Application of SOUTHERN CALIFORNIA GAS COMPANY for authority to update its gas revenue requirement and base rates effective January 1, 2024 (U 904-G)	))))

Application No. 22-05-015

Exhibit No.: (SCG-07-CWP-R)

REVISED CAPITAL WORKPAPERS TO PREPARED DIRECT TESTIMONY OF MARIA T. MARTINEZ ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

AUGUST 2022

2024 General Rate Case - REVISED

INDEX OF WORKPAPERS

Exhibit SCG-07-CWP-R - GAS ENGINEERING

Overall Summary For Exhibit No. SCG-07-CWP-R

Area:	**GAS ENGINEERING**
Witness:	**Maria T. Martinez**

	In 2021 $ (000)		
	Adjusted-Forecast		
	2022	2023	2024
A. Engineering Tools and Equipment	1,693	1,773	2,193
B. Land Rights	1,361	361	3,061
C. Supervision and Engineering Overhead Pool	15,899	15,899	18,899
Total	**18,953**	**18,033**	**24,153**

Note: Totals may include rounding differences.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Category: A. Engineering Tools and Equipment
Workpaper: VARIOUS

Summary for Category: A. Engineering Tools and Equipment

	In 2021$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	23	71	71	71
Non-Labor	1,495	1,622	1,702	2,122
NSE	0	0	0	0
Total	**1,518**	**1,693**	**1,773**	**2,193**
FTE	0.2	0.6	0.6	0.6
007300 Laboratory Equipment (BC730)				
Labor	23	71	71	71
Non-Labor	1,495	1,622	1,622	1,622
NSE	0	0	0	0
Total	**1,518**	**1,693**	**1,693**	**1,693**
FTE	0.2	0.6	0.6	0.6
003430 Aviation Services				
Labor	0	0	0	0
Non-Labor	0	0	80	500
NSE	0	0	0	0
Total	**0**	**0**	**80**	**500**
FTE	0.0	0.0	0.0	0.0

Note: Totals may include rounding differences.

Beginning of Workpaper Group
007300 - Laboratory Equipment (BC730)

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00730.0
Category: A. Engineering Tools and Equipment
Category-Sub: 1. Laboratory Tools and Equipment
Workpaper Group: 007300 - Laboratory Equipment (BC730)

Summary of Results (Constant 2021 $ in 000s):

Forecast Method		Adjusted Recorded					Adjusted Forecast		
Years		2017	2018	2019	2020	2021	2022	2023	2024
Labor	5-YR Average	120	64	152	-3	23	71	71	71
Non-Labor	5-YR Average	1,352	1,489	1,927	1,846	1,495	1,622	1,622	1,622
NSE	5-YR Average	0	0	0	0	0	0	0	0
Total		**1,472**	**1,552**	**2,080**	**1,843**	**1,517**	**1,693**	**1,693**	**1,693**
FTE	5-YR Average	0.9	0.5	1.2	0.0	0.2	0.6	0.6	0.6

Business Purpose:

This workpaper provides capital funding to equip the Engineering Analysis Center (EAC) with modern, state-of-the-art laboratory equipment necessary to maintain the Company's ability to perform necessary analysis and evaluation of materials, emissions and technology. In addition to the EAC, Capital funding is utilized to maintain, purchase or upgrade laboratory equipment for Air Quality and Compressor Services, Materials Quality Management, Chemical and Environmental Services, Non-Destructive Examination (NDE) Program, and Applied Technologies Lab.

Physical Description:

Tools used by laboratory personnel are frequently sensitive instruments for measuring a variety of materials , substances and gases including emissions. Other equipment may include ovens, burners, microscopes, scales, handling equipment, and tools for computed radiography.

Project Justification:

Existing regulations require equipment upgrades for both pipeline and engine monitoring. Equipment replacement schedules are developed based on equipment life and past practices driving the requirement to purchase new equipment. Laboratory grade equipment continues to evolve and become more costly. These investments also enhance the efficiency and responsiveness of our Gas Operations and maintains compliance with applicable regulatory and environmental regulations.

Note: Totals may include rounding differences.

Area:	GAS ENGINEERING
Witness:	Maria T. Martinez
Budget Code:	00730.0
Category:	A. Engineering Tools and Equipment
Category-Sub:	1. Laboratory Tools and Equipment
Workpaper Group:	007300 - Laboratory Equipment (BC730)

Forecast Methodology:

Labor - 5-YR Average

The forecast method used is the 5 year average of recorded labor costs in this budget code. A 5 year average represents a reasonable basis to estimate operational needs for TY 2024 because Laboratory equipment costs are prone to fluctuations driven by supply and demand and changes in work activities that drive equipment needs. The 5 year average is both fair and conservative, and best represents the capital expenditures in this category.

Non-Labor - 5-YR Average

The forecast method used is the 5 year average of recorded non-labor costs in this budget code. A 5 year average represents a reasonable basis to estimate operational needs for TY 2024 because Laboratory equipment costs are prone to fluctuations driven by supply and demand and changes in work activities that drive equipment needs. The 5 year average is both fair and conservative, and best represents the capital expenditures in this category.

NSE - 5-YR Average

There are no non-standard escalation expenses in this workpaper.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00730.0
Category: A. Engineering Tools and Equipment
Category-Sub: 1. Laboratory Tools and Equipment
Workpaper Group: 007300 - Laboratory Equipment (BC730)

Summary of Adjustments to Forecast

In 2021 $ (000)										
Forecast Method		**Base Forecast**			**Forecast Adjustments**			**Adjusted-Forecast**		
Years		**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Labor	5-YR Average	71	71	71	0	0	0	71	71	71
Non-Labor	5-YR Average	1,622	1,622	1,622	0	0	0	1,622	1,622	1,622
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		**1,693**	**1,693**	**1,693**	**0**	**0**	**0**	**1,693**	**1,693**	**1,693**
FTE	5-YR Average	0.6	0.6	0.6	0.0	0.0	0.0	0.6	0.6	0.6

Forecast Adjustment Details

Year	Labor	NLbr	NSE	Total	FTE
2022 Total	0	0	0	0	0.0
2023 Total	0	0	0	0	0.0
2024 Total	0	0	0	0	0.0

Note: Totals may include rounding differences.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00730.0
Category: A. Engineering Tools and Equipment
Category-Sub: 1. Laboratory Tools and Equipment
Workpaper Group: 007300 - Laboratory Equipment (BC730)

Determination of Adjusted-Recorded:

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (Nominal $)*					
Labor	77	43	106	-2	19
Non-Labor	1,009	1,177	1,596	1,605	1,495
NSE	0	0	0	0	0
Total	**1,086**	**1,220**	**1,702**	**1,602**	**1,514**
FTE	0.8	0.4	1.0	0.0	0.2
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	77	43	106	-2	19
Non-Labor	1,009	1,177	1,596	1,605	1,495
NSE	0	0	0	0	0
Total	**1,086**	**1,220**	**1,702**	**1,602**	**1,514**
FTE	0.8	0.4	1.0	0.0	0.2
Vacation & Sick (Nominal $)					
Labor	13	7	20	0	3
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**13**	**7**	**20**	**0**	**3**
FTE	0.1	0.1	0.2	0.0	0.0
Escalation to 2021$					
Labor	31	13	26	0	0
Non-Labor	343	312	331	241	0
NSE	0	0	0	0	0
Total	**374**	**326**	**358**	**241**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021$)					
Labor	120	64	152	-3	23
Non-Labor	1,352	1,489	1,927	1,846	1,495
NSE	0	0	0	0	0
Total	**1,472**	**1,552**	**2,080**	**1,843**	**1,517**
FTE	0.9	0.5	1.2	0.0	0.2

* 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.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00730.0
Category: A. Engineering Tools and Equipment
Category-Sub: 1. Laboratory Tools and Equipment
Workpaper Group: 007300 - Laboratory Equipment (BC730)

Summary of Adjustments to Recorded:

In Nominal $(000)					
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

Year	Labor	NLbr	NSE	Total	FTE

Note: Totals may include rounding differences.

Beginning of Workpaper Sub Details for
Workpaper Group 007300

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00730.0
Category: A. Engineering Tools and Equipment
Category-Sub: 1. Laboratory Tools and Equipment
Workpaper Group: 007300 - Laboratory Equipment (BC730)
Workpaper Detail: 007300.001 - Capital funding is utilized to maintain, purchase or upgrade laboratory equipment.

In-Service Date: Not Applicable

Description:

Capital funding is utilized to maintain, purchase or upgrade laboratory equipment.

Forecast In 2021 $(000)			
Years	**2022**	**2023**	**2024**
Labor	71	71	71
Non-Labor	1,622	1,622	1,622
NSE	0	0	0
Total	**1,693**	**1,693**	**1,693**
FTE	0.6	0.6	0.6

Note: Totals may include rounding differences.

Beginning of Workpaper Group
003430 - Aviation Services

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00343.0
Category: A. Engineering Tools and Equipment
Category-Sub: 2. Aviation Services
Workpaper Group: 003430 - Aviation Services

Summary of Results (Constant 2021 $ in 000s):

Forecast Method		Adjusted Recorded					Adjusted Forecast		
Years		2017	2018	2019	2020	2021	2022	2023	2024
Labor	Zero-Based	0	0	0	0	0	0	0	0
Non-Labor	Zero-Based	0	0	0	0	0	0	80	500
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		**0**	**0**	**0**	**0**	**0**	**0**	**80**	**500**
FTE	Zero-Based	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0

Business Purpose:

This workpaper provides capital funding to the Aviation Services Program for purchase of aerial based tools such as unmanned aircraft and ancillary equipment required to support Gas Operations organizations conduct inspections of remote and difficult to access areas for pipeline patrol and leak survey in compliance with GO-112F.

Physical Description:

Unmanned Aerial Technology- Unmanned Aerial Vehicles (UAVs) used to obtain aerial imagery, videography, identify leaks, quantify emissions, perform inspections and emergency response. Drones are used for inspection of remote and difficult to access facilities, such as bridge and spans and inaccessible customer meters for GO-112F compliance. These aircraft are flown by a certified pilot remotely on the ground.

Project Justification:

Advancement of aviation-based technology solutions supports SoCalGas and its Gas Operations organizations by providing aviation-related expertise and technical knowledge enabling development of safe and efficient aerial-based tools and technologies and provides for greater oversight for aviation safety. These investments also enhance the efficiency and responsiveness of our Gas Operations and maintains compliance with applicable regulatory and environmental regulations.

Note: Totals may include rounding differences.

Area:	GAS ENGINEERING
Witness:	Maria T. Martinez
Budget Code:	00343.0
Category:	A. Engineering Tools and Equipment
Category-Sub:	2. Aviation Services
Workpaper Group:	003430 - Aviation Services

Forecast Methodology:

Labor - Zero-Based

The forecast used a zero-based methodology because historical spending is not reflective of future labor costs required for the administration of the unmanned aerial technology equipment purchases. This Budget Code is planned to Capital in 2023, 2024, 2025 and 2026. Other forecast methodologies, such as the 5 year average methodology are not appropriate because they do not take into account the future purchases of Unmanned Aerial Vehicles (UAVs) and ancillary equipment.

Non-Labor - Zero-Based

See Supplemental Workpaper SCG-07EN-CAP BC 003430. The forecast used a zero-based methodology because historical spending is not reflective of future non-labor costs to purchase the unmanned aerial technology equipment. This Budget Code is planned to Capital in 2023, 2024, 2025 and 2026. Other forecast methodologies, such as the 5 year average methodology are not appropriate because they do not take into account the future purchase of Unmanned Aerial Vehicles (UAVs) and ancillary equipment.

NSE - Zero-Based

There are no non-standard escalation expenses in this workpaper.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00343.0
Category: A. Engineering Tools and Equipment
Category-Sub: 2. Aviation Services
Workpaper Group: 003430 - Aviation Services

Summary of Adjustments to Forecast

In 2021 $ (000)										
Forecast Method		**Base Forecast**			**Forecast Adjustments**			**Adjusted-Forecast**		
Years		**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Labor	Zero-Based	0	0	0	0	0	0	0	0	0
Non-Labor	Zero-Based	0	80	500	0	0	0	0	80	500
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		**0**	**80**	**500**	**0**	**0**	**0**	**0**	**80**	**500**
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Forecast Adjustment Details

Year	Labor	NLbr	NSE	Total	FTE
2022 Total	0	0	0	0	0.0
2023 Total	0	0	0	0	0.0
2024 Total	0	0	0	0	0.0

Note: Totals may include rounding differences.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00343.0
Category: A. Engineering Tools and Equipment
Category-Sub: 2. Aviation Services
Workpaper Group: 003430 - Aviation Services

Determination of Adjusted-Recorded:

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (Nominal $)*					
Labor	191	107	-1,445	3	0
Non-Labor	0	100	171	0	0
NSE	0	0	0	0	0
Total	**191**	**207**	**-1,273**	**3**	**0**
FTE	1.6	1.1	-11.5	0.0	0.0
Adjustments (Nominal $) **					
Labor	-191	-107	1,445	-3	0
Non-Labor	0	-100	-171	0	0
NSE	0	0	0	0	0
Total	**-191**	**-207**	**1,273**	**-3**	**0**
FTE	-1.6	-1.1	11.5	-0.1	0.0
Recorded-Adjusted (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	-0.1	0.0
Vacation & Sick (Nominal $)					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Escalation to 2021$					
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
Recorded-Adjusted (Constant 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	-0.1	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.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00343.0
Category: A. Engineering Tools and Equipment
Category-Sub: 2. Aviation Services
Workpaper Group: 003430 - Aviation Services

Summary of Adjustments to Recorded:

In Nominal $(000)					
Years	**2017**	**2018**	**2019**	**2020**	**2021**
Labor	-191	-107	1,445	-3	0
Non-Labor	0	-100	-171	0	0
NSE	0	0	0	0	0
Total	**-191**	**-207**	**1,273**	**-3**	**0**
FTE	-1.6	-1.1	11.5	-0.1	0.0

Detail of Adjustments to Recorded in Nominal $:

Year	Labor	NLbr	NSE	Total	FTE
2017	-191	0.087	0	-191	-1.6
Explanation:	One sided adjustment to exclude non-GRC Pipeline Safety & Reliability Project costs				
2017 Total	-191	0.087	0	-191	-1.6
2018	-107	-100	0	-207	-1.1
Explanation:	One sided adjustment to exclude non-GRC Pipeline Safety & Reliability Project costs				
2018 Total	-107	-100	0	-207	-1.1
2019	1,445	-171	0	1,273	11.5
Explanation:	One sided adjustment to exclude non-GRC Pipeline Safety & Reliability Project costs				
2019 Total	1,445	-171	0	1,273	11.5
2020	-3	0	0	-3	-0.1
Explanation:	One sided adjustment to exclude non-GRC Pipeline Safety & Reliability Project costs				
2020 Total	-3	0	0	-3	-0.1
2021 Total	0	0	0	0	0.0

Note: Totals may include rounding differences.

Beginning of Workpaper Sub Details for
Workpaper Group 003430

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00343.0
Category: A. Engineering Tools and Equipment
Category-Sub: 2. Aviation Services
Workpaper Group: 003430 - Aviation Services
Workpaper Detail: 003430.001 - Aviation Services

In-Service Date: 10/31/2024

Description:

Unmanned Aerial Technology- SoCalGas usesd unmanned Aerial Vehicles (UAVs) used to obtain aerial imagery, videography, identify leaks, quantify emissions, perform inspections and emergency response. Drones are used for inspection of remote and difficult to access facilities, such as bridge and spans and inaccessible customer meters for GO-112F compliance. These aircraft are flown by a certified pilot remotely on the ground.

Forecast In 2021 $(000)			
Years	**2022**	**2023**	**2024**
Labor	0	0	0
Non-Labor	0	80	500
NSE	0	0	0
Total	**0**	**80**	**500**
FTE	0.0	0.0	0.0

Note: Totals may include rounding differences.

Supplemental Workpapers for Workpaper Group 003430

Southern California Gas Company
2024 GRC - REVISED
Capital Workpapers

SCG-07-EN-CAP SUP BC 003430
Southern California Gas Company – Gas Engineering – Witness Maria Martinez
Supplemental Capital Workpaper For Zero-Base Forecast
Aviation Services

Constant 2021 $ in 000s

ITEMS	2023 COST (1 sUAS[1])	2024 COST (5 sUAS)	2025 COST (4 sUAS)	2026 COST (2 sUAS)
Drone, (Batteries (2) Battery Station (1), Controller (1))	$ 10.9	$ 68.3	$ 54.7	$ 27.3
U10 UAV Based Laser Methane Leak Detector	$ 53.6	$ 335.0	$ 268.0	$ 134.0
Zenmusse P1	$ 5.0	$ 31.3	$ 25.0	$ 12.5
Software subscription (perpetual per drone)	$ 3.2	$ 20.0	$ 16.0	$ 8.0
Extra batteries	$ 4.5	$ 28.0	$ 22.4	$ 11.2
Computer	$ 1.6	$ 10.0	$ 8.0	$ 4.0
Tablet	$ 0.8	$ 5.0	$ 4.0	$ 2.0
Charger Kit	$ 0.2	$ 1.0	$ 0.8	$ 0.4
SD Cards	$ 0.2	$ 1.0	$ 0.8	$ 0.4
Hard Case	$ 0.1	$ 0.8	$ 0.6	$ 0.3
Landing Pad	$ 0.1	$ 0.8	$ 0.6	$ 0.3
Connection Wires	$ 0.0	$ 0.1	$ 0.1	$ 0.0
Strobe (Night Flying)	$ 0.1	$ 0.5	$ 0.4	$ 0.2
Total Cost by Year	$ 80	$ 500	$ 401	$ 201

[1] Potential to be discounted by manufacturer as RD&D

Assumptions:

1. The costs occur one time for each year

2. The items per Small Unmanned Aerial Systems (sUAS)

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Category: B. Land Rights
Workpaper: 006170

Summary for Category: B. Land Rights

	In 2021$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	29	83	83	83
Non-Labor	170	1,278	278	2,978
NSE	0	0	0	0
Total	**199**	**1,361**	**361**	**3,061**
FTE	0.2	0.6	0.6	0.6

006170 Land Rights

Labor	29	83	83	83
Non-Labor	170	1,278	278	2,978
NSE	0	0	0	0
Total	**199**	**1,361**	**361**	**3,061**
FTE	0.2	0.6	0.6	0.6

Note: Totals may include rounding differences.

Beginning of Workpaper Group
006170 - Land Rights

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00617.0
Category: B. Land Rights
Category-Sub: 1. Land Rights
Workpaper Group: 006170 - Land Rights

Summary of Results (Constant 2021 $ in 000s):

Forecast Method		Adjusted Recorded					Adjusted Forecast		
Years		2017	2018	2019	2020	2021	2022	2023	2024
Labor	5-YR Average	146	110	97	32	29	83	83	83
Non-Labor	5-YR Average	31	373	486	328	170	1,278	278	2,978
NSE	5-YR Average	0	0	0	0	0	0	0	0
Total		**178**	**484**	**583**	**360**	**200**	**1,361**	**361**	**3,061**
FTE	5-YR Average	1.1	0.8	0.7	0.2	0.2	0.6	0.6	0.6

Business Purpose:

This Capital Budget Code 617 provides capital funding for acquisition of land or land rights interests necessary to allow for the access, construction, operation and maintenance of pipeline infrastructure on public and private properties.

Physical Description:

Pipeline rights of way physical dimensions vary in width depending on the diameter of the pipelines and allows pipeline infrastructure to traverse both public and private properties.

Project Justification:

Federal law requires public utility lines occupying private or public lands to be protected by acquisition of appropriate land rights. Compensation for the property interests needed is provided according to specific provisions of the contractual arrangements that allow for access, operation, and maintenance of our pipeline infrastructure traversing public and private properties.

Note: Totals may include rounding differences.

Area:	GAS ENGINEERING
Witness:	Maria T. Martinez
Budget Code:	00617.0
Category:	B. Land Rights
Category-Sub:	1. Land Rights
Workpaper Group:	006170 - Land Rights

Forecast Methodology:

Labor - 5-YR Average

The forecast was developed using the five-year average method to capture labor expense requirements for this cost category. This method is most appropriate because the historical data accounts for fluctuations in acquisition support costs driven by market conditions and negotiated terms based on contractual arrangements. Current acquisition activity levels and support functions are expected to continue moving forward therefore the 5 year average forecast is expected to meet future funding requirements.

Non-Labor - 5-YR Average

The forecast was developed using the five-year average method to capture non-labor expense requirements for this cost category. This method is most appropriate because the historical data accounts for fluctuations in acquisition costs driven by market conditions and negotiated terms based on contractual arrangements and published rent schedules for public lands under federal jurisdiction. Current acquisition activity levels and support functions are expected to continue moving forward therefore the 5 year average forecast is expected to meet future funding requirements. In addition, incremental one-time adjustments have been added to the 5 year average.

NSE - 5-YR Average

There are no non-standard escalation expenses in this workpaper.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00617.0
Category: B. Land Rights
Category-Sub: 1. Land Rights
Workpaper Group: 006170 - Land Rights

Summary of Adjustments to Forecast

In 2021 $ (000)										
Forecast Method		**Base Forecast**			**Forecast Adjustments**			**Adjusted-Forecast**		
Years		**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Labor	5-YR Average	83	83	83	0	0	0	83	83	83
Non-Labor	5-YR Average	278	278	278	1,000	0	2,700	1,278	278	2,978
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		**361**	**361**	**361**	**1,000**	**0**	**2,700**	**1,361**	**361**	**3,061**
FTE	5-YR Average	0.6	0.6	0.6	0.0	0.0	0.0	0.6	0.6	0.6

Forecast Adjustment Details

Year	Labor	NLbr	NSE	Total	FTE
2022	0	1,000	0	1,000	0.0
Explanation:	This incremental cost is associated with a one time adjustment for land rights payment for the L5000 Bureau Land Management (BLM) Serial Grant renewal on public lands.				
2022 Total	0	1,000	0	1,000	0.0
2023 Total	0	0	0	0	0.0
2024	0	2,700	0	2,700	0.0
Explanation:	These activities establish Forest Service Master Special Use (MSUP) Programmatic Permits (including a new access road MSUP to provide safe, efficient access to pipeline facilities within the Angeles National Forest), Los Padres National Forest, San Bernardino National Forest Service.				
2024 Total	0	2,700	0	2,700	0.0

Note: Totals may include rounding differences.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00617.0
Category: B. Land Rights
Category-Sub: 1. Land Rights
Workpaper Group: 006170 - Land Rights

Determination of Adjusted-Recorded:

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (Nominal $)*					
Labor	93	74	68	23	25
Non-Labor	24	295	402	100,285	170
NSE	0	0	0	0	0
Total	**117**	**370**	**470**	**100,309**	**195**
FTE	0.9	0.7	0.6	0.2	0.2
Adjustments (Nominal $) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	-100,000	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**-100,000**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal $)					
Labor	93	74	68	23	25
Non-Labor	24	295	402	285	170
NSE	0	0	0	0	0
Total	**117**	**370**	**470**	**309**	**195**
FTE	0.9	0.7	0.6	0.2	0.2
Vacation & Sick (Nominal $)					
Labor	16	13	13	4	4
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**16**	**13**	**13**	**4**	**4**
FTE	0.2	0.1	0.1	0.0	0.0
Escalation to 2021$					
Labor	37	23	17	4	0
Non-Labor	8	78	84	43	0
NSE	0	0	0	0	0
Total	**45**	**101**	**100**	**47**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021$)					
Labor	146	110	97	32	29
Non-Labor	31	373	486	328	170
NSE	0	0	0	0	0
Total	**178**	**484**	**583**	**360**	**200**
FTE	1.1	0.8	0.7	0.2	0.2

* 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.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00617.0
Category: B. Land Rights
Category-Sub: 1. Land Rights
Workpaper Group: 006170 - Land Rights

Summary of Adjustments to Recorded:

In Nominal $(000)					
Years	**2017**	**2018**	**2019**	**2020**	**2021**
Labor	0	0	0	0	0
Non-Labor	0	0	0	-100,000	0
NSE	0	0	0	0	0
Total	**0**	**0**	**0**	**-100,000**	**0**
FTE	0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded in Nominal $:

Year	Labor	NLbr	NSE	Total	FTE
2017 Total	0	0	0	0	0.0
2018 Total	0	0	0	0	0.0
2019 Total	0	0	0	0	0.0
2020	0	-100,000	0	-100,000	0.0
Explanation:	One time downward adjustment to remove non-labor easement costs from 2020 in order to track/recover in MROWMA				
2020 Total	0	-100,000	0	-100,000	0.0
2021 Total	0	0	0	0	0.0

Note: Totals may include rounding differences.

Beginning of Workpaper Sub Details for
Workpaper Group 006170

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00617.0
Category: B. Land Rights
Category-Sub: 1. Land Rights
Workpaper Group: 006170 - Land Rights
Workpaper Detail: 006170.001 - Acquisition of land rights

In-Service Date: Not Applicable

Description:

BC 617 activities include the acquisition of land or land rights interests necessary to allow for the access, construction, operation, and maintenance of pipeline infrastructure on public and private properties.

Forecast In 2021 $(000)			
Years	**2022**	**2023**	**2024**
Labor	83	83	83
Non-Labor	1,278	278	2,978
NSE	0	0	0
Total	**1,361**	**361**	**3,061**
FTE	0.6	0.6	0.6

Note: Totals may include rounding differences.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Category: C. Supervision and Engineering Overhead Pool
Workpaper: 009080

Summary for Category: C. Supervision and Engineering Overhead Pool

	In 2021$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	12,525	10,746	10,746	10,746
Non-Labor	6,938	5,153	5,153	8,153
NSE	0	0	0	0
Total	**19,463**	**15,899**	**15,899**	**18,899**
FTE	114.3	90.3	90.3	90.3

009080 Supervision and Engineering Overhead Pool

Labor	12,525	10,746	10,746	10,746
Non-Labor	6,938	5,153	5,153	8,153
NSE	0	0	0	0
Total	**19,463**	**15,899**	**15,899**	**18,899**
FTE	114.3	90.3	90.3	90.3

Note: Totals may include rounding differences.

Beginning of Workpaper Group
009080 - Supervision and Engineering Overhead Pool

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00908.0
Category: C. Supervision and Engineering Overhead Pool
Category-Sub: 1. Supervision and Engineering Overhead Pool
Workpaper Group: 009080 - Supervision and Engineering Overhead Pool

Summary of Results (Constant 2021 $ in 000s):

Forecast Method		Adjusted Recorded					Adjusted Forecast		
Years		**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Labor	3-YR Average	5,223	6,504	8,037	11,676	12,525	10,746	10,746	10,746
Non-Labor	3-YR Average	1,031	1,729	2,890	5,632	6,938	5,153	5,153	8,153
NSE	3-YR Average	0	0	0	0	0	0	0	0
Total		**6,254**	**8,233**	**10,927**	**17,308**	**19,463**	**15,899**	**15,899**	**18,899**
FTE	3-YR Average	37.1	48.2	62.7	93.8	114.3	90.3	90.3	90.3

Business Purpose:

This Capital Budget Code 908 provides a pool for overhead charges that will be reassigned to the various budget categories on a direct basis. Charges reside in this Budget Category temporarily and are reassigned on a monthly basis.

Physical Description:

Supervision and Engineering Overhead charges stemming from labor spend on Capital projects and reassigned to Capital budget categories specific to Gas Transmission projects.

Project Justification:

Continues an established accounting procedure for making charges to overheads on a direct basis to Gas Transmission's budget categories.

Note: Totals may include rounding differences.

Area:	GAS ENGINEERING
Witness:	Maria T. Martinez
Budget Code:	00908.0
Category:	C. Supervision and Engineering Overhead Pool
Category-Sub:	1. Supervision and Engineering Overhead Pool
Workpaper Group:	009080 - Supervision and Engineering Overhead Pool

Forecast Methodology:

Labor - 3-YR Average

The forecast was developed using the 3 year average method to capture labor expense requirements for this cost category. This method is most appropriate because the historical data indicates that activities and number of capital projects in scope of SoCalGas and staffing levels have been steadily increasing . This method along with an adjustment in 2024 is most appropriate to reflect future needs and the settling of the cost related to the Construction organization that began in 2020.

Non-Labor - 3-YR Average

The forecast was developed using the 3 year average method to capture non-labor expense requirements for this cost category. This method is most appropriate because the historical data indicates that activities and number of capital projects in scope of SoCalGas and staffing levels have been steadily increasing . This method along with an adjustment in 2024 is most appropriate to reflect future needs and the settling of the cost related to the Construction organization that began in 2020.

NSE - 3-YR Average

There are no non-standard escalation expenses in this workpaper.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00908.0
Category: C. Supervision and Engineering Overhead Pool
Category-Sub: 1. Supervision and Engineering Overhead Pool
Workpaper Group: 009080 - Supervision and Engineering Overhead Pool

Summary of Adjustments to Forecast

In 2021 $ (000)										
Forecast Method		**Base Forecast**			**Forecast Adjustments**			**Adjusted-Forecast**		
Years		**2022**	**2023**	**2024**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Labor	3-YR Average	10,746	10,746	10,746	0	0	0	10,746	10,746	10,746
Non-Labor	3-YR Average	5,153	5,153	5,153	0	0	3,000	5,153	5,153	8,153
NSE	3-YR Average	0	0	0	0	0	0	0	0	0
Total		**15,899**	**15,899**	**15,899**	**0**	**0**	**3,000**	**15,899**	**15,899**	**18,899**
FTE	3-YR Average	90.3	90.3	90.3	0.0	0.0	0.0	90.3	90.3	90.3

Forecast Adjustment Details

Year	Labor	NLbr	NSE	Total	FTE
2022 Total	0	0	0	0	0.0
2023 Total	0	0	0	0	0.0
2024	0	3,000	0	3,000	0.0
Explanation:	Upward adjustment to BC 908 for non-labor consultant costs to address increased volume of capital infrastructure projects.				
2024 Total	0	3,000	0	3,000	0.0

Note: Totals may include rounding differences.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00908.0
Category: C. Supervision and Engineering Overhead Pool
Category-Sub: 1. Supervision and Engineering Overhead Pool
Workpaper Group: 009080 - Supervision and Engineering Overhead Pool

Determination of Adjusted-Recorded:

	2017 ($000)	2018 ($000)	2019 ($000)	2020 ($000)	2021 ($000)
Recorded (Nominal $)*					
Labor	3,333	4,385	5,594	8,630	10,646
Non-Labor	769	1,366	2,393	4,896	6,938
NSE	0	0	0	0	0
Total	**4,102**	**5,752**	**7,987**	**13,525**	**17,584**
FTE	31.5	40.9	52.5	78.5	96.2
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	3,333	4,385	5,594	8,630	10,646
Non-Labor	769	1,366	2,393	4,896	6,938
NSE	0	0	0	0	0
Total	**4,102**	**5,752**	**7,987**	**13,525**	**17,584**
FTE	31.5	40.9	52.5	78.5	96.2
Vacation & Sick (Nominal $)					
Labor	565	755	1,061	1,521	1,879
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	**565**	**755**	**1,061**	**1,521**	**1,879**
FTE	5.6	7.3	10.2	15.3	18.1
Escalation to 2021$					
Labor	1,326	1,364	1,382	1,526	0
Non-Labor	262	363	497	736	0
NSE	0	0	0	0	0
Total	**1,587**	**1,726**	**1,879**	**2,262**	**0**
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2021$)					
Labor	5,223	6,504	8,037	11,676	12,525
Non-Labor	1,031	1,729	2,890	5,632	6,938
NSE	0	0	0	0	0
Total	**6,254**	**8,233**	**10,927**	**17,308**	**19,463**
FTE	37.1	48.2	62.7	93.8	114.3

* 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.

Area: GAS ENGINEERING
Witness: Maria T. Martinez
Budget Code: 00908.0
Category: C. Supervision and Engineering Overhead Pool
Category-Sub: 1. Supervision and Engineering Overhead Pool
Workpaper Group: 009080 - Supervision and Engineering Overhead Pool

Summary of Adjustments to Recorded:

In Nominal $(000)					
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

Year	Labor	NLbr	NSE	Total	FTE

Note: Totals may include rounding differences.

Beginning of Workpaper Sub Details for
Workpaper Group 009080

Area:	GAS ENGINEERING
Witness:	Maria T. Martinez
Budget Code:	00908.0
Category:	C. Supervision and Engineering Overhead Pool
Category-Sub:	1. Supervision and Engineering Overhead Pool
Workpaper Group:	009080 - Supervision and Engineering Overhead Pool
Workpaper Detail:	009080.001 - Supervision and Engineering Overhead Pool
In-Service Date:	Not Applicable

Description:

Capital Expenditures that will be reassigned to the various budget categories on a direct basis. Charges reside in this budget category temporarily and are reassigned on a monthly basis.

Forecast In 2021 $(000)			
Years	**2022**	**2023**	**2024**
Labor	10,746	10,746	10,746
Non-Labor	5,153	5,153	8,153
NSE	0	0	0
Total	**15,899**	**15,899**	**18,899**
FTE	90.3	90.3	90.3

Note: Totals may include rounding differences.