	0	0.1	1-Sided Adj

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
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Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
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 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC001.000 - Customer Field Operations

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2018	23	0	0	0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2018	31	38	0	0.3	CCTR Transf From 2100-3664.000
Explanation:	Transfer of field technician labor and associated non-labor from 1FC002 Customer Field Operations Supervision to 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2018	0	0	0	0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2018	6	0	0	0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2018	1	0	0	0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2018	-93	-8	0	-1.2	1-Sided Adj
Explanation:	One-sided adjustment to transfer portion of training costs to Capital pool to align historical costs with the accounting change in 2021 base year and forecast years.				
2018	-82	0	0	-0.7	CCTR Transf To 2100-3664.000
Explanation:	Transfer of Field Supervisors from 1FC001 Customer Field Operations to 1FC002 Customer Field Operations Supervision to align historical costs with the workgroup in which the activity will be forecasted.				
2018	-81	-8	0	-0.9	CCTR Transf To 2100-3890.000
Explanation:	Transfer of Field Safety Advisor and associated non-labor from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018	-204	0	0	-2.3	CCTR Transf To 2100-3457.000
Explanation:	Transfer of Field Instructors and QA Inspectors from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018	-12	0	0	-0.2	CCTR Transf To 2100-3605.000
Explanation:	Transfer of District Operations Assistants from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018	-41	0	0	-0.8	CCTR Transf To 2100-3792.000

Note: Totals may include rounding differences.

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Area: CS - FIELD OPERATIONS
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 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC001.000 - Customer Field Operations

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Transfer of Field Collection Support Person from 1FC001 Customer Field Operations to 1FC003 Work Management to align historical costs with the workgroup in which the activity will be forecasted.				
2018	0	18	0	0.0	1-Sided Adj
Explanation:	One-sided adjustment to offset 2017 and 2018 year over year impact of accrual reversal for Long-Term Disability benefits.				
2018	0	-20	0	0.0	CCTR Transf To 2100-0717.000
Explanation:	Transfer of gas module e-waste recycling cost from 1FC001 Customer Field Operations to 1FC005 Smart Meter Operations in order to align historical costs with the workgroup in which the activity will be forecasted.				
2018	0	-6	0	0.0	CCTR Transf To 2100-3890.000
Explanation:	Transfer of CMVI consulting cost from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018 Total	-440	34	0	-5.2	
2019	0	33	0	0.0	CCTR Transf From 2100-3584.000
Explanation:	Transfer of telecommunication expense from cost center 2100-3584 in 1SM004 Business Technology Safety Management System to CSFC workpaper 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2019	-11	50	0	-0.1	CCTR Transf From 2100-3664.000
Explanation:	Transfer of field technician labor (reversal) and associated non-labor from 1FC002 Customer Field Operations Supervision to 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2019	-88	0	0	-0.9	CCTR Transf To 2100-3664.000
Explanation:	Transfer of Field Supervisors from 1FC001 Customer Field Operations to 1FC002 Customer Field Operations Supervision to align historical costs with the workgroup in which the activity will be forecasted.				
2019	-82	-17	0	-0.8	CCTR Transf To 2100-3890.000
Explanation:	Transfer of Field Safety Advisor and associated non-labor from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	-164	0	0	-1.7	CCTR Transf To 2100-3457.000
Explanation:	Transfer of Field Instructors and QA Inspectors from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	-25	0	0	-0.4	CCTR Transf To 2100-3605.000
Explanation:	Transfer of District Operations Assistants from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	-48	0	0	-0.9	CCTR Transf To 2100-3792.000
Explanation:	Transfer of Field Collection Support Person from 1FC001 Customer Field Operations to 1FC003 Work Management to align historical costs with the workgroup in which the activity will be forecasted.				

Note: Totals may include rounding differences.

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2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
Witness: David H. Thai
Category: A. Customer Services Field Operations
Category-Sub: 1. Customer Services Field Operations
Workpaper: 1FC001.000 - Customer Field Operations

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
2019	0	-100	0	0.0	CCTR Transf To 2100-0717.000
Explanation:	Transfer of gas module e-waste recycling cost from 1FC001 Customer Field Operations to 1FC005 Smart Meter Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2019	-118	-8	0	-1.4	1-Sided Adj
Explanation:	One-sided adjustment to transfer portion of training costs to Capital pool to align historical costs with the accounting change in 2021 base year and forecast years.				
2019 Total	-536	-42	0	-6.2	
2020	-1	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-1	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-3	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-2	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-3	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	0	13	0	0.0	CCTR Transf From 2100-3584.000
Explanation:	Transfer of telecommunication expense from cost center 2100-3584 in 1SM004 Business Technology Safety Management System to CSFC workpaper 1FC001 Customer Field Operations in order to align historical costs with the workgroup in which the activity will be forecasted.				
2020	-40	-3	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-24	-4	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	410	102	0	4.4	CCTR Transf From 2100-3664.000
Explanation:	Transfer of field technician labor and associated non-labor from 1FC002 Customer Field Operations Supervision to 1FC001 Customer Field Operations 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
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC001.000 - Customer Field Operations

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
2020	-32	0	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-19	-5	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-27	-2	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	0	-11	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	0	-5	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-144	0	0	-1.4	CCTR Transf To 2100-3664.000
Explanation:	Transfer of Field Supervisors from 1FC001 Customer Field Operations to 1FC002 Customer Field Operations Supervision to align historical costs with the workgroup in which the activity will be forecasted.				
2020	-82	-2	0	-0.8	CCTR Transf To 2100-3890.000
Explanation:	Transfer of Field Safety Advisor and associated non-labor from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	-74	0	0	-0.7	CCTR Transf To 2100-3457.000
Explanation:	Transfer of Field Instructors and QA Inspectors from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	-31	0	0	-0.5	CCTR Transf To 2100-3792.000
Explanation:	Transfer of Field Collection Support Person from 1FC001 Customer Field Operations to 1FC003 Work Management to align historical costs with the workgroup in which the activity will be forecasted.				
2020	0	9	0	0.0	CCTR Transf From 2100-3457.000
Explanation:	Transfer of field uniform expense (Personal Protective Equipment) from 1FC004 Customer Field Operations Support to 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2020	0	-28	0	0.0	CCTR Transf To 2100-0717.000
Explanation:	Transfer of gas module e-waste recycling cost from 1FC001 Customer Field Operations to 1FC005 Smart Meter Operations 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
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
Witness: David H. Thai
Category: A. Customer Services Field Operations
Category-Sub: 1. Customer Services Field Operations
Workpaper: 1FC001.000 - Customer Field Operations

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
2020	-110	-5	0	-1.2	1-Sided Adj
Explanation:	One-sided adjustment to transfer portion of training costs to Capital pool to align historical costs with the accounting change in 2021 base year and forecast years.				
2020 Total	-184	61	0	-1.2	
2021	-59	-2	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	-35	-1	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	-46	0	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	-31	0	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	-51	0	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	0	0	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	316	123	0	3.3	CCTR Transf From 2100-3664.000
Explanation:	Transfer of field technician labor and associated non-labor from 1FC002 Customer Field Operations Supervision to 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2021	0	-111	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	0	37	0	0.0	CCTR Transf From 2100-3457.000
Explanation:	Transfer of field uniform expense (Personal Protective Equipment) from 1FC004 Customer Field Operations Support to 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2021	-107	0	0	-1.0	CCTR Transf To 2100-3664.000
Explanation:	Transfer of Field Supervisors from 1FC001 Customer Field Operations to 1FC002 Customer Field Operations Supervision 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
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC001.000 - Customer Field Operations

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
2021	-86	-1	0	-0.8	CCTR Transf To 2100-3890.000
Explanation:	Transfer of Field Safety Advisor and associated non-labor from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021	-52	0	0	-0.5	CCTR Transf To 2100-3457.000
Explanation:	Transfer of Field Instructor from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021	-42	0	0	-0.8	CCTR Transf To 2100-3792.000
Explanation:	Transfer of Field Collection Support Person from 1FC001 Customer Field Operations to 1FC003 Work Management to align historical costs with the workgroup in which the activity will be forecasted.				
2021	0	-3	0	0.0	CCTR Transf To 2100-0717.000
Explanation:	Transfer of gas module e-waste cost from 1FC001 Customer Field Operations to 1FC005 Smart Meter Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2021	-117	-1	0	-1.3	1-Sided Adj
Explanation:	One-sided adjustment to reduce O&M by the full-year impact of allocating portion of training costs to Capital pool beginning in October 2021 due to accounting change.				
2021 Total	-310	40	0	-1.6	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC001.000 - Customer Field Operations

RAMP Item # 1

RAMP Activity

RAMP Chapter: SDG&E-Risk-9 Incident Related to the Medium Pressure System (Excluding Dig-in)

RAMP Line Item ID: C19

RAMP Line Item Name: Field and Public Safety

Tranche(/s): Tranche1: Meter and Beyond the Meter

GRC Forecast Cost Estimates (\$000)

	2021 Historical Embedded Cost (2021 \$)	2022 Forecast (2021 \$)	2023 Forecast (2021 \$)	2024 Forecast (2021 \$)	2024 RAMP Range (2020 Incurred \$)	
					Low	High
Tranche 1 Cost Estimate	10,278	10,352	10,448	10,543	9,209	11,633

Cost Estimate Changes from RAMP:

The GRC cost forecast is within RAMP range.

GRC Work Unit/Activity Level Estimates

Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 RAMP Range Activities	
					Low	High
Tranche 1 # of orders	119,744.00	140,105.00	141,402.00	142,758.00	117,036.00	160,155.00

Work Unit Changes from RAMP:

The GRC unit forecast is within RAMP range.

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.030	0.200

RSE Changes from RAMP:

No notable changes from RAMP RSE.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC001.000 - Customer Field Operations

RAMP Item # 2

RAMP Activity

RAMP Chapter: SDG&E-Risk-8 Incident Involving an Employee
 RAMP Line Item ID: C04
 RAMP Line Item Name: Employee Behavioral Accident Prevention Process Program
 Tranche(/s): Tranche1: Overall

GRC Forecast Cost Estimates (\$000)

	2021 Historical Embedded Cost (2021 \$)	2022 Forecast (2021 \$)	2023 Forecast (2021 \$)	2024 Forecast (2021 \$)	2024 RAMP Range (2020 Incurred \$)	
					Low	High
Tranche 1 Cost Estimate	249	249	249	249	818	990

Cost Estimate Changes from RAMP:

The GRC forecast for this mitigation is shared with another workpaper (1FC005.000) in my witness area and shared with another witness area (Electric Distribution O&M: Exhibit SDG&E-12).

GRC Work Unit/Activity Level Estimates

Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 RAMP Range Activities	
					Low	High
Tranche 1 # of employees	144.00	144.00	144.00	144.00	100.00	115.00

Work Unit Changes from RAMP:

The GRC forecast for this mitigation is shared with another workpaper (1FC005.000) in my witness area and shared with another witness area (Electric Distribution O&M: Exhibit SDG&E-12).

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	123.000	12.000

RSE Changes from RAMP:

General changes to risks scores or RSE values are primarily due to changes in the MAVF and RSE methodology, as discussed in the RAMP to GRC Integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC001.000 - Customer Field Operations

RAMP Item # 3

RAMP Activity

RAMP Chapter: SDG&E-Risk-8 Incident Involving an Employee

RAMP Line Item ID: C10

RAMP Line Item Name: Personal Protective Equipment

Tranche(/s): Tranche1: N/A

GRC Forecast Cost Estimates (\$000)

	2021 Historical Embedded Cost (2021 \$)	2022 Forecast (2021 \$)	2023 Forecast (2021 \$)	2024 Forecast (2021 \$)	2024 RAMP Range (2020 Incurred \$)	
					Low	High
Tranche 1 Cost Estimate	132	132	132	132	1,689	2,045

Cost Estimate Changes from RAMP:

The GRC forecast for this mitigation is shared with another workpaper (1FC005.000) in my witness area and shared with another witness areas (Gas Distribution Operations: Exhibit SDG&E-04 and Electric Distribution O&M: Exhibit SDG&E-12).

GRC Work Unit/Activity Level Estimates

Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 RAMP Range Activities	
					Low	High
Tranche 1 # of employees	144.00	144.00	144.00	144.00	4,400.00	4,800.00

Work Unit Changes from RAMP:

The GRC forecast for this mitigation is shared with another workpaper (1FC005.000) in my witness area and shared with another witness areas (Gas Distribution Operations: Exhibit SDG&E-04 and Electric Distribution O&M: Exhibit SDG&E-12).

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000

RSE Changes from RAMP:

An RSE was not calculated for this activity.

Supplemental Workpapers for Workpaper 1FC001.000

Customer Field Operations 1FC001.000 Supplemental Workpaper 1 - Order Volume Based Cost Model (Page 1 of 27)

Line #	Customer Field Operations Order Volume Based Cost Model			Order Volume							
	Calculation Steps --->>>			A							
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	Recorded					Estimated		
				2017	2018	2019	2020	BY 2021	2022	2023	TY 2024
1	CA ELEC	NON-RAMP	YES	1,390	437	262	204	233	264	267	269
2	CA GAS	NON-RAMP	YES	905	340	295	197	1,483	297	300	303
3	CA GAS AND ELEC	NON-RAMP	YES	795	213	98	116	32	99	100	101
4	CA GAS RAMP	RAMP	YES	15	13	12	7	36	12	12	12
5	GIVE NOTICE	NON-RAMP	YES	3,579	3,379	3,068	2,490	575	3,093	3,122	3,152
6	RTO	NON-RAMP	YES	350	298	252	190	43	254	256	259
7	RTO RAMP	RAMP	YES	1	2	5	-	-	5	5	5
8	1st (FIRST) CALL	NON-RAMP	YES	830	53	117	3	-	118	119	120
9	2nd (SECOND) CALL	NON-RAMP	YES	14,563	12,167	7,865	801	43	7,930	8,003	8,080
10	3rd (THIRD) CALL	NON-RAMP	YES	1,772	1,616	914	74	2	922	930	939
11	OPT-OUT READS	NON-RAMP	NO	17,105	17,891	18,830	18,324	24,828	25,032	25,263	25,506
12	APPLIANCE ADJUSTMENTS	NON-RAMP	YES	8,152	7,259	6,984	6,221	5,432	7,041	7,106	7,175
13	APPLIANCE ADJUSTMENTS RAMP	RAMP	YES	17,297	14,558	14,008	7,472	5,252	14,123	14,254	14,390
14	APPLIANCE MECHANIC WORK	NON-RAMP	YES	525	488	533	338	229	537	542	548
15	CARBON MONOXIDE-EMERGENCY - RAMP	RAMP	NO	854	1,004	1,143	872	660	665	672	678
16	CARBON MONOXIDE-NON EMERGENCY -RAMP	RAMP	NO	1,404	1,549	1,931	1,493	979	987	996	1,006
17	CREDIT SHUT OFF	NON-RAMP	YES	1,638	1,510	1,422	269	-	1,434	1,447	1,461
18	HIGH PRESSURE	NON-RAMP	NO	106	98	143	134	114	115	116	117
19	NO GAS	NON-RAMP	NO	3,287	2,906	2,897	2,709	4,814	4,854	4,898	4,945
20	NO GAS RAMP	RAMP	NO	10,326	9,982	9,487	7,952	7,416	7,477	7,546	7,618
21	OTHER MISC GAS & ELEC CUSTOMER REQUESTS	NON-RAMP	NO	9,723	9,055	9,626	9,810	11,079	11,170	11,273	11,381
22	SCHOOL LEAK SURVEYS	NON-RAMP	NO	355	320	362	337	422	425	429	434
23	SEASONAL OFF	NON-RAMP	YES	631	661	582	60	189	587	592	598
24	SEASONAL ON MULTIPLES	NON-RAMP	YES	1	3	1	-	-	1	1	1
25	SEASONAL ON MULTIPLES RAMP	RAMP	YES	7,531	9,048	7,574	154	-	7,636	7,707	7,781
26	SEASONAL ON SINGLES RAMP	RAMP	YES	13,901	13,678	14,551	14,352	7,937	14,670	14,806	14,948
27	SM OPTOUT METER CHANGE	NON-RAMP	YES	663	845	798	193	239	805	812	820
28	FUMIGATION/BUG FOGGER - RAMP	RAMP	NO	45,888	42,157	41,116	35,212	41,101	41,438	41,822	42,223
29	EMERGENCY B&B INSIDE - RAMP	RAMP	NO	1,063	1,011	1,093	960	858	865	873	881
30	EMERGENCY B&B OUTSIDE -RAMP	RAMP	NO	428	465	373	428	408	411	415	419
31	EMERGENCY-AGENCY REQUESTS - RAMP	RAMP	NO	797	814	813	773	847	854	862	870
32	FIRE & EXPLOSIONS - RAMP	RAMP	NO	7	7	11	8	7	7	7	7
33	GAS LEAKS-HAZARD - RAMP	RAMP	NO	29,870	25,902	24,408	23,261	20,499	20,667	20,858	21,059

Customer Field Operations 1FC001.000 Supplemental Workpaper 1 - Order Volume Based Cost Model (Page 2 of 27)

Line #	Customer Field Operations Order Volume Based Cost Model			Order Volume							
	Calculation Steps --->>>			A							
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	Recorded					Estimated		
				2017	2018	2019	2020	BY 2021	2022	2023	TY 2024
34	GAS LEAKS-NON HAZARD - RAMP	RAMP	NO	4,020	5,429	5,773	5,587	4,090	4,124	4,162	4,202
35	HBI - EZER	NON-RAMP	YES	5	-	3	1	2	3	3	3
36	HBI - RAMP	RAMP	YES	557	1,187	1,043	655	760	1,052	1,061	1,071
37	ACOR RAMP	RAMP	NO	29	182	1,307	1,460	1,319	1,330	1,342	1,355
38	COMPLIANCE - COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	-	-	-	1	768	1,032	1,042	1,052
39	COMPLIANCE - COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	4,039	3,636	4,494	4,458	2,684	3,608	3,641	3,676
40	COMPLIANCE - COD3 CHG/RMVE (GAS)	NON-RAMP	NO	-	-	1,310	9,098	126	169	171	173
41	COMPLIANCE - CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	206	134	123	228	20	27	27	27
42	COMPLIANCE - HTRK COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	-	-	-	-	1	1	1	1
43	COMPLIANCE - HTRK COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	226	192	287	331	432	581	586	592
44	COMPLIANCE - HTRK COD3-10Y CHG/RMVE-GAS	NON-RAMP	NO	339	302	622	1,200	437	587	593	599
45	COMPLIANCE - HTRK CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	30	11	23	36	10	13	14	14
46	CURB- RAMP	RAMP	NO	423	507	481	399	461	465	469	474
47	CUST/COMPANY CHANGE - ELEC	NON-RAMP	NO	178	59	92	78	1,505	1,517	1,531	1,546
48	CUST/COMPANY CHANGE - GAS	NON-RAMP	NO	1,221	1,566	1,500	1,678	1,498	1,510	1,524	1,539
49	CUST/COMPANY TEST(CHANGE) - GAS	NON-RAMP	NO	15	6	23	12	17	17	17	17
50	MISC COMPANY WORK	NON-RAMP	NO	4,102	3,070	2,738	4,741	2,148	2,166	2,186	2,207
51	MISC COMPANY WORK RAMP	RAMP	NO	48	280	463	2,094	2,224	2,242	2,263	2,285
52	HOUSELINE TEST/PURGE OM	NON-RAMP	NO	1	-	1	1	51	51	52	52
53	HOUSELINE TEST/PURGE OM RAMP	RAMP	NO	123	117	189	117	10	10	10	10
54	CREDIT CUT INS	NON-RAMP	YES	2,993	2,054	1,421	201	127	1,433	1,446	1,460
55	REREADS	NON-RAMP	NO	18,379	16,423	13,254	14,925	20,248	20,414	20,603	20,801
56	VERIFY	NON-RAMP	NO	906	1,180	1,032	505	651	656	662	669
57	VERIFY RAMP	RAMP	NO	125	138	195	84	103	104	105	106
58	CUST/COMPANY REMOVE/RESET - ELEC (METER WORK OM)	NON-RAMP	NO	38	345	12	16	29	29	30	30
59	CUST/COMPANY REMOVE/RESET - GAS	NON-RAMP	NO	290	489	339	455	418	421	425	429
60	GIVE NOTICE CUT	NON-RAMP	NO	1,595	1,181	1,369	829	294	296	299	302
61	SHUT OFF ELEC	NON-RAMP	YES	3,122	2,765	3,001	3,093	3,452	3,026	3,054	3,083
62	SHUT OFF GAS AND ELEC	NON-RAMP	YES	538	493	502	590	143	506	511	516
63	SHUT OFF GAS RAMP	RAMP	YES	5,261	4,625	4,336	3,481	7,143	4,372	4,412	4,454
64	SHUT OFF IN ERROR	NON-RAMP	NO	251	158	142	66	55	55	56	57
65	SOFT SHUT OFF GAS ELEC	NON-RAMP	NO	794	780	772	826	208	210	212	214
66	SOFT SHUT OFF GAS ELEC RAMP	RAMP	NO	12,644	12,467	12,261	12,615	11,055	11,146	11,249	11,357
67	SOFT TURN ON GAS TURN ON ELEC	NON-RAMP	NO	-	-	-	-	-	-	-	-
68	SOFT TURN ON GAS TURN ON ELEC RAMP	RAMP	NO	205	154	157	183	212	214	216	218

Customer Field Operations 1FC001.000 Supplemental Workpaper 1 - Order Volume Based Cost Model (Page 3 of 27)

Line #	Customer Field Operations Order Volume Based Cost Model			Order Volume							
	Calculation Steps --->>>			A							
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	Recorded					Estimated		
				2017	2018	2019	2020	BY 2021	2022	2023	TY 2024
69	TURN ON ELEC	NON-RAMP	NO	4,310	2,943	2,950	2,376	3,342	3,369	3,401	3,433
70	TURN ON G/E	NON-RAMP	YES	22	9	11	19	9	11	11	11
71	TURN ON G/E RAMP	RAMP	YES	584	406	428	265	92	432	436	440
72	TURN ON GAS RAMP	RAMP	YES	5,224	4,774	4,759	3,312	6,275	4,798	4,842	4,889
73	ALL INCOMPLETE ORDERS	NON-RAMP	YES	12,991	10,905	12,265	14,768	11,726	12,366	12,480	12,600
80	NON-FIELDED GAS MODULE TROUBLESHOOTING	NON-RAMP	NO	-	-	-	-	-	-	-	-
81	SM2.0 GAS MODULE REMOVAL	NON-RAMP	NO	-	-	-	-	-	-	8,500	8,500
82	TOTAL			281,586	258,696	251,252	226,198	219,902	259,160	270,058	272,567
83	TOTAL Change from BY 2021								39,258	50,156	52,665
84	RAMP - Order Volume Forecast			158,625	150,456	147,917	123,196	119,744	140,105	141,402	142,758
85	RAMP - Change from BY 2021								20,361	21,658	23,014
86	Non-RAMP - Order Volume Forecast			122,961	108,240	103,335	103,002	100,158	119,055	120,156	121,309
87	NON-RAMP - Change from BY 2021								18,897	19,998	21,151
88	SM 2.0 Capital Project Impacts			-	-	-	-	-	-	8,500	8,500
89	SM 2.0 - Change from BY 2021								-	8,500	8,500

¹ For order types affected by COVID-19 (YES), TY 2024 forecast assumes the order volume and on-premise time will resume to the normal activity level similar to 2019.

^{2,3} For all order types including those that are not affected by Covid-19, TY 2024 forecast assumes a drive time average and a non-job time similar to 2019 level.

Line items # 38-45: Compliance meter work orders were affected by the necessary cut-off for the Customer Information System (CIS) replacement going-live during the base year. Therefore, the 2021 base year order count is prorated to reflect the full-year impact.

Line item # 80: Non-fielded gas module troubleshooting are activities performed at the yard with no associated order count and drive time.

Line item # 81: Smart Meter 2.0 gas module removal assumes that for every single order to remove and replace a module, the removal portion of the time will be charged to O&M.

Customer Field Operations 1FC001.000 Supplemental Workpaper 1 - Order Volume Based Cost Model (Page 4 of 27)

Line #	Customer Field Operations Order Volume Based Cost Model			Onsite Time (Hours)					
	Calculation Steps --->>>			B		C = A x B / 60			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	2019 Onsite Per Order (Minutes)	BY 2021 Onsite Per Order (Minutes)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
1	CA ELEC	NON-RAMP	YES	7.6	8.0	31	34	34	34
2	CA GAS	NON-RAMP	YES	7.3	7.3	181	36	36	37
3	CA GAS AND ELEC	NON-RAMP	YES	7.5	10.7	6	12	13	13
4	CA GAS RAMP	RAMP	YES	49.5	25.2	15	10	10	10
5	GIVE NOTICE	NON-RAMP	YES	9.3	8.9	86	478	482	487
6	RTO	NON-RAMP	YES	11.4	15.2	11	48	49	49
7	RTO RAMP	RAMP	YES	56.4	-	-	5	5	5
8	1st (FIRST) CALL	NON-RAMP	YES	5.6	-	-	11	11	11
9	2nd (SECOND) CALL	NON-RAMP	YES	8.2	5.5	4	1,086	1,096	1,107
10	3rd (THIRD) CALL	NON-RAMP	YES	10.7	2.7	0	165	166	168
11	OPT-OUT READS	NON-RAMP	NO	2.8	2.0	819	826	834	842
12	APPLIANCE ADJUSTMENTS	NON-RAMP	YES	21.2	19.4	1,755	2,489	2,512	2,536
13	APPLIANCE ADJUSTMENTS RAMP	RAMP	YES	29.7	29.1	2,543	6,989	7,054	7,122
14	APPLIANCE MECHANIC WORK	NON-RAMP	YES	55.3	53.4	204	495	499	504
15	CARBON MONOXIDE-EMERGENCY - RAMP	RAMP	NO	46.4	53.1	584	589	594	600
16	CARBON MONOXIDE-NON EMERGENCY -RAMP	RAMP	NO	36.3	33.5	546	551	556	561
17	CREDIT SHUT OFF	NON-RAMP	YES	9.4	-	-	224	226	228
18	HIGH PRESSURE	NON-RAMP	NO	38.2	38.0	72	73	73	74
19	NO GAS	NON-RAMP	NO	43.2	27.9	2,234	2,253	2,274	2,295
20	NO GAS RAMP	RAMP	NO	36.5	32.9	4,060	4,094	4,131	4,171
21	OTHER MISC GAS & ELEC CUSTOMER REQUESTS	NON-RAMP	NO	35.4	32.4	5,990	6,039	6,095	6,154
22	SCHOOL LEAK SURVEYS	NON-RAMP	NO	107.5	94.2	663	668	674	681
23	SEASONAL OFF	NON-RAMP	YES	18.1	17.2	54	177	179	180
24	SEASONAL ON MULTIPLES	NON-RAMP	YES	1.4	-	-	0	0	0
25	SEASONAL ON MULTIPLES RAMP	RAMP	YES	17.9	-	-	2,280	2,302	2,324
26	SEASONAL ON SINGLES RAMP	RAMP	YES	27.7	27.9	3,684	6,775	6,838	6,903
27	SM OPTOUT METER CHANGE	NON-RAMP	YES	23.2	23.1	92	311	314	317
28	FUMIGATION/BUG FOGGER - RAMP	RAMP	NO	13.7	31.0	21,236	21,410	21,608	21,815
29	EMERGENCY B&B INSIDE - RAMP	RAMP	NO	38.4	36.8	526	530	535	540
30	EMERGENCY B&B OUTSIDE -RAMP	RAMP	NO	85.0	82.5	561	566	571	576
31	EMERGENCY-AGENCY REQUESTS - RAMP	RAMP	NO	50.6	43.7	616	621	627	633
32	FIRE & EXPLOSIONS - RAMP	RAMP	NO	33.1	28.4	3	3	3	3
33	GAS LEAKS-HAZARD - RAMP	RAMP	NO	41.1	37.1	12,675	12,779	12,897	13,021

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Line #	Customer Field Operations Order Volume Based Cost Model			Onsite Time (Hours)					
	Calculation Steps --->>>			B		C = A x B / 60			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	2019 Onsite Per Order (Minutes)	BY 2021 Onsite Per Order (Minutes)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
34	GAS LEAKS-NON HAZARD - RAMP	RAMP	NO	32.1	33.1	2,256	2,274	2,295	2,317
35	HBI - EZER	NON-RAMP	YES	12.9	34.5	1	1	1	1
36	HBI - RAMP	RAMP	YES	34.1	36.9	468	597	603	608
37	ACOR RAMP	RAMP	NO	33.9	32.0	702	708	715	722
38	COMPLIANCE - COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	-	29.0	371	499	504	509
39	COMPLIANCE - COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	33.4	32.3	1,443	1,939	1,957	1,976
40	COMPLIANCE - COD3 CHG/RMVE (GAS)	NON-RAMP	NO	38.5	28.7	60	81	82	83
41	COMPLIANCE - CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	52.1	40.4	13	18	18	18
42	COMPLIANCE - HTRK COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	-	-	-	-	-	-
43	COMPLIANCE - HTRK COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	54.9	42.5	306	412	416	420
44	COMPLIANCE - HTRK COD3-10Y CHG/RMVE-GAS	NON-RAMP	NO	36.0	41.3	301	404	408	412
45	COMPLIANCE - HTRK CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	63.5	47.3	8	11	11	11
46	CURB- RAMP	RAMP	NO	33.8	27.2	209	210	212	214
47	CUST/COMPANY CHANGE - ELEC	NON-RAMP	NO	20.6	17.7	444	448	452	457
48	CUST/COMPANY CHANGE - GAS	NON-RAMP	NO	20.7	20.4	510	515	519	524
49	CUST/COMPANY TEST(CHANGE) - GAS	NON-RAMP	NO	56.1	49.1	14	14	14	14
50	MISC COMPANY WORK	NON-RAMP	NO	17.1	21.8	780	787	794	802
51	MISC COMPANY WORK RAMP	RAMP	NO	23.0	10.3	383	386	389	393
52	HOUSELINE TEST/PURGE OM	NON-RAMP	NO	119.9	38.9	33	33	34	34
53	HOUSELINE TEST/PURGE OM RAMP	RAMP	NO	83.4	75.2	13	13	13	13
54	CREDIT CUT INS	NON-RAMP	YES	18.3	19.2	41	436	441	445
55	REREADS	NON-RAMP	NO	6.9	6.3	2,119	2,137	2,156	2,177
56	VERIFY	NON-RAMP	NO	24.3	20.3	220	222	224	226
57	VERIFY RAMP	RAMP	NO	21.2	18.6	32	32	32	33
58	CUST/COMPANY REMOVE/RESET - ELEC (METER WORK OM)	NON-RAMP	NO	17.1	12.6	6	6	6	6
59	CUST/COMPANY REMOVE/RESET - GAS	NON-RAMP	NO	11.2	10.2	71	71	72	73
60	GIVE NOTICE CUT	NON-RAMP	NO	11.9	13.6	67	67	68	69
61	SHUT OFF ELEC	NON-RAMP	YES	11.5	11.3	652	579	584	590
62	SHUT OFF GAS AND ELEC	NON-RAMP	YES	15.6	16.2	39	131	133	134
63	SHUT OFF GAS RAMP	RAMP	YES	9.3	10.4	1,233	676	682	688
64	SHUT OFF IN ERROR	NON-RAMP	NO	22.7	19.8	18	18	18	19
65	SOFT SHUT OFF GAS ELEC	NON-RAMP	NO	12.6	15.6	54	55	55	56
66	SOFT SHUT OFF GAS ELEC RAMP	RAMP	NO	8.1	8.5	1,561	1,573	1,588	1,603
67	SOFT TURN ON GAS TURN ON ELEC	NON-RAMP	NO	-	-	-	-	-	-
68	SOFT TURN ON GAS TURN ON ELEC RAMP	RAMP	NO	14.9	13.0	46	46	47	47

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Customer Field Operations Order Volume Based Cost Model				Onsite Time (Hours)					
Calculation Steps --->>>				B		C = A x B / 60			
Line #	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	2019 Onsite Per Order (Minutes)	BY 2021 Onsite Per Order (Minutes)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
69	TURN ON ELEC	NON-RAMP	NO	15.7	14.2	790	797	804	812
70	TURN ON G/E	NON-RAMP	YES	16.3	22.6	3	3	3	3
71	TURN ON G/E RAMP	RAMP	YES	35.2	33.6	52	253	255	258
72	TURN ON GAS RAMP	RAMP	YES	35.5	28.4	2,965	2,839	2,865	2,893
73	ALL INCOMPLETE ORDERS	NON-RAMP	YES	11.4	10.7	2,099	2,349	2,371	2,394
80	NON-FIELDED GAS MODULE TROUBLESHOOTING	NON-RAMP	NO			2,849	2,849	2,849	2,849
81	SM2.0 GAS MODULE REMOVAL	NON-RAMP	NO	4.7	4.7	-	-	666	666
82	TOTAL					82,484	97,118	98,656	99,569
83	TOTAL Change from BY 2021						14,634	16,172	17,084
84	RAMP - Order Volume Forecast					56,967	66,809	67,428	68,074
85	RAMP - Change from BY 2021						9,842	10,461	11,107
86	Non-RAMP - Order Volume Forecast					25,517	30,309	30,563	30,829
87	NON-RAMP - Change from BY 2021						4,791	5,045	5,311
88	SM 2.0 Capital Project Impacts					-	-	666	666
89	SM 2.0 - Change from BY 2021					-	-	666	666

¹ For order types affected by COVID-19 (YES), TY 2024 forecast assumes the order volume and on-premise time will resume to the normal activity level similar to 2019.

^{2,3} For all order types including those that are not affected by Covid-19, TY 2024 forecast assumes a drive time average and a non-job time similar to 2019 level.

Line items # 38-45: Compliance meter work orders were affected by the necessary cut-off for the Customer Information System (CIS) replacement going-live during the base year. Therefore, the 2021 base year order count is prorated to reflect the full-year impact.

Line item # 80: Non-fielded gas module troubleshooting are activities performed at the yard with no associated order count and drive time.

Line item # 81: Smart Meter 2.0 gas module removal assumes that for every single order to remove and replace a module, the removal portion of the time will be charged to O&M.

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Line #	Customer Field Operations Order Volume Based Cost Model			Drive Time (Hours) ²					
	Calculation Steps -->>>			D		E = A x D / 60			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	2019 Average Drive Time Per Order (Minutes)	BY 2021 Average Drive Time Per Order (Minutes)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
1	CA ELEC	NON-RAMP	YES	13.8	12.3	48	61	61	62
2	CA GAS	NON-RAMP	YES	13.8	12.3	305	68	69	70
3	CA GAS AND ELEC	NON-RAMP	YES	13.8	12.3	7	23	23	23
4	CA GAS RAMP	RAMP	YES	13.8	12.3	7	3	3	3
5	GIVE NOTICE	NON-RAMP	YES	13.8	12.3	118	712	719	725
6	RTO	NON-RAMP	YES	13.8	12.3	9	58	59	60
7	RTO RAMP	RAMP	YES	13.8	12.3	-	1	1	1
8	1st (FIRST) CALL	NON-RAMP	YES	13.8	12.3	-	27	27	28
9	2nd (SECOND) CALL	NON-RAMP	YES	13.8	12.3	9	1,825	1,842	1,860
10	3rd (THIRD) CALL	NON-RAMP	YES	13.8	12.3	0	212	214	216
11	OPT-OUT READS	NON-RAMP	NO	13.8	12.3	5,098	5,761	5,815	5,871
12	APPLIANCE ADJUSTMENTS	NON-RAMP	YES	13.8	12.3	1,115	1,621	1,636	1,651
13	APPLIANCE ADJUSTMENTS RAMP	RAMP	YES	13.8	12.3	1,078	3,251	3,281	3,312
14	APPLIANCE MECHANIC WORK	NON-RAMP	YES	13.8	12.3	47	124	125	126
15	CARBON MONOXIDE-EMERGENCY - RAMP	RAMP	NO	13.8	12.3	136	153	155	156
16	CARBON MONOXIDE-NON EMERGENCY - RAMP	RAMP	NO	13.8	12.3	201	227	229	231
17	CREDIT SHUT OFF	NON-RAMP	YES	13.8	12.3	-	330	333	336
18	HIGH PRESSURE	NON-RAMP	NO	13.8	12.3	23	26	27	27
19	NO GAS	NON-RAMP	NO	13.8	12.3	988	1,117	1,127	1,138
20	NO GAS RAMP	RAMP	NO	13.8	12.3	1,523	1,721	1,737	1,754
21	OTHER MISC GAS & ELEC CUSTOMER REQUESTS	NON-RAMP	NO	13.8	12.3	2,275	2,571	2,595	2,620
22	SCHOOL LEAK SURVEYS	NON-RAMP	NO	13.8	12.3	87	98	99	100
23	SEASONAL OFF	NON-RAMP	YES	13.8	12.3	39	135	136	138
24	SEASONAL ON MULTIPLES	NON-RAMP	YES	13.8	12.3	-	0	0	0
25	SEASONAL ON MULTIPLES RAMP	RAMP	YES	13.8	12.3	-	1,758	1,774	1,791
26	SEASONAL ON SINGLES RAMP	RAMP	YES	13.8	12.3	1,630	3,377	3,408	3,441
27	SM OPTOUT METER CHANGE	NON-RAMP	YES	13.8	12.3	49	185	187	189
28	FUMIGATION/BUG FOGGER - RAMP	RAMP	NO	13.8	12.3	8,439	9,538	9,626	9,718
29	EMERGENCY B&B INSIDE - RAMP	RAMP	NO	13.8	12.3	176	199	201	203
30	EMERGENCY B&B OUTSIDE - RAMP	RAMP	NO	13.8	12.3	84	95	96	96
31	EMERGENCY-AGENCY REQUESTS - RAMP	RAMP	NO	13.8	12.3	174	197	198	200
32	FIRE & EXPLOSIONS - RAMP	RAMP	NO	13.8	12.3	1	2	2	2
33	GAS LEAKS-HAZARD - RAMP	RAMP	NO	13.8	12.3	4,209	4,757	4,801	4,847

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Line #	Customer Field Operations Order Volume Based Cost Model			Drive Time (Hours) ²					
	Calculation Steps -->>>			D		E = A x D / 60			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	2019 Average Drive Time Per Order (Minutes)	BY 2021 Average Drive Time Per Order (Minutes)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
34	GAS LEAKS-NON HAZARD - RAMP	RAMP	NO	13.8	12.3	840	949	958	967
35	HBI - EZER	NON-RAMP	YES	13.8	12.3	0	1	1	1
36	HBI - RAMP	RAMP	YES	13.8	12.3	156	242	244	247
37	ACOR RAMP	RAMP	NO	13.8	12.3	271	306	309	312
38	COMPLIANCE - COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	13.8	12.3	158	238	240	242
39	COMPLIANCE - COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	13.8	12.3	551	830	838	846
40	COMPLIANCE - COD3 CHG/RMVE (GAS)	NON-RAMP	NO	13.8	12.3	26	39	39	40
41	COMPLIANCE - CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	13.8	12.3	4	6	6	6
42	COMPLIANCE - HTRK COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	13.8	12.3	0	0	0	0
43	COMPLIANCE - HTRK COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	13.8	12.3	89	134	135	136
44	COMPLIANCE - HTRK COD3-10Y CHG/RMVE-GAS	NON-RAMP	NO	13.8	12.3	90	135	136	138
45	COMPLIANCE - HTRK CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	13.8	12.3	2	3	3	3
46	CURB- RAMP	RAMP	NO	13.8	12.3	95	107	108	109
47	CUST/COMPANY CHANGE - ELEC	NON-RAMP	NO	13.8	12.3	309	349	352	356
48	CUST/COMPANY CHANGE - GAS	NON-RAMP	NO	13.8	12.3	308	348	351	354
49	CUST/COMPANY TEST(CHANGE) - GAS	NON-RAMP	NO	13.8	12.3	3	4	4	4
50	MISC COMPANY WORK	NON-RAMP	NO	13.8	12.3	441	498	503	508
51	MISC COMPANY WORK RAMP	RAMP	NO	13.8	12.3	457	516	521	526
52	HOUSELINE TEST/PURGE OM	NON-RAMP	NO	13.8	12.3	10	12	12	12
53	HOUSELINE TEST/PURGE OM RAMP	RAMP	NO	13.8	12.3	2	2	2	2
54	CREDIT CUT INS	NON-RAMP	YES	13.8	12.3	26	330	333	336
55	REREADS	NON-RAMP	NO	13.8	12.3	4,158	4,699	4,742	4,788
56	VERIFY	NON-RAMP	NO	13.8	12.3	134	151	152	154
57	VERIFY RAMP	RAMP	NO	13.8	12.3	21	24	24	24
58	CUST/COMPANY REMOVE/RESET - ELEC (METER WORK OM)	NON-RAMP	NO	13.8	12.3	6	7	7	7
59	CUST/COMPANY REMOVE/RESET - GAS	NON-RAMP	NO	13.8	12.3	86	97	98	99
60	GIVE NOTICE CUT	NON-RAMP	NO	13.8	12.3	60	68	69	70
61	SHUT OFF ELEC	NON-RAMP	YES	13.8	12.3	709	696	703	710
62	SHUT OFF GAS AND ELEC	NON-RAMP	YES	13.8	12.3	29	116	118	119
63	SHUT OFF GAS RAMP	RAMP	YES	13.8	12.3	1,467	1,006	1,016	1,025
64	SHUT OFF IN ERROR	NON-RAMP	NO	13.8	12.3	11	13	13	13
65	SOFT SHUT OFF GAS ELEC	NON-RAMP	NO	13.8	12.3	43	48	49	49
66	SOFT SHUT OFF GAS ELEC RAMP	RAMP	NO	13.8	12.3	2,270	2,565	2,589	2,614
67	SOFT TURN ON GAS TURN ON ELEC	NON-RAMP	NO	13.8	12.3	-	-	-	-
68	SOFT TURN ON GAS TURN ON ELEC RAMP	RAMP	NO	13.8	12.3	44	49	50	50

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Customer Field Operations Order Volume Based Cost Model				Drive Time (Hours) ²					
Calculation Steps -->>>				D		E = A x D / 60			
Line #	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	2019 Average Drive Time Per Order (Minutes)	BY 2021 Average Drive Time Per Order (Minutes)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
69	TURN ON ELEC	NON-RAMP	NO	13.8	12.3	686	776	783	790
70	TURN ON G/E	NON-RAMP	YES	13.8	12.3	2	3	3	3
71	TURN ON G/E RAMP	RAMP	YES	13.8	12.3	19	99	100	101
72	TURN ON GAS RAMP	RAMP	YES	13.8	12.3	1,288	1,104	1,115	1,125
73	ALL INCOMPLETE ORDERS	NON-RAMP	YES	13.8	12.3	2,408	2,846	2,872	2,900
80	NON-FIELDED GAS MODULE TROUBLESHOOTING	NON-RAMP	NO	13.8	12.3	-	-	-	-
81	SM2.0 GAS MODULE REMOVAL	NON-RAMP	NO	1.4	1.2	-	-	196	196
82	TOTAL					45,153	59,650	60,398	60,975
83	TOTAL Change from BY 2021						14,497	15,244	15,822
84	RAMP - Order Volume Forecast					24,587	32,248	32,546	32,858
85	RAMP - Change from BY 2021						7,660	7,959	8,271
86	Non-RAMP - Order Volume Forecast					20,566	27,402	27,656	27,921
87	NON-RAMP - Change from BY 2021						6,837	7,090	7,356
88	SM 2.0 Capital Project Impacts					-	-	196	196
89	SM 2.0 - Change from BY 2021						-	196	196

¹ For order types affected by COVID-19 (YES), TY 2024 forecast assumes the order volume and on-premise time will resume to the normal activity level similar to 2019.

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Line #	Customer Field Operations Order Volume Based Cost Model			Productive Time = Onsite Time + Drive Time (Hours)				Productive Time + Non Job Time (Hours) ³					
	Calculation Steps --->>>			F = C + E				G		H = F x (1 + G)			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	2019 NJT Factor	BY 2021 NJT Factor	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
1	CA ELEC	NON-RAMP	YES	79	94	95	96	52.83%	84.34%	145	144	145	147
2	CA GAS	NON-RAMP	YES	486	105	106	107	52.83%	84.34%	895	160	161	163
3	CA GAS AND ELEC	NON-RAMP	YES	12	35	35	36	52.83%	84.34%	23	54	54	55
4	CA GAS RAMP	RAMP	YES	22	13	13	13	52.83%	84.34%	41	20	20	20
5	GIVE NOTICE	NON-RAMP	YES	204	1,190	1,201	1,212	52.83%	84.34%	376	1,818	1,835	1,853
6	RTO	NON-RAMP	YES	20	107	108	109	52.83%	84.34%	36	163	165	166
7	RTO RAMP	RAMP	YES	-	6	6	6	52.83%	84.34%	-	9	9	9
8	1st (FIRST) CALL	NON-RAMP	YES	-	38	38	39	52.83%	84.34%	-	58	59	59
9	2nd (SECOND) CALL	NON-RAMP	YES	13	2,911	2,938	2,966	52.83%	84.34%	24	4,449	4,491	4,534
10	3rd (THIRD) CALL	NON-RAMP	YES	1	377	380	384	52.83%	84.34%	1	576	581	587
11	OPT-OUT READS	NON-RAMP	NO	5,917	6,588	6,648	6,712	52.83%	84.34%	10,908	10,068	10,161	10,258
12	APPLIANCE ADJUSTMENTS	NON-RAMP	YES	2,871	4,110	4,148	4,188	52.83%	84.34%	5,292	6,281	6,339	6,400
13	APPLIANCE ADJUSTMENTS RAMP	RAMP	YES	3,621	10,240	10,335	10,434	52.83%	84.34%	6,676	15,650	15,795	15,946
14	APPLIANCE MECHANIC WORK	NON-RAMP	YES	251	619	624	630	52.83%	84.34%	462	945	954	963
15	CARBON MONOXIDE-EMERGENCY - RAMP	RAMP	NO	719	742	749	756	52.83%	84.34%	1,326	1,134	1,144	1,155
16	CARBON MONOXIDE-NON EMERGENCY -RAMP	RAMP	NO	747	778	785	793	52.83%	84.34%	1,377	1,189	1,200	1,211
17	CREDIT SHUT OFF	NON-RAMP	YES	-	554	559	565	52.83%	84.34%	-	847	855	863
18	HIGH PRESSURE	NON-RAMP	NO	96	99	100	101	52.83%	84.34%	176	152	153	154
19	NO GAS	NON-RAMP	NO	3,223	3,370	3,401	3,434	52.83%	84.34%	5,941	5,150	5,198	5,248
20	NO GAS RAMP	RAMP	NO	5,583	5,815	5,868	5,925	52.83%	84.34%	10,292	8,886	8,969	9,055
21	OTHER MISC GAS & ELEC CUSTOMER REQUESTS	NON-RAMP	NO	8,265	8,610	8,690	8,773	52.83%	84.34%	15,236	13,159	13,281	13,408
22	SCHOOL LEAK SURVEYS	NON-RAMP	NO	749	766	773	780	52.83%	84.34%	1,381	1,171	1,181	1,193
23	SEASONAL OFF	NON-RAMP	YES	93	312	315	318	52.83%	84.34%	171	477	481	486
24	SEASONAL ON MULTIPLES	NON-RAMP	YES	-	0	0	0	52.83%	84.34%	-	0	0	0
25	SEASONAL ON MULTIPLES RAMP	RAMP	YES	-	4,038	4,075	4,115	52.83%	84.34%	-	6,171	6,229	6,288
26	SEASONAL ON SINGLES RAMP	RAMP	YES	5,314	10,152	10,245	10,344	52.83%	84.34%	9,796	15,515	15,658	15,808
27	SM OPTOUT METER CHANGE	NON-RAMP	YES	141	497	501	506	52.83%	84.34%	260	759	766	773
28	FUMIGATION/BUG FOGGER - RAMP	RAMP	NO	29,675	30,948	31,234	31,533	52.83%	84.34%	54,704	47,297	47,735	48,193
29	EMERGENCY B&B INSIDE - RAMP	RAMP	NO	702	730	736	743	52.83%	84.34%	1,295	1,115	1,125	1,136
30	EMERGENCY B&B OUTSIDE -RAMP	RAMP	NO	645	660	666	673	52.83%	84.34%	1,189	1,009	1,019	1,028
31	EMERGENCY-AGENCY REQUESTS - RAMP	RAMP	NO	790	818	826	833	52.83%	84.34%	1,457	1,250	1,262	1,274
32	FIRE & EXPLOSIONS - RAMP	RAMP	NO	5	5	5	5	52.83%	84.34%	9	8	8	8
33	GAS LEAKS-HAZARD - RAMP	RAMP	NO	16,884	17,536	17,698	17,868	52.83%	84.34%	31,125	26,801	27,049	27,308

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Line #	Customer Field Operations Order Volume Based Cost Model			Productive Time = Onsite Time + Drive Time (Hours)				Productive Time + Non Job Time (Hours) ³					
	Calculation Steps --->>>			F = C + E				G		H = F x (1 + G)			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	2019 NJT Factor	BY 2021 NJT Factor	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
34	GAS LEAKS-NON HAZARD - RAMP	RAMP	NO	3,095	3,223	3,253	3,284	52.83%	84.34%	5,706	4,926	4,972	5,019
35	HBI - EZER	NON-RAMP	YES	2	1	1	1	52.83%	84.34%	3	2	2	2
36	HBI - RAMP	RAMP	YES	624	839	847	855	52.83%	84.34%	1,150	1,282	1,294	1,307
37	ACOR RAMP	RAMP	NO	973	1,014	1,024	1,033	52.83%	84.34%	1,794	1,550	1,564	1,579
38	COMPLIANCE - COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	529	737	744	751	52.83%	84.34%	975	1,126	1,136	1,147
39	COMPLIANCE - COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	1,994	2,770	2,795	2,822	52.83%	84.34%	3,675	4,233	4,272	4,313
40	COMPLIANCE - COD3 CHG/RMVE (GAS)	NON-RAMP	NO	86	120	121	122	52.83%	84.34%	159	183	185	187
41	COMPLIANCE - CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	18	24	25	25	52.83%	84.34%	32	37	37	38
42	COMPLIANCE - HTRK COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	0	0	0	0	52.83%	84.34%	0	0	0	0
43	COMPLIANCE - HTRK COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	395	545	550	556	52.83%	84.34%	728	834	841	849
44	COMPLIANCE - HTRK COD3-10Y CHG/RMVE-GAS	NON-RAMP	NO	390	539	544	549	52.83%	84.34%	720	824	832	840
45	COMPLIANCE - HTRK CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	10	14	14	14	52.83%	84.34%	18	21	21	21
46	CURB- RAMP	RAMP	NO	303	317	320	323	52.83%	84.34%	559	485	489	494
47	CUST/COMPANY CHANGE - ELEC	NON-RAMP	NO	754	797	805	812	52.83%	84.34%	1,389	1,219	1,230	1,242
48	CUST/COMPANY CHANGE - GAS	NON-RAMP	NO	818	862	870	878	52.83%	84.34%	1,508	1,318	1,330	1,343
49	CUST/COMPANY TEST(CHANGE) - GAS	NON-RAMP	NO	17	18	18	18	52.83%	84.34%	32	27	28	28
50	MISC COMPANY WORK	NON-RAMP	NO	1,221	1,285	1,297	1,310	52.83%	84.34%	2,252	1,964	1,983	2,002
51	MISC COMPANY WORK RAMP	RAMP	NO	839	902	910	919	52.83%	84.34%	1,547	1,378	1,391	1,404
52	HOUSELINE TEST/PURGE OM	NON-RAMP	NO	44	45	46	46	52.83%	84.34%	80	69	70	70
53	HOUSELINE TEST/PURGE OM RAMP	RAMP	NO	15	15	15	15	52.83%	84.34%	27	23	23	23
54	CREDIT CUT INS	NON-RAMP	YES	67	766	773	781	52.83%	84.34%	123	1,171	1,182	1,193
55	REREADS	NON-RAMP	NO	6,277	6,835	6,899	6,965	52.83%	84.34%	11,571	10,447	10,543	10,644
56	VERIFY	NON-RAMP	NO	354	373	377	380	52.83%	84.34%	653	570	576	581
57	VERIFY RAMP	RAMP	NO	53	56	57	57	52.83%	84.34%	98	86	86	87
58	CUST/COMPANY REMOVE/RESET - ELEC (METER WORK OM)	NON-RAMP	NO	12	13	13	13	52.83%	84.34%	22	20	20	20
59	CUST/COMPANY REMOVE/RESET - GAS	NON-RAMP	NO	157	168	170	171	52.83%	84.34%	289	257	260	262
60	GIVE NOTICE CUT	NON-RAMP	NO	127	136	137	138	52.83%	84.34%	234	207	209	211
61	SHUT OFF ELEC	NON-RAMP	YES	1,361	1,275	1,287	1,299	52.83%	84.34%	2,509	1,949	1,967	1,986
62	SHUT OFF GAS AND ELEC	NON-RAMP	YES	68	248	250	252	52.83%	84.34%	125	379	382	386
63	SHUT OFF GAS RAMP	RAMP	YES	2,700	1,682	1,697	1,714	52.83%	84.34%	4,977	2,570	2,594	2,619
64	SHUT OFF IN ERROR	NON-RAMP	NO	29	31	31	32	52.83%	84.34%	54	47	48	48
65	SOFT SHUT OFF GAS ELEC	NON-RAMP	NO	97	103	104	105	52.83%	84.34%	178	157	159	160
66	SOFT SHUT OFF GAS ELEC RAMP	RAMP	NO	3,831	4,139	4,177	4,217	52.83%	84.34%	7,061	6,325	6,384	6,445
67	SOFT TURN ON GAS TURN ON ELEC	NON-RAMP	NO	-	-	-	-	52.83%	84.34%	-	-	-	-
68	SOFT TURN ON GAS TURN ON ELEC RAMP	RAMP	NO	89	95	96	97	52.83%	84.34%	165	146	147	149

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Line #	Customer Field Operations Order Volume Based Cost Model			Productive Time = Onsite Time + Drive Time (Hours)				Productive Time + Non Job Time (Hours) ³					
	Calculation Steps --->>>			F = C + E				G		H = F x (1 + G)			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	2019 NJT Factor	BY 2021 NJT Factor	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
69	TURN ON ELEC	NON-RAMP	NO	1,477	1,572	1,587	1,602	52.83%	84.34%	2,722	2,403	2,425	2,449
70	TURN ON G/E	NON-RAMP	YES	5	6	6	6	52.83%	84.34%	10	9	9	9
71	TURN ON G/E RAMP	RAMP	YES	70	352	356	359	52.83%	84.34%	130	538	543	549
72	TURN ON GAS RAMP	RAMP	YES	4,253	3,943	3,980	4,018	52.83%	84.34%	7,841	6,027	6,082	6,141
73	ALL INCOMPLETE ORDERS	NON-RAMP	YES	4,507	5,196	5,244	5,294	52.83%	84.34%	8,308	7,941	8,014	8,091
80	NON-FIELDED GAS MODULE TROUBLESHOOTING	NON-RAMP	NO	2,849	2,849	2,849	2,849	52.83%	84.34%	5,252	4,354	4,354	4,354
81	SM2.0 GAS MODULE REMOVAL	NON-RAMP	NO	-	-	861	861	52.83%	84.34%	-	-	1,317	1,317
82	TOTAL			127,638	156,768	159,054	160,544			235,291	239,591	243,084	245,361
83	TOTAL Change from BY 2021				29,131	31,416	32,906				4,299	7,793	10,070
84	RAMP - Order Volume Forecast			81,555	99,057	99,974	100,933			150,340	151,390	152,791	154,256
85	RAMP - Change from BY 2021				17,503	18,419	19,378				1,050	2,451	3,916
86	Non-RAMP - Order Volume Forecast			46,083	57,711	58,219	58,750			84,951	88,201	88,976	89,788
87	NON-RAMP - Change from BY 2021				11,628	12,136	12,667				3,250	4,025	4,837
88	SM 2.0 Capital Project Impacts					861	861					1,317	1,317
89	SM 2.0 - Change from BY 2021					861	861					1,317	1,317

¹ For order types affected by COVID-19 (YES), TY 2024 forecast assumes the order volume and on-premise time will resume to the normal activity level similar to 2019.

^{2,3} For all order types including those that are not affected by Covid-19, TY 2024 forecast assumes a drive time average and a non-job time similar to 2019 level.

Line items # 38-45: Compliance meter work orders were affected by the necessary cut-off for the Customer Information System (CIS) replacement going-live during the base year. Therefore, the 2021 base year order count is prorated to reflect the full-year impact.

Line item # 80: Non-fielDED gas module troubleshooting are activities performed at the yard with no associated order count and drive time.

Line item # 81: Smart Meter 2.0 gas module removal assumes that for every single order to remove and replace a module, the removal portion of the time will be charged to O&M.

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Line #	Customer Field Operations Order Volume Based Cost Model			Productive Time + Non Job Time (Dollars)					Productive Time + Non-Job Time Labor FTE			
	Calculation Steps ---->>>			I BY 2021 Blended Productive Wage Rate	J = H x I				K = H / Annual Paid Hours			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)		BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	2088	2080	2080	2096
				BY 2021					2022 Estimated	2023 Estimated	TY 2024 Estimated	
1	CA ELEC	NON-RAMP	YES	\$ 51.53	\$ 7,491	\$ 7,426	\$ 7,495	\$ 7,567	0.1	0.1	0.1	0.1
2	CA GAS	NON-RAMP	YES	\$ 51.53	\$ 46,132	\$ 8,235	\$ 8,311	\$ 8,391	0.4	0.1	0.1	0.1
3	CA GAS AND ELEC	NON-RAMP	YES	\$ 51.53	\$ 1,166	\$ 2,767	\$ 2,793	\$ 2,819	0.0	0.0	0.0	0.0
4	CA GAS RAMP	RAMP	YES	\$ 51.53	\$ 2,136	\$ 1,006	\$ 1,015	\$ 1,025	0.0	0.0	0.0	0.0
5	GIVE NOTICE	NON-RAMP	YES	\$ 51.53	\$ 19,352	\$ 93,687	\$ 94,553	\$ 95,460	0.2	0.9	0.9	0.9
6	RTO	NON-RAMP	YES	\$ 51.53	\$ 1,876	\$ 8,412	\$ 8,490	\$ 8,572	0.0	0.1	0.1	0.1
7	RTO RAMP	RAMP	YES	\$ 51.53	\$ -	\$ 465	\$ 469	\$ 474	-	0.0	0.0	0.0
8	1st (FIRST) CALL	NON-RAMP	YES	\$ 51.53	\$ -	\$ 3,001	\$ 3,029	\$ 3,058	-	0.0	0.0	0.0
9	2nd (SECOND) CALL	NON-RAMP	YES	\$ 51.53	\$ 1,212	\$ 229,260	\$ 231,381	\$ 233,601	0.0	2.1	2.2	2.2
10	3rd (THIRD) CALL	NON-RAMP	YES	\$ 51.53	\$ 48	\$ 29,687	\$ 29,961	\$ 30,249	0.0	0.3	0.3	0.3
11	OPT-OUT READS	NON-RAMP	NO	\$ 51.53	\$ 562,048	\$ 518,745	\$ 523,544	\$ 528,566	5.2	4.8	4.9	4.9
12	APPLIANCE ADJUSTMENTS	NON-RAMP	YES	\$ 51.53	\$ 272,679	\$ 323,627	\$ 326,622	\$ 329,755	2.5	3.0	3.0	3.1
13	APPLIANCE ADJUSTMENTS RAMP	RAMP	YES	\$ 51.53	\$ 343,958	\$ 806,359	\$ 813,820	\$ 821,626	3.2	7.5	7.6	7.6
14	APPLIANCE MECHANIC WORK	NON-RAMP	YES	\$ 51.53	\$ 23,814	\$ 48,713	\$ 49,164	\$ 49,635	0.2	0.5	0.5	0.5
15	CARBON MONOXIDE-EMERGENCY - RAMP	RAMP	NO	\$ 51.53	\$ 68,331	\$ 58,416	\$ 58,957	\$ 59,522	0.6	0.5	0.6	0.6
16	CARBON MONOXIDE-NON EMERGENCY-RAMP	RAMP	NO	\$ 51.53	\$ 70,966	\$ 61,248	\$ 61,814	\$ 62,407	0.7	0.6	0.6	0.6
17	CREDIT SHUT OFF	NON-RAMP	YES	\$ 51.53	\$ -	\$ 43,644	\$ 44,048	\$ 44,470	-	0.4	0.4	0.4
18	HIGH PRESSURE	NON-RAMP	NO	\$ 51.53	\$ 9,072	\$ 7,808	\$ 7,880	\$ 7,956	0.1	0.1	0.1	0.1
19	NO GAS	NON-RAMP	NO	\$ 51.53	\$ 306,128	\$ 265,372	\$ 267,827	\$ 270,396	2.8	2.5	2.5	2.5
20	NO GAS RAMP	RAMP	NO	\$ 51.53	\$ 530,292	\$ 457,872	\$ 462,109	\$ 466,541	4.9	4.3	4.3	4.3
21	OTHER MISC GAS & ELEC CUSTOMER REQUESTS	NON-RAMP	NO	\$ 51.53	\$ 785,030	\$ 678,019	\$ 684,293	\$ 690,857	7.3	6.3	6.4	6.4
22	SCHOOL LEAK SURVEYS	NON-RAMP	NO	\$ 51.53	\$ 71,167	\$ 60,318	\$ 60,876	\$ 61,460	0.7	0.6	0.6	0.6
23	SEASONAL OFF	NON-RAMP	YES	\$ 51.53	\$ 8,820	\$ 24,566	\$ 24,793	\$ 25,031	0.1	0.2	0.2	0.2
24	SEASONAL ON MULTIPLES	NON-RAMP	YES	\$ 51.53	\$ -	\$ 20	\$ 20	\$ 20	-	0.0	0.0	0.0
25	SEASONAL ON MULTIPLES RAMP	RAMP	YES	\$ 51.53	\$ -	\$ 317,984	\$ 320,926	\$ 324,005	-	3.0	3.0	3.0
26	SEASONAL ON SINGLES RAMP	RAMP	YES	\$ 51.53	\$ 504,724	\$ 799,398	\$ 806,795	\$ 814,534	4.7	7.5	7.5	7.5
27	SM OPTOUT METER CHANGE	NON-RAMP	YES	\$ 51.53	\$ 13,409	\$ 39,104	\$ 39,466	\$ 39,845	0.1	0.4	0.4	0.4
28	FUMIGATION/BUG FOGGER - RAMP	RAMP	NO	\$ 51.53	\$ 2,818,618	\$ 2,437,008	\$ 2,459,557	\$ 2,483,150	26.2	22.7	22.9	23.0
29	EMERGENCY B&B INSIDE - RAMP	RAMP	NO	\$ 51.53	\$ 66,704	\$ 57,447	\$ 57,979	\$ 58,535	0.6	0.5	0.5	0.5
30	EMERGENCY B&B OUTSIDE -RAMP	RAMP	NO	\$ 51.53	\$ 61,249	\$ 52,000	\$ 52,482	\$ 52,985	0.6	0.5	0.5	0.5
31	EMERGENCY-AGENCY REQUESTS - RAMP	RAMP	NO	\$ 51.53	\$ 75,061	\$ 64,410	\$ 65,006	\$ 65,630	0.7	0.6	0.6	0.6
32	FIRE & EXPLOSIONS - RAMP	RAMP	NO	\$ 51.53	\$ 451	\$ 391	\$ 395	\$ 399	0.0	0.0	0.0	0.0
33	GAS LEAKS-HAZARD - RAMP	RAMP	NO	\$ 51.53	\$ 1,603,728	\$ 1,380,910	\$ 1,393,687	\$ 1,407,056	14.9	12.9	13.0	13.0

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Line #	Customer Field Operations Order Volume Based Cost Model			Productive Time + Non Job Time (Dollars)					Productive Time + Non-Job Time Labor FTE			
	Calculation Steps ---->>>			I	J = H x I				K = H / Annual Paid Hours			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)		BY 2021 Blended Productive Wage Rate	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	2088	2080	2080
				BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	
34	GAS LEAKS-NON HAZARD - RAMP	RAMP	NO	\$ 51.53	\$ 294,015	\$ 253,820	\$ 256,169	\$ 258,626	2.7	2.4	2.4	2.4
35	HBI - EZER	NON-RAMP	YES	\$ 51.53	\$ 148	\$ 106	\$ 107	\$ 108	0.0	0.0	0.0	0.0
36	HBI - RAMP	RAMP	YES	\$ 51.53	\$ 59,230	\$ 66,080	\$ 66,691	\$ 67,331	0.6	0.6	0.6	0.6
37	ACOR RAMP	RAMP	NO	\$ 51.53	\$ 92,438	\$ 79,866	\$ 80,605	\$ 81,378	0.9	0.7	0.8	0.8
38	COMPLIANCE - COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	\$ 51.53	\$ 50,248	\$ 58,020	\$ 58,557	\$ 59,118	0.5	0.5	0.5	0.5
39	COMPLIANCE - COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	\$ 51.53	\$ 189,374	\$ 218,110	\$ 220,128	\$ 222,239	1.8	2.0	2.1	2.1
40	COMPLIANCE - COD3 CHG/RMVE (GAS)	NON-RAMP	NO	\$ 51.53	\$ 8,180	\$ 9,448	\$ 9,535	\$ 9,627	0.1	0.1	0.1	0.1
41	COMPLIANCE - CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	\$ 51.53	\$ 1,670	\$ 1,914	\$ 1,932	\$ 1,950	0.0	0.0	0.0	0.0
42	COMPLIANCE - HTRK COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	\$ 51.53	\$ 20	\$ 24	\$ 25	\$ 25	0.0	0.0	0.0	0.0
43	COMPLIANCE - HTRK COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	\$ 51.53	\$ 37,518	\$ 42,948	\$ 43,346	\$ 43,761	0.3	0.4	0.4	0.4
44	COMPLIANCE - HTRK COD3-1OY CHG/RMVE-GAS	NON-RAMP	NO	\$ 51.53	\$ 37,073	\$ 42,466	\$ 42,859	\$ 43,270	0.3	0.4	0.4	0.4
45	COMPLIANCE - HTRK CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	\$ 51.53	\$ 943	\$ 1,077	\$ 1,087	\$ 1,098	0.0	0.0	0.0	0.0
46	CURB- RAMP	RAMP	NO	\$ 51.53	\$ 28,805	\$ 24,986	\$ 25,217	\$ 25,459	0.3	0.2	0.2	0.2
47	CUST/COMPANY CHANGE - ELEC	NON-RAMP	NO	\$ 51.53	\$ 71,570	\$ 62,790	\$ 63,371	\$ 63,979	0.7	0.6	0.6	0.6
48	CUST/COMPANY CHANGE - GAS	NON-RAMP	NO	\$ 51.53	\$ 77,687	\$ 67,889	\$ 68,518	\$ 69,175	0.7	0.6	0.6	0.6
49	CUST/COMPANY TEST(CHANGE) - GAS	NON-RAMP	NO	\$ 51.53	\$ 1,654	\$ 1,416	\$ 1,429	\$ 1,443	0.0	0.0	0.0	0.0
50	MISC COMPANY WORK	NON-RAMP	NO	\$ 51.53	\$ 116,022	\$ 101,213	\$ 102,149	\$ 103,129	1.1	0.9	1.0	1.0
51	MISC COMPANY WORK RAMP	RAMP	NO	\$ 51.53	\$ 79,709	\$ 71,010	\$ 71,667	\$ 72,355	0.7	0.7	0.7	0.7
52	HOUSELINE TEST/PURGE OM	NON-RAMP	NO	\$ 51.53	\$ 4,136	\$ 3,558	\$ 3,591	\$ 3,625	0.0	0.0	0.0	0.0
53	HOUSELINE TEST/PURGE OM RAMP	RAMP	NO	\$ 51.53	\$ 1,386	\$ 1,178	\$ 1,189	\$ 1,200	0.0	0.0	0.0	0.0
54	CREDIT CUT INS	NON-RAMP	YES	\$ 51.53	\$ 6,341	\$ 60,338	\$ 60,897	\$ 61,481	0.1	0.6	0.6	0.6
55	REREADS	NON-RAMP	NO	\$ 51.53	\$ 596,198	\$ 538,260	\$ 543,240	\$ 548,451	5.5	5.0	5.1	5.1
56	VERIFY	NON-RAMP	NO	\$ 51.53	\$ 33,627	\$ 29,391	\$ 29,663	\$ 29,948	0.3	0.3	0.3	0.3
57	VERIFY RAMP	RAMP	NO	\$ 51.53	\$ 5,037	\$ 4,413	\$ 4,454	\$ 4,497	0.0	0.0	0.0	0.0
58	CUST/COMPANY REMOVE/RESET - ELEC (METER WORK OM)	NON-RAMP	NO	\$ 51.53	\$ 1,145	\$ 1,015	\$ 1,024	\$ 1,034	0.0	0.0	0.0	0.0
59	CUST/COMPANY REMOVE/RESET - GAS	NON-RAMP	NO	\$ 51.53	\$ 14,869	\$ 13,252	\$ 13,375	\$ 13,503	0.1	0.1	0.1	0.1
60	GIVE NOTICE CUT	NON-RAMP	NO	\$ 51.53	\$ 12,073	\$ 10,671	\$ 10,770	\$ 10,873	0.1	0.1	0.1	0.1
61	SHUT OFF ELEC	NON-RAMP	YES	\$ 51.53	\$ 129,295	\$ 100,419	\$ 101,348	\$ 102,321	1.2	0.9	0.9	0.9
62	SHUT OFF GAS AND ELEC	NON-RAMP	YES	\$ 51.53	\$ 6,456	\$ 19,514	\$ 19,694	\$ 19,883	0.1	0.2	0.2	0.2
63	SHUT OFF GAS RAMP	RAMP	YES	\$ 51.53	\$ 256,460	\$ 132,440	\$ 133,666	\$ 134,948	2.4	1.2	1.2	1.2
64	SHUT OFF IN ERROR	NON-RAMP	NO	\$ 51.53	\$ 2,796	\$ 2,445	\$ 2,468	\$ 2,492	0.0	0.0	0.0	0.0
65	SOFT SHUT OFF GAS ELEC	NON-RAMP	NO	\$ 51.53	\$ 9,197	\$ 8,097	\$ 8,172	\$ 8,251	0.1	0.1	0.1	0.1
66	SOFT SHUT OFF GAS ELEC RAMP	RAMP	NO	\$ 51.53	\$ 363,838	\$ 325,914	\$ 328,930	\$ 332,085	3.4	3.0	3.1	3.1
67	SOFT TURN ON GAS TURN ON ELEC	NON-RAMP	NO	\$ 51.53	\$ -	\$ -	\$ -	\$ -	-	-	-	-
68	SOFT TURN ON GAS TURN ON ELEC RAMP	RAMP	NO	\$ 51.53	\$ 8,484	\$ 7,510	\$ 7,579	\$ 7,652	0.1	0.1	0.1	0.1

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Line #	Customer Field Operations Order Volume Based Cost Model			Productive Time + Non Job Time (Dollars)					Productive Time + Non-Job Time Labor FTE			
	Calculation Steps ---->>>			I	J = H x I				K = H / Annual Paid Hours			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)		BY 2021 Blended Productive Wage Rate	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	2088	2080	2080
				BY 2021						2022 Estimated	2023 Estimated	TY 2024 Estimated
69	TURN ON ELEC	NON-RAMP	NO	\$ 51.53	\$ 140,253	\$ 123,821	\$ 124,967	\$ 126,165	1.3	1.2	1.2	1.2
70	TURN ON G/E	NON-RAMP	YES	\$ 51.53	\$ 497	\$ 438	\$ 442	\$ 447	0.0	0.0	0.0	0.0
71	TURN ON G/E RAMP	RAMP	YES	\$ 51.53	\$ 6,688	\$ 27,743	\$ 28,000	\$ 28,269	0.1	0.3	0.3	0.3
72	TURN ON GAS RAMP	RAMP	YES	\$ 51.53	\$ 404,002	\$ 310,522	\$ 313,395	\$ 316,402	3.8	2.9	2.9	2.9
73	ALL INCOMPLETE ORDERS	NON-RAMP	YES	\$ 51.53	\$ 428,060	\$ 409,138	\$ 412,924	\$ 416,885	4.0	3.8	3.9	3.9
80	NON-FIELDED GAS MODULE TROUBLESHOOTING	NON-RAMP	NO	\$ 51.53	\$ 270,614	\$ 224,354	\$ 224,354	\$ 224,354	2.5	2.1	2.1	2.1
81	SM2.0 GAS MODULE REMOVAL	NON-RAMP	NO	\$ 51.53	\$ -	\$ -	\$ 67,838	\$ 67,838	-	-	0.6	0.6
82	TOTAL				\$ 12,123,417	\$ 12,344,943	\$ 12,524,929	\$ 12,642,270	112.7	115.2	116.9	117.1
83	TOTAL Change from BY 2021					\$ 221,525	\$ 401,512	\$ 518,853		2.5	4.2	4.4
84	RAMP - Order Volume Forecast				\$ 7,746,310	\$ 7,800,398	\$ 7,872,572	\$ 7,948,089	72.0	72.8	73.5	73.6
85	RAMP - Change from BY 2021					\$ 54,088	\$ 126,263	\$ 201,780		0.8	1.5	1.6
86	Non-RAMP - Order Volume Forecast				\$ 4,377,107	\$ 4,544,545	\$ 4,584,518	\$ 4,626,343	40.7	42.4	42.8	42.8
87	NON-RAMP - Change from BY 2021					\$ 167,438	\$ 207,411	\$ 249,236		1.7	2.1	2.2
88	SM 2.0 Capital Project Impacts				\$ -	\$ -	\$ 67,838	\$ 67,838	-	-	0.6	0.6
89	SM 2.0 - Change from BY 2021					\$ -	\$ 67,838	\$ 67,838		-	0.6	0.6

¹ For order types affected by COVID-19 (YES), TY 2024 forecast assumes the order volume and on-premise time will resume to the normal activity level similar to 2019.

^{2,3} For all order types including those that are not affected by Covid-19, TY 2024 forecast assumes a drive time average and a non-job time similar to 2019 level.

Line items # 38-45: Compliance meter work orders were affected by the necessary cut-off for the Customer Information System (CIS) replacement going-live during the base year. Therefore, the 2021 base year order count is prorated to reflect the full-year impact.

Line item # 80: Non-fielDED gas module troubleshooting are activities performed at the yard with no associated order count and drive time.

Line item # 81: Smart Meter 2.0 gas module removal assumes that for every single order to remove and replace a module, the removal portion of the time will be charged to O&M.

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Line #	Customer Field Operations Order Volume Based Cost Model			Training Labor FTE					Training Labor Cost				
	Calculation Steps ---->>>			L Training Factor	M = K x L				N BY 2021 Blended Training Wage Rate	O = M x N x Annual Paid Hours			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)		BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated		2088 BY 2021	2080 2022 Estimated	2080 2023 Estimated	2096 TY 2024 Estimated
1	CA ELEC	NON-RAMP	YES	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 592	\$ 586	\$ 592	\$ 598
2	CA GAS	NON-RAMP	YES	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 3,643	\$ 650	\$ 656	\$ 663
3	CA GAS AND ELEC	NON-RAMP	YES	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 92	\$ 219	\$ 221	\$ 223
4	CA GAS RAMP	RAMP	YES	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 169	\$ 79	\$ 80	\$ 81
5	GIVE NOTICE	NON-RAMP	YES	9.15%	0.0	0.1	0.1	0.1	\$ 44.46	\$ 1,528	\$ 7,398	\$ 7,467	\$ 7,538
6	RTO	NON-RAMP	YES	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 148	\$ 664	\$ 670	\$ 677
7	RTO RAMP	RAMP	YES	9.15%	-	0.0	0.0	0.0	\$ 44.46	\$ -	\$ 37	\$ 37	\$ 37
8	1st (FIRST) CALL	NON-RAMP	YES	9.15%	-	0.0	0.0	0.0	\$ 44.46	\$ -	\$ 237	\$ 239	\$ 241
9	2nd (SECOND) CALL	NON-RAMP	YES	9.15%	0.0	0.2	0.2	0.2	\$ 44.46	\$ 96	\$ 18,104	\$ 18,272	\$ 18,447
10	3rd (THIRD) CALL	NON-RAMP	YES	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 4	\$ 2,344	\$ 2,366	\$ 2,389
11	OPT-OUT READS	NON-RAMP	NO	9.15%	0.5	0.4	0.4	0.4	\$ 44.46	\$ 44,384	\$ 40,964	\$ 41,343	\$ 41,740
12	APPLIANCE ADJUSTMENTS	NON-RAMP	YES	9.15%	0.2	0.3	0.3	0.3	\$ 44.46	\$ 21,533	\$ 25,556	\$ 25,793	\$ 26,040
13	APPLIANCE ADJUSTMENTS RAMP	RAMP	YES	9.15%	0.3	0.7	0.7	0.7	\$ 44.46	\$ 27,162	\$ 63,677	\$ 64,266	\$ 64,882
14	APPLIANCE MECHANIC WORK	NON-RAMP	YES	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 1,881	\$ 3,847	\$ 3,882	\$ 3,920
15	CARBON MONOXIDE-EMERGENCY - RAMP	RAMP	NO	9.15%	0.1	0.0	0.1	0.1	\$ 44.46	\$ 5,396	\$ 4,613	\$ 4,656	\$ 4,700
16	CARBON MONOXIDE-NON EMERGENCY -RAMP	RAMP	NO	9.15%	0.1	0.1	0.1	0.1	\$ 44.46	\$ 5,604	\$ 4,837	\$ 4,881	\$ 4,928
17	CREDIT SHUT OFF	NON-RAMP	YES	9.15%	-	0.0	0.0	0.0	\$ 44.46	\$ -	\$ 3,446	\$ 3,478	\$ 3,512
18	HIGH PRESSURE	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 716	\$ 617	\$ 622	\$ 628
19	NO GAS	NON-RAMP	NO	9.15%	0.3	0.2	0.2	0.2	\$ 44.46	\$ 24,174	\$ 20,956	\$ 21,150	\$ 21,353
20	NO GAS RAMP	RAMP	NO	9.15%	0.5	0.4	0.4	0.4	\$ 44.46	\$ 41,876	\$ 36,157	\$ 36,492	\$ 36,842
21	OTHER MISC GAS & ELEC CUSTOMER REQUESTS	NON-RAMP	NO	9.15%	0.7	0.6	0.6	0.6	\$ 44.46	\$ 61,992	\$ 53,542	\$ 54,037	\$ 54,556
22	SCHOOL LEAK SURVEYS	NON-RAMP	NO	9.15%	0.1	0.1	0.1	0.1	\$ 44.46	\$ 5,620	\$ 4,763	\$ 4,807	\$ 4,853
23	SEASONAL OFF	NON-RAMP	YES	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 697	\$ 1,940	\$ 1,958	\$ 1,977
24	SEASONAL ON MULTIPLES	NON-RAMP	YES	9.15%	-	0.0	0.0	0.0	\$ 44.46	\$ -	\$ 2	\$ 2	\$ 2
25	SEASONAL ON MULTIPLES RAMP	RAMP	YES	9.15%	-	0.3	0.3	0.3	\$ 44.46	\$ -	\$ 25,111	\$ 25,343	\$ 25,586
26	SEASONAL ON SINGLES RAMP	RAMP	YES	9.15%	0.4	0.7	0.7	0.7	\$ 44.46	\$ 39,857	\$ 63,127	\$ 63,711	\$ 64,322
27	SM OPTOUT METER CHANGE	NON-RAMP	YES	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 1,059	\$ 3,088	\$ 3,117	\$ 3,146
28	FUMIGATION/BUG FOGGER - RAMP	RAMP	NO	9.15%	2.4	2.1	2.1	2.1	\$ 44.46	\$ 222,581	\$ 192,446	\$ 194,227	\$ 196,090
29	EMERGENCY B&B INSIDE - RAMP	RAMP	NO	9.15%	0.1	0.0	0.0	0.0	\$ 44.46	\$ 5,268	\$ 4,536	\$ 4,578	\$ 4,622
30	EMERGENCY B&B OUTSIDE - RAMP	RAMP	NO	9.15%	0.1	0.0	0.0	0.0	\$ 44.46	\$ 4,837	\$ 4,106	\$ 4,144	\$ 4,184
31	EMERGENCY-AGENCY REQUESTS - RAMP	RAMP	NO	9.15%	0.1	0.1	0.1	0.1	\$ 44.46	\$ 5,927	\$ 5,086	\$ 5,133	\$ 5,183
32	FIRE & EXPLOSIONS - RAMP	RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 36	\$ 31	\$ 31	\$ 31
33	GAS LEAKS-HAZARD - RAMP	RAMP	NO	9.15%	1.4	1.2	1.2	1.2	\$ 44.46	\$ 126,643	\$ 109,048	\$ 110,057	\$ 111,113

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Line #	Customer Field Operations Order Volume Based Cost Model			Training Labor FTE					Training Labor Cost				
	Calculation Steps ---->>>			L	M = K x L				N	O = M x N x Annual Paid Hours			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)		Training Factor	BY 2021	2022 Estimated	2023 Estimated		TY 2024 Estimated	BY 2021 Blended Training Wage Rate	2088	2080
				BY 2021					2022 Estimated			2023 Estimated	TY 2024 Estimated
34	GAS LEAKS-NON HAZARD - RAMP	RAMP	NO	9.15%	0.3	0.2	0.2	0.2	\$ 44.46	\$ 23,218	\$ 20,044	\$ 20,229	\$ 20,423
35	HBI - EZER	NON-RAMP	YES	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 12	\$ 8	\$ 8	\$ 9
36	HBI - RAMP	RAMP	YES	9.15%	0.1	0.1	0.1	0.1	\$ 44.46	\$ 4,677	\$ 5,218	\$ 5,266	\$ 5,317
37	ACOR RAMP	RAMP	NO	9.15%	0.1	0.1	0.1	0.1	\$ 44.46	\$ 7,300	\$ 6,307	\$ 6,365	\$ 6,426
38	COMPLIANCE - COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	9.15%	0.0	0.0	0.1	0.1	\$ 44.46	\$ 3,968	\$ 4,582	\$ 4,624	\$ 4,668
39	COMPLIANCE - COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	9.15%	0.2	0.2	0.2	0.2	\$ 44.46	\$ 14,955	\$ 17,224	\$ 17,383	\$ 17,550
40	COMPLIANCE - COD3 CHG/RMVE (GAS)	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 646	\$ 746	\$ 753	\$ 760
41	COMPLIANCE - CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 132	\$ 151	\$ 153	\$ 154
42	COMPLIANCE - HTRK COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 2	\$ 2	\$ 2	\$ 2
43	COMPLIANCE - HTRK COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 2,963	\$ 3,392	\$ 3,423	\$ 3,456
44	COMPLIANCE - HTRK COD3-1OY CHG/RMVE-GAS	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 2,928	\$ 3,353	\$ 3,385	\$ 3,417
45	COMPLIANCE - HTRK CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 74	\$ 85	\$ 86	\$ 87
46	CURB- RAMP	RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 2,275	\$ 1,973	\$ 1,991	\$ 2,010
47	CUST/COMPANY CHANGE - ELEC	NON-RAMP	NO	9.15%	0.1	0.1	0.1	0.1	\$ 44.46	\$ 5,652	\$ 4,958	\$ 5,004	\$ 5,052
48	CUST/COMPANY CHANGE - GAS	NON-RAMP	NO	9.15%	0.1	0.1	0.1	0.1	\$ 44.46	\$ 6,135	\$ 5,361	\$ 5,411	\$ 5,463
49	CUST/COMPANY TEST(CHANGE) - GAS	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 131	\$ 112	\$ 113	\$ 114
50	MISC COMPANY WORK	NON-RAMP	NO	9.15%	0.1	0.1	0.1	0.1	\$ 44.46	\$ 9,162	\$ 7,993	\$ 8,067	\$ 8,144
51	MISC COMPANY WORK RAMP	RAMP	NO	9.15%	0.1	0.1	0.1	0.1	\$ 44.46	\$ 6,294	\$ 5,608	\$ 5,659	\$ 5,714
52	HOUSELINE TEST/PURGE OM	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 327	\$ 281	\$ 284	\$ 286
53	HOUSELINE TEST/PURGE OM RAMP	RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 109	\$ 93	\$ 94	\$ 95
54	CREDIT CUT INS	NON-RAMP	YES	9.15%	0.0	0.1	0.1	0.1	\$ 44.46	\$ 501	\$ 4,765	\$ 4,809	\$ 4,855
55	REREADS	NON-RAMP	NO	9.15%	0.5	0.5	0.5	0.5	\$ 44.46	\$ 47,081	\$ 42,505	\$ 42,899	\$ 43,310
56	VERIFY	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 2,655	\$ 2,321	\$ 2,342	\$ 2,365
57	VERIFY RAMP	RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 398	\$ 348	\$ 352	\$ 355
58	CUST/COMPANY REMOVE/RESET - ELEC (METER WORK OM)	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 90	\$ 80	\$ 81	\$ 82
59	CUST/COMPANY REMOVE/RESET - GAS	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 1,174	\$ 1,047	\$ 1,056	\$ 1,066
60	GIVE NOTICE CUT	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 953	\$ 843	\$ 850	\$ 859
61	SHUT OFF ELEC	NON-RAMP	YES	9.15%	0.1	0.1	0.1	0.1	\$ 44.46	\$ 10,210	\$ 7,930	\$ 8,003	\$ 8,080
62	SHUT OFF GAS AND ELEC	NON-RAMP	YES	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 510	\$ 1,541	\$ 1,555	\$ 1,570
63	SHUT OFF GAS RAMP	RAMP	YES	9.15%	0.2	0.1	0.1	0.1	\$ 44.46	\$ 20,252	\$ 10,459	\$ 10,555	\$ 10,657
64	SHUT OFF IN ERROR	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 221	\$ 193	\$ 195	\$ 197
65	SOFT SHUT OFF GAS ELEC	NON-RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 726	\$ 639	\$ 645	\$ 652
66	SOFT SHUT OFF GAS ELEC RAMP	RAMP	NO	9.15%	0.3	0.3	0.3	0.3	\$ 44.46	\$ 28,732	\$ 25,737	\$ 25,975	\$ 26,224
67	SOFT TURN ON GAS TURN ON ELEC	NON-RAMP	NO	9.15%	-	-	-	-	\$ 44.46	\$ -	\$ -	\$ -	\$ -
68	SOFT TURN ON GAS TURN ON ELEC RAMP	RAMP	NO	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 670	\$ 593	\$ 599	\$ 604

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Line #	Customer Field Operations Order Volume Based Cost Model			Training Labor FTE					Training Labor Cost				
	Calculation Steps ---->>>			L	M = K x L				N	O = M x N x Annual Paid Hours			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	Training Factor	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	BY 2021 Blended Training Wage Rate	2088	2080	2080	2096
					BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated		BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
69	TURN ON ELEC	NON-RAMP	NO	9.15%	0.1	0.1	0.1	0.1	\$ 44.46	\$ 11,076	\$ 9,778	\$ 9,868	\$ 9,963
70	TURN ON G/E	NON-RAMP	YES	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 39	\$ 35	\$ 35	\$ 35
71	TURN ON G/E RAMP	RAMP	YES	9.15%	0.0	0.0	0.0	0.0	\$ 44.46	\$ 528	\$ 2,191	\$ 2,211	\$ 2,232
72	TURN ON GAS RAMP	RAMP	YES	9.15%	0.3	0.3	0.3	0.3	\$ 44.46	\$ 31,903	\$ 24,521	\$ 24,748	\$ 24,986
73	ALL INCOMPLETE ORDERS	NON-RAMP	YES	9.15%	0.4	0.3	0.4	0.4	\$ 44.46	\$ 33,803	\$ 32,309	\$ 32,608	\$ 32,921
80	NON-FIELDED GAS MODULE TROUBLESHOOTING	NON-RAMP	NO	9.15%	0.2	0.2	0.2	0.2	\$ 44.46	\$ 21,370	\$ 17,717	\$ 17,717	\$ 17,717
81	SM2.0 GAS MODULE REMOVAL	NON-RAMP	NO	9.15%	-	-	0.1	0.1	\$ 44.46	\$ -	\$ -	\$ 5,357	\$ 5,357
82	TOTAL				10.3	10.5	10.7	10.7		\$ 957,364	\$ 974,857	\$ 989,071	\$ 998,337
83	TOTAL Change from BY 2021					0.2	0.4	0.4			\$ 17,493	\$ 31,707	\$ 40,973
84	RAMP - Order Volume Forecast				6.6	6.7	6.7	6.7		\$ 611,712	\$ 615,983	\$ 621,683	\$ 627,646
85	RAMP - Change from BY 2021					0.1	0.1	0.1			\$ 4,271	\$ 9,971	\$ 15,934
86	Non-RAMP - Order Volume Forecast				3.7	3.9	3.9	3.9		\$ 345,652	\$ 358,874	\$ 362,031	\$ 365,334
87	NON-RAMP - Change from BY 2021					0.2	0.2	0.2			\$ 13,222	\$ 16,379	\$ 19,682
88	SM 2.0 Capital Project Impacts						0.1	0.1		\$ -	\$ -	\$ 5,357	\$ 5,357
89	SM 2.0 - Change from BY 2021						0.1	0.1			\$ -	\$ 5,357	\$ 5,357

¹ For order types affected by COVID-19 (YES), TY 2024 forecast assumes the order volume and on-premise time will resume to the normal activity level similar to 2019.

^{2,3} For all order types including those that are not affected by Covid-19, TY 2024 forecast assumes a drive time average and a non-job time similar to 2019 level.

Line items # 38-45: Compliance meter work orders were affected by the necessary cut-off for the Customer Information System (CIS) replacement going-live during the base year. Therefore, the 2021 base year order count is prorated to reflect the full-year impact.

Line item # 80: Non-fielded gas module troubleshooting are activities performed at the yard with no associated order count and drive time.

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Line #	Customer Field Operations Order Volume Based Cost Model			Total Labor Cost = Productive + Non-Job Time + Training				Total FTE = Productive + Non-Job Time + Training			
	Calculation Steps ---->>>			P = J + O				Q = K + M			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
1	CA ELEC	NON-RAMP	YES	\$ 8,083	\$ 8,012	\$ 8,087	\$ 8,164	0.1	0.1	0.1	0.1
2	CA GAS	NON-RAMP	YES	\$ 49,775	\$ 8,886	\$ 8,968	\$ 9,054	0.5	0.1	0.1	0.1
3	CA GAS AND ELEC	NON-RAMP	YES	\$ 1,258	\$ 2,986	\$ 3,013	\$ 3,042	0.0	0.0	0.0	0.0
4	CA GAS RAMP	RAMP	YES	\$ 2,305	\$ 1,085	\$ 1,095	\$ 1,106	0.0	0.0	0.0	0.0
5	GIVE NOTICE	NON-RAMP	YES	\$ 20,880	\$ 101,085	\$ 102,020	\$ 102,999	0.2	1.0	1.0	1.0
6	RTO	NON-RAMP	YES	\$ 2,024	\$ 9,077	\$ 9,161	\$ 9,248	0.0	0.1	0.1	0.1
7	RTO RAMP	RAMP	YES	\$ -	\$ 501	\$ 506	\$ 511	-	0.0	0.0	0.0
8	1st (FIRST) CALL	NON-RAMP	YES	\$ -	\$ 3,238	\$ 3,268	\$ 3,299	-	0.0	0.0	0.0
9	2nd (SECOND) CALL	NON-RAMP	YES	\$ 1,307	\$ 247,364	\$ 249,653	\$ 252,048	0.0	2.3	2.4	2.4
10	3rd (THIRD) CALL	NON-RAMP	YES	\$ 51	\$ 32,031	\$ 32,327	\$ 32,637	0.0	0.3	0.3	0.3
11	OPT-OUT READS	NON-RAMP	NO	\$ 606,432	\$ 559,709	\$ 564,888	\$ 570,306	5.7	5.3	5.3	5.3
12	APPLIANCE ADJUSTMENTS	NON-RAMP	YES	\$ 294,212	\$ 349,184	\$ 352,414	\$ 355,795	2.8	3.3	3.3	3.3
13	APPLIANCE ADJUSTMENTS RAMP	RAMP	YES	\$ 371,120	\$ 870,035	\$ 878,086	\$ 886,509	3.5	8.2	8.3	8.3
14	APPLIANCE MECHANIC WORK	NON-RAMP	YES	\$ 25,694	\$ 52,560	\$ 53,046	\$ 53,555	0.2	0.5	0.5	0.5
15	CARBON MONOXIDE-EMERGENCY - RAMP	RAMP	NO	\$ 73,727	\$ 63,029	\$ 63,613	\$ 64,223	0.7	0.6	0.6	0.6
16	CARBON MONOXIDE-NON EMERGENCY -RAMP	RAMP	NO	\$ 76,570	\$ 66,084	\$ 66,696	\$ 67,336	0.7	0.6	0.6	0.6
17	CREDIT SHUT OFF	NON-RAMP	YES	\$ -	\$ 47,091	\$ 47,526	\$ 47,982	-	0.4	0.4	0.4
18	HIGH PRESSURE	NON-RAMP	NO	\$ 9,789	\$ 8,424	\$ 8,502	\$ 8,584	0.1	0.1	0.1	0.1
19	NO GAS	NON-RAMP	NO	\$ 330,303	\$ 286,328	\$ 288,977	\$ 291,749	3.1	2.7	2.7	2.7
20	NO GAS RAMP	RAMP	NO	\$ 572,168	\$ 494,029	\$ 498,600	\$ 503,383	5.4	4.7	4.7	4.7
21	OTHER MISC GAS & ELEC CUSTOMER REQUESTS	NON-RAMP	NO	\$ 847,022	\$ 731,561	\$ 738,330	\$ 745,412	8.0	6.9	7.0	7.0
22	SCHOOL LEAK SURVEYS	NON-RAMP	NO	\$ 76,787	\$ 65,081	\$ 65,683	\$ 66,313	0.7	0.6	0.6	0.6
23	SEASONAL OFF	NON-RAMP	YES	\$ 9,517	\$ 26,506	\$ 26,751	\$ 27,007	0.1	0.3	0.3	0.3
24	SEASONAL ON MULTIPLES	NON-RAMP	YES	\$ -	\$ 22	\$ 22	\$ 22	-	0.0	0.0	0.0
25	SEASONAL ON MULTIPLES RAMP	RAMP	YES	\$ -	\$ 343,095	\$ 346,269	\$ 349,591	-	3.2	3.3	3.3
26	SEASONAL ON SINGLES RAMP	RAMP	YES	\$ 544,581	\$ 862,525	\$ 870,506	\$ 878,856	5.1	8.1	8.2	8.2
27	SM OPTOUT METER CHANGE	NON-RAMP	YES	\$ 14,468	\$ 42,192	\$ 42,583	\$ 42,991	0.1	0.4	0.4	0.4
28	FUMIGATION/BUG FOGGER - RAMP	RAMP	NO	\$ 3,041,199	\$ 2,629,455	\$ 2,653,784	\$ 2,679,240	28.6	24.8	25.0	25.1
29	EMERGENCY B&B INSIDE - RAMP	RAMP	NO	\$ 71,972	\$ 61,984	\$ 62,557	\$ 63,157	0.7	0.6	0.6	0.6
30	EMERGENCY B&B OUTSIDE -RAMP	RAMP	NO	\$ 66,086	\$ 56,107	\$ 56,626	\$ 57,169	0.6	0.5	0.5	0.5
31	EMERGENCY-AGENCY REQUESTS - RAMP	RAMP	NO	\$ 80,988	\$ 69,497	\$ 70,140	\$ 70,812	0.8	0.7	0.7	0.7
32	FIRE & EXPLOSIONS - RAMP	RAMP	NO	\$ 487	\$ 422	\$ 426	\$ 430	0.0	0.0	0.0	0.0
33	GAS LEAKS-HAZARD - RAMP	RAMP	NO	\$ 1,730,372	\$ 1,489,958	\$ 1,503,744	\$ 1,518,169	16.3	14.1	14.2	14.2

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Line #	Customer Field Operations Order Volume Based Cost Model			Total Labor Cost = Productive + Non-Job Time + Training				Total FTE = Productive + Non-Job Time + Training			
	Calculation Steps ---->>>			P = J + O				Q = K + M			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
34	GAS LEAKS-NON HAZARD - RAMP	RAMP	NO	\$ 317,233	\$ 273,864	\$ 276,398	\$ 279,049	3.0	2.6	2.6	2.6
35	HBI - EZER	NON-RAMP	YES	\$ 160	\$ 115	\$ 116	\$ 117	0.0	0.0	0.0	0.0
36	HBI - RAMP	RAMP	YES	\$ 63,907	\$ 71,298	\$ 71,958	\$ 72,648	0.6	0.7	0.7	0.7
37	ACOR RAMP	RAMP	NO	\$ 99,737	\$ 86,173	\$ 86,970	\$ 87,804	0.9	0.8	0.8	0.8
38	COMPLIANCE - COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	\$ 54,216	\$ 62,602	\$ 63,181	\$ 63,787	0.5	0.6	0.6	0.6
39	COMPLIANCE - COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	\$ 204,329	\$ 235,333	\$ 237,511	\$ 239,789	1.9	2.2	2.2	2.2
40	COMPLIANCE - COD3 CHG/RMVE (GAS)	NON-RAMP	NO	\$ 8,826	\$ 10,194	\$ 10,288	\$ 10,387	0.1	0.1	0.1	0.1
41	COMPLIANCE - CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	\$ 1,802	\$ 2,065	\$ 2,085	\$ 2,105	0.0	0.0	0.0	0.0
42	COMPLIANCE - HTRK COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	\$ 21	\$ 26	\$ 27	\$ 27	0.0	0.0	0.0	0.0
43	COMPLIANCE - HTRK COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	\$ 40,480	\$ 46,340	\$ 46,769	\$ 47,217	0.4	0.4	0.4	0.4
44	COMPLIANCE - HTRK COD3-10Y CHG/RMVE-GAS	NON-RAMP	NO	\$ 40,001	\$ 45,820	\$ 46,244	\$ 46,687	0.4	0.4	0.4	0.4
45	COMPLIANCE - HTRK CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	\$ 1,018	\$ 1,163	\$ 1,173	\$ 1,185	0.0	0.0	0.0	0.0
46	CURB- RAMP	RAMP	NO	\$ 31,079	\$ 26,959	\$ 27,208	\$ 27,469	0.3	0.3	0.3	0.3
47	CUST/COMPANY CHANGE - ELEC	NON-RAMP	NO	\$ 77,222	\$ 67,748	\$ 68,375	\$ 69,031	0.7	0.6	0.6	0.6
48	CUST/COMPANY CHANGE - GAS	NON-RAMP	NO	\$ 83,822	\$ 73,251	\$ 73,928	\$ 74,637	0.8	0.7	0.7	0.7
49	CUST/COMPANY TEST(CHANGE) - GAS	NON-RAMP	NO	\$ 1,784	\$ 1,528	\$ 1,542	\$ 1,557	0.0	0.0	0.0	0.0
50	MISC COMPANY WORK	NON-RAMP	NO	\$ 125,184	\$ 109,206	\$ 110,216	\$ 111,273	1.2	1.0	1.0	1.0
51	MISC COMPANY WORK RAMP	RAMP	NO	\$ 86,003	\$ 76,618	\$ 77,327	\$ 78,069	0.8	0.7	0.7	0.7
52	HOUSELINE TEST/PURGE OM	NON-RAMP	NO	\$ 4,463	\$ 3,839	\$ 3,874	\$ 3,911	0.0	0.0	0.0	0.0
53	HOUSELINE TEST/PURGE OM RAMP	RAMP	NO	\$ 1,495	\$ 1,271	\$ 1,283	\$ 1,295	0.0	0.0	0.0	0.0
54	CREDIT CUT INS	NON-RAMP	YES	\$ 6,842	\$ 65,103	\$ 65,706	\$ 66,336	0.1	0.6	0.6	0.6
55	REREADS	NON-RAMP	NO	\$ 643,279	\$ 580,765	\$ 586,139	\$ 591,761	6.0	5.5	5.5	5.5
56	VERIFY	NON-RAMP	NO	\$ 36,283	\$ 31,712	\$ 32,006	\$ 32,313	0.3	0.3	0.3	0.3
57	VERIFY RAMP	RAMP	NO	\$ 5,434	\$ 4,762	\$ 4,806	\$ 4,852	0.1	0.0	0.0	0.0
58	CUST/COMPANY REMOVE/RESET - ELEC (METER WORK OM)	NON-RAMP	NO	\$ 1,236	\$ 1,095	\$ 1,105	\$ 1,115	0.0	0.0	0.0	0.0
59	CUST/COMPANY REMOVE/RESET - GAS	NON-RAMP	NO	\$ 16,043	\$ 14,299	\$ 14,431	\$ 14,570	0.2	0.1	0.1	0.1
60	GIVE NOTICE CUT	NON-RAMP	NO	\$ 13,026	\$ 11,514	\$ 11,620	\$ 11,732	0.1	0.1	0.1	0.1
61	SHUT OFF ELEC	NON-RAMP	YES	\$ 139,505	\$ 108,349	\$ 109,352	\$ 110,401	1.3	1.0	1.0	1.0
62	SHUT OFF GAS AND ELEC	NON-RAMP	YES	\$ 6,966	\$ 21,055	\$ 21,249	\$ 21,453	0.1	0.2	0.2	0.2
63	SHUT OFF GAS RAMP	RAMP	YES	\$ 276,712	\$ 142,899	\$ 144,221	\$ 145,604	2.6	1.3	1.4	1.4
64	SHUT OFF IN ERROR	NON-RAMP	NO	\$ 3,017	\$ 2,638	\$ 2,663	\$ 2,688	0.0	0.0	0.0	0.0
65	SOFT SHUT OFF GAS ELEC	NON-RAMP	NO	\$ 9,923	\$ 8,737	\$ 8,817	\$ 8,902	0.1	0.1	0.1	0.1
66	SOFT SHUT OFF GAS ELEC RAMP	RAMP	NO	\$ 392,570	\$ 351,651	\$ 354,905	\$ 358,309	3.7	3.3	3.4	3.4
67	SOFT TURN ON GAS TURN ON ELEC	NON-RAMP	NO	\$ -	\$ -	\$ -	\$ -	-	-	-	-
68	SOFT TURN ON GAS TURN ON ELEC RAMP	RAMP	NO	\$ 9,154	\$ 8,103	\$ 8,178	\$ 8,256	0.1	0.1	0.1	0.1

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Line #	Customer Field Operations Order Volume Based Cost Model			Total Labor Cost = Productive + Non-Job Time + Training				Total FTE = Productive + Non-Job Time + Training			
	Calculation Steps ---->>>			P = J + O				Q = K + M			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
69	TURN ON ELEC	NON-RAMP	NO	\$ 151,328	\$ 133,599	\$ 134,835	\$ 136,128	1.4	1.3	1.3	1.3
70	TURN ON G/E	NON-RAMP	YES	\$ 537	\$ 473	\$ 477	\$ 482	0.0	0.0	0.0	0.0
71	TURN ON G/E RAMP	RAMP	YES	\$ 7,216	\$ 29,934	\$ 30,211	\$ 30,501	0.1	0.3	0.3	0.3
72	TURN ON GAS RAMP	RAMP	YES	\$ 435,905	\$ 335,044	\$ 338,144	\$ 341,387	4.1	3.2	3.2	3.2
73	ALL INCOMPLETE ORDERS	NON-RAMP	YES	\$ 461,863	\$ 441,447	\$ 445,532	\$ 449,805	4.3	4.2	4.2	4.2
80	NON-FIELDED GAS MODULE TROUBLESHOOTING	NON-RAMP	NO	\$ 291,984	\$ 242,071	\$ 242,071	\$ 242,071	2.7	2.3	2.3	2.3
81	SM2.0 GAS MODULE REMOVAL	NON-RAMP	NO	\$ -	\$ -	\$ 73,195	\$ 73,195	-	-	0.7	0.7
82	TOTAL			\$ 13,080,781	\$ 13,319,800	\$ 13,513,999	\$ 13,640,607	123.0	125.7	127.6	127.8
83	TOTAL Change from BY 2021				\$ 239,019	\$ 433,218	\$ 559,826		2.7	4.6	4.8
84	RAMP - Order Volume Forecast			\$ 8,358,022	\$ 8,416,381	\$ 8,494,255	\$ 8,575,735	78.6	79.4	80.2	80.3
85	RAMP - Change from BY 2021				\$ 58,359	\$ 136,233	\$ 217,714		0.9	1.6	1.7
86	Non-RAMP - Order Volume Forecast			\$ 4,722,759	\$ 4,903,419	\$ 4,946,549	\$ 4,991,677	44.4	46.3	46.7	46.8
87	NON-RAMP - Change from BY 2021				\$ 180,660	\$ 223,790	\$ 268,917		1.9	2.3	2.3
88	SM 2.0 Capital Project Impacts			\$ -	\$ -	\$ 73,195	\$ 73,195	-	-	0.7	0.7
89	SM 2.0 - Change from BY 2021				\$ -	\$ 73,195	\$ 73,195		-	0.7	0.7

¹ For order types affected by COVID-19 (YES), TY 2024 forecast assumes the order volume and on-premise time will resume to the normal activity level similar to 2019.

^{2,3} For all order types including those that are not affected by Covid-19, TY 2024 forecast assumes a drive time average and a non-job time similar to 2019 level.

Line items # 38-45: Compliance meter work orders were affected by the necessary cut-off for the Customer Information System (CIS) replacement going-live during the base year. Therefore, the 2021 base year order count is prorated to reflect the full-year impact.

Line item # 80: Non-fielded gas module troubleshooting are activities performed at the yard with no associated order count and drive time.

Line item # 81: Smart Meter 2.0 gas module removal assumes that for every single order to remove and replace a module, the removal portion of the time will be charged to O&M.

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Line #	Customer Field Operations Order Volume Based Cost Model			Vacation & Sick (V&S)		Non-Labor Per FTE	Total Labor Cost w/ V&S				Total Non-Labor Cost			
	Calculation Steps --->>>			R	S	T	W = P x (1 + R)				X = T x Z			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	BY 2021 V&S Factor	BY 2021 V&S FTE Factor	BY 2021 NL/FTE	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
1	CA ELEC	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 9,297	\$ 9,216	\$ 9,301	\$ 9,390	\$ 642	\$ 639	\$ 645	\$ 646
2	CA GAS	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 57,251	\$ 10,220	\$ 10,315	\$ 10,414	\$ 3,956	\$ 709	\$ 716	\$ 717
3	CA GAS AND ELEC	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 1,447	\$ 3,434	\$ 3,466	\$ 3,499	\$ 100	\$ 238	\$ 240	\$ 241
4	CA GAS RAMP	RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 2,651	\$ 1,248	\$ 1,260	\$ 1,272	\$ 183	\$ 87	\$ 87	\$ 88
5	GIVE NOTICE	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 24,016	\$ 116,268	\$ 117,344	\$ 118,469	\$ 1,660	\$ 8,065	\$ 8,140	\$ 8,155
6	RTO	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 2,328	\$ 10,440	\$ 10,537	\$ 10,638	\$ 161	\$ 724	\$ 731	\$ 732
7	RTO RAMP	RAMP	YES	15.02%	17.06%	\$ 7,221	\$ -	\$ 577	\$ 582	\$ 588	\$ -	\$ 40	\$ 40	\$ 40
8	1st (FIRST) CALL	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ -	\$ 3,724	\$ 3,759	\$ 3,795	\$ -	\$ 258	\$ 261	\$ 261
9	2nd (SECOND) CALL	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 1,504	\$ 284,518	\$ 287,151	\$ 289,905	\$ 104	\$ 19,737	\$ 19,919	\$ 19,957
10	3rd (THIRD) CALL	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 59	\$ 36,842	\$ 37,183	\$ 37,540	\$ 4	\$ 2,556	\$ 2,579	\$ 2,584
11	OPT-OUT READS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 697,518	\$ 643,777	\$ 649,734	\$ 655,966	\$ 48,201	\$ 44,658	\$ 45,071	\$ 45,156
12	APPLIANCE ADJUSTMENTS	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 338,402	\$ 401,631	\$ 405,347	\$ 409,235	\$ 23,385	\$ 27,861	\$ 28,119	\$ 28,172
13	APPLIANCE ADJUSTMENTS RAMP	RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 426,862	\$ 1,000,715	\$ 1,009,974	\$ 1,019,662	\$ 29,498	\$ 69,419	\$ 70,061	\$ 70,193
14	APPLIANCE MECHANIC WORK	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 29,554	\$ 60,454	\$ 61,013	\$ 61,599	\$ 2,042	\$ 4,194	\$ 4,232	\$ 4,240
15	CARBON MONOXIDE-EMERGENCY - RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 84,801	\$ 72,496	\$ 73,167	\$ 73,869	\$ 5,860	\$ 5,029	\$ 5,076	\$ 5,085
16	CARBON MONOXIDE-NON EMERGENCY -RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 88,071	\$ 76,010	\$ 76,713	\$ 77,449	\$ 6,086	\$ 5,273	\$ 5,322	\$ 5,332
17	CREDIT SHUT OFF	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ -	\$ 54,164	\$ 54,665	\$ 55,189	\$ -	\$ 3,757	\$ 3,792	\$ 3,799
18	HIGH PRESSURE	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 11,259	\$ 9,690	\$ 9,779	\$ 9,873	\$ 778	\$ 672	\$ 678	\$ 680
19	NO GAS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 379,914	\$ 329,334	\$ 332,382	\$ 335,570	\$ 26,253	\$ 22,846	\$ 23,057	\$ 23,100
20	NO GAS RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 658,108	\$ 568,233	\$ 573,490	\$ 578,991	\$ 45,477	\$ 39,418	\$ 39,783	\$ 39,858
21	OTHER MISC GAS & ELEC CUSTOMER REQUESTS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 974,245	\$ 841,442	\$ 849,227	\$ 857,373	\$ 67,324	\$ 58,370	\$ 58,910	\$ 59,021
22	SCHOOL LEAK SURVEYS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 88,321	\$ 74,856	\$ 75,549	\$ 76,274	\$ 6,103	\$ 5,193	\$ 5,241	\$ 5,251
23	SEASONAL OFF	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 10,946	\$ 30,487	\$ 30,769	\$ 31,064	\$ 756	\$ 2,115	\$ 2,134	\$ 2,138
24	SEASONAL ON MULTIPLES	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ -	\$ 25	\$ 25	\$ 25	\$ -	\$ 2	\$ 2	\$ 2
25	SEASONAL ON MULTIPLES RAMP	RAMP	YES	15.02%	17.06%	\$ 7,221	\$ -	\$ 394,628	\$ 398,279	\$ 402,099	\$ -	\$ 27,375	\$ 27,628	\$ 27,680
26	SEASONAL ON SINGLES RAMP	RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 626,377	\$ 992,076	\$ 1,001,256	\$ 1,010,860	\$ 43,285	\$ 68,819	\$ 69,456	\$ 69,587
27	SM OPTOUT METER CHANGE	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 16,641	\$ 48,530	\$ 48,979	\$ 49,449	\$ 1,150	\$ 3,366	\$ 3,398	\$ 3,404
28	FUMIGATION/BUG FOGGER - RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 3,497,987	\$ 3,024,399	\$ 3,052,382	\$ 3,081,662	\$ 241,723	\$ 209,800	\$ 211,741	\$ 212,140
29	EMERGENCY B&B INSIDE - RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 82,782	\$ 71,293	\$ 71,953	\$ 72,643	\$ 5,720	\$ 4,946	\$ 4,991	\$ 5,001
30	EMERGENCY B&B OUTSIDE -RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 76,012	\$ 64,534	\$ 65,131	\$ 65,756	\$ 5,253	\$ 4,477	\$ 4,518	\$ 4,527
31	EMERGENCY-AGENCY REQUESTS - RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 93,152	\$ 79,935	\$ 80,674	\$ 81,448	\$ 6,437	\$ 5,545	\$ 5,596	\$ 5,607
32	FIRE & EXPLOSIONS - RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 560	\$ 485	\$ 490	\$ 495	\$ 39	\$ 34	\$ 34	\$ 34
33	GAS LEAKS-HAZARD - RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 1,990,274	\$ 1,713,750	\$ 1,729,607	\$ 1,746,198	\$ 137,535	\$ 118,881	\$ 119,981	\$ 120,208

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Line #	Customer Field Operations Order Volume Based Cost Model			Vacation & Sick (V&S)		Non-Labor Per FTE	Total Labor Cost w/ V&S				Total Non-Labor Cost			
	Calculation Steps --->>>			R	S	T	W = P x (1 + R)				X = T x Z			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	BY 2021 V&S Factor	BY 2021 V&S FTE Factor	BY 2021 NL/FTE	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
34	GAS LEAKS-NON HAZARD - RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 364,882	\$ 314,998	\$ 317,913	\$ 320,962	\$ 25,215	\$ 21,851	\$ 22,053	\$ 22,095
35	HBI - EZER	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 184	\$ 132	\$ 133	\$ 134	\$ 13	\$ 9	\$ 9	\$ 9
36	HBI - RAMP	RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 73,506	\$ 82,007	\$ 82,766	\$ 83,560	\$ 5,079	\$ 5,689	\$ 5,741	\$ 5,752
37	ACOR RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 114,718	\$ 99,116	\$ 100,033	\$ 100,992	\$ 7,927	\$ 6,876	\$ 6,939	\$ 6,952
38	COMPLIANCE - COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 62,360	\$ 72,004	\$ 72,671	\$ 73,368	\$ 4,309	\$ 4,995	\$ 5,041	\$ 5,051
39	COMPLIANCE - COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 235,019	\$ 270,680	\$ 273,185	\$ 275,805	\$ 16,241	\$ 18,777	\$ 18,951	\$ 18,986
40	COMPLIANCE - COD3 CHG/RMVE (GAS)	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 10,152	\$ 11,725	\$ 11,833	\$ 11,947	\$ 702	\$ 813	\$ 821	\$ 822
41	COMPLIANCE - CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 2,073	\$ 2,376	\$ 2,398	\$ 2,421	\$ 143	\$ 165	\$ 166	\$ 167
42	COMPLIANCE - HTRK COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 24	\$ 30	\$ 31	\$ 31	\$ 2	\$ 2	\$ 2	\$ 2
43	COMPLIANCE - HTRK COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 46,560	\$ 53,300	\$ 53,793	\$ 54,309	\$ 3,217	\$ 3,697	\$ 3,732	\$ 3,739
44	COMPLIANCE - HTRK COD3-10Y CHG/RMVE-GAS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 46,009	\$ 52,702	\$ 53,189	\$ 53,700	\$ 3,179	\$ 3,656	\$ 3,690	\$ 3,697
45	COMPLIANCE - HTRK CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 1,171	\$ 1,337	\$ 1,350	\$ 1,362	\$ 81	\$ 93	\$ 94	\$ 94
46	CURB- RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 35,747	\$ 31,008	\$ 31,295	\$ 31,595	\$ 2,470	\$ 2,151	\$ 2,171	\$ 2,175
47	CUST/COMPANY CHANGE - ELEC	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 88,821	\$ 77,924	\$ 78,645	\$ 79,400	\$ 6,138	\$ 5,406	\$ 5,456	\$ 5,466
48	CUST/COMPANY CHANGE - GAS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 96,412	\$ 84,253	\$ 85,032	\$ 85,848	\$ 6,662	\$ 5,845	\$ 5,899	\$ 5,910
49	CUST/COMPANY TEST(CHANGE) - GAS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 2,052	\$ 1,757	\$ 1,773	\$ 1,790	\$ 142	\$ 122	\$ 123	\$ 123
50	MISC COMPANY WORK	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 143,986	\$ 125,608	\$ 126,770	\$ 127,986	\$ 9,950	\$ 8,713	\$ 8,794	\$ 8,811
51	MISC COMPANY WORK RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 98,921	\$ 88,126	\$ 88,941	\$ 89,795	\$ 6,836	\$ 6,113	\$ 6,170	\$ 6,181
52	HOUSELINE TEST/PURGE OM	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 5,133	\$ 4,415	\$ 4,456	\$ 4,499	\$ 355	\$ 306	\$ 309	\$ 310
53	HOUSELINE TEST/PURGE OM RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 1,720	\$ 1,462	\$ 1,476	\$ 1,490	\$ 119	\$ 101	\$ 102	\$ 103
54	CREDIT CUT INS	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 7,869	\$ 74,882	\$ 75,575	\$ 76,299	\$ 544	\$ 5,194	\$ 5,243	\$ 5,252
55	REREADS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 739,899	\$ 667,996	\$ 674,177	\$ 680,644	\$ 51,129	\$ 46,338	\$ 46,767	\$ 46,855
56	VERIFY	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 41,733	\$ 36,476	\$ 36,813	\$ 37,166	\$ 2,884	\$ 2,530	\$ 2,554	\$ 2,559
57	VERIFY RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 6,251	\$ 5,477	\$ 5,527	\$ 5,580	\$ 432	\$ 380	\$ 383	\$ 384
58	CUST/COMPANY REMOVE/RESET - ELEC (METER WORK OM)	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 1,421	\$ 1,259	\$ 1,271	\$ 1,283	\$ 98	\$ 87	\$ 88	\$ 88
59	CUST/COMPANY REMOVE/RESET - GAS	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 18,453	\$ 16,447	\$ 16,599	\$ 16,758	\$ 1,275	\$ 1,141	\$ 1,151	\$ 1,154
60	GIVE NOTICE CUT	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 14,983	\$ 13,243	\$ 13,365	\$ 13,494	\$ 1,035	\$ 919	\$ 927	\$ 929
61	SHUT OFF ELEC	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 160,459	\$ 124,623	\$ 125,776	\$ 126,983	\$ 11,088	\$ 8,645	\$ 8,725	\$ 8,741
62	SHUT OFF GAS AND ELEC	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 8,012	\$ 24,217	\$ 24,441	\$ 24,675	\$ 554	\$ 1,680	\$ 1,695	\$ 1,699
63	SHUT OFF GAS RAMP	RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 318,274	\$ 164,362	\$ 165,883	\$ 167,474	\$ 21,994	\$ 11,402	\$ 11,507	\$ 11,529
64	SHUT OFF IN ERROR	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 3,470	\$ 3,035	\$ 3,063	\$ 3,092	\$ 240	\$ 211	\$ 212	\$ 213
65	SOFT SHUT OFF GAS ELEC	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 11,413	\$ 10,049	\$ 10,142	\$ 10,239	\$ 789	\$ 697	\$ 704	\$ 705
66	SOFT SHUT OFF GAS ELEC RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 451,534	\$ 404,469	\$ 408,212	\$ 412,128	\$ 31,203	\$ 28,058	\$ 28,317	\$ 28,371
67	SOFT TURN ON GAS TURN ON ELEC	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
68	SOFT TURN ON GAS TURN ON ELEC RAMP	RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 10,529	\$ 9,320	\$ 9,406	\$ 9,496	\$ 728	\$ 646	\$ 652	\$ 654

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Line #	Customer Field Operations Order Volume Based Cost Model			Vacation & Sick (V&S)		Non-Labor Per FTE	Total Labor Cost w/ V&S				Total Non-Labor Cost			
	Calculation Steps --->>>			R	S	T	W = P x (1 + R)				X = T x Z			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	BY 2021 V&S Factor	BY 2021 V&S FTE Factor	BY 2021 NL/FTE	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
69	TURN ON ELEC	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 174,058	\$ 153,665	\$ 155,087	\$ 156,575	\$ 12,750	\$ 9,938	\$ 10,758	\$ 9,334
70	TURN ON G/E	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 617	\$ 544	\$ 549	\$ 554	\$ 43	\$ 38	\$ 38	\$ 38
71	TURN ON G/E RAMP	RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 8,300	\$ 34,430	\$ 34,749	\$ 35,082	\$ 574	\$ 2,388	\$ 2,410	\$ 2,415
72	TURN ON GAS RAMP	RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 501,378	\$ 385,367	\$ 388,933	\$ 392,664	\$ 34,647	\$ 26,733	\$ 26,980	\$ 27,031
73	ALL INCOMPLETE ORDERS	NON-RAMP	YES	15.02%	17.06%	\$ 7,221	\$ 531,235	\$ 507,753	\$ 512,451	\$ 517,366	\$ 36,710	\$ 35,222	\$ 35,548	\$ 35,615
80	NON-FIELDED GAS MODULE TROUBLESHOOTING	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ 335,839	\$ 278,430	\$ 278,430	\$ 278,430	\$ 23,208	\$ 19,314	\$ 19,314	\$ 19,167
81	SM2.0 GAS MODULE REMOVAL	NON-RAMP	NO	15.02%	17.06%	\$ 7,221	\$ -	\$ -	\$ 84,189	\$ 84,189	\$ -	\$ -	\$ 5,840	\$ 5,796
82	TOTAL						\$ 15,045,514	\$ 15,320,434	\$ 15,543,802	\$ 15,689,426	\$ 1,040,417	\$ 1,062,043	\$ 1,078,260	\$ 1,078,609
83	TOTAL Change from BY 2021							\$ 274,920	\$ 498,288	\$ 643,912		\$ 21,626	\$ 37,843	\$ 38,192
84	RAMP - Order Volume Forecast						\$ 9,613,396	\$ 9,680,521	\$ 9,770,092	\$ 9,863,811	\$ 664,318	\$ 671,529	\$ 677,743	\$ 679,020
85	RAMP - Change from BY 2021							\$ 67,125	\$ 156,696	\$ 250,414		\$ 7,211	\$ 13,425	\$ 14,703
86	Non-RAMP - Order Volume Forecast						\$ 5,432,118	\$ 5,639,913	\$ 5,689,521	\$ 5,741,426	\$ 376,099	\$ 390,514	\$ 394,677	\$ 393,793
87	NON-RAMP - Change from BY 2021							\$ 207,795	\$ 257,403	\$ 309,309		\$ 14,414	\$ 18,577	\$ 17,694
88	SM 2.0 Capital Project Impacts						\$ -	\$ -	\$ 84,189	\$ 84,189	\$ -	\$ -	\$ 5,840	\$ 5,796
89	SM 2.0 - Change from BY 2021						\$ -	\$ -	\$ 84,189	\$ 84,189	\$ -	\$ 5,840	\$ 5,796	\$ -

¹ For order types affected by COVID-19 (YES), TY 2024 forecast assumes the order volume and on-premise time will resume to the normal activity level similar to 2019.

^{2,3} For all order types including those that are not affected by Covid-19, TY 2024 forecast assumes a drive time average and a non-job time similar to 2019 level.

Line items # 38-45: Compliance meter work orders were affected by the necessary cut-off for the Customer Information System (CIS) replacement going-live during the base year. Therefore, the 2021 base year order count is prorated to reflect the full-year impact.

Line item # 80: Non-fielded gas module troubleshooting are activities performed at the yard with no associated order count and drive time.

Line item # 81: Smart Meter 2.0 gas module removal assumes that for every single order to remove and replace a module, the removal portion of the time will be charged to O&M.

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Line #	Customer Field Operations Order Volume Based Cost Model			Total Cost				Total FTE w/ V&S			
	Calculation Steps ---->>>			Y = W + X				Z = Q x (1 + S)			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
1	CA ELEC	NON-RAMP	YES	\$ 9,939	\$ 9,855	\$ 9,946	\$ 10,037	0.1	0.1	0.1	0.1
2	CA GAS	NON-RAMP	YES	\$ 61,207	\$ 10,929	\$ 11,030	\$ 11,131	0.5	0.1	0.1	0.1
3	CA GAS AND ELEC	NON-RAMP	YES	\$ 1,547	\$ 3,672	\$ 3,706	\$ 3,740	0.0	0.0	0.0	0.0
4	CA GAS RAMP	RAMP	YES	\$ 2,834	\$ 1,335	\$ 1,347	\$ 1,359	0.0	0.0	0.0	0.0
5	GIVE NOTICE	NON-RAMP	YES	\$ 25,676	\$ 124,333	\$ 125,484	\$ 126,624	0.2	1.1	1.1	1.1
6	RTO	NON-RAMP	YES	\$ 2,489	\$ 11,164	\$ 11,267	\$ 11,370	0.0	0.1	0.1	0.1
7	RTO RAMP	RAMP	YES	\$ -	\$ 617	\$ 623	\$ 628	-	0.0	0.0	0.0
8	1st (FIRST) CALL	NON-RAMP	YES	\$ -	\$ 3,983	\$ 4,020	\$ 4,056	-	0.0	0.0	0.0
9	2nd (SECOND) CALL	NON-RAMP	YES	\$ 1,608	\$ 304,255	\$ 307,070	\$ 309,862	0.0	2.7	2.8	2.8
10	3rd (THIRD) CALL	NON-RAMP	YES	\$ 63	\$ 39,398	\$ 39,762	\$ 40,124	0.0	0.4	0.4	0.4
11	OPT-OUT READS	NON-RAMP	NO	\$ 745,718	\$ 688,435	\$ 694,805	\$ 701,123	6.7	6.2	6.2	6.3
12	APPLIANCE ADJUSTMENTS	NON-RAMP	YES	\$ 361,787	\$ 429,492	\$ 433,466	\$ 437,407	3.2	3.9	3.9	3.9
13	APPLIANCE ADJUSTMENTS RAMP	RAMP	YES	\$ 456,360	\$ 1,070,133	\$ 1,080,035	\$ 1,089,855	4.1	9.6	9.7	9.7
14	APPLIANCE MECHANIC WORK	NON-RAMP	YES	\$ 31,596	\$ 64,648	\$ 65,246	\$ 65,839	0.3	0.6	0.6	0.6
15	CARBON MONOXIDE-EMERGENCY - RAMP	RAMP	NO	\$ 90,661	\$ 77,525	\$ 78,243	\$ 78,954	0.8	0.7	0.7	0.7
16	CARBON MONOXIDE-NON EMERGENCY -RAMP	RAMP	NO	\$ 94,157	\$ 81,283	\$ 82,035	\$ 82,781	0.8	0.7	0.7	0.7
17	CREDIT SHUT OFF	NON-RAMP	YES	\$ -	\$ 57,921	\$ 58,457	\$ 58,988	-	0.5	0.5	0.5
18	HIGH PRESSURE	NON-RAMP	NO	\$ 12,037	\$ 10,362	\$ 10,458	\$ 10,553	0.1	0.1	0.1	0.1
19	NO GAS	NON-RAMP	NO	\$ 406,167	\$ 352,180	\$ 355,439	\$ 358,670	3.6	3.2	3.2	3.2
20	NO GAS RAMP	RAMP	NO	\$ 703,586	\$ 607,650	\$ 613,273	\$ 618,849	6.3	5.5	5.5	5.5
21	OTHER MISC GAS & ELEC CUSTOMER REQUESTS	NON-RAMP	NO	\$ 1,041,568	\$ 899,812	\$ 908,137	\$ 916,395	9.3	8.1	8.2	8.2
22	SCHOOL LEAK SURVEYS	NON-RAMP	NO	\$ 94,424	\$ 80,049	\$ 80,790	\$ 81,524	0.8	0.7	0.7	0.7
23	SEASONAL OFF	NON-RAMP	YES	\$ 11,703	\$ 32,602	\$ 32,903	\$ 33,202	0.1	0.3	0.3	0.3
24	SEASONAL ON MULTIPLES	NON-RAMP	YES	\$ -	\$ 27	\$ 27	\$ 27	-	0.0	0.0	0.0
25	SEASONAL ON MULTIPLES RAMP	RAMP	YES	\$ -	\$ 422,002	\$ 425,907	\$ 429,780	-	3.8	3.8	3.8
26	SEASONAL ON SINGLES RAMP	RAMP	YES	\$ 669,661	\$ 1,060,896	\$ 1,070,712	\$ 1,080,447	6.0	9.5	9.6	9.6
27	SM OPTOUT METER CHANGE	NON-RAMP	YES	\$ 17,791	\$ 51,896	\$ 52,376	\$ 52,853	0.2	0.5	0.5	0.5
28	FUMIGATION/BUG FOGGER - RAMP	RAMP	NO	\$ 3,739,710	\$ 3,234,198	\$ 3,264,123	\$ 3,293,802	33.5	29.1	29.3	29.4
29	EMERGENCY B&B INSIDE - RAMP	RAMP	NO	\$ 88,502	\$ 76,239	\$ 76,944	\$ 77,644	0.8	0.7	0.7	0.7
30	EMERGENCY B&B OUTSIDE -RAMP	RAMP	NO	\$ 81,265	\$ 69,011	\$ 69,649	\$ 70,282	0.7	0.6	0.6	0.6
31	EMERGENCY-AGENCY REQUESTS - RAMP	RAMP	NO	\$ 99,589	\$ 85,480	\$ 86,271	\$ 87,055	0.9	0.8	0.8	0.8
32	FIRE & EXPLOSIONS - RAMP	RAMP	NO	\$ 599	\$ 519	\$ 524	\$ 529	0.0	0.0	0.0	0.0
33	GAS LEAKS-HAZARD - RAMP	RAMP	NO	\$ 2,127,808	\$ 1,832,631	\$ 1,849,588	\$ 1,866,405	19.0	16.5	16.6	16.6

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Line #	Customer Field Operations Order Volume Based Cost Model			Total Cost				Total FTE w/ V&S			
	Calculation Steps ---->>>			Y = W + X				Z = Q x (1 + S)			
	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
34	GAS LEAKS-NON HAZARD - RAMP	RAMP	NO	\$ 390,096	\$ 336,849	\$ 339,966	\$ 343,057	3.5	3.0	3.1	3.1
35	HBI - EZER	NON-RAMP	YES	\$ 197	\$ 141	\$ 142	\$ 144	0.0	0.0	0.0	0.0
36	HBI - RAMP	RAMP	YES	\$ 78,585	\$ 87,696	\$ 88,507	\$ 89,312	0.7	0.8	0.8	0.8
37	ACOR RAMP	RAMP	NO	\$ 122,645	\$ 105,991	\$ 106,972	\$ 107,945	1.1	1.0	1.0	1.0
38	COMPLIANCE - COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	\$ 66,669	\$ 76,999	\$ 77,712	\$ 78,418	0.6	0.7	0.7	0.7
39	COMPLIANCE - COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	\$ 251,259	\$ 289,457	\$ 292,136	\$ 294,792	2.2	2.6	2.6	2.6
40	COMPLIANCE - COD3 CHG/RMVE (GAS)	NON-RAMP	NO	\$ 10,853	\$ 12,538	\$ 12,654	\$ 12,769	0.1	0.1	0.1	0.1
41	COMPLIANCE - CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	\$ 2,216	\$ 2,540	\$ 2,564	\$ 2,587	0.0	0.0	0.0	0.0
42	COMPLIANCE - HTRK COD1 BAD PERFORMERS CHANGE-GAS	NON-RAMP	NO	\$ 26	\$ 32	\$ 33	\$ 33	0.0	0.0	0.0	0.0
43	COMPLIANCE - HTRK COD2 PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	\$ 49,778	\$ 56,997	\$ 57,525	\$ 58,048	0.4	0.5	0.5	0.5
44	COMPLIANCE - HTRK COD3-1OY CHG/RMVE-GAS	NON-RAMP	NO	\$ 49,188	\$ 56,358	\$ 56,879	\$ 57,396	0.4	0.5	0.5	0.5
45	COMPLIANCE - HTRK CUST APPT PERIODIC TEST/CHANGE-GAS	NON-RAMP	NO	\$ 1,251	\$ 1,430	\$ 1,443	\$ 1,456	0.0	0.0	0.0	0.0
46	CURB- RAMP	RAMP	NO	\$ 38,218	\$ 33,159	\$ 33,466	\$ 33,770	0.3	0.3	0.3	0.3
47	CUST/COMPANY CHANGE - ELEC	NON-RAMP	NO	\$ 94,958	\$ 83,330	\$ 84,101	\$ 84,865	0.9	0.7	0.8	0.8
48	CUST/COMPANY CHANGE - GAS	NON-RAMP	NO	\$ 103,075	\$ 90,097	\$ 90,931	\$ 91,758	0.9	0.8	0.8	0.8
49	CUST/COMPANY TEST(CHANGE) - GAS	NON-RAMP	NO	\$ 2,194	\$ 1,879	\$ 1,896	\$ 1,914	0.0	0.0	0.0	0.0
50	MISC COMPANY WORK	NON-RAMP	NO	\$ 153,936	\$ 134,322	\$ 135,564	\$ 136,797	1.4	1.2	1.2	1.2
51	MISC COMPANY WORK RAMP	RAMP	NO	\$ 105,757	\$ 94,239	\$ 95,111	\$ 95,976	0.9	0.8	0.9	0.9
52	HOUSELINE TEST/PURGE OM	NON-RAMP	NO	\$ 5,488	\$ 4,722	\$ 4,765	\$ 4,809	0.0	0.0	0.0	0.0
53	HOUSELINE TEST/PURGE OM RAMP	RAMP	NO	\$ 1,839	\$ 1,564	\$ 1,578	\$ 1,592	0.0	0.0	0.0	0.0
54	CREDIT CUT INS	NON-RAMP	YES	\$ 8,413	\$ 80,076	\$ 80,817	\$ 81,552	0.1	0.7	0.7	0.7
55	REREADS	NON-RAMP	NO	\$ 791,029	\$ 714,334	\$ 720,944	\$ 727,499	7.1	6.4	6.5	6.5
56	VERIFY	NON-RAMP	NO	\$ 44,616	\$ 39,006	\$ 39,367	\$ 39,725	0.4	0.4	0.4	0.4
57	VERIFY RAMP	RAMP	NO	\$ 6,683	\$ 5,857	\$ 5,911	\$ 5,965	0.1	0.1	0.1	0.1
58	CUST/COMPANY REMOVE/RESET - ELEC (METER WORK OM)	NON-RAMP	NO	\$ 1,520	\$ 1,346	\$ 1,359	\$ 1,371	0.0	0.0	0.0	0.0
59	CUST/COMPANY REMOVE/RESET - GAS	NON-RAMP	NO	\$ 19,728	\$ 17,587	\$ 17,750	\$ 17,912	0.2	0.2	0.2	0.2
60	GIVE NOTICE CUT	NON-RAMP	NO	\$ 16,018	\$ 14,162	\$ 14,293	\$ 14,423	0.1	0.1	0.1	0.1
61	SHUT OFF ELEC	NON-RAMP	YES	\$ 171,547	\$ 133,268	\$ 134,501	\$ 135,724	1.5	1.2	1.2	1.2
62	SHUT OFF GAS AND ELEC	NON-RAMP	YES	\$ 8,566	\$ 25,897	\$ 26,136	\$ 26,374	0.1	0.2	0.2	0.2
63	SHUT OFF GAS RAMP	RAMP	YES	\$ 340,268	\$ 175,764	\$ 177,390	\$ 179,003	3.0	1.6	1.6	1.6
64	SHUT OFF IN ERROR	NON-RAMP	NO	\$ 3,709	\$ 3,245	\$ 3,275	\$ 3,305	0.0	0.0	0.0	0.0
65	SOFT SHUT OFF GAS ELEC	NON-RAMP	NO	\$ 12,202	\$ 10,746	\$ 10,845	\$ 10,944	0.1	0.1	0.1	0.1
66	SOFT SHUT OFF GAS ELEC RAMP	RAMP	NO	\$ 482,737	\$ 432,527	\$ 436,529	\$ 440,498	4.3	3.9	3.9	3.9
67	SOFT TURN ON GAS TURN ON ELEC	NON-RAMP	NO	\$ -	\$ -	\$ -	\$ -	-	-	-	-
68	SOFT TURN ON GAS TURN ON ELEC RAMP	RAMP	NO	\$ 11,257	\$ 9,966	\$ 10,058	\$ 10,150	0.1	0.1	0.1	0.1

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Customer Field Operations Order Volume Based Cost Model				Total Cost				Total FTE w/ V&S			
Calculation Steps ---->>>				Y = W + X				Z = Q x (1 + S)			
Line #	Order Types	RAMP / NON-RAMP	COVID-19 Impact ¹ (YES / NO)	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated
69	TURN ON ELEC	NON-RAMP	NO	\$ 186,808	\$ 163,603	\$ 165,846	\$ 165,909	1.8	1.4	1.5	1.3
70	TURN ON G/E	NON-RAMP	YES	\$ 660	\$ 582	\$ 587	\$ 592	0.0	0.0	0.0	0.0
71	TURN ON G/E RAMP	RAMP	YES	\$ 8,873	\$ 36,819	\$ 37,159	\$ 37,497	0.1	0.3	0.3	0.3
72	TURN ON GAS RAMP	RAMP	YES	\$ 536,025	\$ 412,100	\$ 415,913	\$ 419,695	4.8	3.7	3.7	3.7
73	ALL INCOMPLETE ORDERS	NON-RAMP	YES	\$ 567,945	\$ 542,975	\$ 547,999	\$ 552,982	5.1	4.9	4.9	4.9
80	NON-FIELDED GAS MODULE TROUBLESHOOTING	NON-RAMP	NO	\$ 359,047	\$ 297,745	\$ 297,745	\$ 297,597	3.2	2.7	2.7	2.7
81	SM2.0 GAS MODULE REMOVAL	NON-RAMP	NO	\$ -	\$ -	\$ 90,029	\$ 89,985	-	-	0.8	0.8
82	TOTAL			\$ 16,085,931	\$ 16,382,477	\$ 16,622,062	\$ 16,768,035	144.1	147.1	149.3	149.4
83	TOTAL Change from BY 2021				\$ 296,545	\$ 536,130	\$ 682,104		3.0	5.2	5.3
84	RAMP - Order Volume Forecast			\$ 10,277,714	\$ 10,352,050	\$ 10,447,834	\$ 10,542,831	92.0	93.0	93.9	94.0
85	RAMP - Change from BY 2021				\$ 74,336	\$ 170,120	\$ 265,117		1.0	1.9	2.0
86	Non-RAMP - Order Volume Forecast			\$ 5,808,217	\$ 6,030,426	\$ 6,084,198	\$ 6,135,220	52.1	54.1	54.6	54.5
87	NON-RAMP - Change from BY 2021				\$ 222,209	\$ 275,981	\$ 327,002		2.0	2.5	2.5
88	SM 2.0 Capital Project Impacts			\$ -	\$ -	\$ 90,029	\$ 89,985	-	-	0.8	0.8
89	SM 2.0 - Change from BY 2021				\$ -	\$ 90,029	\$ 89,985		-	0.8	0.8

¹ For order types affected by COVID-19 (YES), TY 2024 forecast assumes the order volume and on-premise time will resume to the normal activity level similar to 2019.

^{2,3} For all order types including those that are not affected by Covid-19, TY 2024 forecast assumes a drive time average and a non-job time similar to 2019 level.

Line items # 38-45: Compliance meter work orders were affected by the necessary cut-off for the Customer Information System (CIS) replacement going-live during the base year. Therefore, the 2021 base year order count is prorated to reflect the full-year impact.

Line item # 80: Non-fielded gas module troubleshooting are activities performed at the yard with no associated order count and drive time.

Line item # 81: Smart Meter 2.0 gas module removal assumes that for every single order to remove and replace a module, the removal portion of the time will be charged to O&M.

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

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC002.000 - Customer Field Operations Supervision

Activity Description:

The Customer Field Operations Supervision cost category consists of labor and non-labor costs for front-line leaders who provide direct supervision to field technicians and field collectors. Like field technicians and collectors, field supervisors are geographically dispersed across SDG& E's five operating districts. Field supervisors monitor and coach employees, conduct safety and job observations, coordinate with dispatch and others to address and resolve field issues, respond to emergency incidents to provide on-site leadership, and manage the overall performance of CFO employees who work at each of the operating districts.

Forecast Explanations:

Labor - Base YR Rec

Labor costs are driven by the number of field employees, maintaining an employee to supervisor ratio of 12:1, and the geographic coverage needed to provide adequate supervision at all times. A base year forecast method for TY 2024 for Customer Field Operations Supervision labor was used because the last recorded year accurately reflects the expense level associated with current departmental activity.

Non-Labor - Base YR Rec

Non-labor expenses include mobile devices, office supplies, and other miscellaneous expenses. The non-labor cost estimate is based on a base year of non-labor expense.

NSE - Base YR Rec

N/A

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		1,111	1,026	1,114	1,157	1,239	1,402	1,422	1,435	
Non-Labor		27	26	39	14	33	33	33	33	
NSE		0	0	0	0	0	0	0	0	
Total		1,138	1,052	1,153	1,170	1,272	1,435	1,455	1,468	
FTE		10.4	8.9	9.8	9.8	10.9	12.4	12.5	12.6	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC002.000 - Customer Field Operations Supervision

Summary of Adjustments to Forecast:

In 2021 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	1,239	1,239	1,239	163	183	196	1,402	1,422	1,435
Non-Labor	Base YR Rec	33	33	33	0	0	0	33	33	33
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		1,272	1,272	1,272	163	183	196	1,435	1,455	1,468
FTE	Base YR Rec	10.9	10.9	10.9	1.5	1.6	1.7	12.4	12.5	12.6

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	163	0	0	163	1.5	1-Sided Adj
Explanation:	Customer Field Operations Supervision labor cost for front-line Supervisors who provide direct oversight to field technicians based on span of control. Reference Customer Field Operations Supervision 1FC002.000 Supplemental Workpaper 1 - Supervision Estimated Cost for detailed calculations.					
2022 Total	163	0	0	163	1.5	
2023	183	0	0	183	1.6	1-Sided Adj
Explanation:	Customer Field Operations Supervision labor cost for front-line Supervisors who provide direct oversight to field technicians based on span of control. Reference Customer Field Operations Supervision 1FC002.000 Supplemental Workpaper 1 - Supervision Estimated Cost for detailed calculations.					
2023 Total	183	0	0	183	1.6	
2024	196	0	0	196	1.7	1-Sided Adj
Explanation:	Customer Field Operations Supervision labor cost for front-line Supervisors who provide direct oversight to field technicians based on span of control. Reference Customer Field Operations Supervision 1FC002.000 Supplemental Workpaper 1 - Supervision Estimated Cost for detailed calculations.					
2024 Total	196	0	0	196	1.7	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
Witness: David H. Thai
Category: A. Customer Services Field Operations
Category-Sub: 1. Customer Services Field Operations
Workpaper: 1FC002.000 - Customer Field Operations Supervision

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	1,108	1,066	1,128	1,730	1,724
Non-Labor	56	61	86	125	160
NSE	0	0	0	0	0
Total	1,163	1,127	1,214	1,855	1,885
FTE	13.0	11.7	11.9	17.3	16.8
Adjustments (Nominal \$) **					
Labor	-241	-245	-207	-748	-647
Non-Labor	-32	-38	-50	-112	-127
NSE	0	0	0	0	0
Total	-273	-283	-256	-861	-774
FTE	-4.2	-3.9	-3.3	-8.9	-7.6
Recorded-Adjusted (Nominal \$)					
Labor	867	820	921	981	1,077
Non-Labor	24	24	36	13	33
NSE	0	0	0	0	0
Total	891	844	957	994	1,111
FTE	8.8	7.7	8.5	8.4	9.3
Vacation & Sick (Nominal \$)					
Labor	129	124	132	139	162
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	129	124	132	139	162
FTE	1.6	1.2	1.3	1.4	1.6
Escalation to 2021\$					
Labor	116	81	61	36	0
Non-Labor	3	2	3	1	0
NSE	0	0	0	0	0
Total	119	84	64	37	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	1,111	1,026	1,114	1,157	1,239
Non-Labor	27	26	39	14	33
NSE	0	0	0	0	0
Total	1,138	1,052	1,153	1,170	1,272
FTE	10.4	8.9	9.8	9.8	10.9

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC002.000 - Customer Field Operations Supervision

Summary of Adjustments to Recorded:

		In Nominal \$ (000) Incurred Costs				
Years		2017	2018	2019	2020	2021
Labor		-241	-245	-207	-748	-647
Non-Labor		-32	-38	-50	-112	-127
NSE		0	0	0	0	0
	Total	-273	-283	-256	-861	-774
FTE		-4.2	-3.9	-3.3	-8.9	-7.6

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017	-4	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2017	-23	-32	0	-0.3	CCTR Transf To 2100-0030.000
Explanation:	Transfer of field technician labor and associated non-labor from 1FC002 Customer Field Operations Supervision to 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2017	-217	0	0	-4.0	CCTR Transf To 2100-3605.000
Explanation:	Transfer of District Operations Assistants from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	-7	0	0	-0.1	CCTR Transf To 2100-3457.000
Explanation:	Transfer of Field Instructors from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	-95	0	0	-0.8	CCTR Transf To 2100-3605.000
Explanation:	Transfer of Field Operations Manager and Area Managers from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	105	0	0	1.1	CCTR Transf From 2100-0024.000
Explanation:	Transfer of Field Supervisors from 1FC001 Customer Field Operations to 1FC002 Customer Field Operations Supervision to align historical costs with the workgroup in which the activity will be forecasted.				
2017 Total	-241	-32	0	-4.2	
2018	0	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC002.000 - Customer Field Operations Supervision

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
2018	2	0	0	0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2018	-31	-38	0	-0.3	CCTR Transf To 2100-0030.000
Explanation:	Transfer of field technician labor and associated non-labor from 1FC002 Customer Field Operations Supervision to 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2018	-200	0	0	-3.6	CCTR Transf To 2100-3605.000
Explanation:	Transfer of District Operations Assistants from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018	-98	0	0	-0.7	CCTR Transf To 2100-3605.000
Explanation:	Transfer of Field Operations Manager and Area Managers from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018	82	0	0	0.7	CCTR Transf From 2100-0024.000
Explanation:	Transfer of Field Supervisors from 1FC001 Customer Field Operations to 1FC002 Customer Field Operations Supervision to align historical costs with the workgroup in which the activity will be forecasted.				
2018 Total	-245	-38	0	-3.9	
2019	11	-50	0	0.1	CCTR Transf To 2100-0030.000
Explanation:	Transfer of field technician labor (reversal) and associated non-labor from 1FC002 Customer Field Operations Supervision to 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2019	88	0	0	0.9	CCTR Transf From 2100-0024.000
Explanation:	Transfer of Field Supervisors from 1FC001 Customer Field Operations to 1FC002 Customer Field Operations Supervision to align historical costs with the workgroup in which the activity will be forecasted.				
2019	-208	0	0	-3.6	CCTR Transf To 2100-3605.000
Explanation:	Transfer of District Operations Assistants from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	-98	0	0	-0.7	CCTR Transf To 2100-3605.000
Explanation:	Transfer of Area Managers from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019 Total	-207	-50	0	-3.3	
2020	-1	0	0	-0.1	1-Sided Adj

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC002.000 - Customer Field Operations Supervision

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-3	-8	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-6	-1	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-5	0	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-6	0	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-1	0	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-410	-102	0	-4.4	CCTR Transf To 2100-0030.000
Explanation:	Transfer of field technician labor and associated non-labor from 1FC002 Customer Field Operations Supervision to 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2020	-225	0	0	-3.5	CCTR Transf To 2100-3605.000
Explanation:	Transfer of District Operations Assistants from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	-216	0	0	-1.7	CCTR Transf To 2100-3605.000
Explanation:	Transfer of Area Managers from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	-21	0	0	-0.1	1-Sided Adj
Explanation:	Accounting adjustment to remove costs that were incorrectly reported in O&M that should have been reported as capital. Offsetting adjustments are being made in Capital.				
2020	144	0	0	1.4	CCTR Transf From 2100-0024.000
Explanation:	Transfer of Field Supervisors from 1FC001 Customer Field Operations to 1FC002 Customer Field Operations Supervision to align historical costs with the workgroup in which the activity will be forecasted.				
2020 Total	-748	-112	0	-8.9	
2021	-9	-3	0	-0.1	1-Sided Adj

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC002.000 - Customer Field Operations Supervision

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	-4	-1	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	-3	0	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	-8	0	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	0	0	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	-316	-123	0	-3.3	CCTR Transf To 2100-0030.000
Explanation:	Transfer of field technician labor and associated non-labor from 1FC002 Customer Field Operations Supervision to 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2021	-226	0	0	-3.4	CCTR Transf To 2100-3605.000
Explanation:	Transfer of District Operations Assistants from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021	107	0	0	1.0	CCTR Transf From 2100-0024.000
Explanation:	Transfer of Field Supervisors from 1FC001 Customer Field Operations to 1FC002 Customer Field Operations Supervision to align historical costs with the workgroup in which the activity will be forecasted.				
2021	-188	0	0	-1.5	CCTR Transf To 2100-3605.000
Explanation:	Transfer of Area Managers from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021 Total	-647	-127	0	-7.6	

Note: Totals may include rounding differences.

Supplemental Workpapers for Workpaper 1FC002.000

Customer Field Operations Supervision 1FC002.000 Supplemental Workpaper 1 - Supervision Estimated Cost

Line #	Cost Elements	BY 2021	2022 Estimated	2023 Estimated	TY 2024 Estimated	Calculation Steps
1	Total Annual Paid Hours	2,088	2,080	2,080	2,096	A
2	2021 BY Average Supervisor Wage Rate	\$ 54.95	\$ 54.95	\$ 54.95	\$ 54.95	B
3	Customer Field Operations FTE	144.2	147.2	149.3	149.6	C
4	Customer Field Operations FTE Per Supervisor FTE	13.4	12.0	12.0	12.0	D
5	Labor FTE	10.8	12.3	12.4	12.5	E = C / D
6	Labor Costs	\$ 1,239,231	\$ 1,401,925	\$ 1,422,365	\$ 1,435,691	F = E x B x A
7	Non-Labor Costs	\$ 33,173	\$ 33,173	\$ 33,173	\$ 33,173	G = G
8	Total Costs	\$ 1,272,404	\$ 1,435,098	\$ 1,455,538	\$ 1,468,864	H = F + G
9	Change from BY2021 (FTE)		1.5	1.6	1.7	I = E - \$E\$5
10	Change from BY2021 (Labor)		\$ 162,694	\$ 183,134	\$ 196,460	J = F - \$F\$6
11	Change from BY2021 (Non-Labor)		\$ -	\$ -	\$ -	K = G - \$G\$7
12	Change from BY2021 (Total)		\$ 162,694	\$ 183,134	\$ 196,460	L = J + K

Note: Totals may include rounding differences.

Beginning of Workpaper
1FC003.000 - Work Management

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC003.000 - Work Management

Activity Description:

The Work Management cost category consists of labor and non-labor costs for shift-working dispatch personnel responsible for preparing, routing, and dispatching work orders to distribution crews, electric troubleshooters and Customer Field Operations field employees on a day-ahead and same-day basis, 24 hours a day, 365 days a year. Dispatchers handle all matters that arise during the day, including dispatch of emergency orders in real-time as they are received, redistribution of work when employees call in sick or are otherwise unavailable, redistribution of work orders when employees are not able to complete all work that has been assigned for the day, coordination of logistics such as material and equipment ordering, no park signs, traffic control, etc., and employee availability and schedule of field employees. Work orders received are dispatch-optimized considering various dimensions, such as span of customer appointment windows, compliance and large construction or maintenance jobs.

Forecast Explanations:

Labor - Base YR Rec

Labor costs are primarily driven by the numbers of dispatchers needed to provide 24/7, 365 days per year coverage, including the need to immediately respond to all emergency orders, as well as applicable premium wage rates. Unlike Customer Field Operations costs, Work Management costs are not driven by the order volume alone. Weather, the state of the economy, emergency incidents such as fires and earthquakes, and changes to applicable laws and regulations influence dispatch needs. A base year forecast method for TY 2024 for Work Management labor was used because the last recorded year accurately reflects the expense level associated with current departmental activity.

Non-Labor - Base YR Rec

Non-labor expenses include communication equipment, mobile devices, office supplies, and other miscellaneous expenses. The non-labor cost estimate is based on a base year of non-labor expense.

NSE - Base YR Rec

N/A

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		4,071	3,074	3,054	2,839	3,285	3,473	3,473	3,473	
Non-Labor		58	70	65	42	61	61	61	61	
NSE		0	0	0	0	0	0	0	0	
Total		4,129	3,144	3,119	2,881	3,346	3,534	3,534	3,534	
FTE		37.6	29.2	28.8	26.2	28.5	30.4	30.4	30.4	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
Witness: David H. Thai
Category: A. Customer Services Field Operations
Category-Sub: 1. Customer Services Field Operations
Workpaper: 1FC003.000 - Work Management

Summary of Adjustments to Forecast:

In 2021 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	3,285	3,285	3,285	188	188	188	3,473	3,473	3,473
Non-Labor	Base YR Rec	61	61	61	0	0	0	61	61	61
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		3,346	3,346	3,346	188	188	188	3,534	3,534	3,534
FTE	Base YR Rec	28.5	28.5	28.5	1.9	1.9	1.9	30.4	30.4	30.4

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	72	0	0	72	0.7	1-Sided Adj
Explanation:	Work Management full-year impact of 1 Training Advisor x \$106K annual salary x 11/12 year X 39% O&M = \$38K for 0.4 FTE and 1 Supervisor x \$115K x 9/12 year x 39% O&M = \$34K for 0.3 FTE. Labor: \$38K + \$34K = \$72K. FTE: 0.4 + 0.3 = 0.7.					
2022	116	0	0	116	1.2	1-Sided Adj
Explanation:	Incremental labor for 1 Dispatch Supervisor x \$102K annual salary x 39% O&M = \$40K for 0.4 FTE and 2 Dispatchers x \$98K x 39% O&M = \$76K for 0.8 FTE. Labor: \$40K + \$76K = \$116K. FTE: 0.4 + 0.8 = 1.2.					
2022 Total	188	0	0	188	1.9	
2023	72	0	0	72	0.7	1-Sided Adj
Explanation:	Work Management full-year impact of 1 Training Advisor x \$106K annual salary x 11/12 year X 39% O&M = \$38K for 0.4 FTE and 1 Supervisor x \$115K x 9/12 year x 39% O&M = \$34K for 0.3 FTE. Labor: \$38K + \$34K = \$72K. FTE: 0.4 + 0.3 = 0.7.					
2023	116	0	0	116	1.2	1-Sided Adj
Explanation:	Incremental labor for 1 Dispatch Supervisor x \$102K annual salary x 39% O&M = \$40K for 0.4 FTE and 2 Dispatchers x \$98K x 39% O&M = \$76K for 0.8 FTE. Labor: \$40K + \$76K = \$116K. FTE: 0.4 + 0.8 = 1.2.					
2023 Total	188	0	0	188	1.9	
2024	72	0	0	72	0.7	1-Sided Adj
Explanation:	Work Management full-year impact of 1 Training Advisor x \$106K annual salary x 11/12 year X 39% O&M = \$38K for 0.4 FTE and 1 Supervisor x \$115K x 9/12 year x 39% O&M = \$34K for 0.3 FTE. Labor: \$38K + \$34K = \$72K. FTE: 0.4 + 0.3 = 0.7.					
2024	116	0	0	116	1.2	1-Sided Adj
Explanation:	Incremental labor for 1 Dispatch Supervisor x \$102K annual salary x 39% O&M = \$40K for 0.4 FTE and 2 Dispatchers x \$98K x 39% O&M = \$76K for 0.8 FTE. Labor: \$40K + \$76K = \$116K. FTE: 0.4 + 0.8 = 1.2.					
2024 Total	188	0	0	188	1.9	

Note: Totals may include rounding differences.

SDG&E/CS - FIELD OPERATIONS/Exh No:SDG&E-17-WP-R/Witness: D. Thai

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
Witness: David H. Thai
Category: A. Customer Services Field Operations
Category-Sub: 1. Customer Services Field Operations
Workpaper: 1FC003.000 - Work Management

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	3,141	2,390	2,562	3,841	3,680
Non-Labor	51	64	90	1,167	691
NSE	0	0	0	0	0
Total	3,192	2,454	2,652	5,007	4,371
FTE	31.2	23.4	24.0	32.8	28.2
Adjustments (Nominal \$) **					
Labor	35	68	-37	-1,431	-824
Non-Labor	0	0	-30	-1,128	-630
NSE	0	0	0	0	0
Total	35	68	-68	-2,559	-1,454
FTE	0.9	1.8	0.8	-10.3	-4.0
Recorded-Adjusted (Nominal \$)					
Labor	3,176	2,458	2,525	2,409	2,856
Non-Labor	51	64	60	39	61
NSE	0	0	0	0	0
Total	3,227	2,521	2,585	2,448	2,917
FTE	32.2	25.1	24.8	22.5	24.3
Vacation & Sick (Nominal \$)					
Labor	471	372	362	342	429
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	471	372	362	342	429
FTE	5.4	4.1	4.0	3.7	4.2
Escalation to 2021\$					
Labor	424	243	168	88	0
Non-Labor	7	7	5	3	0
NSE	0	0	0	0	0
Total	431	250	173	91	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	4,071	3,074	3,054	2,839	3,285
Non-Labor	58	70	65	42	61
NSE	0	0	0	0	0
Total	4,129	3,144	3,119	2,881	3,346
FTE	37.6	29.2	28.8	26.2	28.5

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC003.000 - Work Management

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	35	68	-37	-1,431	-824
Non-Labor	0	-0.022	-30	-1,128	-630
NSE	0	0	0	0	0
Total	35	68	-68	-2,559	-1,454
FTE	0.9	1.8	0.8	-10.3	-4.0

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017	94	0	0	1.0	CCTR Transf From 2100-3584.000
Explanation:	Transfer of Dispatch Operations Assistant and Scheduling Coordinator from cost center 2100-3584 in 1SM004 Business Technology Safety Management System to workpaper 1FC003 Work Management in Customer Service Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2017	-32	0	0	-0.2	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2017	-11	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2017	-43	0	0	-0.4	CCTR Transf To 2100-4125.000
Explanation:	Transfer of Field Technology, Project Management, and Analytics from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	26	0	0	0.6	CCTR Transf From 2100-0024.000
Explanation:	Transfer of Field Collection Support Person from 1FC001 Customer Field Operations to 1FC003 Work Management to align historical costs with the workgroup in which the activity will be forecasted.				
2017 Total	35	0	0	0.9	
2018	64	0	0	1.3	CCTR Transf From 2100-3584.000
Explanation:	Transfer of Dispatch Operations Assistant and Scheduling Coordinator from cost center 2100-3584 in 1SM004 Business Technology Safety Management System to workpaper 1FC003 Work Management in Customer Service Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2018	20	0	0	0.1	1-Sided Adj

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC003.000 - Work Management

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2018	0	0	0	0.0	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2018	3	0	0	0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2018	-61	0	0	-0.5	CCTR Transf To 2100-4125.000
Explanation:	Transfer of Field Technology, Project Management, and Analytics from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018	41	0	0	0.8	CCTR Transf From 2100-0024.000
Explanation:	Transfer of Field Collection Support Person from 1FC001 Customer Field Operations to 1FC003 Work Management to align historical costs with the workgroup in which the activity will be forecasted.				
2018 Total	68	0	0	1.8	
2019	10	0	0	0.8	CCTR Transf From 2100-3584.000
Explanation:	Transfer of Dispatch Operations Assistant and Scheduling Coordinator from cost center 2100-3584 in 1SM004 Business Technology Safety Management System to workpaper 1FC003 Work Management in Customer Service Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2019	-95	0	0	-0.9	CCTR Transf To 2100-4125.000
Explanation:	Transfer of Field Technology, Project Management, and Analytics from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	0	-20	0	0.0	CCTR Transf To 2100-4125.000
Explanation:	Transfer of Data Scientist temporary agency labor from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	0	-10	0	0.0	CCTR Transf To 2100-4125.000
Explanation:	Transfer of Field Service Delivery contract labor from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	48	0	0	0.9	CCTR Transf From 2100-0024.000
Explanation:	Transfer of Field Collection Support Person from 1FC001 Customer Field Operations to 1FC003 Work Management to align historical costs with the workgroup in which the activity will be forecasted.				
2019 Total	-37	-30	0	0.8	
2020	-28	0	0	-0.1	1-Sided Adj

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC003.000 - Work Management

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-16	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-707	-1	0	-3.5	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-5	-9	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-6	-6	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-338	0	0	-3.5	CCTR Transf To 2100-4125.000
Explanation:	Transfer of Field Technology, Project Management, and Analytics from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	0	-217	0	0.0	CCTR Transf To 2100-4125.000
Explanation:	Transfer of Data Scientist temporary agency labor from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	0	-867	0	0.0	CCTR Transf To 2100-4125.000
Explanation:	Transfer of Field Service Delivery contract labor from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	-363	-27	0	-3.4	1-Sided Adj
Explanation:	Accounting adjustment to remove costs that were incorrectly reported in O&M that should have been reported as Capital. Offsetting adjustments are being made in Capital.				
2020	31	0	0	0.5	CCTR Transf From 2100-0024.000
Explanation:	Transfer of Field Collection Support Person from 1FC001 Customer Field Operations to 1FC003 Work Management to align historical costs with the workgroup in which the activity will be forecasted.				
2020 Total	-1,431	-1,128	0	-10.3	
2021	0	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	-731	-2	0	-3.5	1-Sided Adj

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC003.000 - Work Management

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	-8	-19	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	-8	-5	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	-120	0	0	-1.0	CCTR Transf To 2100-4125.000
Explanation:	Transfer of Field Technology, Project Management, and Analytics from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021	0	-27	0	0.0	CCTR Transf To 2100-4125.000
Explanation:	Transfer of Data Scientist temporary agency labor from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021	0	-578	0	0.0	CCTR Transf To 2100-4125.000
Explanation:	Transfer of Field Service Delivery contract labor from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021	42	0	0	0.8	CCTR Transf From 2100-0024.000
Explanation:	Transfer of Field Collection Support Person from 1FC001 Customer Field Operations to 1FC003 Work Management to align historical costs with the workgroup in which the activity will be forecasted.				
2021 Total	-824	-630	0	-4.0	

Note: Totals may include rounding differences.

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

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC004.000 - Customer Field Operations Support

Activity Description:

The Customer Field Operations Support cost category consists of labor and non-labor costs for centralized training including classroom and field instructors and training manager; quality assurance (QA) inspectors and QA supervisor who inspect the work of technicians; operations clerks at each field operating district responsible for supporting the field operations; Area Managers who oversee the day-to-day activities of each field operating district; a Meter Access group that manages any difficulty field technicians experience gaining safe access to meters at customers' premises; a Safety, Compliance and Regulatory group who oversee critical safety and compliance endeavors; Field Operations Strategy and Analytics group responsible for operations reporting and analytics leveraging business intelligence; Customer Service Technical Advisors to provide internal and external technical support and guidance to ensure compliance with SDG&E Service Standards; and Director and Vice President of Customer Operations. Also included is Field Service Delivery, an initiative to modernize delivery of customer services in the field while enhancing safety and employee engagement.

Forecast Explanations:

Labor - Base YR Rec

Labor costs are primarily driven by the need to train new employees; maintain a technically proficient workforce; validate that work is performed in a manner that meets SDG&E's quality standards; ensure the safety of our employees and the public through safety, compliance, and regulatory activities; and overall operational support through analytics and effective workload methods. A base year forecast method for TY 2024 for Customer Field Operations Support labor was used because the last recorded year accurately reflects the expense level associated with current departmental activity.

Non-Labor - Base YR Rec

Non-labor expenses include mobile devices, office supplies, and other miscellaneous expenses. The non-labor cost estimate is based on a base year of non-labor expense.

NSE - Base YR Rec

N/A

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		2,383	2,435	2,750	2,680	2,861	3,466	3,743	3,743	
Non-Labor		165	170	234	1,331	715	637	1,537	1,537	
NSE		0	0	0	0	0	0	0	0	
Total		2,548	2,605	2,984	4,011	3,576	4,103	5,280	5,280	
FTE		25.0	25.3	27.6	24.6	25.8	31.2	33.5	33.5	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC004.000 - Customer Field Operations Support

Summary of Adjustments to Forecast:

In 2021 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	2,861	2,861	2,861	604	881	881	3,465	3,742	3,742
Non-Labor	Base YR Rec	715	715	715	-78	822	822	637	1,537	1,537
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		3,576	3,576	3,576	526	1,703	1,703	4,102	5,279	5,279
FTE	Base YR Rec	25.8	25.8	25.8	5.4	7.7	7.7	31.2	33.5	33.5

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	265	0	0	265	2.6	1-Sided Adj
Explanation:	Customer Field Operations Support full-year impact of 1 Manager x \$145K annual salary x 30% O&M = \$44K for 0.3 FTE; 1 Advisor x \$99K x 51% O&M = \$51K for 0.5 FTE; 1 Analyst x \$92K x 7/12 year x 75% O&M = \$40K for 0.4 FTE; 1 Analyst x \$90K x 5/12 year x 100% O&M = \$37K for 0.4 FTE; 1 Specialist x \$91K x 5/12 year x 85% O&M = \$32K for 0.4 FTE; 1 Instructor x \$107K x 8/12 year x 85% O&M = \$61K for 0.6 FTE. Labor: \$44K + \$51K + \$40K + \$37K + \$32K + \$61K = \$265K. FTE: 0.3 + 0.5 + 0.4 + 0.4 + 0.6 = 2.6.					
2022	248	0	0	248	1.9	1-Sided Adj
Explanation:	Incremental labor for 1 Development & QA Manager x \$144K annual salary x 85% O&M = \$122K for 0.9 FTE and 1 Principal Analyst x \$126K x 100% O&M = \$126K for 1 FTE. Labor: \$122K + \$126K = \$248K. FTE: 0.9 + 1.0 = 1.9.					
2022	0	-78	0	-78	0.0	1-Sided Adj
Explanation:	Field Service Delivery (FSD) non-labor costs for the 2022 pilot program of \$500K in contract labor less \$578K in base year = -\$78K cost reduction. Reference Exhibit SDG&E-25 Information Technology, Chapter 2: IT Forecasts, Capital Witness (William J Exon), Capital Project CWP 00920AI.					
2022	91	0	0	91	0.9	1-Sided Adj
Explanation:	RAMP SDGE-Risk-9-C21 Medium Pressure - CSF QA Program: full-year impact of 1 QA Inspector x \$107K annual salary x 85% O&M = \$91K for 0.9 FTE.					
2022 Total	604	-78	0	526	5.4	
2023	265	0	0	265	2.6	1-Sided Adj
Explanation:	Customer Field Operations Support full-year impact of 1 Manager x \$145K annual salary x 30% O&M = \$44K for 0.3 FTE; 1 Advisor x \$99K x 51% O&M = \$51K for 0.5 FTE; 1 Analyst x \$92K x 7/12 year x 75% O&M = \$40K for 0.4 FTE; 1 Analyst x \$90K x 5/12 year x 100% O&M = \$37K for 0.4 FTE; 1 Specialist x \$91K x 5/12 year x 85% O&M = \$32K for 0.4 FTE; 1 Instructor x \$107K x 8/12 year x 85% O&M = \$61K for 0.6 FTE. Labor: \$44K + \$51K + \$40K + \$37K + \$32K + \$61K = \$265K. FTE: 0.3 + 0.5 + 0.4 + 0.4 + 0.6 = 2.6.					
2023	435	0	0	435	3.6	1-Sided Adj

Note: Totals may include rounding differences.

SDG&E/CS - FIELD OPERATIONS/Exh No:SDG&E-17-WP-R/Witness: D. Thai

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC004.000 - Customer Field Operations Support

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Incremental labor for 1 Development & QA Manager x \$144K annual salary x 85% O&M = \$122K for 0.9 FTE; 1 Principal Analyst x \$126K x 100% O&M = \$126K for 1.0 FTE; 1 Field Operations Manager x \$165K x 85% O&M = \$140K for 0.9 FTE; and 1 Operations Assistant x \$56K x 85% O&M = \$47K for 0.9 FTE. Labor: \$122K + \$126K + \$140K + \$47K = \$435K. FTE: 0.9 + 1.0 + 0.9 + 0.9 = 3.6.					
2023	90	822	0	912	0.6	1-Sided Adj
Explanation:	FSD labor cost for 1 Manager x \$165K x 20% O&M = \$33K for 0.2 FTE and 2 Business Leads x \$144K x 20% O&M = \$57K for 0.4 FTE. Labor: \$33K + \$57K = \$90K. FTE: 0.2 + 0.4 = 0.6. Non-labor is for contract labor related to training delivery, organizational change management, roadshows, communication, and engagement of \$1,400K less \$578k in base year = \$822K. Reference Exhibit SDG&E-25 Information Technology, Chapter 2: IT Forecasts, Capital Witness (William J.Exon), Capital Project CWP 00920AI.					
2023	91	0	0	91	0.9	1-Sided Adj
Explanation:	RAMP SDGE-Risk-9-C21 Medium Pressure - CSF QA Program: full-year impact of 1 QA Inspector x \$107K annual salary x 85% O&M = \$91K for 0.9 FTE.					
2023 Total	881	822	0	1,703	7.7	
2024	265	0	0	265	2.6	1-Sided Adj
Explanation:	Customer Field Operations Support full-year impact of 1 Manager x \$145K annual salary x 30% O&M = \$44K for 0.3 FTE; 1 Advisor x \$99K x 51% O&M = \$51K for 0.5 FTE; 1 Analyst x \$92K x 7/12 year x 75% O&M = \$40K for 0.4 FTE; 1 Analyst x \$90K x 5/12 year x 100% O&M = \$37K for 0.4 FTE; 1 Specialist x \$91K x 5/12 year x 85% O&M = \$32K for 0.4 FTE; 1 Instructor x \$107K x 8/12 year x 85% O&M = \$61K for 0.6 FTE. Labor: \$44K + \$51K + \$40K + \$37K + \$32K + \$61K = \$265K. FTE: 0.3 + 0.5 + 0.4 + 0.4 + 0.4 + 0.6 = 2.6.					
2024	435	0	0	435	3.6	1-Sided Adj
Explanation:	Incremental labor for 1 Development & QA Manager x \$144K annual salary x 85% O&M = \$122K for 0.9 FTE; 1 Principal Analyst x \$126K x 100% O&M = \$126K for 1.0 FTE; 1 Field Operations Manager x \$165K x 85% O&M = \$140K for 0.9 FTE; and 1 Operations Assistant x \$56K x 85% O&M = \$47K for 0.9 FTE. Labor: \$122K + \$126K + \$140K + \$47K = \$435K. FTE: 0.9 + 1.0 + 0.9 + 0.9 = 3.6.					
2024	90	822	0	912	0.6	1-Sided Adj
Explanation:	FSD labor cost for 1 Manager x \$165K x 20% O&M = \$33K for 0.2 FTE and 2 Business Leads x \$144K x 20% O&M = \$57K for 0.4 FTE. Labor: \$33K + \$57K = \$90K. FTE: 0.2 + 0.4 = 0.6. Non-labor is for contract labor related to training delivery, organizational change management, roadshows, communication, and engagement of \$1,400K less \$578k in base year = \$822K. Reference Exhibit SDG&E-25 Information Technology, Chapter 2: IT Forecasts, Capital Witness (William J.Exon), Capital Project CWP 00920AI.					
2024	91	0	0	91	0.9	1-Sided Adj
Explanation:	RAMP SDGE-Risk-9-C21 Medium Pressure - CSF QA Program: full-year impact of 1 QA Inspector x \$107K annual salary x 85% O&M = \$91K for 0.9 FTE.					
2024 Total	881	822	0	1,703	7.7	

Note: Totals may include rounding differences.

SDG&E/CS - FIELD OPERATIONS/Exh No:SDG&E-17-WP-R/Witness: D. Thai

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
Witness: David H. Thai
Category: A. Customer Services Field Operations
Category-Sub: 1. Customer Services Field Operations
Workpaper: 1FC004.000 - Customer Field Operations Support

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	964	933	1,330	1,566	1,850
Non-Labor	125	128	166	159	149
NSE	0	0	0	0	0
Total	1,089	1,061	1,496	1,725	1,999
FTE	10.2	9.6	12.6	11.6	15.6
Adjustments (Nominal \$) **					
Labor	895	1,014	944	709	638
Non-Labor	20	26	50	1,073	566
NSE	0	0	0	0	0
Total	914	1,040	994	1,782	1,203
FTE	11.4	12.1	11.1	9.5	6.4
Recorded-Adjusted (Nominal \$)					
Labor	1,859	1,947	2,273	2,275	2,488
Non-Labor	145	154	217	1,232	715
NSE	0	0	0	0	0
Total	2,004	2,101	2,490	3,507	3,202
FTE	21.5	21.7	23.7	21.1	22.0
Vacation & Sick (Nominal \$)					
Labor	276	295	326	323	374
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	276	295	326	323	374
FTE	3.5	3.6	3.9	3.5	3.8
Escalation to 2021\$					
Labor	248	193	151	83	0
Non-Labor	20	16	17	98	0
NSE	0	0	0	0	0
Total	268	209	168	181	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	2,383	2,435	2,750	2,680	2,861
Non-Labor	165	170	234	1,331	715
NSE	0	0	0	0	0
Total	2,548	2,605	2,984	4,011	3,576
FTE	25.0	25.3	27.6	24.6	25.8

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC004.000 - Customer Field Operations Support

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	895	1,014	944	709	638
Non-Labor	20	26	50	1,073	566
NSE	0	0	0	0	0
Total	914	1,040	994	1,782	1,203
FTE	11.4	12.1	11.1	9.5	6.4

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017	40	0	0	0.3	CCTR Transf From 2100-0064.000
Explanation:	Transfer of Customer Service GRC Project Lead from cost center 2100-0064 in workpaper group 1N002 Customer Programs & Business Services to cost center 2100-3571 in workpaper group 1FC004 Customer Fields Operations Support to align costs with where roles reside and are forecasted.				
2017	248	0	0	3.0	CCTR Transf From 2100-3584.000
Explanation:	Transfer of Customer Field Operations Analysts and Business Technologist from cost center 2100-3584 in 1SM004 Business Technology Safety Management System to workpaper 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	0	13	0	0.0	CCTR Transf From 2100-3584.000
Explanation:	Transfer of employee expense from cost center 2100-3584 in 1SM004 Business Technology Safety Management System to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	217	0	0	4.0	CCTR Transf From 2100-3664.000
Explanation:	Transfer of District Operations Assistants from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	43	0	0	0.4	CCTR Transf From 2100-3792.000
Explanation:	Transfer of Field Technology, Project Management, and Analytics from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	7	0	0	0.1	CCTR Transf From 2100-3664.000
Explanation:	Transfer of Field Instructors from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	95	0	0	0.8	CCTR Transf From 2100-3664.000

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC004.000 - Customer Field Operations Support

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Transfer of Field Operations Manager and Area Managers from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	74	6	0	0.8	CCTR Transf From 2100-0639.000
Explanation:	Transfer of Field Safety Advisor and associated non-labor from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	164	0	0	1.9	CCTR Transf From 2100-0030.000
Explanation:	Transfer of Field Instructors and QA Inspectors from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017	8	0	0	0.1	CCTR Transf From 2100-0030.000
Explanation:	Transfer of District Operations Assistants from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2017 Total	895	20	0	11.4	
2018	251	13	0	3.0	CCTR Transf From 2100-3584.000
Explanation:	Transfer of Customer Field Operations Analysts and Business Technologist from cost center 2100-3584 in 1SM004 Business Technology Safety Management System to workpaper 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018	200	0	0	3.6	CCTR Transf From 2100-3664.000
Explanation:	Transfer of District Operations Assistants from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018	61	0	0	0.5	CCTR Transf From 2100-3792.000
Explanation:	Transfer of Field Technology, Project Management, and Analytics from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018	98	0	0	0.7	CCTR Transf From 2100-3664.000
Explanation:	Transfer of Field Operations Manager and Area Managers from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018	14	0	0	0.1	CCTR Transf From 2100-3841.000
Explanation:	Transfer of Customer Service GRC Project Lead from cost center 2100-3841 in workpaper group 1N002 Customer Programs & Business Services to cost center 2100-3571 in workpaper group 1FC004 Customer Fields Operations Support to align costs with where roles reside and are forecasted.				
2018	94	0	0	0.8	CCTR Transf From 2100-0064.000

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC004.000 - Customer Field Operations Support

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Transfer of Customer Service GRC Project Lead from cost center 2100-0064 in workpaper group 1N002 Customer Programs & Business Services to cost center 2100-3571 in workpaper group 1FC004 Customer Fields Operations Support to align costs with where roles reside and are forecasted.				
2018	81	8	0	0.9	CCTR Transf From 2100-0639.000
Explanation:	Transfer of Field Safety Advisor and associated non-labor from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018	204	0	0	2.3	CCTR Transf From 2100-0030.000
Explanation:	Transfer of Field Instructors and QA Inspectors from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018	12	0	0	0.2	CCTR Transf From 2100-0030.000
Explanation:	Transfer of District Operations Assistants from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018	0	6	0	0.0	CCTR Transf From 2100-0639.000
Explanation:	Transfer of CMVI consulting cost from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2018 Total	1,014	26	0	12.1	
2019	248	3	0	2.9	CCTR Transf From 2100-3584.000
Explanation:	Transfer of Customer Field Operations Analysts and Business Technologist from cost center 2100-3584 in 1SM004 Business Technology Safety Management System to workpaper 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	95	0	0	0.9	CCTR Transf From 2100-3792.000
Explanation:	Transfer of Field Technology, Project Management, and Analytics from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	0	20	0	0.0	CCTR Transf From 2100-3792.000
Explanation:	Transfer of Data Scientist temporary agency labor from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	31	0	0	0.2	CCTR Transf From 2100-3841.000
Explanation:	Transfer of Customer Service GRC Project Lead from cost center 2100-3841 in workpaper group 1N002 Customer Programs & Business Services to cost center 2100-3571 in workpaper group 1FC004 Customer Fields Operations Support to align costs with where roles reside and are forecasted.				
2019	0	10	0	0.0	CCTR Transf From 2100-3792.000
Explanation:	Transfer of Field Service Delivery contract labor from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	208	0	0	3.6	CCTR Transf From 2100-3664.000

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC004.000 - Customer Field Operations Support

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Transfer of District Operations Assistants from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	82	17	0	0.8	CCTR Transf From 2100-0639.000
Explanation:	Transfer of Field Safety Advisor and associated non-labor from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	98	0	0	0.7	CCTR Transf From 2100-3664.000
Explanation:	Transfer of Area Managers from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	164	0	0	1.7	CCTR Transf From 2100-0030.000
Explanation:	Transfer of Field Instructors and QA Inspectors from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	25	0	0	0.4	CCTR Transf From 2100-0030.000
Explanation:	Transfer of District Operations Assistants from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2019	-7	0	0	-0.1	CCTR Transf To 2100-0003.000
Explanation:	Transfer Administrative Assistant from cost center 2100-4099 in 1FC004 Customer Field Operations Support to cost center 2100-0003 in 1AG006 Legal to align historical costs with the workgroup in which the activity will be forecasted.				
2019 Total	944	50	0	11.1	
2020	0	0	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	0	-2	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	0	0	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC004.000 - Customer Field Operations Support

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
2020	-9	0	0	-0.1	CCTR Transf From 2100-3584.000
Explanation:	Transfer of Customer Field Operations Analysts and Business Technologist from cost center 2100-3584 in 1SM004 Business Technology Safety Management System to workpaper 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	338	0	0	3.5	CCTR Transf From 2100-3792.000
Explanation:	Transfer of Field Technology, Project Management, and Analytics from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	-185	0	0	-0.1	1-Sided Adj
Explanation:	One-sided adjustment to remove one-time severance payment.				
2020	225	0	0	3.5	CCTR Transf From 2100-3664.000
Explanation:	Transfer of District Operations Assistants from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	0	217	0	0.0	CCTR Transf From 2100-3792.000
Explanation:	Transfer of Data Scientist temporary agency labor from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	0	867	0	0.0	CCTR Transf From 2100-3792.000
Explanation:	Transfer of Field Service Delivery contract labor from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	216	0	0	1.7	CCTR Transf From 2100-3664.000
Explanation:	Transfer of Area Managers from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	-31	0	0	-0.4	CCTR Transf To 2100-0003.000
Explanation:	Transfer of Administrative Assistant from cost center 2100-4099 in work group CSFC Customer Field Operations Support 1FC004 to cost center 2100-0003 in work group 1AG006 Legal to align costs where activity/function resides.				
2020	82	2	0	0.8	CCTR Transf From 2100-0639.000
Explanation:	Transfer of Field Safety Advisor and associated non-labor from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	74	0	0	0.7	CCTR Transf From 2100-0030.000
Explanation:	Transfer of Field Instructors and QA Inspectors from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2020	0	-9	0	0.0	CCTR Transf To 2100-0030.000

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC004.000 - Customer Field Operations Support

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Transfer of field uniform expense (Personal Protective Equipment) from 1FC004 Customer Field Operations Support to 1FC001 Customer Field Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2020 Total	709	1,073	0	9.5	
2021	0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	0	0	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	120	0	0	1.0	CCTR Transf From 2100-3792.000
Explanation:	Transfer of Field Technology, Project Management, and Analytics from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021	0	27	0	0.0	CCTR Transf From 2100-3792.000
Explanation:	Transfer of Data Scientist temporary agency labor from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021	0	578	0	0.0	CCTR Transf From 2100-3792.000
Explanation:	Transfer of Field Service Delivery contract labor from 1FC003 Work Management to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021	226	0	0	3.4	CCTR Transf From 2100-3664.000
Explanation:	Transfer of District Operations Assistants from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021	0	-37	0	0.0	CCTR Transf To 2100-0030.000
Explanation:	Transfer of field uniform expense (Personal Protective Equipment) from 1FC004 Customer Field Operations Support to 1FC001 Customer Field Operations 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
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC004.000 - Customer Field Operations Support

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
2021	86	1	0	0.8	CCTR Transf From 2100-0639.000
Explanation:	Transfer of Field Safety Advisor and associated non-labor from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021	188	0	0	1.5	CCTR Transf From 2100-3664.000
Explanation:	Transfer of Area Managers from 1FC002 Customer Field Operations Supervision to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021	52	0	0	0.5	CCTR Transf From 2100-0030.000
Explanation:	Transfer of Field Instructor from 1FC001 Customer Field Operations to 1FC004 Customer Field Operations Support to align historical costs with the workgroup in which the activity will be forecasted.				
2021	-33	0	0	-0.8	CCTR Transf To 2100-0003.000
Explanation:	Transfer Administrative Assistant from cost center 2100-4099 in 1FC004 Customer Field Operations Support to cost center 2100-0003 in 1AG006 Legal to align historical costs with the workgroup in which the activity will be forecasted.				
2021 Total	638	566	0	6.4	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC004.000 - Customer Field Operations Support

RAMP Item # 1

RAMP Activity

RAMP Chapter: SDG&E-Risk-9 Incident Related to the Medium Pressure System (Excluding Dig-in)

RAMP Line Item ID: C21

RAMP Line Item Name: CSF Quality Assurance (QA) Program

Tranche(/s): Tranche1: Meter and Beyond the Meter

GRC Forecast Cost Estimates (\$000)

	2021 Historical Embedded Cost (2021 \$)	2022 Forecast (2021 \$)	2023 Forecast (2021 \$)	2024 Forecast (2021 \$)	2024 RAMP Range (2020 Incurred \$)	
					Low	High
Tranche 1 Cost Estimate	171	262	262	262	185	224

Cost Estimate Changes from RAMP:

The GRC cost forecast is outside the RAMP range due to forecast updates.

GRC Work Unit/Activity Level Estimates

Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 RAMP Range Activities	
					Low	High
Tranche 1 # of inspections	476.00	1,451.00	1,465.00	1,479.00	1,509.00	1,826.00

Work Unit Changes from RAMP:

The GRC unit forecast is outside the RAMP range due to forecast updates.

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.200	6.000

RSE Changes from RAMP:

General changes to risks scores or RSE values are primarily due to changes in the MAVF and RSE methodology, as discussed in the RAMP to GRC Integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

Beginning of Workpaper
1FC005.000 - Smart Meter Operations

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC005.000 - Smart Meter Operations

Activity Description:

The Smart Meter Operations cost category consists of labor and non-labor costs for Electric Metering Operations, Quality Assurance & Training, Network Operations, Electric Metering Engineering, Smart Meter Field Services and the Smart Meter Capital Program Team responsible for on-premise advanced metering customer service, customer inquiry investigations, customer metering problem remediation, and end-to-end management of the smart metering system, which includes field networking infrastructure, the metering head-end system, and integrations with the meter data management system. Collectively, the organizations are critical to enable accurate and timely bills for all of SDG&E's metered customers, covering San Diego County and South Orange County and also responsible for meter data acquisition utilized by the operations and engineering organizations to enhance safety and reliability.

Forecast Explanations:

Labor - Base YR Rec

Labor costs are primarily driven by projects and work order volumes. Of significant consideration is the onset of the Smart Meter 2.0 Project to redeploy metering infrastructure to replace aging and obsolescent Advanced Metering Infrastructure (AMI) technology. Further, the complexities arising from the Time of Use (TOU) transition have increased interval data validation, editing, and field work for customers, requiring significantly more time to generate a customer's bill. Finally, work order volumes are largely driven by outside factors including infrastructure failures, customer growth, weather, and emergency incidents.

Non-Labor - Base YR Rec

Non-labor expenses include Personal Protective Equipment (PPE), uniforms, small tools, mobile devices, office supplies, and other miscellaneous expenses. The non-labor cost estimate is based on a base year of non-labor expense.

NSE - Base YR Rec

N/A

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		7,440	7,155	6,645	7,860	8,410	8,354	8,656	9,884	
Non-Labor		662	393	687	708	653	653	958	3,403	
NSE		0	0	0	0	0	0	0	0	
Total		8,102	7,549	7,333	8,568	9,063	9,007	9,614	13,287	
FTE		75.2	71.6	65.0	76.4	81.1	80.8	84.6	98.8	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
Witness: David H. Thai
Category: A. Customer Services Field Operations
Category-Sub: 1. Customer Services Field Operations
Workpaper: 1FC005.000 - Smart Meter Operations

Summary of Adjustments to Forecast:

In 2021 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	8,410	8,410	8,410	-56	246	1,474	8,354	8,656	9,884
Non-Labor	Base YR Rec	653	653	653	0	305	2,750	653	958	3,403
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		9,063	9,063	9,063	-56	551	4,224	9,007	9,614	13,287
FTE	Base YR Rec	81.1	81.1	81.1	-0.3	3.5	17.7	80.8	84.6	98.8

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	171	0	0	171	2.2	1-Sided Adj
Explanation:	Smart Meter Operations labor costs related to order volume increase due to electric meter failures. Reference Smart Meter Operations 1FC005.000 Supplemental Workpaper 1 - Workload Increase Due to Meter Failures for detailed calculations.					
2022	166	0	0	166	1.9	1-Sided Adj
Explanation:	Full-year impact of 1 QA Advisor x \$97K annual salary x 10/12 year x 92% O&M = \$74K for 0.8 FTE; 1 Project Manager x \$136K x 6/12 year x 50% O&M = \$34K for 0.3 FTE; 1 Shop Assistant x \$63K x 11/12 year x 100% O&M = \$58K for 0.9 FTE. Labor: \$74K + \$34K + \$58K = \$166K. FTE: 0.8 + 0.3 + 0.9 = 1.9.					
2022	190	0	0	190	1.8	1-Sided Adj
Explanation:	Incremental labor for 1 Senior Instructor x \$96K annual salary x 92% O&M = \$88K for 0.9 FTE and 1 Business Systems Analyst x \$111K x 92% O&M = \$102K for 0.9 FTE. Labor: \$88K + \$102K = \$190K. FTE: 0.9 + 0.9 = 1.8.					
2022	-583	0	0	-583	-6.2	1-Sided Adj
Explanation:	SM2.0 Capital Project Impacts: labor shift from O&M to Smart Meter 2.0 Capital. Reference Exhibit SDG&E-25 Information Technology Chapter 2: IT Forecasts, Capital Witness (William J.Exon), SM 2.0 Capital Project CWP 218810.					
2022 Total	-56	0	0	-56	-0.3	
2023	473	0	0	473	6.0	1-Sided Adj
Explanation:	Smart Meter Operations labor costs related to order volume increase due to electric meter failures. Reference Smart Meter Operations 1FC005.000 Supplemental Workpaper 1 - Workload Increase Due to Meter Failures for detailed calculations.					
2023	166	0	0	166	1.9	1-Sided Adj
Explanation:	Full-year impact of 1 QA Advisor x \$97K annual salary x 10/12 year x 92% O&M = \$74K for 0.8 FTE; 1 Project Manager x \$136K x 6/12 year x 50% O&M = \$34K for 0.3 FTE; 1 Shop Assistant x \$63K x 11/12 year x 100% O&M = \$58K for 0.9 FTE. Labor: \$74K + \$34K + \$58K = \$166K. FTE: 0.8 + 0.3 + 0.9 = 1.9.					
2023	190	0	0	190	1.8	1-Sided Adj

Note: Totals may include rounding differences.

SDG&E/CS - FIELD OPERATIONS/Exh No:SDG&E-17-WP-R/Witness: D. Thai

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC005.000 - Smart Meter Operations

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
Explanation:	Incremental labor for 1 Senior Instructor x \$96K annual salary x 92% O&M = \$88K for 0.9 FTE and 1 Business Systems Analyst x \$111K x 92% O&M = \$102K for 0.9 FTE. Labor: \$88K + \$102K = 190K. FTE: 0.9 + 0.9 = 1.8.					
2023	-583	0	0	-583	-6.2	1-Sided Adj
Explanation:	SM2.0 Capital Project Impacts: Labor shift from O&M to Smart Meter 2.0 Capital. Reference Exhibit SDG&E-25 Information Technology Chapter 2: IT Forecasts, Capital Witness (William J. Exon), SM 2.0 Capital Project CWP 218810.					
2023	0	167	0	167	0.0	1-Sided Adj
Explanation:	SM 2.0 Capital Project impacts: Contract non-labor for the removals of gas modules and electric meters. Reference Exhibit SDG&E-25 Information Technology, Chapter 2: IT Forecasts, Capital Witness (Mr. Exon), SM 2.0 Capital Project CWP 218810. Reference Smart Meter Operations 1FC005.000 Supplemental Workpaper 3 - SM 2.0 Capital Project Impacts - Removals for detailed O&M cost calculations.					
2023	0	138	0	138	0.0	1-Sided Adj
Explanation:	SM 2.0 Capital Project Impacts: E-waste handling and disposal of gas modules and electric meters related to SM 2.0 Capital Project. Reference Exhibit SDG&E-25 Information Technology, Chapter 2: IT Forecasts, Capital Witness (Mr. Exon), SM 2.0 Capital Project CWP 218810. Reference Smart Meter Operations 1FC005.000 Supplemental Workpaper 4 - SM 2.0 Capital Project Impacts - E-waste for detailed O&M cost calculations.					
2023 Total	246	305	0	551	3.5	
2024	872	0	0	872	11.0	1-Sided Adj
Explanation:	Smart Meter Operations labor costs related to order volume increase due to electric meter failures. Reference Smart Meter Operations 1FC005.000 Supplemental Workpaper 1 - Workload Increase Due to Meter Failures for detailed calculations.					
2024	476	42	0	518	5.5	1-Sided Adj
Explanation:	Training cost in preparation for electric meter deployment. Labor for 6 Electric Meter Tester Apprentices x \$86K annual salary x 92% O&M = \$476K for 5.5 FTE. Non-labor is for tools and equipment of \$42K.					
2024	166	0	0	166	1.9	1-Sided Adj
Explanation:	Full-year impact of 1 QA Advisor x \$97K annual salary x 10/12 year x 92% O&M = \$74K for 0.8 FTE; 1 Project Manager x \$136K x 6/12 year x 50% O&M = \$34K for 0.3 FTE; 1 Shop Assistant x \$63K x 11/12 year x 100% O&M = \$58K for 0.9 FTE. Labor: \$74K + \$34K + \$58K = \$166K. FTE: 0.8 + 0.3 + 0.9 = 1.9.					
2024	190	0	0	190	1.8	1-Sided Adj
Explanation:	Incremental labor for 1 Senior Instructor x \$96K annual salary x 92% O&M = \$88K for 0.9 FTE and 1 Business Systems Analyst x \$111K x 92% O&M = \$102K for 0.9 FTE. Labor: \$88K + \$102K = \$190K. FTE: 0.9 + 0.9 = 1.8.					
2024	353	90	0	443	3.7	1-Sided Adj

Note: Totals may include rounding differences.

SDG&E/CS - FIELD OPERATIONS/Exh No:SDG&E-17-WP-R/Witness: D. Thai

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC005.000 - Smart Meter Operations

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
Explanation:	Labor shift from Vehicle Grid Integration Memorandum Account (VGIMA) to O&M in TY2024 per D 16-01-045. EV Equipment Technicians for 2.4 FTE x \$104k annual salary = \$250K and EV Operations Analysts for 1.3 FTE x \$79K = \$103K. Labor: \$250K + \$103K = \$353K. Non-labor of \$90K is for contract labor.					
2024	-583	0	0	-583	-6.2	1-Sided Adj
Explanation:	SM2.0 Capital Project Impacts: Labor shift from O&M to Smart Meter 2.0 Capital. Reference Exhibit SDG&E-25 Information Technology Chapter 2: IT Forecasts, Capital Witness (William J. Exon), SM 2.0 Capital Project CWP 218810.					
2024	0	1,723	0	1,723	0.0	1-Sided Adj
Explanation:	SM 2.0 Capital Project impacts: Contract non-labor for the removals of gas modules and electric meters. Reference Exhibit SDG&E-25 Information Technology, Chapter 2: IT Forecasts, Capital Witness (Mr. Exon), SM 2.0 Capital Project CWP 218810. Reference Smart Meter Operations 1FC005.000 Supplemental Workpaper 3 - SM 2.0 Capital Project Impacts - Removals for detailed O&M cost calculations.					
2024	0	895	0	895	0.0	1-Sided Adj
Explanation:	SM 2.0 Capital Project Impacts: E-waste handling and disposal of gas modules and electric meters related to SM 2.0 Capital Project. Reference Exhibit SDG&E-25 Information Technology, Chapter 2: IT Forecasts, Capital Witness (Mr. Exon), SM 2.0 Capital Project CWP 218810. Reference Smart Meter Operations 1FC005.000 Supplemental Workpaper 4 - SM 2.0 Capital Project Impacts - E-waste for detailed O&M cost calculations.					
2024 Total	1,474	2,750	0	4,224	17.7	

Note: Totals may include rounding differences.

SDG&E/CS - FIELD OPERATIONS/Exh No:SDG&E-17-WP-R/Witness: D. Thai

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
Witness: David H. Thai
Category: A. Customer Services Field Operations
Category-Sub: 1. Customer Services Field Operations
Workpaper: 1FC005.000 - Smart Meter Operations

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	5,797	5,768	6,032	6,152	7,119
Non-Labor	581	337	741	455	1,254
NSE	0	0	0	0	0
Total	6,378	6,104	6,773	6,607	8,374
FTE	64.6	61.9	63.8	58.1	66.9
Adjustments (Nominal \$) **					
Labor	6	-46	-539	519	192
Non-Labor	0	19	-103	201	-601
NSE	0	0	0	0	0
Total	6	-26	-642	719	-409
FTE	0.0	-0.5	-7.9	7.6	2.4
Recorded-Adjusted (Nominal \$)					
Labor	5,804	5,722	5,493	6,671	7,312
Non-Labor	581	356	638	656	653
NSE	0	0	0	0	0
Total	6,384	6,078	6,131	7,326	7,965
FTE	64.5	61.4	55.9	65.8	69.3
Vacation & Sick (Nominal \$)					
Labor	861	867	787	946	1,098
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	861	867	787	946	1,098
FTE	10.7	10.2	9.1	10.6	11.8
Escalation to 2021\$					
Labor	774	567	365	244	0
Non-Labor	82	37	50	52	0
NSE	0	0	0	0	0
Total	856	604	415	296	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	7,440	7,155	6,645	7,860	8,410
Non-Labor	662	393	687	708	653
NSE	0	0	0	0	0
Total	8,102	7,549	7,333	8,568	9,063
FTE	75.2	71.6	65.0	76.4	81.1

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC005.000 - Smart Meter Operations

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	6	-46	-539	519	192
Non-Labor	-0.338	19	-103	201	-601
NSE	0	0	0	0	0
Total	6	-26	-642	719	-409
FTE	0.0	-0.5	-7.9	7.6	2.4

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017	-8	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2017	31	0	0	0.3	1-Sided Adj
Explanation:	One-sided adjustment to offset 2017 and 2018 year over year impact of accrual reversal for Power Your Drive labor correction.				
2017	-16	0	0	-0.2	1-Sided Adj
Explanation:	One-sided adjustment to transfer portion of training costs to Capital pool to align historical costs with the accounting change in 2021 base year and forecast years.				
2017 Total	6	0	0	0.0	
2018	8	0	0	0.1	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2018	-31	0	0	-0.3	1-Sided Adj
Explanation:	One-sided adjustment to offset 2017 and 2018 year over year impact of accrual reversal for Power Your Drive labor correction.				
2018	-23	0	0	-0.3	1-Sided Adj
Explanation:	One-sided adjustment to transfer portion of training costs to Capital pool to align historical costs with the accounting change in 2021 base year and forecast years.				
2018	0	20	0	0.0	CCTR Transf From 2100-0639.000
Explanation:	Transfer of gas module e-waste recycling cost from 1FC001 Customer Field Operations to 1FC005 Smart Meter Operations in order to align historical costs with the workgroup in which the activity will be forecasted.				
2018 Total	-46	19	0	-0.5	
2019	-236	-65	0	-3.2	1-Sided Adj

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
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Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC005.000 - Smart Meter Operations

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	One sided adjustment to remove TOU costs incurred in 2019 that were subsequently removed in 2020 consistent with AL 3352-E and Resolution E-5069.				
2019	-164	-137	0	-3.4	1-Sided Adj
Explanation:	One sided adjustment to remove TOU costs incurred in 2019 that were subsequently removed in 2020 consistent with AL 3352-E and Resolution E-5069.				
2019	-17	0	0	-0.2	1-Sided Adj
Explanation:	One sided adjustment to remove TOU costs incurred in 2019 that were subsequently removed in 2020 consistent with AL 3352-E and Resolution E-5069.				
2019	-110	0	0	-1.0	1-Sided Adj
Explanation:	One-sided adjustment to offset 2019 and 2020 year over year impact of accrual reversal for Smart Meter Network Modernization labor correction.				
2019	-12	-1	0	-0.1	1-Sided Adj
Explanation:	One-sided adjustment to transfer portion of training costs to Capital pool to align historical costs with the accounting change in 2021 base year and forecast years.				
2019	0	100	0	0.0	CCTR Transf From 2100-0639.000
Explanation:	Transfer of gas module e-waste recycling cost from 1FC001 Customer Field Operations to 1FC005 Smart Meter Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2019 Total	-539	-103	0	-7.9	
2020	0	0	0	0.0	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	-1	-11	0	-0.1	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	0	-10	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	0	-5	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020	0	-3	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC005.000 - Smart Meter Operations

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
2020	236	65	0	3.2	1-Sided Adj
Explanation:	One sided adjustment to remove TOU costs incurred in 2019 that were subsequently removed in 2020 consistent with AL 3352-E and Resolution E-5069.				
2020	164	137	0	3.4	1-Sided Adj
Explanation:	One sided adjustment to remove TOU costs incurred in 2019 that were subsequently removed in 2020 consistent with AL 3352-E and Resolution E-5069.				
2020	17	0	0	0.2	1-Sided Adj
Explanation:	One sided adjustment to remove TOU costs incurred in 2019 that were subsequently removed in 2020 consistent with AL 3352-E and Resolution E-5069.				
2020	110	0	0	1.0	1-Sided Adj
Explanation:	One-sided adjustment to offset 2019 and 2020 year over year impact of accrual reversal for Smart Meter Network Modernization labor correction.				
2020	-8	0	0	-0.1	1-Sided Adj
Explanation:	One-sided adjustment to transfer portion of training costs to Capital pool to align historical costs with the accounting change in 2021 base year and forecast years.				
2020	0	28	0	0.0	CCTR Transf From 2100-0639.000
Explanation:	Transfer of gas module e-waste recycling cost from 1FC001 Customer Field Operations to 1FC005 Smart Meter Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2020 Total	519	201	0	7.6	
2021	0	-2	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	0	-6	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	0	-2	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2021	0	-594	0	0.0	1-Sided Adj
Explanation:	One-sided adjustment to remove one-time costs associated with Smart Meter 2.0 vendor selection consulting.				
2021	-15	0	0	-0.1	1-Sided Adj

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

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 Witness: David H. Thai
 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC005.000 - Smart Meter Operations

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	One-sided adjustment to reduce O&M by the full-year impact of allocating portion of training costs to Capital pool beginning in October 2021 due to accounting change.				
2021	208	0	0	2.5	1-Sided Adj
Explanation:	One-sided adjustment to reflect the ongoing TOU costs that were incurred in 2021 and expected to be charged to O&M in 2024, although D.15.07-001 authorized a separate recovery mechanism through the Rate Reform Memorandum Account (RRMA). Reference AL 2992-E, AL 2992 E-A, Resolution E-4910, D.18-12-004, D.19-09-051, AL 3352-E, and Resolution E-5069.				
2021	0	3	0	0.0	CCTR Transf From 2100-0639.000
Explanation:	Transfer of gas module e-waste cost from 1FC001 Customer Field Operations to 1FC005 Smart Meter Operations to align historical costs with the workgroup in which the activity will be forecasted.				
2021 Total	192	-601	0	2.4	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
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 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC005.000 - Smart Meter Operations

RAMP Item # 1

RAMP Activity

RAMP Chapter: SDG&E-Risk-8 Incident Involving an Employee
 RAMP Line Item ID: C04
 RAMP Line Item Name: Employee Behavioral Accident Prevention Process Program
 Tranche(/s): Tranche1: Overall

GRC Forecast Cost Estimates (\$000)

	2021 Historical Embedded Cost (2021 \$)	2022 Forecast (2021 \$)	2023 Forecast (2021 \$)	2024 Forecast (2021 \$)	2024 RAMP Range (2020 Incurred \$)	
					Low	High
Tranche 1 Cost Estimate	166	166	166	166	818	990

Cost Estimate Changes from RAMP:

The GRC forecast for this mitigation is shared with another workpaper (1FC001.000) in my witness area and shared with another witness area (Electric Distribution O&M: Exhibit SDG&E-12).

GRC Work Unit/Activity Level Estimates

Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 RAMP Range Activities	
					Low	High
Tranche 1 # of employees	45.00	45.00	45.00	45.00	100.00	115.00

Work Unit Changes from RAMP:

The GRC forecast for this mitigation is shared with another workpaper (1FC001.000) in my witness area and shared with another witness area (Electric Distribution O&M: Exhibit SDG&E-12).

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	123.000	12.000

RSE Changes from RAMP:

General changes to risks scores or RSE values are primarily due to changes in the MAVF and RSE methodology, as discussed in the RAMP to GRC Integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
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 Category: A. Customer Services Field Operations
 Category-Sub: 1. Customer Services Field Operations
 Workpaper: 1FC005.000 - Smart Meter Operations

RAMP Item # 2

RAMP Activity

RAMP Chapter: SDG&E-Risk-8 Incident Involving an Employee
 RAMP Line Item ID: C10
 RAMP Line Item Name: Personal Protective Equipment
 Tranche(/s): Tranche1: N/A

GRC Forecast Cost Estimates (\$000)

	2021 Historical Embedded Cost (2021 \$)	2022 Forecast (2021 \$)	2023 Forecast (2021 \$)	2024 Forecast (2021 \$)	2024 RAMP Range (2020 Incurred \$)	
					Low	High
Tranche 1 Cost Estimate	35	35	35	35	1,689	2,045

Cost Estimate Changes from RAMP:

The GRC forecast for this mitigation is shared with another workpaper (1FC001.000) in my witness area and shared with another witness areas (Gas Distribution Operations: Exhibit SDG&E-04 and Electric Distribution O&M: Exhibit SDG&E-12).

GRC Work Unit/Activity Level Estimates

Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 RAMP Range Activities	
					Low	High
Tranche 1 # of employees	45.00	45.00	45.00	45.00	4,400.00	4,800.00

Work Unit Changes from RAMP:

The GRC forecast for this mitigation is shared with another workpaper (1FC001.000) in my witness area and shared with another witness areas (Gas Distribution Operations: Exhibit SDG&E-04 and Electric Distribution O&M: Exhibit SDG&E-12).

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000

RSE Changes from RAMP:

An RSE was not calculated for this activity.

Supplemental Workpapers for Workpaper 1FC005.000

Smart Meter Operations 1FC005.000 Supplemental Workpaper 1 - Workload Increase Due to Meter Failures

Line Item #	Cost Elements	BY2021	2022 Estimated	2023 Estimated	TY2024 Estimated	Calculation Steps
1	Total Available Hours	2,088	2,080	2,080	2,096	A
2	FTE Factor	0.1706	0.1706	0.1706	0.1706	B
3	Single Phase Technician Hourly Wage Rate for Production	\$ 38.47	\$ 38.47	\$ 38.47	\$ 38.47	C
4	Order Volume - # of Failed Electric Meters	11,151	15,897	24,297	35,414	D
5	On-Premise Hours Per Order	0.5	0.5	0.5	0.5	E
6	Drive Time Hours Per Order	0.3	0.3	0.3	0.3	F
7	Total Hours to Troubleshoot Failed Electric Meters	8,082	11,522	17,610	25,668	G=Dx(E+F)
8	None Job Time (NJT) Factor	12%	12%	12%	12%	H
9	NJT Hours	977	1,393	2,129	3,103	I=GxH
10	Total Hours with NJT	9,059	12,915	19,739	28,771	J=G+I
11	Labor / Workload Costs	\$ 348,553	\$ 496,902	\$ 759,465	\$ 1,106,956	K=CxJ
12	Labor / Workload Cost	\$ 348,553	\$ 496,902	\$ 759,465	\$ 1,106,956	L=K
13	Vacation & Sick (V&S) Factor	0.1502	0.1502	0.1502	0.1502	M
14	V&S Cost	\$ 52,353	\$ 74,635	\$ 114,072	\$ 166,265	N=LxM
15	Labor / Workload Cost with V&S	\$ 400,906	\$ 571,536	\$ 873,537	\$ 1,273,221	O=L+N
16	Change to BY 2021 (Labor)		\$ 170,630	\$ 472,631	\$ 872,315	P=O-\$O\$15
17	Labor / Workload +NJT FTEs	4.3	6.2	9.5	13.7	Q=J/A
18	V&S FTEs	0.7	1.1	1.6	2.3	R=BxQ
19	Workload + NJT FTEs with V&S	5.1	7.3	11.1	16.1	S=Q+R
20	Change to BY 2021 (FTE)		2.2	6.0	11.0	T = S-\$S\$19

Smart Meter Operations 1FC005.000 Supplemental Workpaper 2 - Customer Growth Calculations

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Table 1A Gas Customer Forecast - Calculations							Table 1B Smart Meter (SM) 2.0 Gas Module Forecast¹								
2									2023	2024	2025	Total				
3	Gas Customer Forecast	Actual / Forecast Gas Customer ¹	Increase over Base Year	% Increase from Base Year	Increase Year-Over-Year (YOY)	% Increase YOY	3 YR Average Rate (2022-2024)	Smart Meter (SM) 2.0 Gas Module Forecasted Deployment Schedule based on actual 2021 Gas Customer counts.	42,500	430,574	430,575	903,649				
4	Base Year 2021	903,649					0.88%	Gas Customer Forecast: Increase over Base Year (Spread evenly 2024-2025)		7,825	7,825	15,650				
5	2022	910,917	7,268	0.80%	7,268	0.80%		2023 Gas Customer Forecast	42,500	438,399	438,400	919,299				
6	2023	919,299	15,650	1.73%	8,382	0.92%		Gas Customer Forecast: Increase over Base Year (Spread evenly 2024-2025)		4,149	4,149	8,298				
7	2024	927,597	23,948	2.65%	8,298	0.90%		2024 Gas Customer Forecast	42,500	442,548	442,549	927,597				
8								Gas Customer Forecast: Increase using 3 YR Average Growth Rate 2022-2024			7,913	7,913				
9								2025 Gas Customer Forecast	42,500	442,548	450,462	935,510				
10	Footnotes:							Footnotes:								
11	1. 2021 actual gas customers, 2022 through 2024 forecasted gas customers for all customer classes. Reference: Exhibit SDG&E-39 Gas Customer Forecast, Witness (Scott Wilder).							1. Reference Exhibit SDG&E-25 Information Technology, Chapter 2: IT Forecasts, Capital Witness (William J. Exon), Capital Work Paper (CWP) 218810.								
12																
13	Table 2A Electric Customer Forecast - Calculations							Table 2B SM 2.0 Electric Meter Forecast								
14									2024	2025	2026	2027	2028	2029	2030	Total
15	Electric Customer Forecast	Actual / Forecast Electric Customers ¹	Increase over Base Year	% Increase from Base Year	Increase Year-Over-Year (YOY)	% Increase YOY	3 YR Average Rate (2022-2024)	SM 2.0 Electric Meter Forecasted Deployment Schedule based on actual 2021 Electric Customer Counts.			310,543	294,099	312,797	319,469	253,041	1,489,949
16	Base Year 2021	1,489,949					0.92%	Electric Customer Forecast: Increase over Base Year (Spread evenly 2026-2030)			8,278	8,278	8,278	8,278	8,278	41,388
17	2022	1,502,325	12,376	0.83%	12,376	0.83%		2024 Electric Customer Forecast	0	0	318,821	302,377	321,075	327,747	261,319	1,531,337
18	2023	1,516,272	26,323	1.77%	13,947	0.93%		Electric Customer Forecast increase using 3 YR Average Growth Rate 2022-2024 (Spread evenly 2026-2030)			2,810	2,810	2,810	2,810	2,810	14,050
19	2024	1,531,337	41,388	2.78%	15,065	0.99%		2025 Electric Customer Forecast	0	0	321,631	305,187	323,885	330,557	264,129	1,545,387
20	Footnotes:							Footnotes:								
21	1. 2021 actual electric customers, 2022 through 2024 forecasted electric customers for all customer classes. Reference: Exhibit SDG&E-40 Electric Customer Forecast, Witness (Kenneth Schiermeyer).							2026 Electric Customer Forecast increase using 3 YR average growth rate 2022-2024.								
22								Electric Customer Forecast increase using 3 YR Average Growth Rate 2022-2024				14,309				14,309
23								2027 Electric Customer Forecast	0	0	335,810	319,496	323,885	330,557	264,129	1,573,875

Smart Meter Operations 1FC005.000 Supplemental Workpaper 3 - SM 2.0 Capital Project Impacts - Removals

	A	B	C	D	E	F	G
1	SM 2.0 Capital Project impacts: Contract non-labor for the removals of gas modules and electric meters. Reference witness Mr. Exon (Ex. SDG&E-25-CWP 218810).						
2							
3	Description	2022 Forecast	2023 Forecast	GRC Cycle 2024-2027 [A]	TY 2024 Forecast Normalized over 4 year GRC cycle 2024 to 2027 [B] = (A/4)		
4	SM 2.0 Contract Non-Labor for Removal of Gas Modules and Electric Meters^{1,2}	\$ -	\$ 167,040	\$ 6,892,224	\$ 1,723,056		
5							
6	Footnotes:						
7	1. The contract non-labor pricing for SM 2.0 removals of gas modules, and electric meters is vendor sensitive information, therefore forecasts are shown as totals since that level of detail is not being provided.						
8	2. The SM 2.0 contract non-labor removal expense forecast utilizes the Gas and Electric Customer Forecast. Reference: Smart Meter Operations 1FC005.000 Supplemental WP 2 Customer Growth Forecast. See Table 1B Smart Meter (SM) 2.0 Gas Module Forecast of 919,299 in 2023, and Table 2B SM 2.0 Electric Meter Forecast of 1,545,387 in 2025. Holding 2023 Gas and 2025 Electric Customer Forecasts constant in alignment with SM 2.0 project deployment schedule for 2023-2027. The project assumes that new gas and electric meters are included in the gas and electric new business budget codes. Reference Exhibit SDG&E-04 Witness L. Patrick Kinsella CWP-005002 and Exhibit SDG&E-11 Witness Oliva Reyes CWP-002350 respectively.						
9							

Smart Meter Operations 1FC005.000 Supplemental Workpaper 4 - SM 2.0 Capital Project Impacts - E-waste

	A	B	C	D	E	F	G
1	SM 2.0 Capital Project Impacts: E-Waste - Handling and disposal of scrap gas modules and electric meters related to SM 2.0 Capital Project.						
2	Reference witness Mr. Exon (Ex. SDG&E-25-CWP 218810).						
3	Description	2022 Forecast	2023 Forecast	GRC Cycle 2024-2027 [A]	Normalized over 4 yr GRC Cycle 2024-2027 [B] = (A/4)	BY2021³ [C]	TY 2024 Forecast Adjustment [D] = (B-C)
4	SM 2.0 E-Waste ^{1,2}	\$ -	\$ 138,125	\$ 3,656,248	\$ 914,062	\$ 19,253	\$ 894,809
5							
6							
7	Footnotes:						
8	1. The unit pricing for E-waste is vendor sensitive information, therefore forecasts are shown as totals since that level of detail is not being provided.						
9	2. SM 2.0 E-Waste forecasted expense utilizes the Gas and Electric Customer Forecast Reference: Smart Meter Operations 1FC005.000 Supplemental WP 2 Customer Growth Forecast. See Table 1B Smart Meter (SM) 2.0 Gas Module Forecast of 919,299 in 2023, and Table 2B SM 2.0 Electric Meter Forecast of 1,545,387 in 2025. Holding 2023 Gas and 2025 Electric Customer Forecasts constant, assuming new SM 2.0 gas modules and electric meters will be installed to address future growth therefore no increase for e-waste is assumed beyond 2023 and 2025 respectively.						
10							
11							

San Diego Gas & Electric Company
2024 GRC - REVISED
Non-Shared Service Workpapers

Area: CS - FIELD OPERATIONS
Witness: David H. Thai

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
2100-0035	000	ELECTRIC METERING OPERATIONS
2100-0042	000	SMART METER CAPITAL PROGRAMS & OPERATIONS
2100-0129	000	SERVICE DISPATCH
2100-0639	000	CUSTOMER SERVICES FIELD CENTRAL TRAINING
2100-0640	000	CUSTOMER SERVICES FIELD SEASONALS
2100-0717	000	SMART METER QUALITY ASSURANCE & SHOP
2100-3456	000	CUSTOMER SERVICES FIELD STAFF
2100-3457	000	CUSTOMER SERVICES FIELD TRAINING & QA MANAGER
2100-3571	000	CUSTOMER FIELD OPERATIONS DIRECTOR
2100-3574	000	AMI PROGRAM OFFICE DIRECTOR
2100-3575	000	AMI TECHNOLOGIES
2100-3577	000	AMI STAKEHOLDER EDUCATION
2100-3605	000	CUSTOMER SERVICE FIELD 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
2100-3779	000	SMART METER OPERATIONS TECHNICAL SUPPORT
2100-3780	000	ELECTRIC METERING ENGINEERING
2100-3792	000	MGR WORKLOAD & EMERGENCY RESPONSE OPERATIONS
2100-3793	000	AREA RESOURCE SCHEDULING OFFICE DISPATCH
2100-3890	000	SAFETY, COMPLIANCE & REGULATORY
2100-4099	000	VP CUSTOMER OPERATIONS
2100-4125	000	CUST FIELD OPS ANALYTICS & TECHNOLOGY