Company: Southern California Gas Company (U 904 G)
Proceeding: 2024 General Rate Case
Application: A.22-05-015
Exhibit: SCG-14-R

REVISED

PREPARED DIRECT TESTIMONY OF

DANIEL J. RENDLER

(CUSTOMER SERVICES – FIELD AND ADVANCED METER OPERATIONS)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

August 2022

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Table DJR-1
SUMMARY

CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS O&M COSTS IN 2021 $ (000s)			
	BY 2021 Adjusted Recorded	TY 2024 Estimated	Change
Shared	1,393	1,617	224
Non-Shared	178,545	209,713	31,168
Total O&M Costs	**179,937**	**211,330**	**31,393**

For Test Year (TY) 2024, Southern California Gas Company (SoCalGas) requests $211.3 million (an increase of $31.4 million compared to BY (Base Year) 2021 adjusted-recorded costs for Customer Services Field and Advanced Meter Operations (CSF&AMO). SoCalGas's request reflects the following:

Summary of Requests

- Incremental funding for field technicians based on forecasted customer and company order volumes representing post-COVID-19 pandemic levels
- Funding for front line supervisors of field technician employees based on a 12:1 employee to supervisor span of control
- Funding for Customer Services Field (CSF) Support services including centralized training, field instruction, quality assurance, region and district management, district operations clerks, administrative associates, and clerical
- Funding for Dispatch personnel who schedule, route and dispatch work orders to CSF Operations employees
- Funding to support Meter Set Assembly (MSA) Inspection including annualizing full year salaries for positions vacant during a portion of BY 2021
- Funding associated with the Advanced Meter Operations (AMO) and Field Systems and Analytics Organizations including Advanced Meter (AM) Meter Transmission Unit (MTU) Extended Warranty and the Data Collector Unit (DCU) Extended Maintenance Funding for Customer Services Staff personnel who develop and implement processes, policies and procedures and track, analyze and

report operational data for both SoCalGas's and San Diego Gas & Electric (SDG&E) Company's CSF organizations

REVISED PREPARED DIRECT TESTIMONY OF DANIEL J. RENDLER CUSTOMER SERVICES – FIELD AND ADVANCED METER OPERATIONS

I. INTRODUCTION

A. Summary of Customer Services – Field and Advanced Meter Operations Costs and Activities

My testimony supports the Test Year 2024 forecasts for operations and maintenance (O&M) costs for both non-shared and shared services, associated with the Customer Services – Field and Advanced Meter Operations area for SoCalGas. Table DJR-2 summarizes my sponsored costs.

TABLE DJR-2
Test Year 2024 Summary of Total Costs

CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS O&M COSTS IN 2021 $ (000s)			
	BY 2021 Adjusted Recorded	TY 2024 Estimated	Change
Shared	1,393	1,617	224
Non-Shared	178,545	209,713	31,168
Total O&M Costs	**179,937**	**211,330**	**31,393**

Customer Services Field and Advanced Meter Operations (CSF&AMO) is made up of six Non-Shared O&M cost categories and one Shared O&M cost category. A description of each O&M cost category is provided below.

In addition to sponsoring my own organization's costs, my testimony also supports a reasonableness review: Advanced Metering Infrastructure Balancing Account (AMIBA) - Escalated Jurisdictions. I am also providing the business justification for ten Information Technology (IT) Capital Projects.

Customer Services Field Operations consists primarily of residential, commercial, and industrial field technicians who perform services at customer premises, including meter work, establishing and terminating gas service, lighting gas pilot lights, conducting customer appliance checks, investigating reports of potential gas leaks, investigating customer complaints of high bills, shutting off and restoring gas service for fumigations, responding to fires (e.g., to check for

gas leakage/turn off gas service), and other emergency incidents and other related field services for customers. Field technicians work from 51 different operating base locations that are dispersed throughout SoCalGas's service territory, which has a total population of more than 21.8 million and spans across 24,000 square miles and 500 communities, from Visalia to the Mexico border.

Customer Services Field Supervision consists of supervisors dispersed across SoCalGas's 51 operating bases who manage the overall performance of the Customer Services Field (CSF) employees including the completion of training. Supervisors hire and coach employees, conduct safety and job observations, coordinate with the dispatch office to address resource issues, and respond to emergency incidents to provide on-site leadership.

Customer Services Field Support includes: (1) Classroom instructors, senior instructors, training supervisors, and a training manager strategically located at SoCalGas's Skills Training Centers (Pico Rivera and Bakersfield); (2) field instructors who conduct mandatory post formal in-field training for field service technicians based on safety processes and procedures; (3) quality assurance (QA) inspectors and a QA supervisor who inspects the work of field technicians to support policy adherence and quality of the work performed; (4) district operations clerks who are located at field operating bases; (5) region and district management; (6) administrative associates; and (7) clerical.

Customer Services Field Dispatch consists of personnel who (1) schedule, route, and dispatch work orders to CSF Operations employees 24 hours a day, 365 days a year; (2) manage emergency incidents, management/supervisor notification, and reporting requirements; (3) coordinate and redistribute work from unavailable CSF Operations employees; (4) manage same day workload to available CSF Operations employees including analysis and redistribution of work and workforce to maximize efficiencies.

Customer Services Field Meter Set Assembly (MSA) Inspection group performs physical, onsite inspections of each MSA to comply with Department of

Transportation (DOT)[1] required MSA inspections for atmospheric corrosion (ACOR), to identify conditions which require remediation by CSF and Distribution field employees, and to contact customers to resolve meter access issues.

Customer Services Field Advanced Meter Operations includes the Advanced Meter Operations (AMO) organization and the Field Systems and Analytics organization. AMO Activities include (1) Management and maintenance of AM systems, (2) Management and back-office analysis of Data Collection Units (DCU), (3) Management of construction, field inspection and replacement of DCUs and (4) Management of Meter Transmission Units (MTU), back-office analysis of MTUs and forecast of MTU investigations and field visits by CSF Operations technicians to support accurate and timely Advanced Metering Infrastructure (AMI) reads.

Field Systems and Analytics activities include: (1) Integration, management and maintenance of Advanced Meter systems and interfaces with other SoCalGas operational systems, (2) Implementation and maintenance of new technologies and systems that leverage AMI consumption data in an effort to enhance safety and customer experience, (3) Implementation, management and maintenance of reporting systems, tools and applications, (4) project and system support for Advanced Meter systems integration with SoCalGas work management and scheduling systems.

Customer Services Field Staff Manager is comprised of management personnel who: (1) develop and implement processes, policies and procedures, including Gas Standards and Information Bulletins, (2) track, analyze and report operational data, (3) manage special projects for CSF Operations. Although the CSF Staff Manager is primarily centralized in SoCalGas's headquarters, this organization supports both SoCalGas's and San Diego Gas & Electric's (SDG&E) CSF organizations.

[1] 49 CFR § 192.481 ("Atmospheric corrosion control: Monitoring").

B. Support To and From Other Witnesses

My testimony also references the testimony and workpapers of several other witnesses, either in support of their testimony or as referential support for mine.

- Risks and factors included in the Risk Assessment Mitigation Phase (RAMP) Report are covered in the RAMP to General Rate Case (GRC) Integration witnesses R. Scott Pearson and Gregory S. Flores (Exhibit (Ex.) SCG-03/SDG&E-03, Chapter 2)
- Costs associated with company fleet vehicles used by the CSF&AMO field workforce are covered in the Fleet Services testimony of Michael Franco (Ex. SCG-18)
- CSF&AMO Sustainability and Climate Policy Volume activities are included in the testimony of Naim Jonathan Peress and Michelle Sim (Ex. SCG-02)
- Capital costs for meters associated with planned and routine meter changes are covered in the Gas Distribution testimony of Mario A. Aguirre (Ex. SCG-04)
- New Business Meter Forecast and Replacement Meter Forecast is covered in the Gas Distribution testimony of Mr. Aguirre (Ex. SCG-04)
- Ultrasonic Meter Forecast is covered in the Gas Distribution testimony of Mr. Aguirre (Ex. SCG-04)
- Core Balancing Project is covered in the Gas Transmission Operations and Construction testimony of Rick Chiapa, Aaron Bell and Steve Hruby (Ex. SCG-06)
- Advanced Metering Infrastructure Balancing Account (AMIBA) balance is covered in the Regulatory Accounts testimony of Rae Marie Yu (Ex. SCG-38)
- The vacation and sick rate/factor and Shared Services is covered in the Shared Services & Shared Assets Billing, Segmentation, & Capital Reassignments testimony of Angel N. Le & Paul D. Malin (Ex. SCG-30)
- Information Technology (IT) costs for systems and technology that support CSF&AMO operations are discussed by William J. Exon (Ex. SCG-21, Ch. 2).

C. Organization of Testimony

My cost forecasts support SoCalGas's goal of providing safe, reliable, and efficient gas service to customers, as well as complying with all federal, state, local and California Public Utility Commission regulations. The CSF&AMO cost forecasts also support SoCalGas's focus on continuous improvement from not only a safety perspective, but from a cost efficiency and customer experience perspective as well.

All requested Operations & Maintenance (O&M) and capital expenses are described in detail in the remaining sections of my testimony which include the following:

- Section II describes the Risk Assessment Mitigation Phase (RAMP) Integration;
- Section III describes the Sustainability and Safety Culture;
- Section IV describes non-shared CSF&AMO expenses, including the forecasting methodology used for each cost category;
- Section V provides the rationale for shared CSF&AMO services and associated O&M expenses;
- Section VI provides the business justification for the CSF&AMO IT Capital Projects;
- Section VII provides my concluding statement; and
- Section VIII provides my qualifications as witness for the CSF&AMO area.

II. RISK ASSESSMENT MITIGATION PHASE INTEGRATION

Certain costs supported in my testimony are driven by activities described in SoCalGas and SDG&E's respective 2021 Risk Assessment Mitigation Phase (RAMP) Reports (the 2021 RAMP Reports).[2] The 2021 RAMP Reports presented an assessment of the key safety risks for SoCalGas and SDG&E and proposed plans for mitigating those risks. As discussed in the testimony of the RAMP to GRC Integration witnesses Messrs. Pearson and Flores (Ex. SCG-03/SDG&E-03, Chapter 2), the costs of risk mitigation projects and programs were translated from the 2021 RAMP Reports into the individual witness areas.

[2] *See* Application (A.) 21-05-011/-014 (cons.) (RAMP Proceeding). Please refer to the RAMP to GRC Integration testimony of Messrs. Pearson and Flores (Ex. SCG-03/SDG&E-03, Chapter 2) for more details regarding the 2021 RAMP Reports.

In the course of preparing the CSF&AMO GRC forecasts, SoCalGas continued to evaluate the scope, schedule, resource requirements, and synergies of RAMP-related projects and programs. Therefore, the final presentation of RAMP costs may differ from the ranges shown in the 2021 RAMP Reports. Table DJR-3 provides summaries of the RAMP-related costs supported in my testimony.

TABLE DJR-3
CUSTOMER SERVICE FIELD & ADVANCED METER OPERATIONS
Summary of RAMP O&M Costs (In 2021 $)

CUSTOMER SERVICE FIELD & ADVANCED METER OPERATIONS Summary of RAMP O&M Costs (In 2021 $)			
RAMP Risk Chapter	**BY2021 Embedded Base Costs (000s)**	**TY2024 Estimated Total (000s)**	**TY2024 Estimated Incremental (000s)**
SCG-Risk-3 Incident Related to the Medium Pressure System (Excluding Dig-in)	105,512	124,017	18,505
Sub-total	105,512	124,017	18,505
RAMP Cross-Functional Factor (CFF) Chapter	0	0	0
Sub-total	0	0	0
Total	**105,512**	**124,017**	**18,505**

D. Risk Overview

As summarized in Table DJR-3 above, my testimony includes costs to mitigate the safety-related risks and cross-functional factors included in the RAMP report.[3] These risks and factors are further described in Table DJR-4 below:

TABLE DJR-4
RAMP Risk Chapter Description

SCG-Risk-3 Incident Related to the Medium Pressure System (Excluding Dig-in)	The risk of damage, caused by a medium pressure system (maximum allowable operating pressure (MAOP) at or lower than 60 psig) failure event, which results in serious consequences such as injuries, fatalities, or outages and includes consequences beyond the customer meter.

[3] Unless otherwise indicated, references to the 2021 RAMP Report refer to SoCalGas's respective RAMP Report.

In developing my request, priority was given to these key safety risks to assess which risk mitigation activities CSF&AMO currently performs and what incremental efforts are needed to further mitigate these risks. While developing the GRC forecasts, SoCalGas evaluated the scope, schedule, resource requirements, and synergies of RAMP-related projects and programs to determine costs already covered in the base year and those that are incremental increases expected in the test year.

Messrs. Pearson and Flores (Ex. SCG-03/SDG&E-03, Chapter 2) discuss all of the risks and CFFs included in the 2021 RAMP Reports and the RAMP to GRC integration process.

E. GRC Risk Activities

Table DJR-5 below provides a narrative summary of the forecasted RAMP-related activities that I sponsor in my testimony.

TABLE DJR-5
Summary of RAMP Risk Activities

Summary of RAMP Risk Activities		
RAMP ID	**Activity**	**Description**
SCG-Risk-3 - C25	Field Employee Skills Training	Training is an integral part of how SoCalGas mitigates risk. All field service technicians must complete and pass formalized mandatory training. This training includes classroom and situational field exercises to educate employees on safety processes and procedures to perform work in a manner that meets all applicable rules, regulations, and SoCalGas internal policies and procedures. Formal technical skills training reduces the likelihood of employees deviating from Company policy or procedure. Field service technicians do not work customer orders unsupervised until they are fully trained to do their jobs adequately and safely.
SCG-Risk-3 - C26	Staff Employee Skills Training	Field instructors within the Customer Services staff area conduct mandatory in-field training for field service technicians after they have completed initial training. This enables the employee to perform work in a manner that meets all applicable rules, regulations, and SoCalGas internal policies and procedures, and confirms that the field service technicians have retained the training knowledge and skills required to safely perform their duties independently.

Summary of RAMP Risk Activities		
RAMP ID	**Activity**	**Description**
SCG-Risk-3 - C28	Quality Assurance	SoCalGas performs ongoing Quality Assurance (QA) assessments to evaluate the quality of work performed by field personnel. The QA function includes in-field sampling of completed customer service field orders to assess employee compliance with Company policies and procedures. QA Specialists receive random orders previously completed by field employees and make on-site visits to review the work completed. The purpose of the QA program is to have QA Specialists verify that SoCalGas field employees recognize and address safety issues with customer-owned appliances and Company-owned equipment. The efforts of the QA program result in a reduction in work errors that may pose a risk to customer and public safety.
SCG-Risk-3 - C29	DCU/Pole Inspections	SoCalGas conducts cyclical inspections of Data Collector Units (DCUs) and poles to identify structural problems and/or hazards in support of public safety and reliable network communications. Although SoCalGas is only mandated to inspect SoCalGas-owned poles, SoCalGas inspects all DCU units on an annual basis, including third party poles. Qualified SoCalGas field resources perform this work in accordance with the California Public Utilities Commission's (CPUC) General Order 165.[4] The purpose of this General Order is to establish requirements for electric distribution and transmission facilities (excluding those facilities contained in a substation) regarding inspections in order to support safe and high-quality electrical service.[5] Inspection results are logged and maintained by the Network Maintenance & Construction team.

[4] General Order (GO) 165 "Inspection Requirements for Electric Distribution and Transmission Facilities," *available at:* https://docs.cpuc.ca.gov/word_pdf/GENERAL_ORDER/159182.pdf.

[5] *Id*.

Summary of RAMP Risk Activities		
RAMP ID	**Activity**	**Description**
SCG-Risk-3 - C30	Meter Set Assembly (MSA) Inspection Program	As required by the Department of Transportation (DOT) Code of Federal Regulations (CFR) Title 49 §192.481 regarding inspections of above-ground piping facilities for atmospheric corrosion, Meter Set Assemblies (MSAs) and exposed above ground piping must be inspected no less than once every three calendar years and at intervals not exceeding 39 months.[6] In addition to atmospheric corrosion, SoCalGas has proactively expanded the inspection criteria to include other physical conditions at the MSA that may pose potential risk to safety and reliability. All remedial activities are prioritized based on conditions found at the time of the inspection.
SCG-Risk-3 - C31	Personal Protective Equipment (PPE)	The purpose of SoCalGas's Personal Protective Equipment (PPE) Program is to protect employees from the risk of injury by creating a barrier against workplace hazards. The PPE Program addresses eye, ear, face, head, foot, and hand protection. Occupational Safety and Health Administration (OSHA) standards require employers to conduct workplace hazard assessments for the use of PPE at facility locations that are representative of the types of ongoing work operations. [7] SoCalGas provides its employees with the PPE to safely perform work (e.g., eye and ear protection and gloves). The Company maintains processes and procedures so that employee hearing and respiratory functions are not impaired due to exposure to harmful environmental conditions. When work is performed that could expose customers or the public to injury, controls are implemented to mitigate the risk. The costs associated with protective equipment and specific occupational safety programs are included in this category.

[6] 49 CFR § 192.481 ("Atmospheric corrosion control: Monitoring").

[7] Personal protective equipment is addressed in the California Code of Regulations, Title 8, Section 3380 (https://www.dir.ca.gov/title8/3380.html). CalOSHA requires that employers must assess their workplace and determine if there are hazards that would require PPE. If there are, or are likely to be, such hazards, the employer must select PPE that will protect affected employees.

Summary of RAMP Risk Activities		
RAMP ID	**Activity**	**Description**
SCG-Risk-3 - C32	Safety Related Field Orders	Field service technicians respond to customer service requests taken by the Customer Contact Center. Some of these orders are specifically safety related and pertain to system integrity (gas leak), appliance safety (carbon monoxide, service establishment and other appliance orders), and customer awareness (soft close notification). Orders are prioritized based on potential severity. Gas Leaks and other time sensitive orders are prioritized, with hazardous conditions requiring an immediate response. Gas Distribution is responsible for Initial Turn On (ITO) orders. Safety Related Field Orders for ITOs is covered in the Gas Distribution testimony of Mario Aguirre (Ex. SCG-04).

These activities are discussed further below as well as in my workpapers:

- Section IV.A. Operations
- Section IV.C. Support
- Section IV.E. MSA Inspection
- Section IV.F. Advanced Meter Operations

For additional information and a roadmap, please refer to Appendix B, which contains a table identifying, by workpaper, the TY 2024 forecast dollars associated with activities in the 2021 RAMP Report that are discussed in this testimony.

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology. For each of these mitigation efforts, an evaluation was made to determine the portion, if any, that was already performed as part of historical activities (i.e., embedded base costs) and the portion, if any, that was incremental to base year activities. Furthermore, for the incremental activities, a review was completed to determine if any portion of incremental activity was part of the workgroup's base forecast methodology. The result is what SoCalGas considers to be a true representation of incremental increases over the base year.

My incremental request supports the ongoing management of these risks that could pose significant safety, reliability, and financial consequences.

F. Changes from RAMP Report

As discussed in more detail in the RAMP to GRC Integration testimony of Messrs. Pearson and Flores (Ex. SCG-03/SDG&E-03, Chapter 2), in the RAMP Proceeding, the Commission's Safety Policy Division (SPD) and intervenors provided feedback on the Companies' 2021 RAMP Reports. Appendix B in Ex. SCG-03/SDG&E-03, Chapter 2 provides a complete list of the feedback and recommendations received and the Companies' responses.

General changes to risks scores or Risk Spend Efficiency (RSE) values are primarily due to changes in the Multi-Attribute Value Framework (MAVF) and RSE methodology, as discussed in the RAMP to GRC Integration testimony. Other than these changes, the RAMP-related activities described in my GRC testimony are consistent with the activities presented in the 2021 RAMP Report.

Changes from the 2021 RAMP Report presented in my testimony, including updates to forecasts and the amount and timing of planned work, are summarized as follows:

In response to stakeholder feedback received in the RAMP Proceeding, SoCalGas performed additional tranching analysis at a more granular level for some of the risk mitigations described in my testimony.[8] SoCalGas identified Meter and Beyond the Meter as an additional tranche for Incidents Related to the Medium Pressure System risk mitigations.

1. C25 Field Employee Skills Training

The mitigation of Field Employee Skills training was updated in the GRC to reflect a lower quantity of field orders. Accordingly, the GRC Forecasted units and costs have decreased compared to the 2021 RAMP Report.

2. C26 Staff Employee Skills Training

The mitigation of Staff Employee Skills training was updated in the GRC to reflect a different cost forecast methodology. Accordingly, the GRC Forecasted units and costs have increased compared to the 2021 RAMP Report.

[8] "Tranching" refers to a logical disaggregation of a group of assets (physical or human) or systems into subgroups with like characteristics for purposes of risk assessment. D.18-12-014 at 18.

3. C31 Personal Protective Equipment (PPE)

The mitigation of PPE was updated in the GRC to include equipment not included in the RAMP Report. The GRC Forecasted units decreased and costs have increased compared to the 2021 RAMP Report.

4. C32 Safety Related Field Orders

The mitigation of Safety Related Field Orders was updated in the GRC to reflect a lower quantity of Safety Field Orders. Accordingly, the GRC Forecasted units and costs have decreased compared to the 2021 RAMP Report.

III. SUSTAINABILITY AND SAFETY CULTURE

Sustainability at SoCalGas focuses on continuous improvement, innovation, and partnerships to advance California's climate objectives incorporating holistic and sustainable business practices and approaches. SoCalGas's sustainability strategy, ASPIRE 2045, integrates five key focus areas across the Company's operations to promote the public interest, and the wellbeing of utility customers, employees, and other stakeholders.[9] Please refer to the Sustainability and Climate Policy Volume testimony of Ms. Sim and Mr. Peress (Exhibit SCG-02) for a more detailed discussion of SoCalGas's sustainability and climate policies.

Safety is foundational to SoCalGas and SoCalGas's sustainability strategy. As the nation's largest gas distribution utility, the safety of SoCalGas's customers, employees, contractors, system, and the communities served has been – and will remain – a fundamental value for the Company and is interwoven in everything SoCalGas does. This safety-first culture is embedded in every aspect of SoCalGas's business. The tradition of providing safe and reliable service spans 150 years of the Company's history and is summarized in SoCalGas's Leadership Commitment statement, which is endorsed by the entire senior management team.

SoCalGas leadership is fully committed to safety as a core value. SoCalGas's Executive Leadership is responsible for overseeing reported safety concerns and promoting a strong, positive safety culture and an environment of trust that includes empowering employees to identify risks and to "Stop the Job."

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[9] SoCalGas, *ASPIRE 2045 - Sustainability and Climate Commitment to Net Zero* (March 2021), *available at* https://www.socalgas.com/sites/default/files/2021-03/SoCalGas_Climate_Commitment.pdf.

SoCalGas's approach to safety is one of continuous learning and improvement where all employees and contractors are encouraged and expected to engage in areas of opportunity for learning and promote open dialogue where learning can take place. To learn about SoCalGas's overall safety approach please see the Safety & Risk Management System testimony of Neena N. Master (Ex. SCG-27).

The activities described in this testimony advance the state's climate goals and align with SoCalGas's sustainability and safety focus. Specifically, the proposal of decarbonizing the CSF fleet of vehicles will drive progress in the area of Accelerating the Transition to Clean Energy. In addition, the proposal of Aerial Methane Mapping Leak Mitigation and Advanced Meter Analytics Leak Mitigation/Usage Conservation will drive progress in the area of Protecting the Climate and Improving Air Quality in Our Communities.[10]

CSF&AMO supports accelerating the transition to clean energy and is committed to decarbonizing its fleet of vehicles and equipment to help reduce Green House Gas (GHG) emissions. As an example, SoCalGas has already converted over 30% of its fleet to Renewable Natural Gas Vehicles (RNGVs) and has built a network of internal facing fueling infrastructure nodes. As new zero-emission vehicles and equipment come to market, SoCalGas plans to accelerate transitioning its fleet to support SoCalGas's Climate Commitment.[11] The Climate Commitment identifies goals to replace 50% of the SoCalGas Fleet with less carbon intense vehicles by 2025 and 100% zero-emissions vehicles and equipment by 2035.[12] SoCalGas plans to diversify its fleet further by investing in Battery Electric Vehicles (BEV), and/or Hydrogen Fuel Cell Electric Vehicles (HFCEV), and related infrastructure to advance SoCalGas's climate goal. For more information on SoCalGas decarbonizing its fleet, please refer to the Fleet Services testimony of Mike Franco (Ex. SCG-18).

[10] *Id.* SoCalGas identified five sustainability focus areas where the company believes it can have a strong positive impact, including Protecting the Climate and Improving Air Quality in Our Communities.

[11] *Id.*

[12] *Id*.

CSF&AMO supports Protecting the Climate and Improving Air Quality. Two activities that align with this area are:

1) Aerial Methane Mapping Leak Mitigation – The Aerial Methane Mapping program is a helicopter-based aerial methane detection and 3D plume modeling technology that identifies methane emissions from a variety of sources in the vicinity of the Distribution pipeline system. By leveraging the AMI network and data, SoCalGas can detect emissions downstream of the customer meter, resulting in faster identification, investigation and when possible, resolution of the methane source. This technology enables SoCalGas to find leaks faster, increase safety, reduce methane emissions, and improve energy efficiency at customer homes and businesses.

2) Advanced Meter Analytics Leak Mitigation and Usage Conservation – CSF&AMO mitigates Green House Gas (GHG) emissions from homes and businesses by leveraging the AMI network and data that can result in faster identification of abnormally high gas usage, which assists with investigating and responding to potential safety related situations more quickly. SoCalGas has reduced methane emissions at customer homes and businesses, saving energy and improving air quality while also reducing the potential financial burden resulting from higher usage.

IV. NON-SHARED COSTS

"Non-Shared Services" are activities that are performed by a utility solely for its own benefit. The Corporate Center cost center provides certain services to the utilities and to other subsidiaries. For purposes of this general rate case, SoCalGas treats costs for services received from Corporate Center as Non-Shared Services costs, consistent with any other outside vendor costs incurred by the utility. Table DJR-6 summarizes the total non-shared O&M forecasts for the listed cost categories.

TABLE DJR-6
Non-Shared O&M Summary of Costs

CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS NON-SHARED O&M COSTS IN 2021 $ (000s)			
	BY 2021 Adjusted Recorded	**TY 2024 Estimated**	**Change**
Non-Shared	178,545	209,713	31,168
Total O&M Costs	**178,545**	**209,713**	**31,168**

A. CSF Operations Cost Category – Workpaper 2FC001.000

Table DJR-7 below summarizes SoCalGas's requested TY 2024 expenses for CSF Operations activities which reflect an increase of $23.1 million compared to BY 2021 adjusted-recorded costs.

TABLE DJR-7
CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF OPERATIONS O&M COSTS IN 2021 $ (000s)

CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF OPERATIONS O&M COSTS IN 2021 $ (000s)			
Expense Item	**BY 2021 Adjusted Recorded**	**TY 2024 Estimated ***	**Change**
Labor	$99,692	$121,532	$21,840
Non-Labor	$6,431	$7,689	$1,258
Total	**$106,124**	**$129,221**	**$23,097**
*Of the $129,221 total TY 2024 estimated costs, approximately $91,506 or 70.8% are RAMP-related costs (refer back to Section II. Risk Assessment Mitigation Phase Integration for additional details on RAMP Mitigation activities).			

1. Description of Costs and Underlying Activities

The CSF Operations cost category consists of labor and non-labor expenses for field technicians to provide service at customer premises, including both customer and company-generated work orders. Examples of customer-generated work orders include requests to establish/disconnect gas service, light gas pilots, check gas appliances, shut off and restore gas service for fumigation, investigate the potential causes of high gas bills, respond to emergency

incidents, investigate potential gas leaks, and other services. Examples of company-generated work orders include orders to maintain or replace company assets, such as meters and regulators, and collecting customer payments for delinquent bills. Non-labor costs include items such as uniform expenses, small tools and miscellaneous supplies used on the job.

a. Description of RAMP Mitigations

TABLE DJR-8
Operations RAMP Mitigations

CUSTOMER SERVICE FIELD & ADVANCED METER OPERATIONS						
RAMP Activity O&M Forecasts by Workpaper (In 2021 $)						
Workpaper	**RAMP ID**	**Description**	**BY2021 Embedded Base Costs (000s)**	**TY2024 Estimated Total (000s)**	**TY2024 Estimated Incremental (000s)**	**GRC RSE**
2FC001.000	SCG-Risk-3 - C25	Field Employee Skills Training	5,713	7,288	1,575	0.07
2FC001.000	SCG-Risk-3 - C31	Personal Protective Equipment (PPE)	488	651	163	0.0*
2FC001.000	SCG-Risk-3 - C32	Safety Related Field Orders	68,895	83,567	14,672	0.8
Total			**75,096**	**91,506**	**16,410**	
* An RSE was not calculated for this activity						

RAMP-related costs for CSF operations include the costs for the following mitigation activities:

(1) Field Employee Skills Training. Training is an integral part of how SoCalGas mitigates the Medium Pressure Incident risk. Medium pressure systems use a series of mains (pipes with larger diameter) to feed service lines, regulator stations, meters, and other appurtenance piping. Service lines are smaller diameter pipes that feed customer homes, businesses, and some commercial applications. Medium pressure pipelines are made of steel or plastic material. SoCalGas currently operates approximately 100,000 miles of medium pressure mains and services. These medium pressure pipelines serve over 21.8 million SoCalGas consumers. The Medium Pressure Incident risk focuses on risk events that result in serious injuries, fatalities, or significant impact to the infrastructure. All field service technicians must complete and pass formal skills training. This training includes classroom and situational field exercises to educate employees on safety processes and procedures to perform work in a manner that meets all applicable rules and regulations. Service technicians do not work orders on their own until they are

fully trained to do their jobs adequately and safely. Once field service employees successfully pass formal training and demonstrate an understanding of their job duties during field observations, they are permitted to work orders on their own.

(2) Personal Protective Equipment. The purpose of SoCalGas's PPE Program is to protect employees from the risk of injury by creating a barrier against workplace hazards. The PPE Program addresses eye, ear, face, head, foot, and hand protection. OSHA standards require employers to conduct workplace hazard assessments for the use of PPE at facility locations that are representative of the types of ongoing work operations.[13] SoCalGas provides its employees with the PPE required to safely perform work (e.g., eye protection, ear protection and gloves). The Company maintains processes and procedures so that employee hearing and respiratory functions are not impaired due to exposure to harmful environmental conditions. When work is performed that could expose customers or the public to injury, controls are implemented to mitigate the risk. The costs associated with protective equipment and specific occupational safety programs are included in this category.

(3) Safety Related Field Orders. Field service technicians respond to customer orders taken by the Customer Contact Center (CCC). They are trained to address safety hazards on customer premises in order to maintain safe operations of Company facilities. Some of these customer requests are safety related, such as checking appliances for safe and proper operation upon move in or by customer request. In addition, all customer calls about gas leaks, both hazardous and non-hazardous, are dispatched to a qualified field service technician to perform a gas leak investigation. SoCalGas makes every attempt to respond to the highest priority gas leak orders within 30 minutes during regular hours, which is 7am to 5pm Monday through Saturday (excluding holidays), and 45 minutes during other hours.

[13] Personal protective equipment is addressed in the California Code of Regulations, Title 8, Section 3380 (https://www.dir.ca.gov/title8/3380.html). CalOSHA requires that employers must assess their workplace and determine if there are hazards that would require PPE. If there are, or are likely to be, such hazards, the employer must select PPE that will protect affected employees.

Please refer to SCG-14-WP-2FC001 CSF Operations Supplemental Workpaper 2 and Supplemental Workpaper 3 for calculation details of estimated RAMP costs.

2. Forecast Method

BY 2021 was selected as a starting point for the forecast. Using a three-, four-, or five-year average would not be an appropriate starting point as the Advanced Meter Infrastructure (AMI) system was put into place in 2019. AMI greatly decreased certain types of fielded orders as did the COVID-19 pandemic in 2020 and 2021.

CSF Operations costs are primarily driven by work order volumes. The COVID-19 pandemic affected multiple order types in 2020 and 2021. Both internal and external forces made these years unusual and not representative for forecasting TY 2024. Therefore, COVID-19-impacted orders were forecasted using 2019 historical order volumes. Non-COVID-19-impacted orders were forecasted using BY 2021 historical order volumes.

Internally, some processes were temporarily modified to support COVID-19 measures for social distancing and unnecessary contact. Externally, some orders were impacted by policy decisions, such as a moratorium on collection activity and disconnections,[14] and by customers, who may not have called SoCalGas for routine service during the pandemic. As a result, 2020-21 activity was not included as part of SoCalGas's historically based forecast for some order types. A description of each order type is provided in Appendix C.

The Advanced Meter Infrastructure (AMI) allows certain customer transactions to be completed without making a field visit. The AMI system was put into place by 2019 and SoCalGas does not anticipate any further reduction in AMI impacted order volumes.

A table showing the actual historical volume by order type from 2017 through BY 2021 and the estimated volume from 2022 through TY 2024 is provided in Appendix D. SoCalGas's estimates of TY 2024 CSF work order volumes are reasonable and represent a post-pandemic environment. Please refer to SCG-14-WP-2FC001 CSF Operations Supplemental Workpaper 1 for calculation details of the Order Volume Based Costs.

[14] D.21-11-014; *See also* SoCalGas Advice 5604-B *available at*: https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/5604-B.pdf.

3. Cost Drivers

The primary cost driver for CSF Operations is labor costs associated with completing work orders. Additional cost drivers that impact the forecast are described below.

- Drive Time

Drive Time is the length of time it takes to travel to customer premises. Each CSF order has an associated average drive time to allow the field technician time to travel to the customer's premises. Historical average drive times per order are summarized in Table DJR-9 below. Although historical data supports an escalation of Drive Time for TY 2024, SoCalGas elected to use the 2019 average Drive Time per order. In 2020 and 2021, drive time was elevated due to the distances traveled between orders during the COVID-19 pandemic. SoCalGas expects the average drive time per order to return closer to pre-pandemic levels in correlation with order volumes.

TABLE DJR-9
Average Drive Time Per CSF Order (in minutes)

Historical Average Drive Time Per Order				
2017	**2018**	**2019**	**2020**	**2021**
13.1	14.3	14.2	15.3	16.6

- On-Premise Time

On-Premise Time is the length of time it takes to complete each type of work order. Each CSF order type has an associated on-premise time. On-premise times can change over time due to the experience level of the workforce or changes in policy and procedure. On-premise times are also affected by the interest and involvement level of the customer at the premises, increasing the time spent on the order because of customer questions. 2019 On-Premise time was used for the test year forecast. COVID-19 caused many orders to have increased on-premise time due to additional precautions taken to support the safety and wellness of our workforce and customers. Before entering a premise, employees were instructed to ask a series of questions to determine if it was safe to enter. Based on the answers, the order could be completed. Some orders required employees to wear PPE prior to entering a home or business. In certain cases, employees worked with a supervisor to wear a protective suit prior to entering the premise. In addition, employees were instructed to wash their hands or use hand sanitizer after every order. These

additional requirements add time to the order and would trigger a higher on-premise time than expected during normal operations.

- Non-Job Time

Each day employees incur non-job time, which is start of day, end of day, breaks, and other non-order activities. Historical non-job percentage factors per order are summarized in Table DJR-10 below. Non-job time has increased during recent years. SoCalGas anticipates non-job time will return to pre-COVID-19 levels and chose to use 2019 data as a factor to forecast TY 2024. In 2020-2021, employees incurred additional non-job time as a result of precautionary measures taken by the company to prevent the spread of COVID-19. Several employees transitioned to job site reporting in lieu of reporting to the company districts to minimize the number of persons congregating at a single location at the same time. As a result, employees were required to make additional trips to the district to stock and fuel their vehicles. In TY 2024, SoCalGas expects most employees will have transitioned back to reporting to company districts daily, which will allow them to stock and fuel their vehicles prior to starting their route, decreasing non-job time.

Table DJR-10
Non-Job Time Factor Per Order

Historical Non-Job Time (NJT) Factor Per Order				
2017	**2018**	**2019**	**2020**	**2021**
19.8%	20.7%	21.1%	23.7%	25.1%

- Meetings/Training Time

Employees incur meetings and training hours throughout the year. Meetings/Training Time includes formal training, group meetings (e.g., Safety and Quality Assurance Meetings), and training conducted at the district (e.g., new tool training and supplemental appliance training). Historical meetings/training percentage factors per order are summarized in Table DJR-11 below. SoCalGas used 2019, the most recent pre-COVID-19 year, as a factor to forecast through TY 2024. The pandemic necessitated additional meetings and training that, SoCalGas expects, will no longer be necessary in TY 2024.

Table DJR-11
Meeting/Training Time Per Order

Historical Meeting/Training Time Per Order				
2017	**2018**	**2019**	**2020**	**2021**
6.4%	4.4%	6.8%	7.8%	8.7%

- Vacation and Sick

The company wide Vacation and Sick loader was also applied to determine total FTE requirements. The vacation and sick rate/factor used in this GRC filing can be found in the testimony of Ms. Le and Mr. Malin (Ex. SCG-30).

- Labor/Non-Labor Rate

The most recent labor rate and non-labor per FTE rates were used. The most recent rate reflects our labor cost in BY 2021.

- Blended Wage Rate

A blended wage rate for the various CSF job classifications is used to compute total labor expense as multiple job classifications can perform the same orders. BY 2021, the most current year, was used for the forecast calculation. Using the BY 2021 blended wage rate is reasonable as wages typically increase year over year.

4. Summary of CSF Operations Costs

SoCalGas's TY 2024 funding request of $129.2 million for the CSF Operations cost category, an increase of $23.1 million compared to BY 2021 adjusted-recorded costs, consists of the elements summarized in Table DJR-12 below. Please refer to SCG-14-WP-2FC001 CSF Operations Supplemental Workpaper 1 for calculation details of the Order Volume Based Costs and SCG-14-WP-2FC001 CSF Operations Supplemental Workpaper 2 and Supplemental Workpaper 3 for calculation details of the RAMP Costs.

Table DJR-12
Summary of TY 2024 Incremental O&M Expenses for CSF Operations

Summary of TY 2024 Incremental O&M Expenses for CSF Operations			
CSF Operations Incremental Cost (In 2021 $) from BY 2021	**Labor (000s)**	**Non-Labor (000s)**	**Total (000s)**
Order Volume - Non RAMP	6,455	232	6,687
RAMP - PPE Boot Allowance	-	163	163
RAMP - Field Employee Skills Training	1,482	93	1,575
RAMP - Safety Related Field Orders	13,903	769	14,671
Total O&M	**21,840**	**1,256**	**23,097**

B. CSF Supervision Cost Category – Workpaper 2FC002.000

Table DJR-13 below summarizes SoCalGas's requested TY 2024 expenses for CSF Supervision activities which reflects an increase of $0.097 million compared to BY 2021 adjusted-recorded costs.

TABLE DJR-13
CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF SUPERVISION O&M COSTS IN 2021 $ (000s)

CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF SUPERVISION O&M COSTS IN 2021 $ (000s)			
Expense Item	**BY 2021 Adjusted Recorded**	**TY 2024 Estimated**	**Change**
Labor	$11,407	$11,502	$95
Non-Labor	$599	$602	$3
Total	**$12,007**	**$12,104**	**$97**

1. Description of Costs and Underlying Activities

Organizationally, Customer Service field employees report to CSF field supervisors. Like field employees, field supervisors are geographically dispersed across SoCalGas's 51 operating bases. Field supervisors hire and coach employees, conduct safety and job observations, coordinate with the dispatch office and others to address and resolve operating issues, respond to emergency incidents to provide on-site leadership, and manage the overall performance of the CSF employees who work from each of the 51 operating bases.

2. Forecast Method

The CSF Supervision forecast utilizes a Base Year forecast methodology for the average supervisor labor and non-labor rate per FTE as they represent the most current costs.

The estimated number of field supervisors in TY 2024 is calculated by applying a 12:1 employee-to-supervisor ratio to the forecasted FTE workforce in the Operations cost category (Workpaper 2FC001.000). A 12:1 ratio is appropriate given the geographic area covered by each operating base and the importance of supervisors spending as much time as possible with employees in the field, providing safety and work process coaching. Supervisors have on-call responsibilities and respond to emergencies supporting employee, customer, and public safety. Non-labor expenses include items such as cell phones, office supplies and other miscellaneous expenses. Please refer to SCG-14-WP-2FC002 CSF Supervision Supplemental Workpaper 1 for calculation details of field supervision costs.

3. Cost Drivers

Costs are driven by the number of supervisors and applicable salary levels for supervisory employees. The number of supervisors is driven by the number of field employees to the supervisor ratio of 12:1 and the need to provide adequate supervision across all 51 operating bases at all times.

4. Summary of CSF Supervision Costs

SoCalGas's TY 2024 funding request of $12.1 million for the CSF Supervision cost category, an increase of $0.097 million compared to BY 2021 adjusted-recorded costs, consists of the elements summarized in Table DJR-14 below. Please refer to SCG-14-WP-2FC002 CSF Supervision Supplemental Workpaper 1 for calculation details of field supervision costs.

Table DJR-14
Summary of TY 2024 Incremental O&M Expenses for CSF Supervision

Summary of TY 2024 Incremental O&M Expenses for CSF Supervision			
CSF Supervision Incremental Cost (In 2021 $) from BY 2021	**Labor (000s)**	**Non-Labor (000s)**	**Total (000s)**
Span of Control - 12 Field FTE per 1 Supervisor	$95	$3	$97
Total	**$95**	**$3**	**$97**

C. CSF Support Cost Category – Workpaper 2FC003.000

Table DJR-15 below summarizes SoCalGas's requested TY 2024 expenses for CSF Support activities which reflect an increase of $1.7 million compared to BY 2021 adjusted-recorded costs.

TABLE DJR-15
CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF SUPPORT O&M COSTS IN 2021 $ (000s)

CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF SUPPORT O&M COSTS IN 2021 $ (000s)			
Expense Item	**BY 2021 Adjusted Recorded**	**TY 2024 Estimated ***	**Change**
Labor	$12,161	$13,797	$1,636
Non-Labor	$545	$588	$43
Total	**$12,706**	**$14,385**	**$1,679**

* Of the $14,385 total TY 2024 estimated costs, approximately $6,517 or 45.3% are RAMP-related costs (refer back to Section II. Risk Assessment Mitigation Phase Integration for additional details on RAMP Mitigation activities).

1. Description of Costs and Underlying Activities

The CSF Support cost category includes: (1) Classroom instructors, senior instructors, training supervisors, and a training manager strategically located at SoCalGas's Skills Training Centers (Pico Rivera and Bakersfield); (2) field instructors who conduct mandatory post formal in-field training for field service technicians based on safety processes and procedures; (3) quality assurance (QA) inspectors and a QA supervisor who inspect the work of field technicians to support policy adherence and quality of the work performed; (4) district operations clerks who are located at field operating bases; (5) region and district management; (6) administrative associates; and (7) clerical.

a. Description of RAMP Mitigations

TABLE DJR-16
Support RAMP Mitigations

CUSTOMER SERVICE FIELD & ADVANCED METER OPERATIONS						
RAMP Activity O&M Forecasts by Workpaper (In 2021 $)						
Workpaper	**RAMP ID**	**Description**	**BY2021 Embedded Base Costs (000s)**	**TY2024 Estimated Total (000s)**	**TY2024 Estimated Incremental (000s)**	**GRC RSE**
2FC003.000	SCG-Risk-3 - C26	Staff Employee Skills Training	4,014	5,390	1,376	0.0*
2FC003.000	SCG-Risk-3 - C28	Quality Assurance	824	1,127	303	0.6
Total			**4,838**	**6,517**	**1,679**	
* An RSE was not calculated for this activity						

RAMP-related costs for CSF Support include the costs for the following mitigation activities: (1) Staff Employee Skills Training. Within the cost category, instructors conduct mandatory training for all field service technicians based on safety processes and procedures to perform work in a manner that meets applicable rules and regulations. A follow-up one-on-one in-field assessment is then performed by field instructors to confirm that the field service technicians have retained the newly acquired training knowledge and skills required to safely perform their duties. (2) Quality Assurance Program. SoCalGas performs regular assessments on the quality of work performed by field personnel. The QA function regularly includes in-field sampling of completed customer service field orders to assess employee work quality and compliance with Company policies and procedures. QA Specialists receive random orders previously completed by customer service field representatives and make in-home visits. The purpose of the QA program is to have QA Specialists verify that field employees recognize and address safety issues with customer-owned appliances and Company-owned equipment. The efforts of the QA program promote improved consistency while adhering to applicable rules and regulations to reduce work errors that may pose a risk to customer and public safety.

2. Forecast Method

BY 2021, the most recent year is used for CSF Support as a basis for the forecast methodology for TY 2024. The base year provides a reasonable starting point for staffing levels to provide the necessary training, assessments, management, and administrative support for

Customer Services Field. Incremental funding requests are then added to the base year forecast to determine total funding requirements necessary for CSF Support functions.

3. Cost Drivers

Costs are primarily driven by the need to train new employees, maintain a technically skilled and proficient workforce, and enable work to be performed in a safe manner that meets SoCalGas's quality standards.

4. Labor & Non-Labor Supporting Centralized Training

SoCalGas is requesting an increase of $0.525 million in TY 2024 compared to BY 2021 adjusted-recorded costs to fill vacancies associated with classroom instructors to support SoCalGas's increasing demand for trained and qualified field technicians. Instructors communicate and reinforce SoCalGas's safety culture when training employees. Instructors are vital to SoCalGas's safe operation and maintenance of our system. Please refer to SCG-14-WP-2FC003 CSF Support Supplemental Workpaper 1 for labor details.

SoCalGas is requesting an increase of $0.043 million in TY 2024 compared to BY 2021 adjusted-recorded costs for Non-Labor associated with SoCalGas's centralized training program. SoCalGas's training department develops, manages, and executes formal training and services necessary for adherence to all applicable laws, regulations and standards, and helps maintain the safety of SoCalGas's workforce and public. SoCalGas built a new satellite technical training center in Bakersfield which came on-line in limited status in 2021. Costs including out-of-town housing for classroom instructors, technical training appliances, diagnostic tools, various training materials and IT costs were added to the forecast to support the ongoing training program. Please refer to SCG-14-WP-2FC003 CSF Support Supplemental Workpaper 1 for non-labor calculation details.

5. Labor & Non-Labor to Support Field Instruction

SoCalGas is requesting an increase of $0.808 million in labor in TY 2024 compared to BY 2021 adjusted-recorded costs to fill vacancies associated with field instruction. Field instructors perform in person field evaluations of new residential field technicians immediately following their formal training. Field instructors provide employees with in-field one-on-one technical guidance necessary to safely perform their job responsibilities, reinforcing formal procedures, processes, and standards. Non-labor costs for field instructors include out-of-town

lodging, meals, and mileage. Please refer to SCG-14-WP-2FC003 CSF Support Supplemental Workpaper 2 for labor details.

6. Labor to Support Quality Assurance Staffing

SoCal Gas is requesting an increase of $0.303 million in TY 2024 compared to BY 2021 adjusted-recorded costs to fill vacancies associated with Quality Assurance staffing. Quality Assurance Specialists verify field employees are completing field orders adhering to applicable rules and regulations and that customers receive safe and reliable service. The program provides a snapshot of the quality of work being performed by Customer Service Field employees on customer premises. Please refer to SCG-14-WP-2FC003 CSF Support Supplemental Workpaper 3 for labor details.

D. CSF Dispatch Cost Category – Workpaper 2FC004.000

Table DJR-17 below summarizes SoCalGas's requested TY 2024 expenses for CSF Dispatch activities which reflect an increase of $0.025 million compared to BY 2021 adjusted-recorded costs.

TABLE DJR-17
CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF DISPATCH O&M COSTS IN 2021 $ (000s)

CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF DISPATCH O&M COSTS IN 2021 $ (000s)			
Expense Item	**BY 2021 Adjusted Recorded**	**TY 2024 Estimated**	**Change**
Labor	$13,922	$13,922	$0
Non-Labor	$144	$169	$25
Total	**$14,066**	**$14,091**	**$25**

1. Description of Costs and Underlying Activities

CSF Dispatch includes labor and non-labor costs for personnel who schedule, route and dispatch work to CSF Operations employees 24 hours a day, 365 days a year. CSF Dispatch also works with various internal departments to coordinate work and with outside agencies such as local police and fire departments to manage emergencies for public safety. The Dispatch team manages customer and company generated work including but not limited to (1) managing multiple aspects of emergency incidents such as dispatching emergency first responders,

management/supervisor reporting notifications, and reporting requirements; (2) coordinating, and redistributing work from unavailable CSF Operations employees; (3) dispatching same day work to available CSF Operations employees including analysis and redistribution of work and workforce to maximize efficiencies. Non-labor expenses include computer equipment, communication expenses, office materials, software maintenance expenses and other miscellaneous expenses.

2. Forecast Method

BY 2021, the most recent year is used for CSF Dispatch as a basis for the forecast methodology for TY 2024. In base year 2021, CSF Dispatch achieved staffing levels necessary to provide 24/7, 365 days per year coverage to schedule, route, and dispatch Customer Services Field work. Incremental funding requests are then added to the base year forecast to determine total funding requirements necessary for CSF Dispatch functions.

3. Cost Drivers

CSF Dispatch costs are primarily driven by the labor required to train new employees and maintain a technically skilled and proficient workforce that perform in a manner that meets SoCalGas's continuous improvement and safety culture. Non-labor expenses include computer equipment, communication expenses, office materials and software maintenance expenses.

4. Non-Labor Supporting Radio Laptop Maintenance

SoCalGas is requesting an increase of $0.025 million in TY 2024 compared to BY 2021 adjusted-recorded costs for Non-Labor supporting Radio Laptop Maintenance. Avtec Tech Radio Laptops are a critical communication device utilized by the 24-hour dispatch office for communicating to the field. The communication device is also utilized during activation of business continuity plans.

E. CSF MSA Inspection Cost Category – Workpaper 2FC005.000

Table DJR-18 below summarizes SoCalGas's requested TY 2024 expenses for CSF MSA Inspection activities which reflect an increase of $0.391 million compared to BY 2021 adjusted-recorded costs.

TABLE DJR-18
CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF METER SET ASSEMBLY INSPECTION O&M COSTS IN 2021 $ (000S)

CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF Meter Set Assembly Inspection O&M COSTS IN 2021 $ (000s)			
Expense Item	**BY 2021 Adjusted Recorded**	**TY 2024 Estimated ***	**Change**
Labor	$24,756	$25,147	$391
Non-Labor	$563	$563	$0
Total	**$25,320**	**$25,710**	**$391**
* 100% of the TY 2024 estimated costs are RAMP-related costs (refer back to Section II. Risk Assessment Mitigation Phase Integration for additional details on RAMP Mitigation activities).			

1. Description of Costs and Underlying Activities

Pursuant to CFR § 192.481, the DOT generally requires that each MSA be inspected every three years for atmospheric corrosion.[15] Meter readers have historically performed this function, but with the implementation of AMI and the elimination of the traditional meter reading function, the CSF MSA Inspection Organization was formed in 2016.

The CSF MSA Inspection Organization performs physical, onsite inspections of each MSA to comply with DOT required MSA inspections for atmospheric corrosion, identifying conditions which require remediation by CSF and Distribution field employees. The organization also contacts customers to resolve meter access issues.

Costs for the CSF MSA Inspection Program are necessary to meet DOT required inspections of the MSA and are 100% RAMP-related costs.

[15] 49 CFR § 192.481 ("Atmospheric corrosion control: Monitoring").

a. Description of RAMP Mitigations

TABLE DJR-19
MSAI RAMP Mitigations

CUSTOMER SERVICE FIELD & ADVANCED METER OPERATIONS RAMP Activity O&M Forecasts by Workpaper (In 2021 $)						
Workpaper	**RAMP ID**	**Description**	**BY2021 Embedded Base Costs (000s)**	**TY2024 Estimated Total (000s)**	**TY2024 Estimated Incremental (000s)**	**GRC RSE**
2FC005.000	SCG-Risk-3 - C30	Meter Set Assembly (MSA) Inspection Program	25,320	25,710	390	13.2
Total			**25,320**	**25,710**	**390**	

As required by the Department of Transportation CFR Title 49 §192.481 regarding inspections of above-ground piping facilities for atmospheric corrosion, MSAs and exposed above ground piping must be inspected no less than once every three calendar years and at intervals not exceeding 39 months.[16] In addition to atmospheric corrosion, SoCalGas has proactively expanded the inspection criteria to include other physical conditions at the MSA that may pose potential risk to safety and reliability. All remedial activities are prioritized based on conditions found at the time of the inspection or in an abundance of caution.

2. Forecast Method

A BY2021 forecast is used to forecast MSA Inspection TY2024 expenses based on the volume of inspections and associated remediation work estimated to meet DOT requirements and the work required to address meter access issues. Labor costs are primarily driven by work order volumes. Costs are also driven by factors outside of SoCalGas's control such as meter access issues related to customer response to SoCalGas's attempts to gain access to the meter to complete the inspections. Please refer to SCG-14-WP-2FC005 CSF Meter Set Assembly Inspection (MSAI) Supplemental Workpaper 2 & 3 for the Inspection and Remediation forecast.

3. Cost Drivers

The CSF MSA Inspection Program costs are driven by order volumes, the average number of orders completed per employee, training time, and vacation and sick time. For the

[16] *Id.*

support staff which includes MSA Office Representatives and the Scheduling Team, the costs are driven by the number of employees including supervisors that manage employees and clerical employees who provide administrative support for the group. Non-labor costs are based on BY 2021 associated non-labor expenses for related small tools, uniforms, cost of notices and miscellaneous supplies.

4. Labor to Annualize Full Year Salaries for Positions Vacant at Various Points During BY 2021

SoCalGas is requesting an increase of $0.391 million in TY 2024 compared to BY 2021 adjusted-recorded costs to reflect the full year salaries for the Scheduling Team and Field Instruction positions that were vacant at various points during BY 2021. Please refer to SCG-14-WP-2FC005 CSF Meter Set Assembly Inspection (MSAI) Supplemental Workpaper 1 for labor calculation details. Schedulers develop the MSA Inspection schedule based on compliance due dates, DOT guidelines and route efficiencies. Field Instructors train inspectors to perform on-site inspection of MSAs to comply with DOT guidelines.

F. Advanced Meter Operations Cost Category – Workpaper 2FC006.000

Table DJR-20 below summarizes SoCalGas's requested TY 2024 expenses for Advanced Meter Operations activities which reflects an increase of $5.879 million compared to BY 2021 adjusted-recorded costs.

TABLE DJR-20
CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF
Advanced Meter Operations O&M COSTS IN 2021 $ (000s)

CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF Advanced Meter Operations O&M COSTS IN 2021 $ (000s)			
Expense Item	**BY 2021 Adjusted Recorded**	**TY 2024 Estimated ***	**Change**
Labor	$4,342	$5,611	$1,269
Non-Labor	$3,981	$8,591	$4,610
Total	**$8,323**	**$14,202**	**$5,879**
*Of the $14,202 total TY 2024 estimated costs, approximately $284 or 2.0% are RAMP-related costs (refer back to Section II. Risk Assessment Mitigation Phase Integration for additional details on RAMP Mitigation activities).			

1. Description of Costs and Underlying Activities

Advanced Meter Operations includes labor and non-labor costs associated with the Advanced Meter Operations (AMO) organization and the Field Systems and Analytics organization.

Advanced Meter Operations (AMO)

The AMO group is made up of two subgroups: (i) Network Management (ii) Network (DCU) Maintenance and Construction. Labor and Non-Labor costs for the AMO group in TY 2024 are forecasted to be $11.1 million.

AMO labor activities include: (1) Management and maintenance of AM systems, (2) Management and back-office analysis of Data Collection Units (DCU), (3) Management of construction, field inspection and replacement of DCUs, and (4) Management of Meter Transmission Units (MTU), back-office analysis of MTUs and forecast of MTU investigations and field visits by CSF Operations technicians to support accurate and timely AMI reads.

Non-labor costs for Network Management include contractor services to: (1) support operational matters with DCU network components, (2) provide Radio Frequency (RF) Engineering consultation, (3) MTU/DCU product change consultation, (4) services related to new meter/module products and their testing and integration within the SoCalGas environment prior to accepting into inventory, (5) AMI warranty fees, (6) DCU Ethernet fees for cellular gateways and Ethernet backhaul connectivity, (7) fees paid to cellular communications providers to cover the cost of monthly cellular data plans for each DCU, (8) maintenance and enhancements for network engineering lab and field equipment, (9) costs for required periodic certifications/calibrations of RF equipment needed for testing new product and firmware revisions for MTUs and DCUs to assess network coverage and network interference in the field, and (10) employee expenses for training, telecom, and other miscellaneous costs are also included.

Non-labor costs for Network DCU Maintenance and Construction include: (1) permitting fees for DCU maintenance and service (e.g. for battery changes, repairs, inspections and replacements), (2) DCU repair equipment costs (e.g. solar panels, batteries, nuts, bolts, cables, antennas), (3) attachment costs for DCUs attached to existing non-SoCalGas poles, (4) costs associated with DCU maintenance and inspections (including follow-up repairs or in response to emergency incidents), (5) costs for test and personal safety equipment, (6) miscellaneous costs

for incremental complex MTU or DCU installations and pole relocation costs, (7) employee expenses for training, telecom and other miscellaneous costs are also included.

Field Systems and Analytics Organization

Labor and Non-Labor costs for the Field Systems and Analytics Organization in TY 2024 are forecasted to be $3.1 million.

Labor activities include: (1) Integration, management and maintenance of Advanced Meter systems and interfaces with other SoCalGas operational systems, (2) Implementation and maintenance of new technologies and systems that leverage AMI consumption data in an effort to enhance safety and customer experience, (3) Implementation, management and maintenance of reporting systems, tools and applications, and (4) project and system support for Advanced Meter systems integration with SoCalGas work management and scheduling systems.

Non-Labor costs associated with the Field Systems and Analytics Organization include the following: (1) licensing costs, (2) third party vendor application support, (3) ongoing maintenance support including general troubleshooting and fault correction, (4) defect fixes and periodic software upgrades, and (5) employee expenses for training, cell phone service and other miscellaneous costs are also included.

a. Description of RAMP Mitigations

TABLE DJR-21
Advanced Meter Operations RAMP Mitigations

CUSTOMER SERVICE FIELD & ADVANCED METER OPERATIONS						
RAMP Activity O&M Forecasts by Workpaper (In 2021 $)						
Workpaper	**RAMP ID**	**Description**	**BY2021 Embedded Base Costs (000s)**	**TY2024 Estimated Total (000s)**	**TY2024 Estimated Incremental (000s)**	**GRC RSE**
2FC006.000	SCG-Risk-3 - C29	DCU/Pole Inspections	258	284	26	0.0*
Total			**258**	**284**	**26**	
*An RSE was not calculated for this activity						

SoCalGas conducts cyclical inspections of Data Collector Units (DCUs) and poles to identify structural problems and/or hazards in support of public safety and reliable network communications. Although SoCalGas is only mandated to inspect SoCalGas-owned poles, SoCalGas inspects all DCU units on an annual basis, including third party poles.

Qualified SoCalGas field resources perform this work in accordance with the CPUC's General Order 165.[17] The purpose of this General Order is to establish requirements for electric distribution and transmission facilities (excluding those facilities contained in a substation) regarding inspections in order to support safe and high-quality electrical service.[18] Inspection results are logged and maintained by the Network Maintenance & Construction team.

2. Forecast Method

BY 2021 was used to forecast TY 2024 for Advanced Meter Operations because BY 2021 best reflects a reasonable starting point for current programs and activities. A historical average would not include new activities that support the identification of gas consumption anomalies and systems implemented in BY 2021. Incremental funding requests are then added to the base year forecast to determine total funding requirements.

3. Cost Drivers

Costs are primarily driven by labor costs associated with the activities of the Advanced Meter Operations (AMO) and Field Systems and Analytics employees explained in the Description of Costs and Underlying Activities section above. These costs are in direct support of maintaining the MTUs and DCUs as well as supporting the safety benefits from the Analytics team.

4. Non-Labor Supporting MTU Warranty Payments

SoCalGas possesses more than six million Meter Transmission Units (MTUs) as part of its Advanced Meter (AM) system. The vendor, Aclara, provides a 20-year warranty on these MTUs. In general, for 15 years from date of installation, SoCalGas receives full credit for MTU hardware and partial reimbursement for labor costs associated with removal and reinstallation of MTUs that experience a failure under warranty.

Starting with Year 16 after the MTU installation date, the hardware credit received under the warranty is significantly reduced, and the labor reimbursement is eliminated. However, SoCalGas possesses the right to enhance the warranty coverage, through an additional warranty payment, for each year during Years 16–20 to equal the same provided in the first 15 years. The additional warranty payment must be made during Year 10 after installation.

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[17] GO 165 "Inspection Requirements for Electric Distribution and Transmission Facilities," *available at:* https://docs.cpuc.ca.gov/word_pdf/GENERAL_ORDER/159182.pdf.

[18] *Id.*

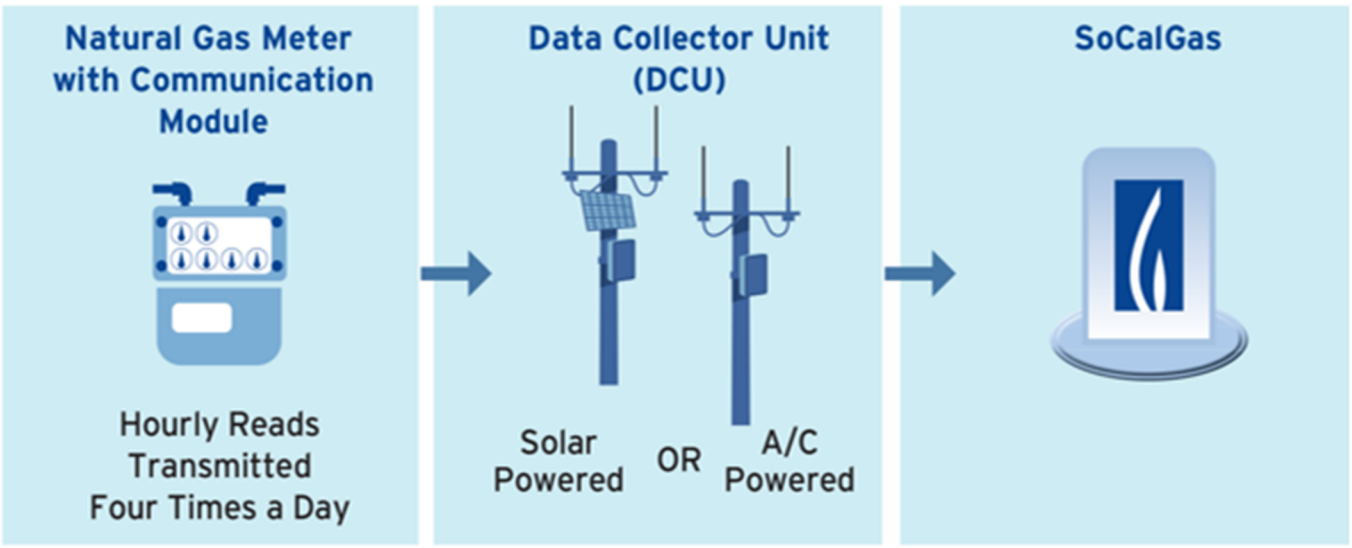
SoCalGas conducted an analysis to determine how many years of enhanced warranty coverage should be purchased based on expected MTU failure rates. This analysis demonstrates that it is beneficial to purchase additional warranty for years 16 through 18. The analysis of the expected MTU failure rate shows a dramatic increase after Year 18. MTU failures after Year 18 will reach a level where it becomes impractical to service the units without a system-wide replacement effort. [SCG-14-WP-2FC006 CSF Advanced Meter Operations Supplemental Workpaper 1A: Decision Analysis]. Based on the failure rate analysis, SoCalGas found it to be more cost effective to purchase the additional warranty for Years 16–18. [SCG-14-WP-2FC006 CSF Advanced Meter Operations Supplemental Workpaper 1A: Decision Analysis] SoCalGas plans to replace MTUs after Year 18, beginning in 2030. Details of the replacement program will be addressed in future regulatory filings.

SoCalGas is requesting an increase of $4.45 million in TY 2024 compared to BY 2021 adjusted-recorded costs to enhance the warranty for Years 16–18 for MTUs originally installed in 2014–2017 [SCG-14-WP-2FC006 CSF Advanced Meter Operations Supplemental Workpaper 1B: Warranty Enhancement Requirements]. Additional MTU warranty payments are expected to be an ongoing cost of maintaining the Advanced Meter system. SoCalGas's request to enhance the warranty for Years 16-18 is advantageous to protect customers against a failure rate higher than the projected average or Median Failure Rate. (As explained in Workpaper 1A and calculated in Workpaper 1B; the range of customer savings is estimated to be between $1M and $72M.) If this request to purchase the warranty enhancement is not approved, the failure rate risk is shifted from the vendor to the customer.

5. DCU Extended Maintenance Payments

SoCalGas is requesting an increase of $0.029 million in TY 2024 compared to BY 2021 adjusted-recorded costs for extended maintenance of Data Collection Units (DCUs). See Table DJR-22 for an overview of a DCU. When SoCalGas purchases a DCU, it comes with a standard 5-year warranty. Every year, SoCalGas adds DCU's to the network to address, among other things, new business. These Extended Maintenance dollars are associated with those additional DCUs that are no longer covered under the original 5-year warranty. After the original warranty expires, SoCalGas pays the vendor, Aclara, to put these DCUs on an Extended Maintenance program to maintain the equipment due to hardware failures. Please refer to SCG-14-WP-2FC006 CSF Advanced Meter Operations Supplemental Workpaper 2 for details.

TABLE DJR-22
DCU Overview



Roughly 6 million gas meters with an attached Meter Transmission Unit (MTU), as well as safety sensitive pressure monitors, transmit information to a Data Collection Unit (DCU) which then conveys meter reads to SoCalGas data centers and IT systems.

6. Vacation & Sick (V&S) for FTEs to Support the AM DCU Hardware Refresh Project

SoCalGas is requesting an increase of $0.100 million in TY 2024 compared to BY 2021 adjusted-recorded costs for V&S expenses for FTEs to support the AM DCU Hardware Refresh IT Capital Project. Please refer to the testimony of Mr. Exon (Ex. SCG-21, Ch. 2) for IT Capital costs. SoCalGas will purchase and replace all DCU's with the next generation DCUs that will enable the Advanced Meter system to provide improved cybersecurity, radio connectivity and performance. Please refer to SCG-14-WP-2FC006 CSF Advanced Meter Operations Supplemental Workpaper 3 for V&S calculation details.

7. Labor for a DCU Field Operations Regional Manager and a Tech Advisor Positions Vacant at Various Points During 2021

SoCalGas is requesting an increase of $0.094 million in TY 2024 compared to BY 2021 adjusted-recorded costs to reflect the full year salaries of one DCU Field Operations Regional Manager responsible for all network construction and maintenance activities within their designated region and one Technical Advisor responsible for technical support of the DCU itself. These positions were vacant at various points in 2021. Please refer to SCG-14-WP-2FC006 CSF Advanced Meter Operations Supplemental Workpaper 4 for labor calculation details.

8. Data Collection Unit (DCU) Inspections

SoCalGas is requesting an increase of $0.165 million in labor and a decrease of ($0.139) million in non-labor in TY 2024 compared to BY 2021 adjusted-recorded costs for RAMP related activity of inspecting DCUs in accordance with the CPUC's General Order 165. Inspection results are logged and maintained by the Network Maintenance & Construction team for compliance reporting. In BY 2021, Inspections were performed by SoCalGas staff (labor) and contractors (non-labor). Starting in 2022 and into TY 2024, DCU inspections are planned to be performed by SoCalGas staff. Please refer to SCG-14-WP-2FC006 CSF Advanced Meter Operations Supplemental Workpaper 5 for details.

9. Labor and Non-Labor to Reflect Full Year Salaries for Positions hired in Q2 of 2022 to Fill Behind Vacancies in the Analytics Development Organization

SoCalGas is requesting an increase of $0.223 million in Labor and $0.006 million in Non-Labor in TY 2024 compared to BY 2021 adjusted-recorded costs to reflect full year salaries for two Technical Advisor positions that were vacant during BY 2021. Please refer to SCG-14-WP-2FC006 CSF Advanced Meter Operations Supplemental Workpaper 6 for labor cost calculation details. These positions are required to continue pursuing programs associated with AMI data analytics and developing algorithms and models to help identify unusual gas consumption patterns that provide safety-related benefits for customers, reduce methane emissions, reduce high customer bills, and support customer service programs. Non-labor costs include training, cell phones, travel, and other miscellaneous expenses.

10. Labor & Non-Labor to Support Consumption Analytics Applications Estimated to Start in Q2 of 2024

SoCalGas is requesting an increase of $0.167 million in labor and $0.353 million in non-labor in TY 2024 compared to BY 2021 adjusted-recorded costs for ongoing support for a new high-speed platform and data store where data from over 6 million customers and over 144 million AMI hourly data points are collected and stored for residential and non-residential accounts to support the requirements from the Core Balancing project.[19] For more information on the Core Balancing Project, please see the Gas Transmission Operations and Construction testimony of Rick Chiapa, Aaron Bell and Steve Hruby, Ex. SCG-06. This request is comprised

[19] D.19-08-002 directed, among other things, SoCalGas to incorporate AMI data into its scheduling and balancing process.

of the following items: (1) labor and non-labor funding for two Technical Advisor positions to enhance the team's ability to provide (a) 7am to 7pm business support (b) ongoing application support, testing and enhancements (c) ongoing review of existing processes, new application releases and technical software upgrades and refinement and improvement of business and system processes. Non-labor costs include training, cell phones, travel, and other miscellaneous expenses (estimated incremental increase $0.006 million). After-hours technical support (7pm to 7am), production defect management and upgrades (estimated incremental increase $0.307 million). Software licenses (estimated incremental increase $0.040 million). Please refer to SCG-14-WP-2FC006 CSF Advanced Meter Operations Supplemental Workpaper 7 for labor details.

11. Vacation & Sick (V&S) for FTEs Associated with Capital & Refundable Projects

SoCalGas is requesting an increase of $0.117 million in TY 2024 compared to BY 2021 adjusted-recorded costs for V&S for ongoing support of Capital & Refundable projects, including the Leak Abatement Program (Senate Bill (SB) 1371)[20] and other Capital projects in support of CSF and AMO. Those projects will require FTEs whose V&S expenses will be funded by the Field Systems and Analytics organization. Please refer to SCG-14-WP-2FC006 CSF Advanced Meter Operations Supplemental Workpaper 8 for labor details.

12. Labor and non-labor to Annualize Positions Vacant at Various Points During 2021 to Support Work Order Management Systems

SoCalGas is requesting an increase of $0.292 million in labor and a decrease of ($0.094 million) in non-labor for contractor labor shifting to SoCalGas labor in TY 2024 compared to BY 2021 adjusted-recorded costs to annualize salaries for positions that were vacant at various points during BY 2021. Please refer to SCG-14-WP-2FC006 CSF Advanced Meter Operations Supplemental Workpaper 9 for labor cost calculation details. These positions are required for ongoing support associated with increased staff activities from the implementation of new functionalities within the Industrial and Financial Systems (IFS)/Clevest suite of applications (supporting Capacity Planning, Resource Management, Order Scheduling, Appointment Booking, Order Routing and Dispatch).

[20] D.17-06-015, OP 6 implements Senate Bill 1371. Per the Commission's direction, the operator must submit an overall program summary highlighting their major efforts to reduce methane emissions and estimated incremental costs where known.

13. Labor & Non-Labor funding for Systems Support for DevOps Tasks in the Analytics Maintenance Organization Estimated to Start in Q2 2023

SoCalGas is requesting an increase of $0.111 million in labor and $0.004 million in non-labor in TY 2024 compared to BY 2021 adjusted-recorded costs for ongoing support of system components used to manage the migration of analytics tools, algorithms, and models from development into production environments and provides monitoring capabilities of the Analytics network status and performance. This request is comprised of the following items: (1) labor and non-labor funding for one Technical Advisor position to provide the following subject matter expertise (a) management and monitoring of system health tools that provide alerts and report system failures and exceptions (b) facilitation of root cause analysis and resolution of system database issues and data exchange failures (c) planning, execution, and verification of system deployments into production environments. Non-labor costs include training, cell phones, travel, and other miscellaneous expenses. Please refer to SCG-14-WP-2FC006 CSF Advanced Meter Operations Supplemental Workpaper 10 for labor details.

14. Reasonableness Review: Advanced Metering Infrastructure Balancing Account (AMIBA)

a. Background and Program Implementation

SoCalGas's Advanced Metering Infrastructure (AMI) Application, A.08-09-023, requested Commission approval to install approximately six million AMI meter modules.[21] On April 8, 2010, the Commission authorized SoCalGas's AMI project in Decision (D.)10-04-027 along with the establishment of the Advanced Metering Infrastructure Balancing Account (AMIBA).[22] SoCalGas filed Advice Letter (AL) 4110 establishing the AMIBA to record the O&M and capital-related costs of the authorized program costs and to implement a component of customer rates through the AMI project deployment period.[23]

Pursuant to Ordering Paragraph 8 of D.16-06-054 in SoCalGas's Test Year 2016 GRC, SoCalGas revised the AMIBA Preliminary Statement to establish separate subaccounts in the

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[21] A.08-09-023 at 5.

[22] D.10-04-027 at 50-51, 53 (OP 1,7).

[23] SoCalGas Advice 4110, Establishment of the Advanced Metering Infrastructure Balancing Account (AMIBA), Update of the Revenue Requirement and Modification of Existing Tariffs to Implement D.10-04-027, *available at*: https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/4110.pdf.

AMIBA to record costs associated with the deployment and post-deployment periods of the AMI project as well as for on-going meter costs in areas where the AMI network was not yet fully constructed.[24] Through AL 5134 SoCalGas created the subaccounts to facilitate the balancing of costs and benefits for the extension of SoCalGas's AMIBA mechanism.[25] The subaccounts were defined as:

(1) Deployment Phase Cost Subaccount – record costs associated with deployment activities

(2) Post-Deployment Cost Subaccount – record costs and benefits associated with post deployment activities.

(3) Escalated Jurisdictions Cost Subaccount – record meter reading costs associated with escalated jurisdictions where the AMI network has not been deployed. Due to select municipalities refuting the Commission's preemptory jurisdiction over utility facilities and requiring SoCalGas to secure discretionary permits, SoCalGas was unable to construct its AMI network in certain counties and cities ("Escalated Jurisdictions") under the expected timeframes.[26] Due to these challenges, approximately two percent of SoCalGas's AMI network was not completed by the end of the deployment period in 2017. The Escalated Jurisdictions Cost Subaccount was created to record meter reading costs associated with escalated jurisdictions until the AMI network could be completed.

Pursuant to D.19-09-051 in SoCalGas's Test Year 2019 GRC, SoCalGas discontinued recording AMI costs in the Deployment Phase Cost and Post-Deployment Phase Cost Subaccounts of the AMIBA effective with the Commission's decision.[27] For Test Year 2019 GRC AMI post-deployment costs were incorporated in the Customer Services Field & Meter

[24] D.16-06-054 at 329-330 (OP 8).

[25] SoCalGas Advice 5134, Extension of AMI Balancing Account (AMIBA) and Updates to the Advanced Meter Infrastructure (AMI) Revenue Requirement, *available at*: https://tariff.socalgas.com/regulatory/tariffs/tm2/pdf/5134.pdf.

[26] *Id.*

[27] D.19-09-051 at 694.

Reading forecast. The disposition of the balance in the Escalated Jurisdictions Cost Subaccount was not addressed in the TY 2019 GRC and was deferred to the next GRC proceeding.

b. Advanced Meter Infrastructure Balancing Account (AMIBA) – Escalated Jurisdictions Subaccount

SoCalGas's AMI deployment consisted of three primary components:

(4) Meter Transmission Units (MTUs) installed on approximately 6 million gas meters;

(5) Approximately 4,600 Data Collector Units (DCUs) constructed throughout the service territory; and

(6) Back-office systems that allow for the collection and management of automated meter readings for billing.

At the close of the AMI project, three remaining jurisdictions Santa Barbara, Rolling Hills and Rancho Palos Verdes asserted that SoCalGas must abide by local discretionary permitting processes, rather than ministerial permitting processes, prior to obtaining approval to construct DCUs in their communities.[28] Most local agencies recognize they have no authority to require discretionary permits for utility facilities. Yet the CPUC and utilities recognize that local agencies retain ministerial permitting authority even though the local agencies cannot use their discretion to preclude the installation of utility facilities.[29] The three local jurisdictions that required SoCalGas to abide by discretionary permitting processes (Santa Barbara County, Rolling Hills, and Rancho Palos Verdes) collectively represent approximately 13,000 customers that were delayed from realizing AMI benefits and were preventing completion of SoCalGas's deployment per the schedule set-forth in D.10-04-027.[30] The local permitting matters referenced above have been resolved and manual meter reading will only continue to be required in these areas until the original DCU network is completely constructed (with the exception of those customers who elect to opt-out of MTU installations) which is expected in 2022.

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[28] *See e.g.*, CPUC letter dated July 23, 2018, Rancho Palos Verdes discretionary permitting requirements for SoCalGas installation of CPUC directed natural gas Automated Metering Infrastructure. A substantially similar letter was sent by the CPUC to Santa Barbara County and Rolling Hills.

[29] *Id.*

[30] D.10-04-027 at 51 (OP 3).

c. AMIBA – Escalated Jurisdictions Cost Subaccount Status

The total O&M expenses recorded to the Escalated Jurisdictions Subaccount through March 31, 2022, is $732,624 and SoCalGas is seeking recovery for this amount. These costs represent meter reading costs associated with escalated jurisdictions and are reasonable.

TABLE DJR-23
Summary of Recorded Expenses in AMIBA – Escalated Jurisdictions Cost Subaccount

Year	Expenses
2018	$732,624

For details of the cost recovery and closure of the Escalated Jurisdictions Subaccount of the AMIBA, see the testimony of witness, Ms. Yu (Ex. SCG-38).

V. SHARED COSTS

As described in the testimony of Ms. Le and Mr. Malin (Ex. SCG-30), Shared Services are activities performed by a utility shared services department (i.e., functional area) for the benefit of: (i) SDG&E or SoCalGas, (ii) Sempra Energy Corporate Center, and/or (iii) any affiliate subsidiaries. The utility providing Shared Services allocates and bills incurred costs to the entity or entities receiving those services. Table DJR-24 summarizes the total shared O&M forecasts for the listed cost categories.

TABLE DJR-24
Shared O&M Summary of Costs

CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS SHARED O&M COSTS IN 2021 $ (000s)			
Expense Item	**BY 2021 Adjusted Recorded**	**TY 2024 Estimated**	**Change**
Shared	$1,393	$1,617	$224
Total	**$1,393**	**$1,617**	**$224**

I am sponsoring the shared services forecast on a total incurred basis, as well as the shared services allocation percentages related to those costs. Those percentages are presented in my shared services workpapers, along with a description explaining the activities being allocated. The dollar amounts allocated to affiliates are presented in our Shared Services Policy and Procedures testimony of Ms. Le and Mr. Malin (Ex. SCG-30).

A. CSF Staff Manager Cost Category - Workpaper 2200-0942.000

Table DJR-25 below summarizes SoCalGas's requested TY 2024 expenses for CSF Staff Manager activities which reflect an increase of $0.224 million in incremental funding above BY2021.

TABLE DJR-25
CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF STAFF MANAGER O&M COSTS IN 2021 $ (000s)

CUSTOMER SERVICES FIELD AND ADVANCED METER OPERATIONS CSF STAFF MANAGER O&M COSTS IN 2021 $ (000s)			
Expense Item	**BY 2021 Adjusted Recorded**	**TY 2024 Estimated**	**Change**
Labor	$1,313	$1,534	$221
Non-Labor	$79	$83	$4
Total	**$1,393**	**$1,617**	**$224**

1. Description of Costs and Underlying Activities

SoCalGas is requesting TY 2024 forecast expenses of $1.6 million for this cost category, an increase of $0.224 million compared to BY 2021 adjusted-recorded costs in TY 2024. CSF Staff Manager is comprised primarily of management personnel who develop and implement processes, policies, and procedures, including Gas Standards and Information Bulletins; track, analyze and report operational data; and manage special projects for CSF operations. Although the CSF Staff Manager is primarily centralized in SoCalGas's headquarters, this organization supports both SoCalGas's and SDGE's CSF organizations.

CSF staff is needed to establish and maintain uniform policies and procedures for CSF field personnel. Policies and procedures are continuously updated to reflect new rules and regulations, manufacturer safety alerts, manufacturer appliance recalls, and other related changes. Analysts within CSF Staff Manager track and analyze customer and company-generated work order volumes, drive time, on premises time and other associated operating metrics. Project managers oversee and implement processes and other changes that impact CSF operations. Non-Labor costs include cell phone costs, office supplies, travel, and other miscellaneous expenses.

2. Forecast Method

BY 2021 was used to forecast TY 2024 for Staff Manager because BY 2021 best reflects a reasonable starting point for current programs and activities. Incremental funding requests are then added to the BY for future expenditures to support efforts such as sustainability strategy initiatives.[31] The shared services allocation percentage is based on the cost center managers' assessment of the activities and contributions of each individual employee, with input from each employee to determine how much of their time is spent performing shared services. As a result of assessing the work performed by positions in this cost category, 3.04 percent of CSF Staff Manager costs were allocated to SDG&E in 2021.

3. Cost Drivers

Costs associated with this category are primarily labor costs for the CSF Staff Manager organization. The number of CSF Staff Manager personnel required is driven by the breadth and depth of the various CSF operational functions supported.

4. Incremental Labor to Support CSF Processes, Policies & Procedures, Analysis and Reporting.

SoCalGas is requesting an increase of $0.220 million in labor and $0.004 million in non-labor in TY 2024 compared to BY 2021 adjusted-recorded costs to support the development and implementation of CSF processes, policies & procedures, analysis and reporting for efforts such as sustainability strategy initiatives.[32] The request consists of two incremental Project Manager I positions that will provide subject matter expertise and support to other internal groups and external vendors during all facets of project implementation. These positions will ultimately be responsible for the development and implementation of policies and procedures associated with new and existing projects. Please refer to SCG-14-WP-2200-0942 CSF Staff Manager Supplemental Workpaper 1 for labor details.

VI. CAPITAL

I am sponsoring the business justification for each of the following IT capital projects. The IT Capital Projects explained below provide enhancements to SoCalGas's information technology systems that support Customer Services Field and Advanced Meter Operations.

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[31] SoCalGas, *ASPIRE 2045 - Sustainability and Climate Commitment to Net Zero* (March 2021), *available at:* https://www.socalgas.com/sites/default/files/2021-03/SoCalGas_Climate_Commitment.pdf.

[32] *Id*.

These system enhancements support SoCalGas's efforts to continuously deliver operational efficiency, improve customer experience, and replace obsolete technology. The estimated capital expense requests are included in the testimony and capital workpapers of Mr. Exon (Ex. SCG-21, Ch. 2). Table DJR-26 summarizes the total capital forecasts for 2022, 2023, and TY 2024.

TABLE DJR-26
Capital Expenditures Summary of Costs

CUSTOMER SERVICES FIELD & ADVANCED METER OPERATIONS CAPITAL COSTS In 2021 $ (000s)				
IT Capital Project ID	**Project Name**	**2022 Estimated**	**2023 Estimated**	**TY 2024 Estimated**
89066	Call Ahead SMS/Text-based Customer Notifications	$1,129	$0	$0
85674	PACER Mobile Upgrade Phase 2	$2,982	$0	$0
BC21157	PACER WFM Replacement Project	$7,024	$11,907	$13,773
89023	Data Analysis Reporting Tool (DART) Upgrade	$218	$0	$0
BC21035	DART Upgrade Phase II	$596	$298	$0
BC21031	Advanced Meter Data Collector Unit Hardware Refresh	$0	$0	$4,407
85683	Advanced Meter Network Exceptions Management & Operations	$1,025	$0	$0
89013	AM Web Portal for 3rd Party Attachments	$264	$0	$0
BC21159	Advanced Meter Pole Inspection Upgrade	$300	$125	$0
85686	Meter Set Assembly Inspection Enhancements Project	$469	$0	$0

A. Call Ahead Standard Messenger Service (SMS)/Text-Based Customer Notifications

Customers will be sent service notifications via standard text messaging as a reminder of scheduled service requests. These reminder notifications enhance customer experience, providing additional options and flexibility for communicating with the Company. This service also provides the customer, when requested, an early cancellation process to avoid unnecessary

truck rolls. Customers are reminded of their scheduled service appointment and provided an option to cancel the order. This service complements the existing same day enroute call reminder that a service technician is on the way.

B. Portable Automated Centralized Electronic Retrieval System (PACER) Mobile Upgrade Phase II

PACER is a 30-year-old in-house customized application that manages the distribution of work orders to the field employees.

PACER Mobile Phase I implemented a cloud-based solution for work order processing utilizing iPhones. Phase II strategically prepares back-office systems that are connected to the PACER mainframe for the PACER Workforce Management (WFM Replacement) Project explained in section C below. Enhancements from the completion of PACER Mobile Phase II include:

- An electronic work order process for emergency outages on the IFS/Clevest platform, currently processed with paper orders
- A backup work order process for scheduled "future work" in disaster recovery situations
- Upgrades to the IFS/Clevest platform identified in Phase I
- An upgraded field network, extending emergency in large-scale emergency situations
- Upgrades to field employee iPhones as part of a two-year life cycle

Information regarding PACER Mobile Upgrade Phase II is found in the capital workpapers. See SCG-21-CWP 00754B. PACER Mobile Upgrade Phase II mitigates safety risks identified in the 2021 RAMP Report: SCG-CFF-4 Foundational Technology Systems – 4. Accordingly, this cost in its entirety, aligns with a RAMP activity.

For PACER Mobile Upgrade Phase II, Table DJR-27 below shows the TY 2024 forecast dollars associated with the activities in the 2021 RAMP Report.

Table DJR-27
RAMP Activity Capital Forecasts by Workpaper In 2021 Dollars ($000s)

RAMP Activity Capital Forecasts by Workpaper In 2021 Dollars ($000s)						
Workpaper	**RAMP Chapter**	**ID**	**Mitigation**	**2022 Estimated RAMP Total**	**2023 Estimated RAMP Total**	**2024 Estimated RAMP Total**
00754B	SCG-CFF-4	4	Gas Operations Systems Resiliency	$2,982	$0	$0

C. PACER WFM Replacement Project

i. Upgrade and modernize Customer Services Field's (CSF) 30-year-old PACER Workforce Management (WFM) mainframe with a cloud-based solution from IFS/Clevest supporting Capacity Planning, Resource Management, Order Scheduling, Appointment Booking, Order Routing and Dispatch. WFM is the central system of Customer Service Field operations driving what field work can be done, by whom and when. SoCalGas CSF is on its first generation WFM solution, PACER, from 1991.

ii. The custom PACER WFM has supported the business and customers satisfactorily over the last three decades. The Energy Industry has changed over the last 30 years and PACER WFM cannot support the changing business needs, regulatory requirements, or the ability to execute the CSF business processes the way operations demands. Leveraging new digital capabilities from IFS/Clevest along with the supporting business process and organizational changes will allow SoCalGas CSF to enable targeted WFM business goals.

1. Enable Business and Regulatory Changes
2. Support Premier Customer Experience
3. Drive Potential Workforce Efficiency and Safety
4. Provide Insights and Actions
5. Empower Customer Service Business
6. Support Premier Employee Experience

Information regarding the PACER WFM Replacement Project is found in the capital workpapers. See SCG-21-CWP 00754AK. The PACER WFM Replacement Project mitigates safety risks identified in the 2021 RAMP Report: SCG-CFF – 4 Foundational Technology Systems – 4. Accordingly, this cost in its entirety, aligns with a RAMP activity.

For the PACER WFM Replacement Project, Table DJR-28 below shows the TY 2024 forecast dollars associated with the activities in the 2021 RAMP Report.

Table DJR-28
RAMP Activity Capital Forecasts by Workpaper In 2021 Dollars ($000s)

RAMP Activity Capital Forecasts by Workpaper In 2021 Dollars ($000s)						
Workpaper	Risk Chapter	ID	Mitigation	2022 Estimated RAMP Total	2023 Estimated RAMP Total	2024 Estimated RAMP Total
00754AK	SCG-CFF-4	4	Gas Operations Systems Resiliency	$7,024	$11,907	$13,773

D. Data Analysis Reporting Tool (DART) Upgrade

The Data Analysis Reporting Tool (DART) is a reporting engine responsible for delivering reports that support critical aspects of Customer Services' Operations. DART is the repository for orders attempted and completed by Customer Services Field technicians, along with the supporting employee and CIS data elements necessary to support Performance Management. In addition, DART is the source of Customer Services Field data used in the General Rate Case (GRC). DART currently stores Customer Services Field operational data in compliance with SoCalGas data retention policies.

DART is a critical reporting application relied upon by the following organizations: CSF Operations, Gas Operations, MSAI, SoCalGas QA, Safety Management & Claims.

This project intends to upgrade technical software components, migrate critical reports, convert Clevest data for GRC data requests and implement business processes in support of Data Privacy, Data Management and Access Controls.

With the implementation of this project, existing reports will be evaluated and categorized as critical and non-critical, in order to implement technical improvements to support the ingestion and storage of files and tables in support of: CSF Operations, Gas Operations, MSAI, SoCalGas QA, Safety Management & Claims.

E. DART Upgrade Phase II

This project intends to continue the technical software upgrade and reduce the technology obsolescence, to address and improve security gaps through the migration of critical reports, replacement of critical data components to address security vulnerabilities. The project also intends to convert, redesign, or abandon non-critical DART Reports and continue transitioning out of the obsolete framework. This upgrade will increase data integrity, data privacy and data security. In addition, the project will provide new capabilities, simplified maintenance, increased stability, reliability and supportability with the replacement of obsolete technologies.

F. Advanced Meter Data Collector Unit Hardware Refresh

Funding is being requested to purchase and replace all DCUs with the next generation DCUs that will enable the Advanced Meter system to provide improved cybersecurity, radio connectivity and performance.

The Advanced Meter network at SoCalGas includes a network of approximately 4,600 Data Collector Units (DCUs) located throughout the service territory, which convey meter reads from roughly 6 million Advanced Meter enabled gas meters, as well as safety sensitive pressure monitors, to SoCalGas data centers and IT systems. Some of these DCUs have been in place for 10 years or longer.

The network was designed specifically to meet the requirements of meter reading; however, this meter reading requirement has evolved over time to include safety sensitive pressure monitors, and in the future, methane sensors and ultrasonic meters. These new requirements come with a need for newer capabilities which include two-way communication and message prioritization. In addition, cybersecurity risks for field devices like the DCU have increased over the years and mitigation is a priority to facilitate the security of the network. The AM DCU Hardware Refresh Project will meet these new capabilities and mitigate existing cyber security risks with next generation DCU technology.

G. Advanced Meter Network Exceptions Management & Operations

Advanced Meter Network Exceptions Management & Operations (NEMO) system is a vendor-packaged application which provides automated analysis and reporting to help identify, track and troubleshoot network performance. It aggregates data and provides visualization tools to help address individual or clustered network issues.

The latest version of the NEMO application went live in 2017 as one of the critical systems supporting Advanced Meter Network Operations. NEMO has been planned to sunset by the vendor in July 2022. There is currently no other vendor available in the market to support this application.

Funding is being requested to mitigate the business risks of operating the AM Network using the current unsupported, legacy exception management system which must be replaced by the end of 2022.

Information regarding Advanced Meter Network Exceptions Management & Operations is found in the capital workpapers. See SCG-21-CWP 00754E. Advanced Meter Network Exceptions Management & Operations mitigates safety risks identified in the 2021 RAMP Report: SCG-CFF-4 Foundational Technology Systems – 4. Accordingly, this cost in its entirety, aligns with a RAMP activity. For Advanced Meter Network Exceptions Management & Operations, Table DJR-29 below shows the TY 2024 forecast dollars associated with the activities in the 2021 RAMP Report.

Table DJR-29
RAMP Activity Capital Forecasts by Workpaper In 2021 Dollars ($000s)

RAMP Activity Capital Forecasts by Workpaper In 2021 Dollars ($000s)						
Workpaper	**Risk Chapter**	**ID**	**Mitigation**	**2022 Estimated RAMP Total**	**2023 Estimated RAMP Total**	**2024 Estimated RAMP Total**
00754E	SCG-CFF-4	4	Gas Operations Systems Resiliency	$1,025	$0	$0

H. Advanced Meter Web Portal for Third Party Attachments

SoCalGas owns approximately 3000 poles that support Advanced Meter (AM) infrastructure across the service territory and is developing a program that will enable third parties, through a license agreement, to attach their communication equipment to these poles. The AM Web Portal for Third-Party Pole Attachments is a cloud-based software solution that will enable automation for efficient management of third-party applications and construction workflows as well as the administration of associated license agreements, reducing the resources required to support manual processes.

In addition, the portal will hold key pole data with reporting for internal and external stakeholders, modeled to prepare the company for compliance with the CPUC Pole Attachment

Order Instituting Investigation (OII)/Order Instituting Rulemaking, which were initiated to consider strategies for increased and non-discriminatory access to poles; the impact of such increased access on safety; and how best to maintain the integrity of the affected communications and electric supply infrastructure going forward.[33]

This project is a key part of the Third-Party Pole Attachment program that leverages the CPUC's Right-of-Way rules to regulate third-party pole attachments which will eliminate regulatory uncertainty and promote the safe installation and operation of pole attachments on SoCalGas's AMI poles. As part of the program development process, the company has filed a Petition for Modification (PFM) of Decision (D.) 18-04-007 to include SoCalGas in the Right-of-Way rules, which is currently pending CPUC approval.[34]

I. Advanced Meter Pole Inspection Upgrade

The Advanced Meter network at SoCalGas includes approximately 4,600 Data Collector Units (DCUs) located throughout the service territory, which convey meter reads from roughly 6 million Advanced Meter enabled gas meters, as well as safety sensitive pressure monitors to SoCalGas data centers and IT systems. All DCUs and supporting infrastructure (usually poles owned and leased) are physically inspected once a year. The inspections verify that any physical observations that identify potential impacts to optimal operation of the DCU and/or constitute a safety concern are recorded and addressed.

Today, the access and recording of inspection observations is mostly manual and the process is tedious: requiring printing of records, writing on paper in the field and completing data entry when the field personnel return to the office. The Pole Inspection project will introduce an application that will eliminate paper by enabling electronic and mobile options to reduce the time it takes to complete the inspections, from capturing the data in the field on paper to transcribing into SAP. In addition, with the rollout of the Third-Party Pole Attachment Program in 2022, contingent upon CPUC approval of SoCalGas's PFM, the Pole Inspection project will provide a means to seamlessly communicate and manage incidents related to licensees' equipment. [35]

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[33] I.17-06-027; R.17-06-028.

[34] D.18-04-007 at 4-6.

[35] I.17-06-027; R.17-06-028; D.16-12-025 at 193 (OP 5).

J. Meter Set Assembly Inspection Enhancements Project

Over the last four years, the Meter Set Assembly Inspection (MSAI) program processes evolved based on lessons learned from prior years. Significant technology enhancements continue to be required to maintain optimal and efficient operations across the MSAI program, including compliance monitoring, audit support, work cycle schedule planning and field and back-office operations.

This MSAI Enhancements Project upgrades Customer Information System (CIS), RouteSmart application and Global Positioning Satellite (GPS) coordinates. This will optimize routing to continue to meet the required inspections as mandated by the DOT.

VII. CONCLUSION

The O&M forecasts were carefully developed and scrutinized by my staff and me as representing a reasonable and prudent level of funding for Customer Services Field and Advanced Meter Operations. The expense forecasts are based on diligent, thorough, and transparent consideration of the myriad of factors influencing costs associated with providing services. The funding requested in my testimony is critical to providing safe, reliable, and efficient services and reflects SoCalGas' efforts to continuously improve its operations.

This concludes my prepared direct testimony.

VIII. WITNESS QUALIFICATIONS

My name is Daniel J. Rendler. My business address is 1981 West Lugonia Avenue, Redlands, California, 92374. I am employed by Southern California Gas Company ("SoCalGas") as Director, Customer Services. I have 37 years of experience in the utility industry and have been employed at SoCalGas since 1984.

While at SoCalGas I have held various staff and line positions of increasing responsibility in the functional areas of Marketing, Customer Contact and Services, Environmental, Safety, Emergency Services, Technology & New Product Development and Gas Field and Technical Operations. My present responsibilities include directing the Customer Services field workforce for Southeast region which includes the counties of San Bernardino, Riverside, Imperial, Orange and parts of Los Angeles County and Customer Services Dispatch operations for SoCalGas's entire service territory.

The Customer Services and Dispatch teams provide service to SoCalGas's diverse customer base including, commercial and industrial businesses and the residences of over 21.8 million consumers in southern California.

I earned a Bachelor of Science Degree in Mechanical Engineering from California State University, Northridge and an MBA from the University of Redlands with honors.

I have previously testified before the California Public Utilities Commission.

APPENDIX A

GLOSSARY OF TERMS

APPENDIX A – Glossary of Terms

Acronyms	Definition
ACOR	Atmospheric Corrosion
AFUDC	Allowance for Funds Used During Construction
AL	Advice Letter
AM	Advanced Meter
AMI	Advanced Metering Infrastructure
AMIBA	Advanced Metering Infrastructure Balancing Account
AMM	Aerial Methane Mapping
AMO	Advanced Meter Operations
ARCOS	Automated Roster Callout System
ARSO	Area Resources Scheduling Organization
BEV	Battery Electric Vehicle
BY	Base Year
CBA	Collective Bargaining Agreement
CCC	Customer Contact Center
CFCA	Core Fixed Cost Account
CFR	Code of Federal Regulations
CGBMA	Core Gas Balancing Memorandum Account
CGI	Can't Get In
CIS	Customer Information System
CPUC	California Public Utilities Commission
CSF	Customer Services Field
CSF&AMO	Customer Services Field & Advanced Meter Operations
D.	Decision
DART	Data Analysis Reporting Tool
DAS	Data Aggregation System
DCU	Data Collector Unit
DOT	Department of Transportation
EPM	Electronic Pressure Monitor
ETR	Energy Technician Residential
ETR-A	Energy Technician Residential - Apprentice
FTE	Full-Time Equivalent
GHG	Green House Gases
GOS	Gas Operations
GPS	Global Positioning Satellite
GRC	General Rate Case
GRSD	Geographical Route Study
HFCEV	Hydrogen Fuel Cell Electric Vehicle
HiPPOS	High-Performance Processing Operational System
IFS	Industrial and Financial Systems
IS	Information Security

Acronyms	Definition
IT	Information Technology
ITO	Initial Turn On
KPI	Key Performance Indicator
MAOP	Maximum Allowable Operating Pressure
MAVF	Multi-Attribute Value Framework
MDMS	Meter Data Management System
MDT	Mobile Data Terminals
MMR	Miscellaneous Meter & Regulator
MRO	Miscellaneous Meter Remediation Order
MSA	Meter Set Assembly
MSAI	Meter Set Assembly Inspection
MSO	Miscellaneous Service Order
MTU	Meter Transmission Unit
NEMO	Network Exceptions Management & Operations
NJT	Non-Job Time
O&M	Operations & Maintenance
OFO	Operational Flow Order
OII	Order Instituting Investigation
OIR	Order Instituting Rulemaking
OP	Ordering Paragraph
OSHA	Occupational Safety and Health Administration
PACER	Portable Automated Centralized Electronic Retrieval System
PFM	Petition for Modification
PMO	Program Management Office
PPE	Personal Protective Equipment
PSI	Pound per Square Inch
QA	Quality Assurance
QoS	Quality of Service
RAMP	Risk Assessment Mitigation Phase
RF	Radio Frequency
RNGV	Renewable Natural Gas Vehicle
RSE	Risk Spend Efficiency
SB	Senate Bill
SCG	Southern California Gas
SDG&E	San Diego Gas & Electric
SMS	Standard Messenger Service
SOC2	Service Organization Control 2
SPD	Safety Policy Division
SoCalGas	Southern California Gas
SQTA	Scheduled Quantity Trading Automation
TY	Test Year
USM	Ultrasonic Meter

Acronyms	Definition
V&S	Vacation & Sick
WFM	Workforce Management
WOA	Work Order Authorization

APPENDIX B

RAMP Activity O&M Forecasts by Workpaper

APPENDIX B

RAMP Activity O&M Forecasts by Workpaper

CS - FIELD & ADVANCED METER OPERATIONS RAMP Activity O&M Forecasts by Workpaper (In 2021 $)						
Workpaper	**RAMP ID**	**Description**	**BY2021 Embedded Base Costs (000s)**	**TY2024 Estimated Total (000s)**	**TY2024 Estimated Incremental (000s)**	**GRC RSE**
2FC001.000	SCG-Risk-3 - C25	Field Employee Skills Training	5,713	7,288	1,575	0.07
2FC001.000	SCG-Risk-3 - C31	Personal Protective Equipment (PPE)	488	651	163	0.0*
2FC001.000	SCG-Risk-3 - C32	Safety Related Field Orders	68,895	83,567	14,672	0.8
2FC003.000	SCG-Risk-3 - C26	Staff Employee Skills Training	4,014	5,390	1,376	0.0*
2FC003.000	SCG-Risk-3 - C28	Quality Assurance	824	1,127	303	0.6
2FC005.000	SCG-Risk-3 - C30	Meter Set Assembly (MSA) Inspection Program	25,320	25,710	390	13.2
2FC006.000	SCG-Risk-3 - C29	DCU/Pole Inspections	258	284	26	0.0*
Total			**105,512**	**124,017**	**18,505**	

* An RSE was not calculated for this activity

APPENDIX C

Order Type – Description of Activity Performed

APPENDIX C

Order Type – Description of Activity Performed

Order Type - Description of Activity Performed			
Line No.	**Order Type**	**Description of Activity Performed**	**COVID Impacted Order = X**
1	Change of Account - Turn On (Not Entered)	This is change of account activity. This work is performed to establish a new customer's account. No appliance work is performed. The meter is read, the meter is inspected, and gas flow is observed to ensure it is not above normal usage. Advanced Meter data is generally used to eliminate the fielding of this order type. Orders are issued when a meter has not been advanced. In addition, the field technician sometimes finds the gas is already on when he arrives to a Turn On type order where it was expected to be off.	x
2	Change of Account - Close (Soft)	This is change of account activity. This work is performed to terminate a customer's account at their request. The meter is read, the meter is inspected, and gas flow is observed to ensure it is not above normal usage. Advanced Meter has eliminated the need for fielding this type of order when a new customer has moved in.	x
3	Change of Account - Hang Tag	This order is to hang a tag on the premise indicating the gas has been left on and informing a new customer to contact us to establish service in their name.	x
4	Credit/Collections - 48 Hour (1st Call)	Prior to shutting off gas service for nonpayment, this is an attempt to collect an unpaid balance from the customer, allowing 48 hours to make payment or payment arrangements. A notice is provided, containing information on options for in person, phone, or online payments. The 48-hour order is required for elderly or handicapped residential customers if they cannot be reached by phone before the gas can be shut off for non-payment.	x
5	Credit/Collections - Collect/Close (2nd Call)	This is an attempt to collect on an unpaid customer balance. If customer is unable to pay, the gas service is hard closed (close valve and secure with a locking device) when possible. If gas service is hard closed, a notice is provided, containing information on options for in person, phone, or online payments along with telephone	x

Order Type - Description of Activity Performed			
Line No.	**Order Type**	**Description of Activity Performed**	**COVID Impacted Order = X**
		numbers to the SoCalGas' Customer Contact Center to schedule a restore. A 1st Call order has already been completed if required.	
6	Credit/Collections - Returned Check	When a payment is made by check and the account lacked sufficient funds to cover the unpaid balance, a collect or close order is issued and the customer must pay in cash, money order, certified check or Bill Matrix (credit card) for gas service to remain on. If the customer is unable to pay, the gas valve is closed and secured with a locking device.	x
7	Credit/Collections - Tenant Notification	Written notification is posted at the property address informing the tenants that the gas account is delinquent, and the service will be closed if the account holder (landlord) fails to pay. The notification provides the tenants the right to become account holders and avoid disconnection if all tenants agree to assume financial responsibility of future bills.	x
8	Credit/Collections - Other	This order type is used for miscellaneous collections-related work not covered by other order types.	x
9	CSO - CSO	This is an order type where the customer requests that a gas appliance be checked (e.g., inoperative water heater).	x
10	CSO - CO-Test	This order type is used when a customer requests a Carbon Monoxide (CO) test to ensure the safety of their home. The field technician checks for CO levels present in the customer's home.	
11	CSO - No Gas	This order type is used when a customer calls to indicate their gas appliances are not working and the reason is unknown or not covered by other order types.	x
12	CSO - Seasonal Off	This order type is used when a customer requests that a gas space heating appliance with a pilot or electronic ignition be turned off. The field technician closes the control or line valve. A full safety check is performed on the heating appliance before closing the gas supply.	x
13	CSO - Seasonal On	This order type is used when a customer requests that a heating appliance be turned on. The field technician conducts a full safety check on the	x

Order Type - Description of Activity Performed			
Line No.	**Order Type**	**Description of Activity Performed**	**COVID Impacted Order = X**
		heating appliance before leaving the gas supply valve on.	
14	Gas Leak - CSO Leak	This order type is used when a report of a gas leak or odor complaint is received. The field technician investigates and identifies the source of the leakage or odor complaint. When a leak is found and it can be repaired, the technician makes repairs. Otherwise, the employee isolates and leaves the gas off pending completion of needed repairs if on the customer's houseline or refers to Gas Distribution group if on the company pipeline.	
15	Gas Leak - Pilot Out Only	This order type is used when a customer reports a leak at a gas appliance and requests service. Upon inspection, the field technician determines the cause of the leak is a pilot light outage.	
16	Gas Leak - Leak Investigation (Step2)	A gas leak becomes a Step 2 investigation when the cause of the odor cannot be determined with 100% certainty without checking the customer's houseline for leakage. The field technician shuts off all gas appliances so that gas flow can be checked at the meter. Underground samples are also taken to determine if there is a leak on company facilities. The field technician makes needed repairs, if possible, or leaves the gas off.	
17	Fumigation - Turn On	This order type is used when a customer requests that gas service be restored after it was shut off for fumigation.	
18	Fumigation - Close	This order type is used when a customer's property is scheduled for fumigation and the customer requests that gas service be closed and secured in preparation for the fumigation. The field technician shuts off gas service to the premise.	
19	HBI - Entered	This order type is used when a customer requests that a service technician be sent to the customer's premise to investigate the cause of a high bill.	x
20	HBI - Not Entered	This is where the customer has requested a service visit to review the cause of a high bill. The explanation for the bill is determined without entering the home.	x

Order Type - Description of Activity Performed			
Line No.	**Order Type**	**Description of Activity Performed**	**COVID Impacted Order = X**
21	Meter Work (Capital) - Meter Set - Turn On	This order type is used when a new gas meter is installed at a customer's premise. Gas service is established, and the field technician enters the property to service all the gas appliances.	
22	Meter Work (Capital) - Meter Set - Left Off	This order type is used when a new gas meter is installed on a customer's premise and the service valve is left off because access to the appliances is not available.	
23	Meter Work (Capital) - Meter Set (PSI)	This is order type is used when a new gas meter is installed at a customer's premise and higher-than-standard gas pressure (e.g., 2 PSI, or pounds per square inch) is provided.	
24	Meter Work (Capital) - Meter Set - Turn On (USM)	This order type is used when a new gas ultrasonic meter is installed at a customer's premise. Gas service is established, and the field technician enters the property to service all the gas appliances.	
25	Meter Work (Capital) - Meter Set - Left Off (USM)	This order type is used when a new gas ultrasonic meter is installed on a customer's premise and the service valve is left off because access to the appliances is not available.	
26	Meter Work (Capital) - Meter Set (PSI) (USM)	This is order type is used when a new gas ultrasonic meter is installed at a customer's premise and higher-than-standard gas pressure (e.g., 2 PSI, or pounds per square inch) is provided.	
27	AMM CSO (Residential/Commercial)	This is an order type where Aerial Methane Mapping identifies the need for an investigation for a residential or commercial customer.	
28	AMM ISO	This order type, an industrial service order, is used when Aerial Methane Mapping identifies the need for an investigation for an industrial customer.	
29	Meter Work (O&M) - Meter Reset - Turn On	This order type is used when a gas meter is installed at an existing facility where the gas meter had previously been removed due to non-use. Gas service is re-established, and the field technician enters the property to service all the gas appliances.	

Order Type - Description of Activity Performed			
Line No.	**Order Type**	**Description of Activity Performed**	**COVID Impacted Order = X**
30	Meter Work (O&M) - Meter Reset - Left Off	This order type is used when a gas meter is installed at an existing facility where the gas meter had previously been removed due to non-use. Due to appliance inaccessibility, the field technician installs the meter, leaves the service off, and secures the gas valve.	
31	Meter Work (O&M) - Meter Change (Entered)	This order type is used when a gas meter is replaced, and gas service is interrupted during the meter change. The field technician enters the property and services the gas appliances to restore gas service.	
32	Meter Work (O&M) - Meter Change (Not Entered)	This order type is used when a gas meter is replaced. The field technician does not need to enter the property to service the appliances because a bypass is used during the meter change, enabling gas to remain on during the meter change, therefore, not interrupting the customer's gas service.	
33	Meter Work (O&M) - Meter Change (Size)	This order type is used when a customer's gas end uses necessitate a larger gas meter.	
34	Meter Work (O&M) - Meter Remove	This order type is used when a gas meter is removed from a customer's property for any reason.	
35	NonPay Turn On - Turn On	This order type is used when a customer's gas service was shut off for nonpayment and the customer requests service re-activation following payment of their bill. The field technician services the customer's gas appliances and restores gas service.	x
36	Read/Verify - Verify	This order type is used when a field technician is asked to collect additional data at a customer premise, typically as a result of billing data abnormalities.	x
37	Read/Verify - Verify - Soft Close	This is a system-generated work order behind a soft-closed account. The order is generated when gas usage is expected to exceed 30 CCF. A field technician hard closes gas service at the meter.	x
38	Read/Verify - Verify - Soft Close - 180 Days	This is a system-generated work order behind a soft-closed account. The order is generated when the account has been in "soft close" status for 180 days without a new occupant. The field technician hard closes gas service at the meter.	x

Order Type - Description of Activity Performed			
Line No.	**Order Type**	**Description of Activity Performed**	**COVID Impacted Order = X**
39	Read/Verify - Load Survey - Residential	This order type is used when a field technician conducts a load survey of a customer's gas appliances to determine the potential load when the appliances are in use. The load survey results are used to properly size a new gas meter.	
40	Read - Bill Read	These orders are to read meters that are not advanced or have stopped communicating through the Advanced Meter system.	
41	TurnOn/ShutOff - Turn On (Entered)	This order type is used when a new customer account is established, and the gas is off. The field technician reads the meter, checks to ensure there are no leaks in the customer piping and services all gas appliances.	x
42	TurnOn/ShutOff - Turn On Entered (Gas On)	This order type is used when a new customer account is established, the gas is already on, and the customer requests a safety check on their gas appliances.	x
43	TurnOn/ShutOff - Turn On (Back On/Restore)	This order type is used when the gas has been shut off by the company or a third party. Repairs, if required, have been made; the field technician turns the gas on and services all gas appliances.	x
44	TurnOn/ShutOff - Turn On (PSI)	This order type is used when a new customer account is established, and the premise is served with higher-than-standard-pressure gas service. The field technician turns the gas service on and services all gas appliances.	x
45	TurnOn/ShutOff - Close (Hard)	This order type is used when a customer requests that their account be closed, and gas service be shut off. It is also used when service must be closed for a safety issue. A field technician closes the gas valve at the meter and secures it with a locking device.	x
46	Miscellaneous - Service Order (MSO)	This is a miscellaneous service order to account for work at customer premises that does not fit within other order categories, including follow-up work resulting from other orders.	
47	Miscellaneous - Meter & Reg (MMR)	This is a multi-purpose order issued to address and correct a variety of conditions found at the meter including corrosion.	
48	Miscellaneous - Meter Remediation Order (MRO)	MSA work/repair that was issued through the system as a follow-up order to an MSA Inspection.	

Order Type - Description of Activity Performed			
Line No.	**Order Type**	**Description of Activity Performed**	**COVID Impacted Order = X**
49	Miscellaneous - Assist	This order type is used when a field employee working an order requests assistance from another employee in order to complete the order, e.g., needs tools or parts, is concerned about their safety, etc.	x
50	Food Industry - Turn On (Entered)	This order type is used when a customer has established an account, but the gas is off. A commercial/industrial field technician turns the gas on and services all gas equipment.	x
51	Food Industry - CSO	This order type is used when a food industry customer requests service on a piece of gas equipment.	x
52	Food Industry - CSO Leak	This order type is used when a food industry customer reports a potential gas leak at a piece of equipment. A commercial service technician investigates the source of the gas leak and makes needed repairs, if possible, or isolates the leak and shuts off gas service.	x
53	Commercial/Industrial - ISO	This order type, an industrial service order, is used when an industrial customer requests service on a gas-fired piece of equipment.	
54	Commercial/Industrial - Load Survey- I/C	This order type is used when a commercial/industrial field technician is asked to determine gas end use load at a customer premise, at the customer's request and/or in preparation for a meter change in order to properly size the meter.	
55	Commercial/Industrial - CSO	This order type is used when a commercial customer requests service on a gas-fired piece of equipment.	x
56	Commercial/Industrial - Turn On (Entered)	This order type is used when a commercial/industrial customer requests gas service to be turned on. The commercial/industrial field technician turns on gas service at the meter and services all gas equipment.	x
57	Cust/Comp Work - Other	This order type is used for miscellaneous customer- or company-generated work at customer premises.	
58	Advanced Meter - MTU Activate	Activate the MTU on a meter.	

Order Type - Description of Activity Performed			
Line No.	**Order Type**	**Description of Activity Performed**	**COVID Impacted Order = X**
59	Advanced Meter - MTU Deactivate	Deactivate the MTU on a meter.	
60	Advanced Meter - MTU Change	Change the MTU on a meter.	
61	Advanced Meter - MTU Remove	Remove the MTU on a meter.	
62	Advanced Meter - MTU SET	Set the MTU on a meter that does not have one.	
63	Advanced Meter - MTU Other	All other MTU orders	
64	Incomplete - Incomplete	This order type is used when a field technician is unable to complete a service order at a customer premise for any number of reasons.	

APPENDIX D

Volume by Order Type

APPENDIX D

Volume by Order Type

2017 - 2021 Historical Volume by Order Type 2022 - 2024 Estimated Volume by Order Type										
Line	**Order Type**	**Historical Actual Volume**						**Estimated Order Volume**		
No		**2017**	**2018**	**2019**	**2020**	**BY 2021**		**2022**	**2023**	**TY 2024**
1	Change of Account - Turn On (Not Entered)	33,562	20,396	15,489	9,884	6,903		15,653	15,653	15,653
2	Change of Account - Close (Soft)	282,349	116,752	2,085	1,920	1,579		2,107	2,107	2,107
3	Change of Account - Hang Tag	-	154,421	248,833	239,752	230,278		251,462	251,462	251,462
4	Credit/Collections - 48 Hour (1st Call)	64,106	74,753	76,703	15,859	-		23,254	77,514	77,514
5	Credit/Collections - Collect/Close (2nd Call)	292,675	319,343	264,095	52,538	1		80,066	266,886	266,886
6	Credit/Collections - Returned Check	491	345	374	35	-		113	378	378
7	Credit/Collections - Tenant Notification	14,806	13,341	12,029	3,349	-		3,647	12,156	12,156
8	Credit/Collections - Other	36	28	71	17	-		22	72	72
9	CSO - CSO	217,920	210,195	219,909	164,326	168,125		188,898	222,233	222,233
10	CSO - CO-Test	7,932	8,865	11,565	10,931	7,246		7,246	7,246	7,246
11	CSO - No Gas	17,268	16,180	16,055	15,642	16,066		16,225	16,225	16,225
12	CSO - Seasonal Off	5,589	5,049	4,715	333	3,351		4,765	4,765	4,765
13	CSO - Seasonal On	46,717	47,855	46,290	41,050	40,538		46,779	46,779	46,779

2017 - 2021 Historical Volume by Order Type 2022 - 2024 Estimated Volume by Order Type										
Line	**Order Type**	**Historical Actual Volume**						**Estimated Order Volume**		
No		**2017**	**2018**	**2019**	**2020**	**BY 2021**		**2022**	**2023**	**TY 2024**
14	Gas Leak - CSO Leak	262,658	250,351	263,290	252,973	230,179		230,179	230,179	230,179
15	Gas Leak - Pilot Out Only	18,351	15,818	15,140	13,529	11,481		11,481	11,481	11,481
16	Gas Leak - Leak Investigation (Step2)	14,233	12,768	12,904	11,380	11,958		11,958	11,958	11,958
17	Fumigation - Turn On	76,838	71,576	68,020	55,435	64,812		64,812	64,812	64,812
18	Fumigation - Close	81,453	76,359	73,465	62,588	73,089		73,089	73,089	73,089
19	HBI - Entered	2,237	1,739	1,927	975	860		1,947	1,947	1,947
20	HBI - Not Entered	2,267	1,337	1,286	645	395		1,300	1,300	1,300
21	Meter Work (Capital) - Meter Set - Turn On	22,233	24,083	25,215	27,102	27,245		31,080	-	-
22	Meter Work (Capital) - Meter Set - Left Off	2,997	3,416	3,286	2,572	2,326		4,214	-	-
23	Meter Work (Capital) - Meter Set (PSI)	3,077	1,484	1,452	1,049	682		2,613	-	-
24	Meter Work (Capital) - Meter Set - Turn On (USM)	-	-	-	-	-		1,432	35,666	36,647
25	Meter Work (Capital) - Meter Set - Left Off (USM)	-	-	-	-	-		194	4,836	4,969
26	Meter Work (Capital) - Meter Set (PSI) (USM)	-	-	-	-	-		120	2,998	3,081

2017 - 2021 Historical Volume by Order Type 2022 - 2024 Estimated Volume by Order Type										
Line	**Order Type**	**Historical Actual Volume**						**Estimated Order Volume**		
No		**2017**	**2018**	**2019**	**2020**	**BY 2021**		**2022**	**2023**	**TY 2024**
27	AMM CSO (Residential/Commercial)	-	-	-	-	-		6,500	6,500	6,500
28	AMM ISO	-	-	-	-	-		1,000	1,000	1,000
29	Meter Work (O&M) - Meter Reset - Turn On	892	997	965	1,019	929		929	929	929
30	Meter Work (O&M) - Meter Reset - Left Off	542	576	490	316	266		266	266	266
31	Meter Work (O&M) - Meter Change (Entered)	2,797	2,546	2,329	1,646	2,008		2,491	2,761	2,691
32	Meter Work (O&M) - Meter Change (Not Entered)	34,569	53,803	32,432	28,919	33,524		39,217	43,468	42,380
33	Meter Work (O&M) - Meter Change (Size)	6,339	6,358	6,231	6,515	7,850		6,145	6,811	6,640
34	Meter Work (O&M) - Meter Remove	8,793	9,449	8,058	5,637	5,237		5,237	5,237	5,237
35	NonPay Turn On - Turn On	96,892	92,649	83,027	16,344	11		25,171	83,904	83,904
36	Read/Verify - Verify	91,042	83,611	76,060	51,339	75,139		76,864	76,864	76,864
37	Read/Verify - Verify - Soft Close	28,558	20,272	20,601	6,639	290		24,462	24,462	24,462
38	Read/Verify - Verify - Soft Close - 180 Days	17,625	18,755	19,053	4,858	1		22,456	22,456	22,456
39	Read/Verify - Load Survey - Res	6,485	6,422	6,593	6,921	8,207		6,663	6,663	6,663
40	Read - Bill Read	431,418	361,370	241,906	219,495	155,421		180,000	180,000	180,000

2017 - 2021 Historical Volume by Order Type 2022 - 2024 Estimated Volume by Order Type										
Line	**Order Type**	**Historical Actual Volume**						**Estimated Order Volume**		
No		**2017**	**2018**	**2019**	**2020**	**BY 2021**		**2022**	**2023**	**TY 2024**
41	TurnOn/ShutOff - Turn On (Entered)	98,998	91,590	85,616	50,738	30,079		73,543	86,521	86,521
42	TurnOn/ShutOff - Turn On Entered (Gas On)	16,235	14,954	14,231	10,625	8,905		12,224	14,381	14,381
43	TurnOn/ShutOff - Turn On (Back On/Restore)	67,612	59,386	57,330	45,432	46,139		49,245	57,936	57,936
44	TurnOn/ShutOff - Turn On (PSI)	-	-	-	-	-		-	-	-
45	TurnOn/ShutOff - Close (Hard)	51,459	42,871	38,180	31,808	32,203		38,583	38,583	38,583
46	Miscellaneous - Service Order (MSO)	38,185	25,674	22,599	20,330	12,096		10,886	12,096	12,096
47	Miscellaneous - Meter & Reg (MMR)	73,870	87,299	37,790	49,961	56,779		51,101	56,779	56,779
48	Miscellaneous - Meter Remediation Order (MRO)	-	-	16,137	67,919	35,036		31,532	35,036	35,036
49	Miscellaneous - Assist	26,355	27,426	23,989	37,510	38,311		24,242	24,242	24,242
50	Food Industry - Turn On (Entered)	2,743	2,827	2,855	2,280	2,204		2,452	2,885	2,885
51	Food Industry - CSO	66,099	66,400	66,061	51,826	54,091		56,745	66,759	66,759
52	Food Industry - CSO Leak	9,673	9,331	9,203	5,504	5,403		9,300	9,300	9,300
53	Commercial/Industrial - ISO	20,751	17,204	17,829	18,750	17,796		17,796	17,796	17,796
54	Commercial/Industrial - Load Survey- I/C	4,040	3,587	5,823	8,343	6,487		6,487	6,487	6,487

2017 - 2021 Historical Volume by Order Type 2022 - 2024 Estimated Volume by Order Type										
Line	**Order Type**	**Historical Actual Volume**						**Estimated Order Volume**		
No		**2017**	**2018**	**2019**	**2020**	**BY 2021**		**2022**	**2023**	**TY 2024**
55	Commercial/Industrial - CSO	9,352	10,613	8,065	6,700	7,497		6,928	8,150	8,150
56	Commercial/Industrial - Turn On (Entered)	8,519	8,472	8,859	6,861	6,427		7,610	8,953	8,953
57	Cust/Comp Work - Other	364	386	304	358	506		506	506	506
58	Advanced Meter - MTU Activate	4,534	7,182	5,445	9,223	5,753		5,753	5,753	5,753
59	Advanced Meter - MTU Deactivate	440	408	429	422	554		554	554	554
60	Advanced Meter - MTU Change	15,496	45,293	44,514	50,150	36,034		45,900	91,567	74,553
61	Advanced Meter - MTU Remove	109	117	180	140	95		95	95	95
62	Advanced Meter - MTU SET	7,969	3,846	3,076	3,195	2,294		2,294	2,294	2,294
63	Advanced Meter - MTU Other	3,771	1,964	2,032	2,636	2,054		2,054	2,054	2,054
64	Incomplete - Incomplete	203,913	184,408	171,948	123,548	120,910		140,188	172,467	171,220
	Total	2,926,234	2,814,500	2,524,438	1,937,791	1,713,650		2,068,076	2,544,255	2,525,864

SoCalGas 2024 GRC Testimony Revision Log –August 2022

Exhibit	Witness	Page	Line or Table	Revision Detail
SCG-14-R	Daniel J. Rendler	DJR-iv	Table DJR-1	Included “Table DJR-1” on the Summary Table
SCG-14-R	Daniel J. Rendler	DJR-iv	Table DJR-1	Table DJR-1 - Updated Non-Shared TY2024 Estimated Totals and Change Totals (Reduction in 2FC003 Non-Labor)
SCG-14-R	Daniel J. Rendler	DJR-iv	n/a	Summary of Requests – Bullet #3 – Removed verbiage “meter reading support”
SCG-14-R	Daniel J. Rendler	DJR-1	9,11	Renamed table number to DJR-2
SCG-14-R	Daniel J. Rendler	DJR-1	12	Table DJR-2 - Updated Non-Shared TY2024 Estimated Totals and Change Totals (Reduction in 2FC003 Non-Labor)
SCG-14-R	Daniel J. Rendler	DJR-2	20	Removed verbiage “meter reading support and” from item #7
SCG-14-R	Daniel J. Rendler	DJR-6	4,6	Renamed table number to DJR-3
SCG-14-R	Daniel J. Rendler	DJR-6	8	Table DJR-3 - Updated TY2024 Estimated Totals & TY2024 Estimated Incremental Totals (Reduction in 2FC003 Non-Labor)
SCG-14-R	Daniel J. Rendler	DJR-6	12,13	Renamed table number to DJR-4
SCG-14-R	Daniel J. Rendler	DJR-7	10,12	Renamed table number to DJR-5
SCG-14-R	Daniel J. Rendler	DJR-15	2	Table DJR-6 - Updated Non-Shared TY2024 Estimated Totals and Change Totals (Reduction in 2FC003 Non-Labor)
SCG-14-R	Daniel J. Rendler	DJR-24	3,7	Table DJR-15 - Updated Non-Labor TY2024 Estimated Totals, Change Totals & *Note below table (Reduction in 2FC003 Non-Labor)
SCG-14-R	Daniel J. Rendler	DJR-24	16	Removed verbiage "meter reading support and" from item #7
SCG-14-R	Daniel J. Rendler	DJR-25	3	Table DJR-16 - Updated TY2024 Estimated & TY2024 Estimated Incremental "Staff Employee Skills Training" costs (Reduction in 2FC003 Non-Labor)
SCG-14-R	Daniel J. Rendler	DJR-26	14	Corrected verbiage to reflect $0.043 million non-labor incremental request instead of $0.168 million (Reduction in 2FC003 Non-Labor)
SCG-14-R	Daniel J. Rendler	DJR-26	21-23	Included verbiage: "Please refer to SCG-14-WP-2FC003 CSF Support Supplemental Workpaper 1 for non-labor calculation details."
SCG-14-R	Daniel J. Rendler	DJR-26	25-26	Removed verbiage "and $0.087 million in non-labor"
SCG-14-R	Daniel J. Rendler	DJR-30	3	Table DJR-19 – Updated GRC RSE Score – Meter Set Assembly Inspection from 13 to 13.2

SCG-14-R	Daniel J. Rendler	DJR-50	15	Renamed table number to DJR-29
SCG-14-R	Daniel J. Rendler	DJR-B-1	n/a	Appendix B - Updated TY2024 Estimated & TY2024 Estimated Incremental "Staff Employee Skills Training" costs (Reduction in 2FC003 Non-Labor)
SCG-14-R	Daniel J. Rendler	DJR-B-1	n/a	Appendix B - Updated GRC RSE Score – Meter Set Assembly Inspection from 13 to 13.2
SCG-14-R	Daniel J. Rendler	DJR-B-1	n/a	Appendix B - Updated GRC RSE Score – Safety Related Field Orders from 0.75 to 0.8