

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-04-WP-R)

REVISED WORKPAPERS TO
PREPARED DIRECT TESTIMONY
OF L. PATRICK KINSELLA
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-04-WP-R - GAS DISTRIBUTION

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Overall Summary For Exhibit No. SDG&E-04-WP-R

Area:	GAS DISTRIBUTION
Witness:	L. Patrick Kinsella

Description	In 2021 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Non-Shared Services	36,545	38,551	40,387	41,843
Shared Services	0	0	0	0
Total	36,545	38,551	40,387	41,843

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella

Summary of Non-Shared Services Workpapers:

Description	In 2021 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
A. Other Services	69	90	90	90
B. Leak Survey	2,067	2,067	2,067	2,067
C. R-Locate & Mark	7,116	8,118	9,107	10,096
D. Main Maintenance	5,009	5,371	5,596	5,822
E. Service Maintenance	3,293	3,578	3,847	4,116
F. Tools	1,708	1,739	1,667	1,667
G. Electric Support	514	495	495	495
H. Measurement & Regulation	4,638	4,798	5,173	5,153
I. Cathodic Protection	2,050	1,834	1,834	1,834
J. Asset Management	1,078	1,347	1,346	1,375
K. Operations Management Supervision & Training	9,003	9,114	9,165	9,128
Total	36,545	38,551	40,387	41,843

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: A. Other Services
Workpaper: 1GD000.000

Summary for Category: A. Other Services

	In 2021\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	3	44	44	44
Non-Labor	66	46	46	46
NSE	0	0	0	0
Total	69	90	90	90
FTE	0.0	0.6	0.6	0.6

Workpapers belonging to this Category:

1GD000.000 Other Services

Labor	3	44	44	44
Non-Labor	66	46	46	46
NSE	0	0	0	0
Total	69	90	90	90
FTE	0.0	0.6	0.6	0.6

Note: Totals may include rounding differences.

Beginning of Workpaper
1GD000.000 - Other Services

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: A. Other Services
 Category-Sub: 1. Other Services
 Workpaper: 1GD000.000 - Other Services

Activity Description:

This group includes labor and non-labor expenses associated with support activities not captured in the other subgroups. Activities include inspection and repairing of customer's meters, house regulators and house lines, and providing patrolling and other support to Transmission facilities and pipelines.

Forecast Explanations:

Labor - 5-YR Average

This group captures the costs associated with support provided to a wide variety of activities not recorded in the other groups. Due to the wide range of activities included in this group, the costs fluctuate from year to year. Therefore, a five year average was selected to project future costs.

Non-Labor - 5-YR Average

This group captures the costs associated with support provided to a wide variety of activities not recorded in the other groups. Due to the wide range of activities included in this group, the costs fluctuate from year to year. Therefore, a five year average was selected to project future costs.

NSE - 5-YR Average

N/A

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		35	142	5	33	3	44	44	44	
Non-Labor		10	27	30	98	66	47	47	47	
NSE		0	0	0	0	0	0	0	0	
Total		46	170	35	131	69	91	91	91	
FTE		0.2	2.0	0.1	0.7	0.0	0.6	0.6	0.6	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: A. Other Services
 Category-Sub: 1. Other Services
 Workpaper: 1GD000.000 - Other Services

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	5-YR Average	44	44	44	0	0	0	44	44	44
Non-Labor	5-YR Average	46	46	46	0	0	0	46	46	46
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		90	90	90	0	0	0	90	90	90
FTE	5-YR Average	0.6	0.6	0.6	0.0	0.0	0.0	0.6	0.6	0.6

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: A. Other Services
Category-Sub: 1. Other Services
Workpaper: 1GD000.000 - Other Services

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	28	114	4	948	3
Non-Labor	9	25	28	203	66
NSE	0	0	0	0	0
Total	37	139	32	1,151	69
FTE	0.3	1.6	0.0	9.7	0.0
Adjustments (Nominal \$) **					
Labor	0	0	0	-920	0
Non-Labor	0	0	0	-111	0
NSE	0	0	0	0	0
Total	0	0	0	-1,031	0
FTE	0.0	0.0	0.0	-9.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	28	114	4	28	3
Non-Labor	9	25	28	92	66
NSE	0	0	0	0	0
Total	37	139	32	120	69
FTE	0.2	1.7	0.1	0.7	0.0
Vacation & Sick (Nominal \$)					
Labor	4	17	1	4	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	4	17	1	4	0
FTE	0.0	0.3	0.0	0.0	0.0
Escalation to 2021\$					
Labor	4	11	0	1	0
Non-Labor	1	2	2	6	0
NSE	0	0	0	0	0
Total	5	13	2	7	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	35	142	5	33	3
Non-Labor	10	27	30	98	66
NSE	0	0	0	0	0
Total	46	170	35	131	69
FTE	0.2	2.0	0.1	0.7	0.0

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: A. Other Services
 Category-Sub: 1. Other Services
 Workpaper: 1GD000.000 - Other Services

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	0	0	0	-920	0
Non-Labor	0	0.036	0	-111	0
NSE	0	0	0	0	0
Total	0	0.036	0	-1,031	0
FTE	0.0	0.0	0.0	-9.0	0.0

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017 Total	0	0	0	0.0	
2018	0	0	0	0.0	1-Sided Adj
2018 Total	0	0	0	0.0	
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2019 Total	0	0	0	0.0	
2020	-652	-42	0	-6.0	1-Sided Adj
2020 Total	-920	-111	0	-9.0	
Explanation:	7074346/7022860 - Adjust from 1GD000 (Other Services) to 1GD010 (Operations Management, Supervision and Training) - Remove DOH from Other Services to OpMgmtSupTrn.				
2020	-268	-69	0	-3.0	1-Sided Adj
2020 Total	-920	-111	0	-9.0	
Explanation:	7090820 - Adjust from 1GD000 (Other Services) to 1GD009 (Asset Management) - Remove DOH from Other Services to Asset Mgmt.				
2021 Total	0	0	0	0.0	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: B. Leak Survey
 Workpaper: 1GD001.000

Summary for Category: B. Leak Survey

	In 2021\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	1,889	1,889	1,889	1,889
Non-Labor	179	179	179	179
NSE	0	0	0	0
Total	2,068	2,068	2,068	2,068
FTE	20.1	20.1	20.1	20.1

Workpapers belonging to this Category:

1GD001.000 Leak Survey

Labor	1,889	1,889	1,889	1,889
Non-Labor	179	179	179	179
NSE	0	0	0	0
Total	2,068	2,068	2,068	2,068
FTE	20.1	20.1	20.1	20.1

Note: Totals may include rounding differences.

**Beginning of Workpaper
1GD001.000 - Leak Survey**

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: B. Leak Survey
 Category-Sub: 1. Leak Survey
 Workpaper: 1GD001.000 - Leak Survey

Activity Description:

This all RAMP workpaper (SDG&E-Risk-9, C07) group includes labor and non-labor expenses associated with surveying the SDG&E gas distribution system for leaks. This includes the following surveys: residential gas lines and meter set assemblies (MSAs); atmospheric corrosion (ACOR); business districts; transmission lines; area odor investigations; and highway and railroad crossings. Also included in this group are surveys for special requests such as slide areas and construction projects with blasting.

Forecast Explanations:

Labor - Base YR Rec

Labor and non-labor expenses were stable from 2017 to 2021. Even though survey frequencies were increased (from every three years to one per year and from every five years to every three years) across almost all types of pipe, these labor and non-labor survey costs were absorbed in the 2018 and 2020 SB1371 Compliance plan. Base year Recorded (2021) was chosen as the level of activities in 2021 best represents the expected level of work activities in the forecast years.

Non-Labor - Base YR Rec

Labor and non-labor expenses were stable from 2017 to 2021. Even though survey frequencies were increased (from every three years to one per year and every five years to every three years) across almost all types of pipe, these labor and non-labor survey costs were absorbed in the 2018 and 2020 SB1371 Compliance plan. Base year Recorded (2021) was chosen as the level of activities in 2021 best represents the expected level of work activities in the forecast years.

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		1,941	1,794	1,719	1,773	1,889	1,889	1,889	1,889	
Non-Labor		281	200	162	132	179	178	178	178	
NSE		0	0	0	0	0	0	0	0	
Total		2,222	1,994	1,881	1,905	2,067	2,067	2,067	2,067	
FTE		20.6	22.5	18.5	19.6	20.1	20.1	20.1	20.1	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: B. Leak Survey
Category-Sub: 1. Leak Survey
Workpaper: 1GD001.000 - Leak Survey

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	1,889	1,889	1,889	0	0	0	1,889	1,889	1,889
Non-Labor	Base YR Rec	179	179	179	0	0	0	179	179	179
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		2,067	2,067	2,067	0	0	0	2,067	2,067	2,067
FTE	Base YR Rec	20.1	20.1	20.1	0.0	0.0	0.0	20.1	20.1	20.1

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	-1,889	-179	0	-2,068	-19.6	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C07-T1 & T2: Removal from base adjustment to net \$0 from base adjustment.					
2022	1,889	179	0	2,068	19.6	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C07-T1 (HP Transmission) & T2 (MP Overall): Base adjustment to show the dollars included within the selected forecast methodology related to C07-T1 & T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022 Total	0	0	0	0	0.0	
2023	-1,889	-179	0	-2,068	-19.6	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C07-T1 & T2: Removal from base adjustment to net \$0 from base adjustment.					
2023	1,889	179	0	2,068	19.6	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C07-T1 (HP Transmission) & T2 (MP Overall): Base adjustment to show the dollars included within the selected forecast methodology related to C07-T1 & T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023 Total	0	0	0	0	0.0	
2024	-1,889	-179	0	-2,068	-19.6	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C07-T1 & T2: Removal from base adjustment to net \$0 from base adjustment.					
2024	1,889	179	0	2,068	19.6	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C07-T1 (HP Transmission) & T2 (MP Overall): Base adjustment to show the dollars included within the selected forecast methodology related to C07-T1 & T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024 Total	0	0	0	0	0.0	

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: B. Leak Survey
Category-Sub: 1. Leak Survey
Workpaper: 1GD001.000 - Leak Survey

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	1,514	1,434	1,421	1,505	1,642
Non-Labor	252	185	153	124	179
NSE	0	0	0	0	0
Total	1,766	1,619	1,573	1,629	1,821
FTE	17.7	19.2	15.9	16.9	17.2
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	1,514	1,434	1,421	1,505	1,642
Non-Labor	252	185	153	124	179
NSE	0	0	0	0	0
Total	1,766	1,619	1,573	1,629	1,821
FTE	17.7	19.2	15.9	16.9	17.1
Vacation & Sick (Nominal \$)					
Labor	225	217	203	213	247
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	225	217	203	213	247
FTE	2.9	3.3	2.6	2.7	3.0
Escalation to 2021\$					
Labor	202	142	95	55	0
Non-Labor	29	16	10	8	0
NSE	0	0	0	0	0
Total	231	158	104	63	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	1,941	1,794	1,719	1,773	1,889
Non-Labor	281	200	162	132	179
NSE	0	0	0	0	0
Total	2,222	1,994	1,881	1,905	2,067
FTE	20.6	22.5	18.5	19.6	20.1

* 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: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: B. Leak Survey
 Category-Sub: 1. Leak Survey
 Workpaper: 1GD001.000 - Leak Survey

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
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Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: B. Leak Survey
 Category-Sub: 1. Leak Survey
 Workpaper: 1GD001.000 - Leak Survey

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: C07
 RAMP Line Item Name: Pipeline Monitoring (Leak Mitigation, Bridge & Span, Unstable Earth, and Pipeline Patrol)
 Tranche(/s): Tranche1: HP Transmission; Tranche2: MP 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	24	24	24	24	2,755	3,335
Tranche 2 Cost Estimate	2,043	2,043	2,043	2,043	2,755	3,335

Cost Estimate Changes from RAMP:

GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching and forecast assumptions.

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 miles surveyed	360.00	360.00	360.00	360.00	894.00	1,082.00
Tranche 2 # of Inspections & Surveys	940.00	940.00	940.00	940.00	894.00	1,082.00

Work Unit Changes from RAMP:

The GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching. Units of measure for HP was changed to miles surveyed.

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000
Tranche 2	1,009.000	15.000

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: B. Leak Survey
Category-Sub: 1. Leak Survey
Workpaper: 1GD001.000 - Leak Survey

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). SDG&E-RISK-9, C07-T01 For RSE calculation purposes, Pipeline Monitoring costs are captured in SoCalGas High Pressure Incident chapter within SCG-RISK-1, C04-T01/ SCG-RISK-1, C04-T02 Leak Survey and Patrol for these activities have similar risk reducing benefits.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: C. R-Locate & Mark
Workpaper: 1GD002.000

Summary for Category: C. R-Locate & Mark

	In 2021\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	6,008	6,891	8,036	9,181
Non-Labor	1,107	1,228	1,071	915
NSE	0	0	0	0
Total	7,115	8,119	9,107	10,096
FTE	62.2	70.7	82.6	94.6

Workpapers belonging to this Category:

1GD002.000 R-Locate & Mark

Labor	6,008	6,891	8,036	9,181
Non-Labor	1,107	1,228	1,071	915
NSE	0	0	0	0
Total	7,115	8,119	9,107	10,096
FTE	62.2	70.7	82.6	94.6

Note: Totals may include rounding differences.

Beginning of Workpaper
1GD002.000 - R-Locate & Mark

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: C. R-Locate & Mark
Category-Sub 1. R-Locate & Mark
Workpaper: 1GD002.000 - R-Locate & Mark

Activity Description:

This all RAMP workpaper (SDG&E-Risk-7, C03, C04, & C09) group includes labor and non-labor expenses to locate and mark out multiple underground facilities which include distribution and transmission gas facilities, secondary and primary electric underground, electric transmission, fiber optics, and standby activities of excavators near high pressure distribution facilities. The activities under this cost workgroup are preventative in nature, contribute to sustainability, and are required to avert damages caused by third-party excavators working near gas and electric underground substructures. In 2019, SDG&E started the transition towards the 100% utilization of internal resources. This transition was completed in October of 2020, with 2021 as the first year of 100% internal resources for Locate and Mark.

Forecast Explanations:

Labor - 5-YR Linear

The trend of expense in labor has seen a continual rise from 2017 to 2021 due to the increase in internal resources hired to replace the outsourced contract resources, in order to meet compliance requirements; increased stand-by requests within the service territory; and an increased amount of customer Dig Alert tickets. One exception in that trend, was in the year 2021 where, due to the impact of Covid and consequent ticket volume decrease, SDG&E experienced a decrease in labor expense. However, this upward trend is expected to return in 2022 and the following forecast years due to three additional drivers all expected to result in ticket volume increases:

- 1/ SB661 was recently passed requiring any person who plans to conduct any excavation to contact the appropriate regional notification center before commencing excavation.
- 2/ SB297 was recently signed by Gov. Newsom, which prescribes increased civil penalties to operators and excavators who violate provisions of California Government Code Sec. 4216 and cause damage to underground utility infrastructure
- 3/ Economic forecasts call for an increase in non-farm employment growth.

Using a historical average or base forecast over the forecast period would not appropriately account for these multiple labor activity drivers, as well as the decline in non-labor due to replacement of the contract resources with internal resources. Thus, to reflect these changing conditions with an increase in Locate and Mark labor, and decrease in non-labor, a five year linear trend based forecast was selected for the forecast period to calculate and best illustrate the Labor and Non-Labor trends for this group.

Due to the uncertainty of upward costs, SDG&E requests a balancing account for Locate and Mark activities.

Non-Labor - 5-YR Linear

See description above which applies to both Labor and Non-Labor.

NSE - 5-YR Linear

N/A

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: C. R-Locate & Mark
 Category-Sub: 1. R-Locate & Mark
 Workpaper: 1GD002.000 - R-Locate & Mark

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		1,769	2,053	2,419	5,026	6,008	6,891	8,036	9,181	
Non-Labor		1,838	1,770	2,100	1,668	1,107	1,227	1,071	915	
NSE		0	0	0	0	0	0	0	0	
Total		3,607	3,823	4,518	6,695	7,116	8,118	9,107	10,096	
FTE		17.2	20.7	23.6	50.3	62.2	70.7	82.6	94.6	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: C. R-Locate & Mark
Category-Sub: 1. R-Locate & Mark
Workpaper: 1GD002.000 - R-Locate & Mark

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	5-YR Linear	6,891	8,036	9,181	0	0	0	6,891	8,036	9,181
Non-Labor	5-YR Linear	1,228	1,071	915	0	0	0	1,228	1,071	915
NSE	5-YR Linear	0	0	0	0	0	0	0	0	0
Total		8,118	9,107	10,096	0	0	0	8,118	9,107	10,096
FTE	5-YR Linear	70.7	82.6	94.6	0.0	0.0	0.0	70.7	82.6	94.6

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	330	63	0	393	3.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C09 (MP): Base adjustment to show dollars included within the selected forecast methodology related to C09 (MP). Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022	-330	-63	0	-393	-3.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C09 (MP): Removal from base adjustment to net \$0 from base adjustment.					
2022	-6,561	-1,165	0	-7,726	-58.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C03 (MP) & Risk-7, C04 (HP): Removal from base adjustment to net \$0 from base adjustment.					
2022	6,381	1,134	0	7,515	55.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C03 (MP): Base adjustment to show dollars included within the selected forecast methodology related to C03. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022	180	31	0	211	3.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C04 (HP): Base adjustment to show dollars included within the selected forecast methodology related to C04 (HP). Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022 Total		0	0	0	0.0	
2023	7,495	980	0	8,475	64.9	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C03 (MP): Base adjustment to show dollars included within the selected forecast methodology related to C03. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023	-7,706	-1,008	0	-8,714	-67.9	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C03 (MP) & Risk-7, C04 (HP): Removal from base adjustment to net \$0 from base adjustment.					
2023	330	63	0	393	3.0	1-Sided Adj

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

San Diego Gas & Electric Company
2024 GRC - REVISED
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Area: GAS DISTRIBUTION
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 Category: C. R-Locate & Mark
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 Workpaper: 1GD002.000 - R-Locate & Mark

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	RAMP: SDG&E-Risk-7, C09 (MP): Base adjustment to show dollars included within the selected forecast methodology related to C09 (MP). Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023	-330	-63	0	-393	-3.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C09 (MP): Removal from base adjustment to net \$0 from base adjustment.					
2023	211	28	0	239	3.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C04 (HP): Base adjustment to show dollars included within the selected forecast methodology related to C04 (HP). Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023 Total	0	0	0	0	0.0	
2024	-8,851	-852	0	-9,703	-77.6	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C03 (MP) & Risk-7, C04 (HP): Removal from base adjustment to net \$0 from base adjustment.					
2024	8,608	828	0	9,436	74.6	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C03 (MP): Base adjustment to show dollars included within the selected forecast methodology related to C03. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024	330	63	0	393	3.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C09 (MP): Base adjustment to show dollars included within the selected forecast methodology related to C09 (MP). Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024	-330	-63	0	-393	-3.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C09 (MP): Removal from base adjustment to net \$0 from base adjustment.					
2024	243	24	0	267	3.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C04 (HP): Base adjustment to show dollars included within the selected forecast methodology related to C04 (HP). Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024 Total	0	0	0	0	0.0	

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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

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Witness: L. Patrick Kinsella
Category: C. R-Locate & Mark
Category-Sub: 1. R-Locate & Mark
Workpaper: 1GD002.000 - R-Locate & Mark

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	1,380	1,641	1,999	4,266	7,007
Non-Labor	1,649	1,632	1,976	1,565	1,107
NSE	0	0	0	0	0
Total	3,029	3,273	3,975	5,830	8,114
FTE	14.7	17.8	20.3	43.3	66.2
Adjustments (Nominal \$) **					
Labor	0	0	0	0	-1,783
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	-1,783
FTE	0.0	0.0	0.0	0.0	-13.0
Recorded-Adjusted (Nominal \$)					
Labor	1,380	1,641	1,999	4,266	5,224
Non-Labor	1,649	1,632	1,976	1,565	1,107
NSE	0	0	0	0	0
Total	3,029	3,273	3,975	5,830	6,331
FTE	14.7	17.7	20.3	43.3	53.2
Vacation & Sick (Nominal \$)					
Labor	205	249	286	605	785
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	205	249	286	605	785
FTE	2.5	3.0	3.3	7.0	9.0
Escalation to 2021\$					
Labor	184	163	133	156	0
Non-Labor	190	138	124	104	0
NSE	0	0	0	0	0
Total	374	301	257	259	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	1,769	2,053	2,419	5,026	6,008
Non-Labor	1,838	1,770	2,100	1,668	1,107
NSE	0	0	0	0	0
Total	3,607	3,823	4,518	6,695	7,116
FTE	17.2	20.7	23.6	50.3	62.2

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: C. R-Locate & Mark
 Category-Sub: 1. R-Locate & Mark
 Workpaper: 1GD002.000 - R-Locate & Mark

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	0	0	0	0	-1,783
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	-1,783
FTE	0.0	0.0	0.0	0.0	-13.0

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017 Total	0	0	0	0.0	
2018 Total	0	0	0	0.0	
2019 Total	0	0	0	0.0	
2020 Total	0	0	0	0.0	
2021	-1,070	0	0	-8.0	1-Sided Adj
Explanation:	Order number 427424. Adjust from 1GD002 to 1GD003 (Main Maintenance). Move gas main portion (60% of total Gas Dist System) of standby time from 1GD002 (Locate and Mark) to 1GD003 (Main Maintenance) workpaper				
2021	-713	0	0	-5.0	1-Sided Adj
Explanation:	Order number 427424. Adjust from 1GD002 to 1GD004 (Service Maintenance). Move gas service portion (40% of total Gas Dist System) of standby time from 1GD002 (Locate and Mark) to 1GD004 (Service Maintenance) workpaper.				
2021 Total	-1,783	0	0	-13.0	

Note: Totals may include rounding differences.

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

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 Witness: L. Patrick Kinsella
 Category: C. R-Locate & Mark
 Category-Sub: 1. R-Locate & Mark
 Workpaper: 1GD002.000 - R-Locate & Mark

RAMP Item # 1

RAMP Activity

RAMP Chapter: SDG&E-Risk-7 Excavation Damage (Dig-In) on the Gas System

RAMP Line Item ID: C04

RAMP Line Item Name: Locate & Mark Activities (HP)

Tranche(/s): Tranche1: HP

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	185	211	239	268	1,458	1,765

Cost Estimate Changes from RAMP:

The GRC Forecast is outside the RAMP range due the RAMP range including both Gas Transmission and Gas Distribution Supply Line dollars (units). Dollars (units) represented here are only those that are covered by activity for Gas Distribution Supply Lines.

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 tickets	8,339.00	8,589.00	8,847.00	9,112.00	31,675.00	38,344.00

Work Unit Changes from RAMP:

The GRC Forecast is outside the RAMP range due the RAMP range including both Gas Transmission and Gas Distribution Supply Line dollars (units). Dollars (units) represented here are only those that are covered by activity for Gas Distribution Supply Lines.

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	482.000	61.000

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: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: C. R-Locate & Mark
Category-Sub: 1. R-Locate & Mark
Workpaper: 1GD002.000 - R-Locate & Mark

RAMP Item # 2

RAMP Activity

RAMP Chapter: SDG&E-Risk-7 Excavation Damage (Dig-In) on the Gas System

RAMP Line Item ID: C09

RAMP Line Item Name: Locate & Mark Quality Assurance

Tranche(/s): Tranche1: MP

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	393	393	393	393	594	759

Cost Estimate Changes from RAMP:

The forecast is outside the RAMP range due to changes in forecast assumptions since preparing RAMP filing.

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 FTE	3.00	3.00	3.00	3.00	3.00	3.00

Work Unit Changes from RAMP:

Units are in alignment with RAMP forecast.

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	2.000	1.000

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: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: C. R-Locate & Mark
 Category-Sub: 1. R-Locate & Mark
 Workpaper: 1GD002.000 - R-Locate & Mark

RAMP Item # 3

RAMP Activity

RAMP Chapter: SDG&E-Risk-7 Excavation Damage (Dig-In) on the Gas System

RAMP Line Item ID: C03

RAMP Line Item Name: Locate & Mark Activities (MP)

Tranche(/s): Tranche1: MP

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	6,538	7,514	8,475	9,436	5,135	6,215

Cost Estimate Changes from RAMP:

The forecast is outside the RAMP range due to changes in forecast assumptions since preparing RAMP.

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 tickets	148,350.00	137,892.00	142,029.00	146,290.00	138,975.00	168,233.00

Work Unit Changes from RAMP:

Units are in alignment with RAMP forecast.

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	7.000	590.000

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: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: D. Main Maintenance
Workpaper: 1GD003.000

Summary for Category: D. Main Maintenance

	In 2021\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	3,957	4,164	4,360	4,557
Non-Labor	1,052	1,207	1,236	1,266
NSE	0	0	0	0
Total	5,009	5,371	5,596	5,823
FTE	33.6	36.3	38.0	39.7

Workpapers belonging to this Category:

1GD003.000 Main Maintenance

Labor	3,957	4,164	4,360	4,557
Non-Labor	1,052	1,207	1,236	1,266
NSE	0	0	0	0
Total	5,009	5,371	5,596	5,823
FTE	33.6	36.3	38.0	39.7

Note: Totals may include rounding differences.

Beginning of Workpaper
1GD003.000 - Main Maintenance

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: D. Main Maintenance
 Category-Sub: 1. Main Maintenance
 Workpaper: 1GD003.000 - Main Maintenance

Activity Description:

Main maintenance work is generally corrective in nature and is required to keep the natural gas system operating safely and reliably. The work in this workgroup is designed to meet federal, i.e., 49 C.F.R. §192, and state, i.e., CPUC General Order 112-F, pipeline safety regulations and to extend the life of distribution main pipelines and related infrastructure. Main maintenance work is primarily comprised of labor and non-labor expenses associated with investigating and repairing leaks in distribution mains as well as moving, lowering, and raising short sections of gas distribution mains, vaults, valves, and related structures. This group includes the Main Maintenance portion of RAMP (SDG&E-Risk-9, C06): Leak Repair, and (SDG&E-Risk-9, C11): Gas Distribution Emergency Department.

Forecast Explanations:

Labor - 5-YR Linear

A variety of factors influence the level of spending on main maintenance in a given year. These factors include increasing government regulations, aging infrastructure, public safety, municipality requirements, material failure, infrastructure, and economic conditions. The labor and non-labor expenses have experienced an upward trend in costs. This upward trend is forecasted to continue as work pressures continue to increase. Therefore, a five year (2017 through 2021) historical linear trend was used to forecast the base level of future labor expenses. Using an average forecasting method would not be appropriate for this work category as it would not fully fund future critical compliance and maintenance work.

Non-Labor - 5-YR Linear

A variety of factors influence the level of spending on main maintenance in a given year. These factors include increasing government regulations, aging infrastructure, public safety, municipality requirements, material failure, infrastructure, and economic conditions. The labor and non-labor expenses have experienced an upward trend in costs. This upward trend is forecasted to continue as work pressures continue to increase. Therefore, a five year (2017 through 2021) historical linear trend was used to forecast the base level of future non-labor expenses. Using an average forecasting method would not be appropriate for this work category as it would not fully fund future critical compliance and maintenance work.

NSE - 5-YR Linear

N/A

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		3,148	3,592	3,238	3,937	3,957	4,164	4,360	4,557	
Non-Labor		1,154	992	905	1,489	1,052	1,206	1,236	1,265	
NSE		0	0	0	0	0	0	0	0	
Total		4,301	4,584	4,143	5,426	5,009	5,370	5,596	5,822	
FTE		26.8	31.7	28.4	35.2	33.6	36.3	38.0	39.7	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: D. Main Maintenance
 Category-Sub: 1. Main Maintenance
 Workpaper: 1GD003.000 - Main Maintenance

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	5-YR Linear	4,164	4,360	4,557	0	0	0	4,164	4,360	4,557
Non-Labor	5-YR Linear	1,207	1,236	1,266	0	0	0	1,207	1,236	1,266
NSE	5-YR Linear	0	0	0	0	0	0	0	0	0
Total		5,371	5,596	5,822	0	0	0	5,371	5,596	5,822
FTE	5-YR Linear	36.3	38.0	39.7	0.0	0.0	0.0	36.3	38.0	39.7

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	-1,064	-336	0	-1,400	-12.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C11-T1 (MP Main Steel & Plastic): Removal from base adjustment to net \$0 from base adjustment.					
2022	1,064	336	0	1,400	12.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C11-T1 (MP Main Steel & Plastic): Base adjustment to show dollars included within the selected forecast methodology related to C11-T1. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022	-831	-262	0	-1,093	-9.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C06-T1 & T2: Removal from base adjustment to net \$0 from base adjustment for T1 & T2					
2022	831	262	0	1,093	9.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C06-T1 (MP Main Steel) & T2 (MP Main Plastic): Base adjustment to show dollars included within the selected forecast methodology related to C06-T1 & T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022 Total	0	0	0	0	0.0	
2023	1,191	376	0	1,567	14.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C11-T1 (MP Main Steel & Plastic): Base adjustment to show dollars included within the selected forecast methodology related to C11-T1. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023	-1,191	-376	0	-1,567	-14.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C11-T1 (MP Main Steel & Plastic): Removal from base adjustment to net \$0 from base adjustment.					
2023	856	270	0	1,126	9.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C06-T1 (MP Main Steel) & T2 (MP Main Plastic): Base adjustment to show dollars included within the selected forecast methodology related to C06-T1 & T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023	-856	-270	0	-1,126	-9.0	1-Sided Adj

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: D. Main Maintenance
 Category-Sub: 1. Main Maintenance
 Workpaper: 1GD003.000 - Main Maintenance

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	RAMP: SDG&E-Risk-9, C06-T1 & T2: Removal from base adjustment to net \$0 from base adjustment for T1 & T2.					
2023 Total	0	0	0	0	0.0	
2024	1,318	416	0	1,734	16.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C11-T1 (MP Main Steel & Plastic): Base adjustment to show dollars included within the selected forecast methodology related to C 11-T1. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024	-1,318	-416	0	-1,734	-16.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C11-T1 (MP Main Steel & Plastic): Removal from base adjustment to net \$0 from base adjustment.					
2024	880	278	0	1,158	10.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C06-T1 (MP Main Steel) & T2 (MP Main Plastic): Base adjustment to show dollars included within the selected forecast methodology related to C06-T1 & T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024	-880	-278	0	-1,158	-10.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C06-T1 & T2: Removal from base adjustment to net \$0 from base adjustment for T1 & T2.					
2024 Total	0	0	0	0	0.0	

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: D. Main Maintenance
Category-Sub: 1. Main Maintenance
Workpaper: 1GD003.000 - Main Maintenance

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	2,713	3,397	3,037	4,006	2,371
Non-Labor	1,034	914	852	1,396	1,052
NSE	0	0	0	0	0
Total	3,747	4,311	3,888	5,402	3,423
FTE	25.3	30.9	27.3	35.6	20.7
Adjustments (Nominal \$) **					
Labor	-257	-525	-360	-664	1,070
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	-257	-525	-360	-664	1,070
FTE	-2.3	-3.8	-2.8	-5.3	8.0
Recorded-Adjusted (Nominal \$)					
Labor	2,455	2,872	2,677	3,341	3,440
Non-Labor	1,034	914	852	1,396	1,052
NSE	0	0	0	0	0
Total	3,490	3,787	3,529	4,738	4,493
FTE	23.0	27.1	24.5	30.3	28.7
Vacation & Sick (Nominal \$)					
Labor	364	435	383	474	517
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	364	435	383	474	517
FTE	3.8	4.6	3.9	4.9	4.9
Escalation to 2021\$					
Labor	328	284	178	122	0
Non-Labor	119	77	53	92	0
NSE	0	0	0	0	0
Total	447	362	232	215	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	3,148	3,592	3,238	3,937	3,957
Non-Labor	1,154	992	905	1,489	1,052
NSE	0	0	0	0	0
Total	4,301	4,584	4,143	5,426	5,009
FTE	26.8	31.7	28.4	35.2	33.6

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: D. Main Maintenance
Category-Sub: 1. Main Maintenance
Workpaper: 1GD003.000 - Main Maintenance

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	-257	-525	-360	-664	1,070
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	-257	-525	-360	-664	1,070
FTE	-2.3	-3.8	-2.8	-5.3	8.0

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017	-257	0	0	-2.3	1-Sided Adj
Explanation:	Order number 427424/200236812 Adjust from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance). Move gas services portion (40% of total Gas Dist System) of standby time from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance) workpaper				
2017 Total	-257	0	0	-2.3	
2018	-525	0	0	-3.8	1-Sided Adj
Explanation:	Order number 427424/200236812 Adjust from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance). Move gas services portion (40% of total Gas Dist System) of standby time from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance) workpaper				
2018 Total	-525	0	0	-3.8	
2019	-360	0	0	-2.8	1-Sided Adj
Explanation:	Order number 427424/200236812 Adjust from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance). Move gas services portion (40% of total Gas Dist System) of standby time from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance) workpaper				
2019 Total	-360	0	0	-2.8	
2020	-664	0	0	-5.3	1-Sided Adj
Explanation:	Order number 427424/200236812 Adjust from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance). Move gas services portion (40% of total Gas Dist System) of standby time from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance) workpaper				
2020 Total	-664	0	0	-5.3	
2021	1,070	0	0	8.0	1-Sided Adj
Explanation:	Order number 427424. Adjust from 1GD002 to 1GD003 (Service Maintenance). Move gas services portion (60% of total Gas Dist System) of standby time from 1GD002 (Main Maintenance) to 1GD004 (Service Maintenance) workpaper				

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: D. Main Maintenance
Category-Sub: 1. Main Maintenance
Workpaper: 1GD003.000 - Main Maintenance

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
2021 Total	1,070	0	0	8.0	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: D. Main Maintenance
 Category-Sub: 1. Main Maintenance
 Workpaper: 1GD003.000 - Main Maintenance

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: C11

RAMP Line Item Name: Gas Distribution Emergency Department - Main Portion

Tranche(/s): Tranche1: MP Main Steel & Plastic

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	1,230	1,401	1,567	1,734	2,595	3,140

Cost Estimate Changes from RAMP:

The GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching and across two workpapers (1GD003 & 1GD004).

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 Responses	768.00	768.00	768.00	768.00	1,216.00	1,472.00

Work Unit Changes from RAMP:

The GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching and across two workpapers (1GD003 & 1GD004).

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	58.000	144.000

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: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: D. Main Maintenance
Category-Sub: 1. Main Maintenance
Workpaper: 1GD003.000 - Main Maintenance

RAMP Item # 2

RAMP Activity

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

RAMP Line Item ID: C06

RAMP Line Item Name: Leak Repair - Main Portion

Tranche(/s): Tranche1: MP Main Steel; Tranche2: MP Main Plastic

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	605	692	713	733	1,330	1,610
Tranche 2 Cost Estimate	351	401	413	425	1,330	1,610

Cost Estimate Changes from RAMP:

Change in forecast methodology from base year to five year linear due to increase in expenses showing an upward trend in history from 2017-2021. The GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching and across two workpapers (1GD003 & 1GD004).

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 Projects	193.00	193.00	193.00	193.00	601.00	728.00
Tranche 2 # of Projects	112.00	112.00	112.00	112.00	601.00	728.00

Work Unit Changes from RAMP:

The GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching and across two workpapers (1GD003 & 1GD004).

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	37.000	0.000
Tranche 2	66.000	0.000

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: D. Main Maintenance
Category-Sub: 1. Main Maintenance
Workpaper: 1GD003.000 - Main Maintenance

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: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: E. Service Maintenance
Workpaper: 1GD004.000

Summary for Category: E. Service Maintenance

	In 2021\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	2,814	3,055	3,256	3,457
Non-Labor	480	524	591	659
NSE	0	0	0	0
Total	3,294	3,579	3,847	4,116
FTE	24.1	27.3	29.4	31.4

Workpapers belonging to this Category:

1GD004.000 Service Maintenance

Labor	2,814	3,055	3,256	3,457
Non-Labor	480	524	591	659
NSE	0	0	0	0
Total	3,294	3,579	3,847	4,116
FTE	24.1	27.3	29.4	31.4

Note: Totals may include rounding differences.

Beginning of Workpaper
1GD004.000 - Service Maintenance

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: E. Service Maintenance
Category-Sub: 1. Service Maintenance
Workpaper: 1GD004.000 - Service Maintenance

Activity Description:

Service maintenance work is generally corrective in nature and is required to keep the natural gas system operating safely and reliably. The work in this workgroup is designed to meet federal, i.e., 49 C.F.R. §192, and state, i.e., CPUC General Order 112-F, pipeline safety regulations and to extend the life of distribution service pipelines and related infrastructure. Service maintenance work is primarily comprised of labor and non-labor expenses associated with investigating and repairing leaks in distribution services, changing service valves, checking the condition of coating at the MSA, testing service pipe for leaks, inspecting and testing service pipe after repairs have been made, and installing, maintaining and removing temporary feeds. Also included in this subgroup are expenses for moving, lowering, and raising sections of distribution services. Rearranging and changing the location of an existing service may be required due to alterations in buildings or grounds, and municipal improvements such as street widening or sewer and water system work. This group includes the Service Maintenance portion of RAMP (SDG&E-Risk-9, C06): Leak Repair, and (SDG&E-Risk-9, C11): Gas Distribution Emergency Department.

Forecast Explanations:

Labor - 5-YR Linear

A variety of factors influence the level of spending on service maintenance in a given year . These factors include increasing government regulations, aging infrastructure, public safety, municipality requirements, material failure, infrastructure, and economic conditions. The labor and non-labor expenses have experienced an upward trend in costs. This upward trend is forecasted to continue as work pressures continue to increase. Therefore, a five year linear trend was used to forecast the base level of future labor expenses. Using an average forecasting method would not be appropriate for this work category as it would not fully fund future critical compliance and maintenance work.

Non-Labor - 5-YR Linear

A variety of factors influence the level of spending on service maintenance in a given year . These factors include increasing government regulations, aging infrastructure, public safety, municipality requirements, material failure, infrastructure, and economic conditions. The labor and non-labor expenses have experienced an upward trend in costs. This upward trend is forecasted to continue as work pressures continue to increase. Therefore, a five year linear trend was used to forecast the base level of future non-labor expenses. Using an average forecasting method would not be appropriate for this work category as it would not fully fund future critical compliance and maintenance work.

NSE - 5-YR Linear

N/A

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: E. Service Maintenance
Category-Sub: 1. Service Maintenance
Workpaper: 1GD004.000 - Service Maintenance

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		2,087	2,274	2,249	2,832	2,814	3,054	3,255	3,457	
Non-Labor		233	203	303	385	480	524	591	659	
NSE		0	0	0	0	0	0	0	0	
Total		2,320	2,477	2,552	3,218	3,293	3,578	3,846	4,116	
FTE		17.8	18.5	19.7	26.2	24.1	27.3	29.4	31.4	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: E. Service Maintenance
 Category-Sub: 1. Service Maintenance
 Workpaper: 1GD004.000 - Service Maintenance

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	5-YR Linear	3,055	3,256	3,457	0	0	0	3,055	3,256	3,457
Non-Labor	5-YR Linear	524	591	659	0	0	0	524	591	659
NSE	5-YR Linear	0	0	0	0	0	0	0	0	0
Total		3,578	3,847	4,116	0	0	0	3,578	3,847	4,116
FTE	5-YR Linear	27.3	29.4	31.4	0.0	0.0	0.0	27.3	29.4	31.4

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	710	224	0	934	7.6	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C11-T2 (MP Service Steel & Plastic): Base adjustment to show the dollars included within the selected forecast methodology related to C 11-T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022	-710	-224	0	-934	-7.6	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C11-T2: Removal from base adjustment to net \$0 from base adjustment.					
2022	-1,271	-173	0	-1,444	-10.7	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C06-T3 & T4: Removal from base adjustment to net \$0 from base adjustment for T3 & T4.					
2022	1,271	173	0	1,444	10.7	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C06-T3 (MP Service Steel) & T4 (MP Service Plastic): Base adjustment to show the dollars included within the selected forecast methodology related to C06-T3 & T4. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022 Total	0	0	0	0	0.0	
2023	794	251	0	1,045	8.4	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C11-T2 (MP Service Steel & Plastic): Base adjustment to show the dollars included within the selected forecast methodology related to C 11-T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023	-794	-251	0	-1,045	-8.4	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C11-T2: Removal from base adjustment to net \$0 from base adjustment.					
2023	1,349	184	0	1,533	10.7	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C06-T3 (MP Service Steel) & T4 (MP Service Plastic): Base adjustment to show the dollars included within the selected forecast methodology related to C06-T3 & T4. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023	-1,349	-184	0	-1,533	-10.7	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C06-T3 & T4: Removal from base adjustment to net \$0 from base adjustment for T3 & T4.					

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: E. Service Maintenance
 Category-Sub: 1. Service Maintenance
 Workpaper: 1GD004.000 - Service Maintenance

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2023 Total	0	0	0	0	0.0	
2024	878	277	0	1,155	9.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C11-T2 (MP Service Steel & Plastic): Base adjustment to show the dollars included within the selected forecast methodology related to C 11-T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024	-878	-277	0	-1,155	-9.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk- 9, C11-T2: Removal from base adjustment to net \$0 from base adjustment.					
2024	1,427	195	0	1,622	10.7	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C06-T3 (MP Service Steel) & T4 (MP Service Plastic): Base adjustment to show the dollars included within the selected forecast methodology related to C06-T3 & T4. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024	-1,427	-195	0	-1,622	-10.7	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C06-T3 & T4: Removal from base adjustment to net \$0 from base adjustment for T3 & T4.					
2024 Total	0	0	0	0	0.0	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: E. Service Maintenance
Category-Sub: 1. Service Maintenance
Workpaper: 1GD004.000 - Service Maintenance

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	1,371	1,294	1,499	1,739	1,735
Non-Labor	209	187	285	361	481
NSE	0	0	0	0	0
Total	1,580	1,481	1,784	2,101	2,216
FTE	13.0	12.6	14.3	17.2	15.6
Adjustments (Nominal \$) **					
Labor	257	525	360	664	711
Non-Labor	0	0	0	0	-1
NSE	0	0	0	0	0
Total	257	525	360	664	710
FTE	2.3	3.8	2.8	5.3	4.9
Recorded-Adjusted (Nominal \$)					
Labor	1,629	1,818	1,859	2,404	2,446
Non-Labor	209	187	285	361	480
NSE	0	0	0	0	0
Total	1,837	2,006	2,144	2,765	2,926
FTE	15.3	16.4	17.0	22.5	20.5
Vacation & Sick (Nominal \$)					
Labor	242	275	266	341	367
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	242	275	266	341	367
FTE	2.5	2.1	2.7	3.7	3.6
Escalation to 2021\$					
Labor	217	180	124	88	0
Non-Labor	24	16	18	24	0
NSE	0	0	0	0	0
Total	241	196	142	112	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	2,087	2,274	2,249	2,832	2,814
Non-Labor	233	203	303	385	480
NSE	0	0	0	0	0
Total	2,320	2,477	2,552	3,218	3,293
FTE	17.8	18.5	19.7	26.2	24.1

* 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: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: E. Service Maintenance
 Category-Sub: 1. Service Maintenance
 Workpaper: 1GD004.000 - Service Maintenance

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	257	525	360	664	711
Non-Labor	0	0	0	0	-1
NSE	0	0	0	0	0
Total	257	525	360	664	710
FTE	2.3	3.8	2.8	5.3	4.9

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017	257	0	0	2.3	1-Sided Adj
Explanation:	Order number 427424/200236812 Adjust from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance). Move gas services portion (40% of total Gas Dist System) of standby time from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance) workpaper				
2017 Total	257	0	0	2.3	
2018	525	0	0	3.8	1-Sided Adj
Explanation:	Order number 427424/200236812 Adjust from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance). Move gas services portion (40% of total Gas Dist System) of standby time from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance) workpaper				
2018 Total	525	0	0	3.8	
2019	360	0	0	2.8	1-Sided Adj
Explanation:	Order number 427424/200236812 Adjust from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance). Move gas services portion (40% of total Gas Dist System) of standby time from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance) workpaper				
2019 Total	360	0	0	2.8	
2020	664	0	0	5.3	1-Sided Adj
Explanation:	Order number 427424/200236812 Adjust from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance). Move gas services portion (40% of total Gas Dist System) of standby time from 1GD003 (Main Maintenance) to 1GD004 (Service Maintenance) workpaper				
2020 Total	664	0	0	5.3	
2021	713	0	0	5.0	1-Sided Adj
Explanation:	Order number 427424. Adjust from 1GD002 to 1GD004 (Service Maintenance). Move gas services portion (40% of total Gas Dist System) of standby time from 1GD002 (Main Maintenance) to 1GD004 (Service Maintenance) workpaper				

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: E. Service Maintenance
 Category-Sub: 1. Service Maintenance
 Workpaper: 1GD004.000 - Service Maintenance

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
2021	-2	-1	0	-0.1	CCTR Transf From 2100-3569.001
Explanation:	Transfer costs for DIMP DCRR order 530000221763 from GOGD WKP 1GD004 to GOTD WKP 1TD002.				
2021 Total	711	-1	0	4.9	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: E. Service Maintenance
 Category-Sub: 1. Service Maintenance
 Workpaper: 1GD004.000 - Service Maintenance

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: C06

RAMP Line Item Name: Leak Repair - Service Portion

Tranche(/s): Tranche1: N/A; Tranche2: N/A; Tranche3: MP Service Steel; Tranche4: MP Service Plastic

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	0	0	0	0	0	0
Tranche 2 Cost Estimate	0	0	0	0	0	0
Tranche 3 Cost Estimate	941	871	924	978	1,330	1,610
Tranche 4 Cost Estimate	620	573	609	644	1,330	1,610

Cost Estimate Changes from RAMP:

Change in forecast methodology from base year to five year linear due to increase in expenses showing an upward trend in history from 2017-2021. The GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching and across two workpapers (1GD003 & 1GD004).

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 N/A	0.00	0.00	0.00	0.00	0.00	0.00
Tranche 2 N/A	0.00	0.00	0.00	0.00	0.00	0.00
Tranche 3 # of Projects	198.00	198.00	198.00	198.00	601.00	728.00
Tranche 4 # of Projects	131.00	131.00	131.00	131.00	601.00	728.00

Work Unit Changes from RAMP:

The GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching and across two workpapers (1GD003 & 1GD004).

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: E. Service Maintenance
Category-Sub: 1. Service Maintenance
Workpaper: 1GD004.000 - Service Maintenance

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000
Tranche 2	0.000	0.000
Tranche 3	1,209.000	0.000
Tranche 4	1,725.000	0.000

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: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: E. Service Maintenance
 Category-Sub: 1. Service Maintenance
 Workpaper: 1GD004.000 - Service Maintenance

RAMP Item # 2

RAMP Activity

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

RAMP Line Item ID: C11

RAMP Line Item Name: Gas Distribution Emergency Department - Service Portion

Tranche(/s): Tranche1: N/A; Tranche2: MP Service Steel & Plastic

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	0	0	0	0	0	0
Tranche 2 Cost Estimate	820	934	1,045	1,155	2,595	3,140

Cost Estimate Changes from RAMP:

The GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching and across two workpapers (1GD003 & 1GD004).

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 N/A	0.00	0.00	0.00	0.00	0.00	0.00
Tranche 2 # of Responses	512.00	512.00	512.00	512.00	1,216.00	1,472.00

Work Unit Changes from RAMP:

The GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching and across two workpapers (1GD003 & 1GD004).

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000
Tranche 2	344.000	144.000

RSE Changes from RAMP:

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: E. Service Maintenance
Category-Sub: 1. Service Maintenance
Workpaper: 1GD004.000 - Service Maintenance

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: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: F. Tools
Workpaper: 1GD005.000

Summary for Category: F. Tools

	In 2021\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	317	371	371	371
Non-Labor	1,391	1,368	1,296	1,296
NSE	0	0	0	0
Total	<u>1,708</u>	<u>1,739</u>	<u>1,667</u>	<u>1,667</u>
FTE	3.2	3.8	3.8	3.8

Workpapers belonging to this Category:

1GD005.000 Tools

Labor	317	371	371	371
Non-Labor	1,391	1,368	1,296	1,296
NSE	0	0	0	0
Total	<u>1,708</u>	<u>1,739</u>	<u>1,667</u>	<u>1,667</u>
FTE	3.2	3.8	3.8	3.8

Note: Totals may include rounding differences.

Beginning of Workpaper
1GD005.000 - Tools

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: F. Tools
Category-Sub: 1. Tools
Workpaper: 1GD005.000 - Tools

Activity Description:

This group includes labor and non-labor expenses necessary for small tools, small pipe fittings, miscellaneous pipeline materials, and miscellaneous installation materials used during construction and maintenance activities and those held in inventory as vehicle truck stock. These materials are necessary on the job to provide complete and safe work results. This also includes tool repair and maintenance. This workpaper includes RAMP: SDG&E-Risk-8, C10: Personal Protective Equipment.

Forecast Explanations:

Labor - 3-YR Average

Labor and non-labor expenses associated with activities in this group (purchases of small tools, fittings and miscellaneous materials) tend to fluctuate from year to year. A three year average would more accurately represent the forecasted level of funding. 2017 and 2018 were not included in the average as those years didn't include the Gas Emergency Department nor the 100% conversion of Locate & Mark to internal resources.

Non-Labor - 3-YR Average

Labor and non-labor expenses associated with activities in this group (purchases of small tools, fittings and miscellaneous materials) tend to fluctuate from year to year. A three year average would more accurately represent the forecasted level of funding. 2017 and 2018 were not included in the average as those years didn't include the Gas Emergency Department nor the 100% conversion of Locate & Mark to internal resources.

NSE - 3-YR Average

N/A

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		407	440	422	374	317	371	371	371	
Non-Labor		617	625	1,073	1,423	1,391	1,368	1,296	1,296	
NSE		0	0	0	0	0	0	0	0	
Total		1,024	1,065	1,495	1,797	1,708	1,739	1,667	1,667	
FTE		4.5	4.7	4.4	3.8	3.2	3.8	3.8	3.8	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: F. Tools
Category-Sub: 1. Tools
Workpaper: 1GD005.000 - Tools

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	3-YR Average	371	371	371	0	0	0	371	371	371
Non-Labor	3-YR Average	1,296	1,296	1,296	72	0	0	1,368	1,296	1,296
NSE	3-YR Average	0	0	0	0	0	0	0	0	0
Total		1,667	1,667	1,667	72	0	0	1,739	1,667	1,667
FTE	3-YR Average	3.8	3.8	3.8	0.0	0.0	0.0	3.8	3.8	3.8

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	0	27	0	27	0.0	1-Sided Adj
Explanation:	Incremental adjustment to show the dollars requested in addition to the base selected forecast methodology. Thirty-Five Range Finders are required for Field Utility Specialist personnel to be used to a/ determine electric wire heights for electric conflict checks and b/ to look above proposed gas construction activity to determine safe locations for gas handling requirements. The total cost is estimated to be 35 X \$.77 = \$27K non-labor expense. The meters will be purchased in 2022. There is no range meter expense in 2023 and TY2024 There is no labor expense.					
2022	0	441	0	441	0.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-8, C10: Base adjustment to show the dollars included within the selected forecast methodology related to C10. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022	0	-441	0	-441	0.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-8, C10: Removal from base adjustment to net \$0 from base adjustment.					
2022	0	45	0	45	0.0	1-Sided Adj
Explanation:	Incremental adjustment to show the dollars requested in addition to the base selected forecast methodology. Thirty-Five field capable tablets are requested for Field Utility Specialist personnel to be used to help with efficiency and accuracy with design of gas infrastructure while in the field. The total cost is estimated to be 35 X \$1.29 = \$45K non-labor expense. The tablets will be purchased in 2022. There is no tablet expense in 2023 and TY2024. There is no labor expense.					
2022 Total	0	72	0	72	0.0	
2023	0	441	0	441	0.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-8, C10: Base adjustment to show the dollars included within the selected forecast methodology related to C10. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023	0	-441	0	-441	0.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-8, C10: Removal from base adjustment to net \$0 from base adjustment.					
2023 Total	0	0	0	0	0.0	
2024	0	441	0	441	0.0	1-Sided Adj

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: F. Tools
 Category-Sub: 1. Tools
 Workpaper: 1GD005.000 - Tools

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
Explanation:	RAMP: SDG&E-Risk-8, C10: Base adjustment to show the dollars included within the selected forecast methodology related to C10. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024	0	-441	0	-441	0.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-8, C10: Removal from base adjustment to net \$0 from base adjustment.					
2024 Total	0	0	0	0	0.0	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: F. Tools
Category-Sub: 1. Tools
Workpaper: 1GD005.000 - Tools

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	317	351	348	318	276
Non-Labor	554	577	1,010	1,335	1,391
NSE	0	0	0	0	0
Total	871	928	1,359	1,652	1,667
FTE	3.9	4.0	3.8	3.3	2.7
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	317	351	348	318	276
Non-Labor	554	577	1,010	1,335	1,391
NSE	0	0	0	0	0
Total	871	928	1,359	1,652	1,667
FTE	3.9	4.0	3.8	3.3	2.7
Vacation & Sick (Nominal \$)					
Labor	47	53	50	45	41
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	47	53	50	45	41
FTE	0.6	0.7	0.6	0.5	0.5
Escalation to 2021\$					
Labor	42	35	23	12	0
Non-Labor	64	49	63	88	0
NSE	0	0	0	0	0
Total	106	84	87	100	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	407	440	422	374	317
Non-Labor	617	625	1,073	1,423	1,391
NSE	0	0	0	0	0
Total	1,024	1,065	1,495	1,797	1,708
FTE	4.5	4.7	4.4	3.8	3.2

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: F. Tools
 Category-Sub: 1. Tools
 Workpaper: 1GD005.000 - Tools

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
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Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: F. Tools
 Category-Sub: 1. Tools
 Workpaper: 1GD005.000 - Tools

RAMP Item # 1

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	441	441	441	441	1,689	2,045

Cost Estimate Changes from RAMP:

2021 RAMP cost estimate was forecast for all field SDG&E work areas. Forecast represented here is exclusively Gas Operations.

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	576.00	576.00	576.00	576.00	4,400.00	4,800.00

Work Unit Changes from RAMP:

2021 RAMP cost estimate was forecast for all field SDG&E work areas. Forecast represented here is exclusively Gas Operations.

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

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: G. Electric Support
Workpaper: 1GD006.000

Summary for Category: G. Electric Support

	In 2021\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	339	317	317	317
Non-Labor	176	178	178	178
NSE	0	0	0	0
Total	515	495	495	495
FTE	3.3	3.0	3.0	3.0

Workpapers belonging to this Category:

1GD006.000 Electric Support

Labor	339	317	317	317
Non-Labor	176	178	178	178
NSE	0	0	0	0
Total	515	495	495	495
FTE	3.3	3.0	3.0	3.0

Note: Totals may include rounding differences.

Beginning of Workpaper
1GD006.000 - Electric Support

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: G. Electric Support
 Category-Sub: 1. Electric Support
 Workpaper: 1GD006.000 - Electric Support

Activity Description:

Gas Distribution provides crew and street repair support to Electric Distribution primarily for the Corrective Maintenance Program (CMP), the Quality Control Repairs and Inspection Program, the restoration of outages, and transformer change outs. There are no RAMP mitigation activities in the 1GD006 cost element.

Forecast Explanations:

Labor - 3-YR Average

Electric Distribution maintenance support expenses vary from year to year. Support work activities in this work group have remained stable in the last 3 years, therefore, a 3 year average best represents future funding for the forecast years.

Non-Labor - 3-YR Average

Electric Distribution maintenance support expenses vary from year to year. Support work activities in this work group have remained stable in the last 3 years, therefore, a 3 year average best represents future funding for the forecast years.

NSE - 3-YR Average

N/A

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		453	389	302	311	339	317	317	317	
Non-Labor		209	151	155	203	176	178	178	178	
NSE		0	0	0	0	0	0	0	0	
Total		662	540	457	514	514	495	495	495	
FTE		4.5	3.7	3.0	2.7	3.3	3.0	3.0	3.0	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: G. Electric Support
 Category-Sub: 1. Electric Support
 Workpaper: 1GD006.000 - Electric 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	3-YR Average	317	317	317	0	0	0	317	317	317
Non-Labor	3-YR Average	178	178	178	0	0	0	178	178	178
NSE	3-YR Average	0	0	0	0	0	0	0	0	0
Total		495	495	495	0	0	0	495	495	495
FTE	3-YR Average	3.0	3.0	3.0	0.0	0.0	0.0	3.0	3.0	3.0

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
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Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: G. Electric Support
Category-Sub: 1. Electric Support
Workpaper: 1GD006.000 - Electric Support

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	374	306	249	265	294
Non-Labor	187	139	146	190	176
NSE	0	0	0	0	0
Total	561	445	396	455	470
FTE	4.0	3.1	2.5	2.4	2.9
Adjustments (Nominal \$) **					
Labor	-20	5	0	-1	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	-20	5	0	-1	0
FTE	-0.1	0.1	0.1	-0.1	0.0
Recorded-Adjusted (Nominal \$)					
Labor	354	311	249	264	294
Non-Labor	187	139	146	190	176
NSE	0	0	0	0	0
Total	541	450	396	454	470
FTE	3.9	3.2	2.6	2.3	2.8
Vacation & Sick (Nominal \$)					
Labor	52	47	36	37	44
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	52	47	36	37	44
FTE	0.6	0.5	0.4	0.4	0.5
Escalation to 2021\$					
Labor	47	31	17	10	0
Non-Labor	22	12	9	13	0
NSE	0	0	0	0	0
Total	69	43	26	22	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	453	389	302	311	339
Non-Labor	209	151	155	203	176
NSE	0	0	0	0	0
Total	662	540	457	514	514
FTE	4.5	3.7	3.0	2.7	3.3

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: G. Electric Support
 Category-Sub: 1. Electric Support
 Workpaper: 1GD006.000 - Electric Support

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	-20	5	0.005	-0.646	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	-20	5	0.005	-0.646	0
FTE	-0.1	0.1	0.1	-0.1	0.0

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017	-20	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 Total	-20	0	0	-0.1	
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 Total	5	0	0	0.1	
2019	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).				
2019 Total	0	0	0	0.1	
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 Total	-1	0	0	-0.1	
2021 Total	0	0	0	0.0	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: H. Measurement & Regulation
 Workpaper: 1GD007.000

Summary for Category: H. Measurement & Regulation

	In 2021\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	3,320	3,303	3,663	3,663
Non-Labor	1,318	1,495	1,510	1,490
NSE	0	0	0	0
Total	4,638	4,798	5,173	5,153
FTE	33.7	34.2	38.2	38.2

Workpapers belonging to this Category:

1GD007.000 Measurement & Regulation

Labor	3,320	3,303	3,663	3,663
Non-Labor	1,318	1,495	1,510	1,490
NSE	0	0	0	0
Total	4,638	4,798	5,173	5,153
FTE	33.7	34.2	38.2	38.2

Note: Totals may include rounding differences.

Beginning of Workpaper
1GD007.000 - Measurement & Regulation

San Diego Gas & Electric Company
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: H. Measurement & Regulation
 Category-Sub: 1. Measurement & Regulation
 Workpaper: 1GD007.000 - Measurement & Regulation

Activity Description:

This group includes the cost of labor, materials used, and expenses incurred in inspecting and maintaining large gas meters and their Meter Set Assemblies (MSAs), gas instruments, company Compressed Natural Gas (CNG) facilities, inspection and maintenance of gas regulator stations and other equipment used in measuring and regulating gas within gas distribution system operations other than the measurement of gas deliveries to customers. This group includes RAMP SDG&E-Risk-9, C04: Regulator Station, Valve, and Large Meter Set Inspection and SDG&E-Risk-09, C17: Control Center Modernization.

Forecast Explanations:

Labor - 5-YR Average

Labor and non-labor expenses stayed fairly at a flat level of expense from 2017 to 2021 due to the wide range of activities included in this group and without major regulatory or compliance drivers over this timeframe. Therefore, a five year average was selected to project future costs. An incremental addition has been added to this base forecast to support the new distribution Control Center Modifications (CCM).

Non-Labor - 5-YR Average

Labor and non-labor expenses stayed fairly at a flat level of expense from 2017 to 2021 due to the wide range of activities included in this group and without major regulatory or compliance drivers over this timeframe. Therefore, a five year average was selected to project future costs. An incremental addition has been added to this base forecast to support the new distribution Control Center Modifications (CCM).

NSE - 5-YR Average

N/A

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		2,926	3,175	3,268	3,227	3,320	3,304	3,664	3,664	
Non-Labor		1,528	1,754	1,324	1,526	1,318	1,495	1,510	1,490	
NSE		0	0	0	0	0	0	0	0	
Total		4,454	4,929	4,593	4,753	4,638	4,799	5,174	5,154	
FTE		30.3	33.6	33.6	33.4	33.7	34.2	38.2	38.2	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
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Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: H. Measurement & Regulation
 Category-Sub: 1. Measurement & Regulation
 Workpaper: 1GD007.000 - Measurement & Regulation

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	5-YR Average	3,183	3,183	3,183	120	480	480	3,303	3,663	3,663
Non-Labor	5-YR Average	1,490	1,490	1,490	5	20	0	1,495	1,510	1,490
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		4,673	4,673	4,673	125	500	480	4,798	5,173	5,153
FTE	5-YR Average	32.9	32.9	32.9	1.3	5.3	5.3	34.2	38.2	38.2

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	3,030	957	0	3,987	33.7	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C04-T1 (HP Supply Line) & T2 (MP Overall): Base adjustment to show how much money is included within the selected forecast methodology related to C04-T1 & T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022	-3,030	-957	0	-3,987	-33.7	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C04-T1 & T2: Removal from base adjustment to net \$0 from base adjustment.					
2022	120	5	0	125	1.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C17: Adjustment to show the incremental dollars requested greater than the value realized from the base forecast methodology. C17 is to provide operational support to the Control Center Modification project, operation and maintenance of communication equipment necessary to monitor the distribution gas system. Added will be one CCM Supervisor. Labor expense is estimated to be 1 X \$120K=\$120K starting in 2022 and continuing thereafter. In addition, four Regulator technicians will be added at 4 X \$90k = \$360K labor expense starting in 2023 and continuing thereafter. Non-labor expense is 1 X \$5K=\$5K in 2022 and 4X\$5K=\$20K in 2023.					
2022 Total	120	5	0	125	1.3	
2023	3,030	957	0	3,987	33.7	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C04-T1 (HP Supply Line) & T2 (MP Overall): Base adjustment to show the dollars included within the selected forecast methodology related to C04-T1 & T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023	-3,030	-957	0	-3,987	-33.7	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C04-T1 & T2: Removal from base adjustment to net \$0 from base adjustment.					
2023	480	20	0	500	5.3	1-Sided Adj

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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 Category: H. Measurement & Regulation
 Category-Sub: 1. Measurement & Regulation
 Workpaper: 1GD007.000 - Measurement & Regulation

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	RAMP: SDG&E-Risk-9, C17: Adjustment to show the incremental dollars requested greater than the value realized from the base forecast methodology.. C17 is to provide operational support to the Control Center Modification project, operation and maintenance of communication equipment necessary to monitor the distribution gas system. Added will be one CCM Supervisor. Labor expense is estimated to be 1 X \$120K=\$120K starting in 2022 and continuing thereafter. In addition, four Regulator technicians will be added at 4 X \$90k = \$360K labor expense starting in 2023 and continuing thereafter. Non-labor expense is 1 X \$5K=\$5K in 2022 and 4X\$5K=\$20K in 2023.					
2023 Total	480	20	0	500	5.3	
2024	3,030	957	0	3,987	33.7	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C04-T1 (HP Supply Line) & T2 (MP Overall): Base adjustment to show the dollars included within the selected forecast methodology related to C04-T1 & T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024	-3,030	-957	0	-3,987	-33.7	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C04-T1 & T2: Removal from base adjustment to net \$0 from base adjustment.					
2024	480	0	0	480	5.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C17: Adjustment to show the incremental dollars requested greater than the value realized from the base forecast methodology. C17 is to provide operational support to the Control Center Modification project, operation and maintenance of communication equipment necessary to monitor the distribution gas system. Added will be one CCM Supervisor. Labor expense is estimated to be 1 X \$120K=\$120K starting in 2022 and continuing thereafter. In addition, four Regulator technicians will be added at 4 X \$90k = \$360K labor expense starting in 2023 and continuing thereafter. Non-labor expense is 1 X \$5K=\$5K in 2022 and 4X\$5K=\$20K in 2023.					
2024 Total	480	0	0	480	5.3	

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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Witness: L. Patrick Kinsella
Category: H. Measurement & Regulation
Category-Sub: 1. Measurement & Regulation
Workpaper: 1GD007.000 - Measurement & Regulation

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	2,283	2,539	2,702	2,836	2,886
Non-Labor	1,370	1,617	1,246	1,432	1,318
NSE	0	0	0	0	0
Total	3,653	4,156	3,948	4,268	4,205
FTE	26.1	28.8	28.9	29.4	28.8
Adjustments (Nominal \$) **					
Labor	0	0	0	-98	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	-98	0
FTE	0.0	0.0	0.0	-0.5	0.0
Recorded-Adjusted (Nominal \$)					
Labor	2,283	2,539	2,702	2,738	2,886
Non-Labor	1,370	1,617	1,246	1,431	1,318
NSE	0	0	0	0	0
Total	3,653	4,156	3,948	4,170	4,205
FTE	26.0	28.8	28.9	28.8	28.8
Vacation & Sick (Nominal \$)					
Labor	339	385	387	388	434
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	339	385	387	388	434
FTE	4.3	4.8	4.7	4.6	4.9
Escalation to 2021\$					
Labor	305	251	180	100	0
Non-Labor	158	137	78	95	0
NSE	0	0	0	0	0
Total	462	388	258	195	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	2,926	3,175	3,268	3,227	3,320
Non-Labor	1,528	1,754	1,324	1,526	1,318
NSE	0	0	0	0	0
Total	4,454	4,929	4,593	4,753	4,638
FTE	30.3	33.6	33.6	33.4	33.7

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: H. Measurement & Regulation
 Category-Sub: 1. Measurement & Regulation
 Workpaper: 1GD007.000 - Measurement & Regulation

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs						
	Years	2017	2018	2019	2020	2021
Labor		0	0	0	-98	0
Non-Labor		-0.036	0	0	-0.343	0
NSE		0	0	0	0	0
	Total	-0.036	0	0	-98	0
FTE		0.0	0.0	0.0	-0.5	0.0

Detail of Adjustments to Recorded:

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
2017	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).				
2017 Total	0	0	0	0.0	
2018 Total	0	0	0	0.0	
2019 Total	0	0	0	0.0	
2020	-98	0	0	-0.5	1-Sided Adj
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).				
2020 Total	-98	0	0	-0.5	
2021 Total	0	0	0	0.0	

Note: Totals may include rounding differences.

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Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: H. Measurement & Regulation
 Category-Sub: 1. Measurement & Regulation
 Workpaper: 1GD007.000 - Measurement & Regulation

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: C04

RAMP Line Item Name: Regulator Station, Valve, and Large Meter Set Inspection

Tranche(/s): Tranche1: HP Supply Line; Tranche2: MP 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	81	80	80	80	4,240	5,130
Tranche 2 Cost Estimate	3,947	3,907	3,907	3,907	4,240	5,130

Cost Estimate Changes from RAMP:

GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching and forecast assumptions.

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	17.00	17.00	17.00	17.00	816.00	988.00
Tranche 2 # of Inspections	842.00	842.00	842.00	842.00	816.00	988.00

Work Unit Changes from RAMP:

GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching and forecast assumptions.

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	368.000	4.000
Tranche 2	140.000	3.000

RSE Changes from RAMP:

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 Witness: L. Patrick Kinsella
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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)

RAMP Item # 2

RAMP Activity

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

RAMP Line Item ID: C17

RAMP Line Item Name: Control Center Modernization - Incremental add of personnel

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	0	125	500	480	265	382

Cost Estimate Changes from RAMP:

The forecast is outside the RAMP range due to changes in forecast assumptions since preparing RAMP filing.

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 SCADA Enhanced Sites	0.00	0.00	2.00	3.00	10.00	14.00

Work Unit Changes from RAMP:

The forecast is outside the RAMP range due to changes in forecast assumptions since preparing RAMP filing.

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

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Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: I. Cathodic Protection
 Workpaper: 1GD008.000

Summary for Category: I. Cathodic Protection

	In 2021\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	1,834	1,673	1,673	1,673
Non-Labor	216	161	161	161
NSE	0	0	0	0
Total	2,050	1,834	1,834	1,834
FTE	16.7	15.9	15.9	15.9

Workpapers belonging to this Category:

1GD008.000 Cathodic Protection

Labor	1,834	1,673	1,673	1,673
Non-Labor	216	161	161	161
NSE	0	0	0	0
Total	2,050	1,834	1,834	1,834
FTE	16.7	15.9	15.9	15.9

Note: Totals may include rounding differences.

Beginning of Workpaper
1GD008.000 - Cathodic Protection

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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: I. Cathodic Protection
 Category-Sub: 1. Cathodic Protection
 Workpaper: 1GD008.000 - Cathodic Protection

Activity Description:

This all RAMP workpaper (SDG&E-Risk-9, C01) group includes labor and non-labor costs for cathodic protection (CP) system maintenance. Examples of maintenance activities performed within this workgroup include monitoring CP system performance, installing anodes, troubleshooting system shorts and interference, repairing or replacing broken wires to anodes or test stations, raising test station lids as a result of the re-pavement of streets adding test points on pipelines, installing insulators on mains and services, and CP rectifier and other code required inspections. Cathodic Protection activities fall entirely within RAMP.

Forecast Explanations:

Labor - 5-YR Average

Labor and non-labor expenses, which provide necessary monitoring and inspection to ensure compliance and maintenance of the CP system, have remained stable over the historical years. Therefore a five year average methodology was chosen to forecast expenses over the forecast years.

Non-Labor - 5-YR Average

Labor and non-labor expenses, which provide necessary monitoring and inspection to ensure compliance and maintenance of the CP system, have remained stable over the historical years. Therefore a five year average methodology was chosen to forecast expenses over the forecast years.

NSE - 5-YR Average

N/A

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		1,551	1,651	1,690	1,637	1,834	1,673	1,673	1,673	
Non-Labor		141	103	131	217	216	161	161	161	
NSE		0	0	0	0	0	0	0	0	
Total		1,692	1,754	1,821	1,853	2,050	1,834	1,834	1,834	
FTE		16.2	15.4	16.1	15.2	16.7	15.9	15.9	15.9	

Note: Totals may include rounding differences.

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Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: I. Cathodic Protection
Category-Sub: 1. Cathodic Protection
Workpaper: 1GD008.000 - Cathodic Protection

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	5-YR Average	1,673	1,673	1,673	0	0	0	1,673	1,673	1,673
Non-Labor	5-YR Average	161	161	161	0	0	0	161	161	161
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		1,834	1,834	1,834	0	0	0	1,834	1,834	1,834
FTE	5-YR Average	15.9	15.9	15.9	0.0	0.0	0.0	15.9	15.9	15.9

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	-1,673	-161	0	-1,834	-17.9	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C01-T1 & T2: Removal from base adjustment to net \$0 from base adjustment for T1 & T2.					
2022	1,673	161	0	1,834	17.9	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C01-T1 (HP Supply Line) & T2 (MP Main Steel): Base adjustment to show the dollars included within the selected forecast methodology related to C01-T1 & T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022 Total		0	0	0	0.0	
2023	-1,673	-161	0	-1,834	-17.9	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C01-T1 & T2: Removal from base adjustment to net \$0 from base adjustment for T1 & T2.					
2023	1,673	161	0	1,834	17.9	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C01-T1 (HP Supply Line) & T2 (MP Main Steel): Base adjustment to show the dollars included within the selected forecast methodology related to C01-T1 & T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023 Total		0	0	0	0.0	
2024	-1,673	-161	0	-1,834	-17.9	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C01-T1 & T2: Removal from base adjustment to net \$0 from base adjustment for T1 & T2.					
2024	1,673	161	0	1,834	17.9	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C01-T1 (HP Supply Line) & T2 (MP Main Steel): Base adjustment to show the dollars included within the selected forecast methodology related to C01-T1 & T2. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024 Total		0	0	0	0.0	

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: I. Cathodic Protection
Category-Sub: 1. Cathodic Protection
Workpaper: 1GD008.000 - Cathodic Protection

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	1,210	1,320	1,397	1,389	1,595
Non-Labor	127	95	123	203	216
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	1,337	1,415	1,521	1,592	1,810
FTE	13.8	13.3	13.8	13.1	14.3
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	1,210	1,320	1,397	1,389	1,595
Non-Labor	127	95	123	203	216
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	1,337	1,415	1,521	1,592	1,810
FTE	13.9	13.2	13.8	13.1	14.3
Vacation & Sick (Nominal \$)					
Labor	180	200	200	197	240
Non-Labor	0	0	0	0	0
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	180	200	200	197	240
FTE	2.3	2.2	2.3	2.1	2.4
Escalation to 2021\$					
Labor	162	131	93	51	0
Non-Labor	15	8	8	13	0
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	176	139	101	64	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	1,551	1,651	1,690	1,637	1,834
Non-Labor	141	103	131	217	216
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	1,692	1,754	1,821	1,853	2,050
FTE	16.2	15.4	16.1	15.2	16.7

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
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 Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: I. Cathodic Protection
 Category-Sub: 1. Cathodic Protection
 Workpaper: 1GD008.000 - Cathodic Protection

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
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Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: I. Cathodic Protection
 Category-Sub: 1. Cathodic Protection
 Workpaper: 1GD008.000 - Cathodic Protection

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: C01

RAMP Line Item Name: Cathodic Protection - O&M

Tranche(/s): Tranche1: HP Supply Line; Tranche2: MP Main Steel

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	110	99	99	99	1,853	2,245
Tranche 2 Cost Estimate	1,939	1,735	1,735	1,735	1,853	2,245

Cost Estimate Changes from RAMP:

The GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching.

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 Trouble Orders - HP	74.00	74.00	74.00	74.00	1,305.00	1,580.00
Tranche 2 # of Trouble Orders - MP	1,300.00	1,300.00	1,300.00	1,300.00	1,305.00	1,580.00

Work Unit Changes from RAMP:

The GRC forecast is outside the RAMP range due to reallocation of dollars (units) associated with revised tranching.

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	17.000	13.000
Tranche 2	1.000	13.000

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: I. Cathodic Protection
Category-Sub: 1. Cathodic Protection
Workpaper: 1GD008.000 - Cathodic Protection

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: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: J. Asset Management
Workpaper: 1GD009.000

Summary for Category: J. Asset Management

	In 2021\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	804	1,038	1,067	1,091
Non-Labor	273	308	278	283
NSE	0	0	0	0
Total	1,077	1,346	1,345	1,374
FTE	9.0	11.2	11.5	11.7

Workpapers belonging to this Category:

1GD009.000 Asset Management

Labor	804	1,038	1,067	1,091
Non-Labor	273	308	278	283
NSE	0	0	0	0
Total	1,077	1,346	1,345	1,374
FTE	9.0	11.2	11.5	11.7

Note: Totals may include rounding differences.

Beginning of Workpaper
1GD009.000 - Asset Management

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: J. Asset Management
Category-Sub: 1. Asset Management
Workpaper: 1GD009.000 - Asset Management

Activity Description:

This workgroup records the labor and non-labor costs for services provided by SDG& E's Gas Design, Project Management, Engineering, and Geographic Information Systems groups. These groups provide many of the technical and administrative services needed for the successful and timely completion of the O&M activities in Gas Distribution. Activities performed by this office include items such as identifying construction design requirements, evaluating pressure specifications, conducting pipeline planning, providing project drawings, identifying material selection, preparing work order estimates, acquiring third-party contract services, developing and maintaining pipeline and pipeline component mapped records in the GIS system, processing as-built drawings from the field to create a final record of pipeline system additions and changes, and obtaining permits for construction from city, county, state, and federal agencies. This workpaper includes RAMP: SDG&E-CFF-2, New 02 & New 03: Records Management and SDG&E-CFF-1, 1: Asset Management.

Forecast Explanations:

Labor - Base YR Rec

Labor and non-labor expenses increased steadily over the historic years due to incremental planning, engineering, and facility mapping activities as the level of maintenance work, general construction activity, municipality work, construction permit turnaround time, and customer generated activity increased. Due to these recent incremental cost drivers, a historical average would not represent future business needs. Whereas, base year 2021 is representative of our expectations for the 2024 Test Year and therefore, is used as the base level of expense for future years. To this base are added incremental expenses. Incremental expenses are added to the base year in order to support the growth in activity in the Geographic Information Systems (GIS) workgroup, Engineering additions for Hydrogen projects, and Asset Integrity Management support.

Non-Labor - Base YR Rec

Labor and non-labor expenses increased steadily over the historic years due to incremental planning, engineering, and facility mapping activities as the level of maintenance work, general construction activity, municipality work, construction permit turnaround time, and customer generated activity increased. Due to these recent incremental cost drivers, a historical average would not represent future business needs. Whereas, base year 2021 is representative of our expectations for the 2024 Test Year and therefore, is used as the base level of expense for future years. To this base are added incremental expenses. Incremental expenses are added to the base year in order to support the growth in activity in the Geographic Information Systems (GIS) workgroup, Engineering additions for Hydrogen projects, and Asset Integrity Management support.

NSE - Base YR Rec

N/A

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: J. Asset Management
 Category-Sub: 1. Asset Management
 Workpaper: 1GD009.000 - Asset Management

Summary of Results:

		In 2021\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor		956	1,014	943	825	804	1,039	1,068	1,092	
Non-Labor		206	236	379	395	273	308	278	283	
NSE		0	0	0	0	0	0	0	0	
Total		1,162	1,250	1,322	1,220	1,078	1,347	1,346	1,375	
FTE		11.4	12.0	10.9	8.5	9.0	11.2	11.5	11.7	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: J. Asset Management
 Category-Sub: 1. Asset Management
 Workpaper: 1GD009.000 - Asset 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	804	804	804	234	263	287	1,038	1,067	1,091
Non-Labor	Base YR Rec	273	273	273	35	5	10	308	278	283
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		1,078	1,078	1,078	269	268	297	1,347	1,346	1,375
FTE	Base YR Rec	9.0	9.0	9.0	2.2	2.5	2.7	11.2	11.5	11.7

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	50	5	0	55	0.6	1-Sided Adj
Explanation:	QA/Compliance - One Field Ops QA Inspector will be added starting in 2022 to review the work done by the company Gas Field Operations personnel, determining the effectiveness and adequacy of the processes and procedures used in normal operation and maintenance. This position will charge 50% of their time to O&M. Labor expense is estimated to be 1 X \$100K X 0.50= \$50K for 2022, 2023 and for TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$10K X 0.5=\$5K in 2022 for one year only.					
2022	12	5	0	17	0.1	1-Sided Adj
Explanation:	Engineering for Hydrogen Projects - One Engineer will be added starting in 2022 to focus on hydrogen blending in natural gas pipeline systems. This position will charge 10% of their time to O&M. Labor expense is estimated to be 1 X \$120K X 0.10= \$12K for 2022, 2023 and for TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K = \$5K in 2022 for one year only.					
2022	33	5	0	38	0.3	1-Sided Adj
Explanation:	QA & Compliance - One CP QA Technical Specialist will be added starting in 2022 to review the work done by the company System Protection personnel, determining the effectiveness and adequacy of the processes and procedures used in normal operation and maintenance and verify training effectiveness. This position will charge 33% of their time to O&M. Labor expense is estimated to be 1 X \$100K X 0.33= \$33K for 2022, 2023 and for TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K = \$5K in 2022 for one year only.					
2022	29	5	0	34	0.2	1-Sided Adj
Explanation:	RAMP: SDG&E-CFF-6, New 03: Geographic Information System Growth - Two GIS Specialist/Technicians will be added one starting in 2022 and the second one beginning in 2023 to support the growing GIS workload as a result of the increased capital and other work being performed and recorded in GIS. Over the recent past the GGIS department has seen a 185% increase in work orders they are responsible to map and close. These positions will charge 23% of their time to O&M. Labor expense is estimated to be 1 X \$125K X 0.23= \$29K for 2022 and 2 X \$125K X 0.23 = \$58K for 2023 and TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K = \$5K in 2022 and in 2023 only.					
2022	110	15	0	125	1.0	1-Sided Adj

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: J. Asset Management
 Category-Sub: 1. Asset Management
 Workpaper: 1GD009.000 - Asset Management

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>
Explanation:	RAMP: SDG&E-CFF-1, 1: Incremental adjustment to show the dollars requested in addition to the base selected forecast methodology related to one Asset Strategy Advisor will be added in 2022 to support the asset management in Gas Distribution and act as a liaison with the enterprise-wide Asset Integrity Management Program organization as part of the asset management system enterprise implementation. This position will charge 100% of their time to O&M. Labor expenses are estimated to be 1 X 110k=\$110k for 2022 and thereafter. Non-Labor expense is estimated to be 1 X \$15K=\$15K in 2022 only.					
2022	452	139	0	591	4.5	1-Sided Adj
Explanation:	RAMP: SDG&E-CFF-6, New 02: Geographic Information System (GIS) Base adjustment to show the dollars included within the selected forecast methodology related to M01. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022	-452	-139	0	-591	-4.5	1-Sided Adj
Explanation:	RAMP: SDG&E-CFF-6, New 02: Removal from base adjustment to net \$0 from base adjustment.					
2022 Total	234	35	0	269	2.2	
2023	50	0	0	50	0.6	1-Sided Adj
Explanation:	QA/Compliance - One Field Ops QA Inspector will be added starting in 2022 to review the work done by the company Gas Field Operations personnel, determining the effectiveness and adequacy of the processes and procedures used in normal operation and maintenance. This position will charge 50% of their time to O&M. Labor expense is estimated to be 1 X \$100K X 0.50= \$50K for 2022, 2023 and for TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$10K X 0.5=\$5K in 2022 for one year only.					
2023	12	0	0	12	0.1	1-Sided Adj
Explanation:	Engineering for Hydrogen Projects - One Engineer will be added starting in 2022 to focus on hydrogen blending in natural gas pipeline systems. This position will charge 10% of their time to O&M. Labor expense is estimated to be 1 X \$120K X 0.10= \$12K for 2022, 2023 and for TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K=\$5K in 2022 for one year only.					
2023	33	0	0	33	0.3	1-Sided Adj
Explanation:	QA & Compliance - One CP QA Technical Specialist will be added starting in 2022 to review the work done by the company System Protection personnel, determining the effectiveness and adequacy of the processes and procedures used in normal operation and maintenance and verify training effectiveness. This position will charge 33% of their time to O&M. Labor expense is estimated to be 1 X \$100K X 0.33= \$33K for 2022, 2023 and for TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K=\$5K in 2022 for one year only.					
2023	58	5	0	63	0.5	1-Sided Adj
Explanation:	RAMP: SDG&E-CFF-6, New 03: Geographic Information System Growth - Two GIS Specialist/Technicians will be added one starting in 2022 and the second one beginning in 2023 to support the growing GIS workload as a result of the increased capital and other work being performed and recorded in GIS. Over the recent past the GGIS department has seen a 185% increase in work orders they are responsible to map and close. These positions will charge 23% of their time to O&M. Labor expense is estimated to be 1 X \$125K X 0.23= \$29K for 2022 and 2 X \$125K X 0.23 = \$58K for 2023 and TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K=\$5K in 2022 and in 2023 only.					

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: J. Asset Management
Category-Sub: 1. Asset Management
Workpaper: 1GD009.000 - Asset Management

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
2023	110	0	0	110	1.0	1-Sided Adj
Explanation:	RAMP: SDG&E-CFF-1, 1: Incremental adjustment to show the dollars requested in addition to the base selected forecast methodology related to one Asset Strategy Advisor will be added in 2022 to support the asset management in Gas Distribution and act as a liaison with the enterprise-wide Asset Integrity Management Program organization as part of the asset management system enterprise implementation. This position will charge 100% of their time to O&M. Labor expenses are estimated to be 1X 110k=\$110k for 2022 and thereafter. Non-Labor expense is estimated to be 1 X \$15K =\$15K in 2022 only.					
2023	452	139	0	591	4.5	1-Sided Adj
Explanation:	RAMP: SDG&E-CFF-6, New 02: Geographic Information System (GIS) Base adjustment to show the dollars included within the selected forecast methodology related to M01. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023	-452	-139	0	-591	-4.5	1-Sided Adj
Explanation:	RAMP: SDG&E-CFF-6, New 02: Removal from base adjustment to net \$0 from base adjustment.					
2023 Total	263	5	0	268	2.5	
2024	50	0	0	50	0.6	1-Sided Adj
Explanation:	QA/Compliance - One Field Ops QA Inspector will be added starting in 2022 to review the work done by the company Gas Field Operations personnel, determining the effectiveness and adequacy of the processes and procedures used in normal operation and maintenance. This position will charge 50% of their time to O&M. Labor expense is estimated to be 1 X \$100K X 0.50= \$50K for 2022, 2023 and for TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$10K X 0.5=\$5K in 2022 for one year only.					
2024	12	0	0	12	0.1	1-Sided Adj
Explanation:	Engineering for Hydrogen Projects - One Engineer will be added starting in 2022 to focus on hydrogen blending in natural gas pipeline systems. This position will charge 10% of their time to O&M. Labor expense is estimated to be 1 X \$120K X 0.10= \$12K for 2022, 2023 and for TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K =\$5K in 2022 for one year only.					
2024	33	0	0	33	0.3	1-Sided Adj
Explanation:	QA & Compliance - One CP QA Technical Specialist will be added starting in 2022 to review the work done by the company System Protection personnel, determining the effectiveness and adequacy of the processes and procedures used in normal operation and maintenance and verify training effectiveness. This position will charge 33% of their time to O&M. Labor expense is estimated to be 1 X \$100K X 0.33= \$33K for 2022, 2023 and for TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K =\$5K in 2022 for one year only.					
2024	58	0	0	58	0.5	1-Sided Adj

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: J. Asset Management
 Category-Sub: 1. Asset Management
 Workpaper: 1GD009.000 - Asset Management

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	RAMP: SDG&E-CFF-6, New 03: Geographic Information System Growth - Two GIS Specialist/Technicians will be added one starting in 2022 and the second one beginning in 2023 to support the growing GIS workload as a result of the increased capital and other work being performed and recorded in GIS. Over the recent past the GGIS department has seen a 185% increase in work orders they are responsible to map and close. These positions will charge 23% of their time to O&M. Labor expense is estimated to be 1 X \$125K X 0.23= \$29K for 2022 and 2 X \$125K X 0.23 = \$58K for 2023 and TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K =\$5K in 2022 and in 2023 only.					
2024	24	10	0	34	0.2	1-Sided Adj
Explanation:	Engineering Additions - Two Engineer I/II will be added beginning in TY2024 for implementing 3D M&R facility design and support GOCC monitoring and control retrofit projects at regulator station and pressure monitoring sites. These positions will charge 10% of their time to O&M. Labor expense is estimated to be 2 X \$120K X 0.10= \$24K beginning in TY2024 and thereafter. Non-Labor expense is estimated to be 2 X \$5K =\$10K in 2022 for one year only.					
2024	110	0	0	110	1.0	1-Sided Adj
Explanation:	RAMP: SDG&E-CFF-1, 1: Incremental adjustment to show the dollars requested in addition to the base selected forecast methodology related to one Asset Strategy Advisor will be added in 2022 to support the asset management in Gas Distribution and act as a liaison with the enterprise-wide Asset Integrity Management Program organization as part of the asset management system enterprise implementation. This position will charge 100% of their time to O&M. Labor expenses are estimated to be 1X 110k=\$110k for 2022 and thereafter. Non-Labor expense is estimated to be 1 X \$15K =\$15K in 2022 only.					
2024	452	139	0	591	4.5	1-Sided Adj
Explanation:	RAMP: SDG&E-CFF-6, New 02: Geographic Information System (GIS) Base adjustment to show the dollars included within the selected forecast methodology related to M01. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024	-452	-139	0	-591	-4.5	1-Sided Adj
Explanation:	RAMP: SDG&E-CFF-6, New 02: Removal from base adjustment to net \$0 from base adjustment.					
2024 Total	287	10	0	297	2.7	

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: J. Asset Management
Category-Sub: 1. Asset Management
Workpaper: 1GD009.000 - Asset Management

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	502	383	361	420	500
Non-Labor	158	117	200	288	196
NSE	0	0	0	0	0
Total	660	500	561	708	696
FTE	6.1	4.1	3.6	4.3	4.7
Adjustments (Nominal \$) **					
Labor	244	428	418	280	200
Non-Labor	27	101	157	83	77
NSE	0	0	0	0	0
Total	271	528	575	363	277
FTE	3.7	6.2	5.8	3.0	3.0
Recorded-Adjusted (Nominal \$)					
Labor	746	811	779	700	699
Non-Labor	185	218	357	371	273
NSE	0	0	0	0	0
Total	931	1,028	1,136	1,071	972
FTE	9.8	10.3	9.4	7.3	7.7
Vacation & Sick (Nominal \$)					
Labor	111	123	112	99	105
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	111	123	112	99	105
FTE	1.6	1.7	1.5	1.2	1.3
Escalation to 2021\$					
Labor	99	80	52	26	0
Non-Labor	21	18	22	25	0
NSE	0	0	0	0	0
Total	121	99	74	50	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	956	1,014	943	825	804
Non-Labor	206	236	379	395	273
NSE	0	0	0	0	0
Total	1,162	1,250	1,322	1,220	1,078
FTE	11.4	12.0	10.9	8.5	9.0

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: J. Asset Management
Category-Sub: 1. Asset Management
Workpaper: 1GD009.000 - Asset Management

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	244	428	418	280	200
Non-Labor	27	101	157	83	77
NSE	0	0	0	0	0
Total	271	528	575	363	277
FTE	3.7	6.2	5.8	3.0	3.0

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017	244	27	0	3.7	1-Sided Adj
Explanation:	7090820 - Adjust from 1GD010 (OpMgmtSupTrn) to 1GD009 (Asset Management) - Remove DOH from OpsMgmtSupTrn to Asset Mgmt.				
2017 Total	244	27	0	3.7	
2018	428	101	0	6.2	1-Sided Adj
Explanation:	7090820 - Adjust from 1GD010 (OpMgmtSupTrn) to 1GD009 (Asset Management) - Remove DOH from OpsMgmtSupTrn to Asset Mgmt.				
2018 Total	428	101	0	6.2	
2019	418	157	0	5.8	1-Sided Adj
Explanation:	7090820 - Adjust from 1GD010 (OpMgmtSupTrn) to 1GD009 (Asset Management) - Remove DOH from OpsMgmtSupTrn to Asset Mgmt.				
2019 Total	418	157	0	5.8	
2020	268	69	0	3.0	1-Sided Adj
Explanation:	7090820 - Adjust from 1GD000 (Other Services) to 1GD009 (Asset Management) - Remove DOH from Other Services to Asset Mgmt.				
2020	184	61	0	2.2	1-Sided Adj
Explanation:	7090820 - Adjust from 1GD010 (OpMgmtSupTrn) to 1GD009 (Asset Management) - Remove DOH from OpsMgmtSupTrn to Asset Mgmt.				
2020	-171	-47	0	-2.2	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 Total	280	83	0	3.0	
2021	200	77	0	3.0	1-Sided Adj

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: J. Asset Management
 Category-Sub: 1. Asset Management
 Workpaper: 1GD009.000 - Asset Management

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	7090820 - Adjust from 1GD010 (OpMgmtSupTrn) to 1GD009 (Asset Management) - Remove DOH from OpsMgmtSupTrn to Asset Mgmt.				
2021 Total	200	77	0	3.0	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: J. Asset Management
 Category-Sub: 1. Asset Management
 Workpaper: 1GD009.000 - Asset Management

RAMP Item # 1

RAMP Activity

RAMP Chapter: SDG&E-CFF-6 Records Management
 RAMP Line Item ID: New 02
 RAMP Line Item Name: Gas Geographic Information System
 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	591	591	591	591	0	0

Cost Estimate Changes from RAMP:

RAMP did not forecast a range for dollars (units) for this CFF.

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 reconciled WO	2,957.00	2,957.00	2,957.00	2,957.00	0.00	0.00

Work Unit Changes from RAMP:

RAMP did not forecast a range for dollars (units) for this CFF.

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

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: J. Asset Management
 Category-Sub: 1. Asset Management
 Workpaper: 1GD009.000 - Asset Management

RAMP Item # 2

RAMP Activity

RAMP Chapter: SDG&E-CFF-6 Records Management
 RAMP Line Item ID: New 03
 RAMP Line Item Name: Gas Geographic Information System
 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	0	34	63	58	0	0

Cost Estimate Changes from RAMP:

RAMP did not forecast a range for dollars (units) for this CFF.

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 FTE	0.00	1.00	2.00	2.00	0.00	0.00

Work Unit Changes from RAMP:

RAMP did not forecast a range for dollars (units) for this CFF.

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

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: J. Asset Management
 Category-Sub: 1. Asset Management
 Workpaper: 1GD009.000 - Asset Management

RAMP Item # 3

RAMP Activity

RAMP Chapter: SDG&E-CFF-1 Asset Management

RAMP Line Item ID: 1

RAMP Line Item Name: AIM (Gov, Strat, AIP)

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	0

Cost Estimate Changes from RAMP:

The forecast for this activity is shared with another witness area (Safety, Risk, and Asset Management Systems:
Exhibit: SDGE-31).

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 FTE	1.00	1.00	1.00	1.00	0.00	0.00

Work Unit Changes from RAMP:

RAMP did not forecast a range for units for this CFF.

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

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: K. Operations Management Supervision & Training
 Workpaper: 1GD010.000

Summary for Category: K. Operations Management Supervision & Training

	In 2021\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	6,797	6,838	6,879	6,877
Non-Labor	2,206	2,276	2,286	2,251
NSE	0	0	0	0
Total	9,003	9,114	9,165	9,128
FTE	68.2	68.3	68.7	68.5

Workpapers belonging to this Category:

1GD010.000 Operations Management, Supervision & Training

Labor	6,797	6,838	6,879	6,877
Non-Labor	2,206	2,276	2,286	2,251
NSE	0	0	0	0
Total	9,003	9,114	9,165	9,128
FTE	68.2	68.3	68.7	68.5

Note: Totals may include rounding differences.

Beginning of Workpaper
1GD010.000 - Operations Management, Supervision & Training

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: K. Operations Management Supervision & Training
 Category-Sub: 1. Operations Management Supervision & Training
 Workpaper: 1GD010.000 - Operations Management, Supervision & Training

Activity Description:

This group includes labor and non-labor expenses for management and staff support of Gas Operations ; Gas Operations Training group, based at the SKILLS training center; and Gas Distribution leadership. In addition, this group includes labor and non-labor expenses for all supervision and management in the operating districts and training expenses for all gas employees within the districts. Work completed within this group includes Gas Distribution leadership; developing and maintaining gas distribution construction and operating standards; evaluating new field technologies; development of field training materials and providing the skills training both in classroom and simulation format; providing code required welder testing, training and welding inspection; and managing the Operator Qualification (OQ) program for SDG&E gas employees and contractors. This workpaper includes RAMP: SDG&E-Risk-9, C14: Human Factors Mitigations - Ops Qual Training, SDG&E-Risk-9, C15: Human Factors Mitigation - QA/QC Program, and SDG&E-Risk-7, C01: L&M Training Groupings.

Forecast Explanations:

Labor - Base YR Rec

Operations leadership and support, field management, as well as personnel training expenses have increased from 2017-2021 in tandem with an escalating level of work and resulting growth in workforce. Programs, processes, and technologies were implemented to meet growing demands, such as an increasing number of Locate and Mark service requests, and compliance requirements. Because of these upwards pressures and new requirements, a historic trend or average for this group would not be representative of required base funding level. A base year methodology with incremental expenses to reflect the new business needs in this group in the future was selected. Added to this base level are incremental funds for supervision personnel for welding instruction and to manage and ensure compliance for Operator Qualification

Non-Labor - Base YR Rec

See description above for both Labor and Non-Labor

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		5,883	5,929	5,977	6,970	6,797	6,839	6,880	6,878	
Non-Labor		1,647	1,260	1,497	1,992	2,206	2,276	2,286	2,251	
NSE		0	0	0	0	0	0	0	0	
Total		7,530	7,188	7,475	8,962	9,003	9,115	9,166	9,129	
FTE		59.4	62.5	63.7	75.4	68.2	68.3	68.7	68.5	

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: K. Operations Management Supervision & Training
 Category-Sub: 1. Operations Management Supervision & Training
 Workpaper: 1GD010.000 - Operations Management, Supervision & Training

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	6,797	6,797	6,797	41	82	80	6,838	6,879	6,877
Non-Labor	Base YR Rec	2,206	2,206	2,206	70	80	45	2,276	2,286	2,251
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		9,003	9,003	9,003	111	162	125	9,114	9,165	9,128
FTE	Base YR Rec	68.2	68.2	68.2	0.1	0.5	0.3	68.3	68.7	68.5

Forecast Adjustment Details:

Year	Labor	NLbr	NSE	Total	FTE	Adj Type
2022	746	0	0	746	8.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C01: Base adjustment to show the dollars included within the selected forecast methodology related to C01. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022	-746	0	0	-746	-8.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C01: Removal from base adjustment to net \$0 from base adjustment.					
2022	1,329	332	0	1,661	14.8	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C14: Base adjustment to show the dollars included within the selected forecast methodology related to C14. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022	-1,329	-332	0	-1,661	-14.8	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C14: Removal from base adjustment to net \$0 from base adjustment.					
2022	300	0	0	300	3.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C15: Base adjustment to show the dollars included within the selected forecast methodology related to C15. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2022	-300	0	0	-300	-3.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C15: Removal from base adjustment to net \$0 from base adjustment.					
2022	12	5	0	17	0.1	1-Sided Adj
Explanation:	Night Welding Class - A night welding class will be established to provide preparation instruction as a pre-school for the day welding classes. Labor charges to this class will be 30% O&M. Labor charges are \$40K/class X 1 class X 0.30 = \$12K in 2023 and TY2024. Non-labor charges for class expenses are estimated to be 1 X \$15K X 0.30=\$5K for 2022 and 1 X \$35K X 0.30=\$10K for 2023, TY2024 and thereafter.					
2022	29	5	0	34	0.3	1-Sided Adj

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: K. Operations Management Supervision & Training
 Category-Sub: 1. Operations Management Supervision & Training
 Workpaper: 1GD010.000 - Operations Management, Supervision & Training

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Instructional Additions - Two Senior Welding Instructors will be added to meet increased O&M and capital demands on welding, welding training, and welding inspection. These positions will also help ensure training competencies. These positions will charge 25% of their time to O&M. Labor expense is estimated to be 1 X \$115K X 0.25= \$29K for 2022 and 2 X \$115K X 0.25 = \$58K for 2023 and TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K = \$5K in 2022 and in 2023 only.					
2022	0	60	0	60	0.0	1-Sided Adj
Explanation:	Develop Virtual Training - Virtual training will be established to provide enhanced training for activities that involve higher risk and difficult to replicate, real-life scenarios that can be safely simulated within Virtual Reality applications. This training will charge 30% to O&M. There is no labor expense. Non-labor expense is estimated to be \$200K X 0.30 = \$60K for 2022 and 2023. The non-labor expense in TY2024 is estimated to be \$100K X 0.30=\$30K.					
2022 Total	41	70	0	111	0.1	
2023	746	0	0	746	8.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C01: Base adjustment to show the dollars included within the selected forecast methodology related to C01. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023	-746	0	0	-746	-8.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C01: Removal from base adjustment to net \$0 from base adjustment.					
2023	1,329	332	0	1,661	14.8	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C14: Base adjustment to show the dollars included within the selected forecast methodology related to C14. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023	-1,329	-332	0	-1,661	-14.8	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C14: Removal from base adjustment to net \$0 from base adjustment.					
2023	300	0	0	300	3.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C15: Base adjustment to show the dollars included within the selected forecast methodology related to C15. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2023	-300	0	0	-300	-3.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C15: Removal from base adjustment to net \$0 from base adjustment.					
2023	12	10	0	22	0.1	1-Sided Adj
Explanation:	Night Welding Class - A night welding class will be established to provide preparation instruction as a pre-school for the day welding classes. Labor charges to this class will be 30% O&M. Labor charges are \$40K/class X 1 class X 0.30 = \$12K in 2023 and TY2024. Non-labor charges for class expenses are estimated to be 1 X \$15K X 0.30=\$5K for 2022 and 1 X \$35K X 0.30=\$10K for 2023, TY2024 and thereafter.					
2023	58	5	0	63	0.6	1-Sided Adj

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: K. Operations Management Supervision & Training
 Category-Sub: 1. Operations Management Supervision & Training
 Workpaper: 1GD010.000 - Operations Management, Supervision & Training

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Instructional Additions - Two Senior Welding Instructors will be added to meet increased O&M and capital demands on welding, welding training, and welding inspection. These positions will also help ensure training competencies. These positions will charge 25% of their time to O&M. Labor expense is estimated to be 1 X \$115K X 0.25= \$29K for 2022 and 2 X \$115K X 0.25 = \$58K for 2023 and TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K = \$5K in 2022 and in 2023 only.					
2023	12	5	0	17	0.1	1-Sided Adj
Explanation:	Technical Advisor - One Operator Qualification Compliance Advisor to provide necessary span of control oversight due to the growth in the number of company and contract employees requiring compliance with Operator Qualification. In addition, one NDE Program Supervisor to mitigate any compliance issues directly pertaining to the Company's NDE Program. These positions will charge 10% of their time to O&M. Labor expense is estimated to be 1 X \$120K X 0.10 = \$12K for 2023 and (1 X \$120K X 0.10 + 1 X \$100K X 0.10 = \$22K) for TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K = \$5K in 2023 and in TY2024 only.					
2023	0	60	0	60	0.0	1-Sided Adj
Explanation:	Develop Virtual Training - Virtual training will be established to provide enhanced training for activities that involve higher risk and difficult to replicate, real-life scenarios that can be safely simulated within Virtual Reality applications. This training will charge 30% to O&M. There is no labor expense. Non-labor expense is estimated to be \$200K X 0.30 = \$60K for 2022 and 2023. The non-labor expense in TY2024 is estimated to be \$100K X 0.30=\$30K.					
2023 Total	82	80	0	162	0.5	
2024	746	0	0	746	8.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C01: Base adjustment to show the dollars included within the selected forecast methodology related to C01. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024	-746	0	0	-746	-8.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-7, C01: Removal from base adjustment to net \$0 from base adjustment.					
2024	1,329	332	0	1,661	14.8	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C14: Base adjustment to show the dollars included within the selected forecast methodology related to C14. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024	-1,329	-332	0	-1,661	-14.8	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C14: Removal from base adjustment to net \$0 from base adjustment.					
2024	300	0	0	300	3.0	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C15: Base adjustment to show the dollars included within the selected forecast methodology related to C15. Note you will also see an offsetting adjustment "Other" to remove these same costs to net \$0.					
2024	-300	0	0	-300	-3.3	1-Sided Adj
Explanation:	RAMP: SDG&E-Risk-9, C15: Removal from base adjustment to net \$0 from base adjustment.					
2024	0	10	0	10	0.0	1-Sided Adj

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: K. Operations Management Supervision & Training
 Category-Sub: 1. Operations Management Supervision & Training
 Workpaper: 1GD010.000 - Operations Management, Supervision & Training

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>
Explanation:	Night Welding Class - A night welding class will be established to provide preparation instruction as a pre-school for the day welding classes. Labor charges to this class will be 30% O&M. Labor charges are \$40K/class X 1 class X 0.30 = \$12K in 2023 and TY2024. Non-labor charges for class expenses are estimated to be 1 X \$15K X 0.30=\$5K for 2022 and 1 X \$35K X 0.30=\$10K for 2023, TY2024 and thereafter.					
2024	58	0	0	58	0.5	1-Sided Adj
Explanation:	Instructional Additions - Two Senior Welding Instructors will be added to meet increased O&M and capital demands on welding, welding training, and welding inspection. These positions will also help ensure training competencies. These positions will charge 25% of their time to O&M. Labor expense is estimated to be 1 X \$115K X 0.25= \$29K for 2022 and 2 X \$115K X 0.25 = \$58K for 2023 and TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K =\$5K in 2022 and in 2023 only.					
2024	22	5	0	27	0.1	1-Sided Adj
Explanation:	Technical Advisor - One Operator Qualification Compliance Advisor to provide necessary span of control oversight due to the growth in the number of company and contract employees requiring compliance with Operator Qualification. In addition, one NDE Program Supervisor to mitigate any compliance issues directly pertaining to the Company's NDE Program. These positions will charge 10% of their time to O&M. Labor expense is estimated to be 1 X \$120K X 0.10 = \$12K for 2023 and (1 X \$120K X 0.10 +1 X \$100K X 0.10 = \$22K) for TY2024 and thereafter. Non-Labor expense is estimated to be 1 X \$5K =\$5K in 2023 and in TY2024 only.					
2024	0	30	0	30	0.0	1-Sided Adj
Explanation:	Develop Virtual Training - Virtual training will be established to provide enhanced training for activities that involve higher risk and difficult to replicate, real-life scenarios that can be safely simulated within Virtual Reality applications. This training will charge 30% to O&M. There is no labor expense. Non-labor expense is estimated to be \$200K X 0.30 = \$60K for 2022 and 2023. The non-labor expense in TY2024 is estimated to be \$100K X 0.30=\$30K.					
2024 Total	80	45	0	125	0.3	

Note: Totals may include rounding differences.

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

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

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella
Category: K. Operations Management Supervision & Training
Category-Sub: 1. Operations Management Supervision & Training
Workpaper: 1GD010.000 - Operations Management, Supervision & Training

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	4,867	5,152	5,359	5,860	6,137
Non-Labor	1,505	1,262	1,566	3,366	4,292
NSE	0	0	0	0	0
Total	6,371	6,414	6,925	9,227	10,428
FTE	54.7	59.6	60.7	61.3	61.2
Adjustments (Nominal \$) **					
Labor	-277	-412	-418	55	-227
Non-Labor	-28	-101	-157	-1,498	-2,086
NSE	0	0	0	0	0
Total	-305	-512	-575	-1,444	-2,313
FTE	-3.8	-6.1	-5.8	3.5	-3.1
Recorded-Adjusted (Nominal \$)					
Labor	4,590	4,741	4,941	5,915	5,910
Non-Labor	1,477	1,161	1,409	1,868	2,206
NSE	0	0	0	0	0
Total	6,066	5,902	6,350	7,783	8,116
FTE	50.9	53.5	54.8	64.9	58.2
Vacation & Sick (Nominal \$)					
Labor	681	718	708	839	888
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	681	718	708	839	888
FTE	8.5	9.0	8.9	10.5	10.0
Escalation to 2021\$					
Labor	612	470	329	216	0
Non-Labor	170	98	88	124	0
NSE	0	0	0	0	0
Total	782	568	417	340	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021\$)					
Labor	5,883	5,929	5,977	6,970	6,797
Non-Labor	1,647	1,260	1,497	1,992	2,206
NSE	0	0	0	0	0
Total	7,530	7,188	7,475	8,962	9,003
FTE	59.4	62.5	63.7	75.4	68.2

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: K. Operations Management Supervision & Training
 Category-Sub: 1. Operations Management Supervision & Training
 Workpaper: 1GD010.000 - Operations Management, Supervision & Training

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs					
Years	2017	2018	2019	2020	2021
Labor	-277	-412	-418	55	-227
Non-Labor	-28	-101	-157	-1,498	-2,086
NSE	0	0	0	0	0
Total	-305	-512	-575	-1,444	-2,313
FTE	-3.8	-6.1	-5.8	3.5	-3.1

Detail of Adjustments to Recorded:

Year	Labor	NLbr	NSE	FTE	Adj Type
2017	-33	-1	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	-244	-27	0	-3.7	1-Sided Adj
Explanation:	7090820 - Adjust from 1GD010 (OpMgmtSupTrn) to 1GD009 (Asset Management) - Remove DOH from OpsMgmtSupTrn to Asset Mgmt.				
2017 Total	-277	-28	0	-3.8	
2018	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).				
2018	-428	-101	0	-6.2	1-Sided Adj
Explanation:	7090820 - Adjust from 1GD010 (OpMgmtSupTrn) to 1GD009 (Asset Management) - Remove DOH from OpsMgmtSupTrn to Asset Mgmt.				
2018 Total	-412	-101	0	-6.1	
2019	-418	-157	0	-5.8	1-Sided Adj
Explanation:	7090820 - Adjust from 1GD010 (OpMgmtSupTrn) to 1GD009 (Asset Management) - Remove DOH from OpsMgmtSupTrn to Asset Mgmt.				
2019 Total	-418	-157	0	-5.8	
2020	0	-1	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	-30	-1,456	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).				

Note: Totals may include rounding differences.

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

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: K. Operations Management Supervision & Training
 Category-Sub: 1. Operations Management Supervision & Training
 Workpaper: 1GD010.000 - Operations Management, Supervision & Training

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
2020	652	42	0	6.0	1-Sided Adj
Explanation:	7074346/7022860 - Adjust from 1GD000 (Other Services) to 1GD010 (Operations Management, Supervision and Training) - Remove DOH from Other Services to OpMgmtSupTrn.				
2020	-184	-61	0	-2.2	1-Sided Adj
Explanation:	7090820 - Adjust from 1GD010 (OpMgmtSupTrn) to 1GD009 (Asset Management) - Remove DOH from OpsMgmtSupTrn to Asset Mgmt.				
2020	-383	-22	0	-0.2	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 Total	55	-1,498	0	3.5	
2021	-27	-2,009	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	-200	-77	0	-3.0	1-Sided Adj
Explanation:	7090820 - Adjust from 1GD010 (OpMgmtSupTrn) to 1GD009 (Asset Management) - Remove DOH from OpsMgmtSupTrn to Asset Mgmt.				
2021 Total	-227	-2,086	0	-3.1	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: K. Operations Management Supervision & Training
 Category-Sub: 1. Operations Management Supervision & Training
 Workpaper: 1GD010.000 - Operations Management, Supervision & Training

RAMP Item # 1

RAMP Activity

RAMP Chapter: SDG&E-Risk-7 Excavation Damage (Dig-In) on the Gas System

RAMP Line Item ID: C01

RAMP Line Item Name: L&M Training Groupings

Tranche(/s): Tranche1: MP

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	746	746	746	746	252	314

Cost Estimate Changes from RAMP:

The forecast is outside the RAMP range due to changes in forecast assumptions since preparing RAMP filing.

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 Training Hours	1,255.00	1,374.00	1,374.00	1,374.00	1,255.00	1,519.00

Work Unit Changes from RAMP:

Units are in alignment with RAMP forecast.

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

San Diego Gas & Electric Company
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Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: K. Operations Management Supervision & Training
 Category-Sub: 1. Operations Management Supervision & Training
 Workpaper: 1GD010.000 - Operations Management, Supervision & Training

RAMP Item # 2

RAMP Activity

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

RAMP Line Item ID: C14

RAMP Line Item Name: Human Factors Mitigations - Ops Qual Training

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	1,661	1,661	1,661	1,661	2,347	2,841

Cost Estimate Changes from RAMP:

The forecast is outside the RAMP range due to changes in forecast assumptions since preparing RAMP filing.

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 EE/Contractors Trained	749.00	749.00	749.00	749.00	712.00	861.00

Work Unit Changes from RAMP:

Units are in alignment with RAMP forecast.

Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.500	0.400

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
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
 Witness: L. Patrick Kinsella
 Category: K. Operations Management Supervision & Training
 Category-Sub: 1. Operations Management Supervision & Training
 Workpaper: 1GD010.000 - Operations Management, Supervision & Training

RAMP Item # 3

RAMP Activity

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

RAMP Line Item ID: C15

RAMP Line Item Name: Human Factors Mitigation - QA/QC Program

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	300	300	300	300	342	414

Cost Estimate Changes from RAMP:

The forecast is outside the RAMP range due to changes in forecast assumptions since preparing RAMP filing.

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 QA/QC field audits	239.00	239.00	239.00	239.00	227.00	275.00

Work Unit Changes from RAMP:

Units are in alignment with RAMP forecast.

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

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Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2100-0079	000	METRO C&O GAS
2100-0081	000	SOUTH STREET REPAIR
2100-0087	000	NORTH COAST C&O CENTER GAS
2100-0093	000	NORTHEAST C&O-GAS
2100-0094	000	NORTH STREET REPAIR
2100-0102	000	BEACH CITIES C&O CENTER GAS
2100-0107	000	EASTERN C&O CENTER GAS
2100-0171	000	PIPELINE OPERATIONS
2100-0173	000	SHOPS SERVICES
2100-0174	000	M&R/SYSTEM PROTECTION SUPERVISOR
2100-0176	000	GAS INSTRUMENT SHOP
2100-0177	000	GAS ENGINEERING
2100-0182	000	GAS GEO INFO SYS/SVC
2100-0183	000	TECH SERVICES - HP PIPELINE & FRCHS
2100-0310	000	GAS TSM & DISTB LVC for Budget Use Only
2100-0637	000	CATHODIC PROTECTION
2100-0654	000	PIPELINE SERVICES
2100-0716	000	WELDING TRAINING & INSPECTION
2100-3400	000	VP Field Services
2100-3402	000	GAS TECHNICAL SERVICES MIRAMAR STAFF
2100-3405	000	CNG MAINTENANCE
2100-3417	000	SVP GAS TRANS & DISTR-NSS
2100-3426	000	GAS OPERATIONS DIRECTOR
2100-3459	000	CUSTOMER SERVICE-SOUTH INLAND DIRECTOR
2100-3538	000	VP ENGINEERING & OPERATION STAFF
2100-3567	000	GAS DESIGN
2100-3568	000	TECH SERVICES - PROGRAMS
2100-3586	000	SD REG FLD OPS MGR
2100-3606	000	Work Eff Office (WEO)
2100-3625	000	LEAKAGE MITIGATION
2100-3678	000	CONSTRUCTION RESOURCE MGMT
2100-3720	000	NC C&O STREET REPAIR
2100-3723	000	OC GAS DISTRIBUTION
2100-3728	000	EA C&O STREET REPAIR
2100-3729	000	BC C&O STREET REPAIR
2100-3730	000	GAS, LOCATORS, PROJECT MANAGEMENT
2100-3734	000	OPERATIONS TRAINING MANAGER
2100-3767	000	LOCATE & MARK-NORTH
2100-3768	000	LOCATE & MARK-SOUTH
2100-3769	000	LOCATE & MARK-COASTL
2100-3815	000	MOBILE BUSINESS SUPPORT
2100-3914	000	GOS CPD SUPPORT
2100-3927	000	TRAFFIC CONTROL NORTH
2100-3928	000	TRAFFIC CONTROL SOUTH
2100-3943	000	GAS TECHNICAL SERVICES TRAINING

SDG&E/GAS DISTRIBUTION/Exh No:SDG&E-04-WP-R/Witness: L. Kinsella

San Diego Gas & Electric Company
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Non-Shared Service Workpapers

Area: GAS DISTRIBUTION
Witness: L. Patrick Kinsella

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2100-3944	000	QUALIFICATIONS & COMPLIANCE
2100-3947	000	MHP OUTREACH
2100-3948	000	MHP PLAN & CONSTUCT
2100-3957	000	TECH SERVICES - COMPLIANCE
2100-3990	000	SANDIEGO GAS DISTR OPS COMPLIANCE GROUP
2100-4037	000	GAS EMERGENCY DEPARTMENT 24/7
2100-4038	000	GAS REGIONAL OPS CONSTRUCTION (GROC)
2100-4093	000	LEAKAGE MITIGATION SOUTH
2100-4116	000	TECHNICAL SERVICES RAMP
2100-4140	000	Const. Mgmt - Gas Dist
2100-4147	000	TRAFFIC CONTROL BEACH CITIES
2100-4148	000	TRAFFIC CONTROL NORTH COAST
2100-4149	000	TRAFFIC CONTROL EASTERN
2100-4150	000	GAS EMERGENCY DEPARTMENT-NORTHEAST
2100-4151	000	GAS EMERGENCY DEPARTMENT-BEACH CITIES
2100-4152	000	GAS EMERGENCY DEPARTMENT-METRO
2100-4153	000	GAS EMERGENCY DEPARTMENT-EASTERN