Application: A.25-08-XXX
Exhibit No.: SCG-02
Witness: M. Forster & S. Walker

Application of Southern California Gas Company (U 904 G) to Recover Costs Recorded in the Distribution Integrity Management Program Balancing Account from January 1, 2019 to December 31, 2023.	A.25-08-XXX

CHAPTER II

PREPARED DIRECT TESTIMONY OF

MARK FORSTER AND SHAENA WALKER

ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

(EXECUTION OF PROGRAMS/PROJECTS AND ACTIVITIES TO ADDRESS RISK)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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TABLE OF CONTENTS

CHAPTER II
PREPARED DIRECT TESTIMONY OF
MARK FORSTER AND SHAENA WALKER
(Execution – Programs/Projects and Activities to Address Risk)

I. PURPOSE OF TESTIMONY

The purpose of our prepared direct testimony is to describe Southern California Gas Company's (SoCalGas) management and execution of the Distribution Integrity Management Program (DIMP) and to describe the activities associated with the DIMP during (TY) 2019 General Rate Case (GRC) cycle.

II. OVERVIEW OF TESTIMONY

This testimony and supporting workpapers[1] provide details of how the work was completed for the three DIMP cost categories for the TY 2019 GRC cycle. The three cost categories are: (1) Programs/Projects and Activities to Address Risk (PAAR); (2) Data Management, System Knowledge and GIS (Geographic Information Systems); and (3) Program Management, Risk and Threat, Compliance, Auditing, and Reporting. This testimony outlines the execution of DIMP-related initiatives across these categories and highlights the efficiencies achieved in program delivery. These efforts were undertaken to enhance public safety, comply with federal regulatory requirements, mitigate risks to the natural gas distribution system, and promote cost-effective operations.

III. SUMMARY OF DIMP ACTIVITIES

A. DIMP PAARs

As described in the Prepared Direct Testimony of Travis T. Sera (Chapter I), SoCalGas's DIMP is structured to comply with the requirements of Title 49 of the Code of Federal Regulations (CFR) – specifically Part 192, Subpart P – Gas Distribution Pipeline Integrity. The DIMP framework includes key elements such as system knowledge, threat identification, threat evaluation and prioritization, and the implementation of programs and activities that enhance distribution integrity and safety as intended by the Pipeline and Hazardous Materials Safety Administration (PHMSA). As a result of these elements and the approach taken to develop the

[1] Accompanying workpapers were developed in support of the following Programs/Projects and Activities to Address Risk (PAARs): Vintage Integrity Plastic Plan (VIPP), Bare Steel Replacement Plan (BSRP), Distribution Riser Inspection Project (DRIP), Gas Infrastructure Protection Project (GIPP), and Sewer Lateral Inspection Project (SLIP) (*see* Exhibit (Ex.) SCG-02-WP).

DIMP, SoCalGas designed and administered various PAARs to address threats on its distribution system. These PAARs include but are not limited to:

- Vintage Integrity Plastic Plan (VIPP)
- Bare Steel Replacement Plan (BSRP)
- Distribution Riser Inspection Project (DRIP)
- Gas Infrastructure Protection Project (GIPP)
- Sewer Lateral Inspection Project (SLIP)

The PAARs enable SoCalGas to proactively identify and mitigate potential integrity and safety concerns within the distribution pipeline system, and maintain, replace, and upgrade various components which make up the distribution system.

The Integrity Management department provides strategic oversight of these programs by defining the scope of the activities to perform, establishing the program objectives, and monitoring the execution of the PAARs. Operational responsibility for the day-to-day implementation of the PAARs resides with dedicated teams embedded within SoCalGas's Gas Distribution organization. This organizational alignment enables the teams to leverage operational planning capabilities and field expertise that are central to Gas Distribution's core functions.

Executing DIMP PAARs in close collaboration with Gas Distribution teams drives operational synergies that improve coordination, streamline workflows, and capitalize on shared experience. These include, but are not limited to, expertise in permitting requirements, familiarity with existing pipeline infrastructure location and historical installation practices, experience with public engagement, and environmental concerns – factors that can vary widely across SoCalGas's service territory. The ability to share the institutional knowledge across teams enhances the efficiency and effectiveness of project planning and execution.

Moreover, the successful execution of the DIMP PAAR often requires close coordination with Gas Distribution field operations. This includes activities such as pipeline locating and marking, gas handling, customer communications, and field surveying. The integration of PAAR teams within the Gas Distribution organization fosters strong collaboration and a shared understanding of programmatic needs, thereby supporting the timely and effective execution of integrity management initiatives.

1. VIPP and BSRP

The VIPP addresses the threat of failure on pre-1986 Aldyl-A polyethylene plastic pipe in SoCalGas's natural gas distribution network as discussed in the Prepared Direct Testimony of Travis T. Sera (Chapter I). This type of non-state-of-the-art (NSOTA) plastic piping has demonstrated brittle-like cracking characteristics and low ductile inner wall tendencies, which can lead to a leak propagation and increased risk of natural gas accumulation and ignition.

The BSRP addresses the threat of corrosion related failure on bare steel piping that lack protective coating and cathodic protection. The absence of these factors, combined with age, increase the risk of corrosion-driven degradation.

As discussed in the Prepared Direct Testimony of Travis T. Sera (Chapter I), NSOTA pipe has been long recognized by regulators and manufacturers as high-risk pipe needing accelerated replacement. The VIPP and BSRP are designed to identify and replace NSOTA pipe in response to warnings from regulators, the manufacturers, and a series of failures nationwide.

a) VIPP and BSRP Execution and Management

The execution of pipeline replacements under the VIPP and BSRP follows three key phases: Risk Assessment, Engineering and Planning, and Project Construction. These phases are collaboratively managed by the SoCalGas Integrity Management, Distribution Program Management Office (PMO), Distribution Planning, Project Management, Construction and Field, and Closeout and Reconciliation departments. These multidisciplinary teams are composed of engineers, project managers, construction managers, advisors, analysts, and other employees with varying degrees of responsibility.

(1) Risk Assessment

The initial phase involves identifying high risk pipeline segments using the DREAMS risk prioritization tool. As discussed in the Prepared Direct Testimony of Travis T. Sera (Chapter I), SoCalGas Integrity Management leveraged the DREAMS risk prioritization tool to target high-risk pipe segments based on their relative risk scores. DREAMS is based on a foundation of safety and system risk reduction as identified in 49 CFR Part 192, Subpart P and is a component of the DIMP that addresses NSOTA pipeline. It was developed to help prioritize remediation of high-risk pipeline segments under the VIPP and BSRP.

During the TY 2019 GRC cycle, the DREAMS risk prioritization tool utilized a relative risk assessment model which prioritized individual NSOTA pipe segments based on their risk

scores. The relative risk scores for segments of pipe were calculated considering historical performance (leakage), pipe attributes, construction practices, and location relative to populated areas.

As discussed in Chapter I, during the TY 2019 GRC period, SoCalGas transitioned from prioritizing segments based on their individual relative risk scores to a grid-based approach. The grid-based approach utilized a web-based portal to aggregate and normalize relative risk scores across geographic grid areas, enabling more strategic planning and replacement of high-risk pipeline clusters. Integrity Management communicated prioritized replacement segments to the Distribution PMO.

(2) Engineering and Planning

In this phase, the Distribution PMO verifies project scopes and mileage by reviewing pipeline documentation. Once validated, the Distribution Planning team initiates site assessments, submits permit applications, prepares construction packages, and coordinates material sourcing. Although unforeseen challenges such as constructability issues or scheduling conflicts may arise and require partial redesign or sectional execution, cost efficiency is always a key consideration throughout project planning and execution. The Distribution PMO works closely with other departments to manage scope changes and mitigate additional costs.

(3) Construction

The final phase involves field execution of the replacement projects. Construction activities begin with site preparation, including surveying, trenching, and potholing to identify substructures and confirm pipeline locations.

Where feasible, trenchless methods such as boring are employed to minimize surface disruption and reduce restoration costs. Pipeline installation includes laying, bending, and welding or fusing pipe segments, followed by inspection of welds and coatings. Survey crews document the precise location of all installed components.

Once installation is complete, the system undergoes final tie-ins, pressure control fittings are installed, and both steel and plastic pipelines are odorized. After successful odorization, gas service is restored, and site restoration is performed to return the area to its original condition.

(4) Estimates and Cost Variances

Cost estimates are generally created several months in advance of a project commencing. As a result, initial estimates may differ from actual costs incurred due to unforeseen circumstances and conditions. Examples of these unforeseen circumstances and conditions may be extensive traffic control areas, paving requirements, adverse weather conditions, additional municipality and permitting requests, and substructure and soil challenges. These conditions are unforeseen and the costs to remediate are not included in initial costs estimates. Additional factors such as permit and construction restrictions, other unforeseen site conditions, and additional site restoration requirements may impact planned schedules and result in increased cost.

(5) VIPP and BSRP Managed Efficiently

Due to the challenges outlined above, the VIPP and BSRP were managed with a strong emphasis on efficiency and operational excellence. These programs achieved notable cost efficiencies through the application of optimized resource utilization, project controls, proactive risk management, and adherence to industry best practices. As the VIPP and BSRP expanded, SoCalGas implemented prudent oversight measures that contributed to improved cost metrics. Table FW–1 below illustrates the annual mileage replaced, total investment, and cost per mile for the years 2019 through 2023.

TABLE FW-1

Year	Annual Mileage	Total Cost*	Cost per Mile*
2019	74	$108	$1.46
2020	115	$178	$1.55
2021	140	$198	$1.41
2022	156	$172	$1.10
2023	155	$150	$0.97

*Direct expenditures (including vacation and sick). Total Cost presented in millions of dollars

These figures reflect a consistent downward trend in cost per mile, demonstrating the effectiveness of SoCalGas's strategic management and continuous improvement efforts.

DIMP projects are executed across a wide range of geographic and regulatory environments, each presenting unique challenges. Approximately 45% of SoCalGas distribution pipelines are located in densely populated urban environments, where construction activities are complicated by limited space for large equipment, congested areas, conflicting substructures, high traffic volumes requiring extensive traffic control, and night work with noise abatement requirements. To navigate these complexities, the Distribution PMO plays a central role in adapting project execution strategies to local conditions. The PMO collaborates closely with the public affairs, planning, engineering, and construction teams to tailor solutions that address site-specific constraints, such as coordinating night work to comply with local ordinances. The PMO provides support throughout the permitting process and implements streamlined project management practices for timely project execution. Permitting is a key step in DIMP projects, affecting timelines and requiring approvals from agencies like Caltrans, local governments, and environmental bodies. Projects span diverse, sensitive locations, each with unique requirements such as night work. The Distribution PMO supports the permitting and planning teams by reviewing the tracking of permit submittals and bringing together different internal groups to address any issues or delays promptly. By identifying potential risks and developing solutions, the PMO helps mitigate risks associated with permitting delays, enabling the project to stay on track.

Additionally, the PMO leverages tools and techniques to optimize resource allocation, improve communication among stakeholders, and maintain project timelines, ultimately leading to cost savings and increased productivity. The PMO collaborates closely with various teams across the organization to implement these strategies effectively, fostering a cohesive and coordinated approach to project execution.

Significant efficiencies are achieved by strategically sequencing projects within the same geographic area. This approach reduces mobilization costs by minimizing the need for equipment and personnel to be moved long distances, saving on transportation and setup expenses. Familiarity with local regulations and established relationships with municipalities and agencies help expedite project approvals, minimize delays, and reduce administrative costs. Procuring materials in larger quantities for multiple projects and partnering with the same subcontractors and suppliers across projects enhances efficiency and maintains reliable service. Additionally, by working in designated zones and prioritizing tasks within specific areas,

SoCalGas can further optimize resource allocation and project management, leading to more effective and timely project completion.

Leveraging teams with regional expertise enhances productivity and reduces training time. Strategically sequencing project timelines to overlap or follow one another minimizes downtime and optimizes resource utilization. Consistent engagement with the same city and community stakeholders strengthens communication and collaboration, contributing to more seamless project execution. This integrated approach, combining regional familiarity, stakeholder continuity, and project alignment, establishes a strong foundation for cost-effective and efficient construction planning.

2. DRIP – Distribution Riser Inspection Project

The DRIP PAAR addresses the threat of failure of specific service line components known as anodeless risers, which connect underground service lines to meter set assemblies (MSAs) typically located adjacent to residential and commercial buildings. These risers have demonstrated a tendency to fail prematurely due to corrosion. Given their proximity to occupied structures, failure of these components poses a potential risk to public safety.

To mitigate this risk, the DRIP mandates the inspection of all anodeless risers installed prior to the program's inception. Where appropriate, mitigation measures are implemented—primarily through the application of an epoxy wrap, which serves as a protective barrier against corrosion. For risers installed after the program's initiation, the application of the epoxy wrap has been incorporated into standard installation procedures to proactively reduce the likelihood of future failures.

DRIP is executed through routine inspections and evaluations of risers. Inspection work is identified by geographical area and assigned to an inspector. Inspectors identify risers in the field and determine whether they are of the anodeless type. If a riser is determined to be anodeless, a leak test is performed. If no leak indications are observed, an epoxy wrap is applied to the riser to complete remediation. If leak indications are observed, observations are recorded and Dispatch issues a work order to investigate the leak indications. Following the successful resolution of the leak indications, an epoxy wrap is applied to the riser. In the event of significant corrosion or the presents of a leak , the riser is referred for replacement outside of the DIMP.

3. GIPP – Gas Infrastructure Protection Project

The GIPP PAAR addresses potential third-party vehicular damage to above-ground distribution facilities such as commercial and high-pressure MSAs. It is an additional preventative and mitigative measure developed and managed as part of the DIMP to be responsive to PHMSA guidance that operators address low frequency, but potentially high consequence events in their programs.[2] SoCalGas has identified, evaluated, and implemented a damage prevention solution that is comprised of a collection of mitigation measures including: construction of barriers (bollards or block wall) between facilities and vehicular traffic; relocation of the facility; or installation of an excess flow valve (EFV). The primary or standard mitigation is the installation of bollards (guard posts). Non-standard mitigations, such as structural barriers, facility relocation or abandonment, or the installation of an EFV, are typically reserved for assets exposed to high-speed traffic.

GIPP is executed through a multi-step process involving review of internal data, inspections, evaluations, and mitigation. SoCalGas analyzed historical data where above-ground facilities were impacted by third-party vehicular traffic. This data determined the characteristics for an algorithm that evaluates the probability of an incident at an above-ground facility site. Commercial and industrial (C&I) and high pressure (HP) residential gas facilities were identified to have a higher risk. The algorithm results in a risk assessment for a facility which is then validated through field inspections and field assessments. The field assessment determines whether no action, standard, or non-standard mitigation are required. The appropriate mitigation is completed on the above-ground facility based on individual site variables and the risk of vehicle incidents.

4. SLIP – Sewer Lateral Inspection Project

The SLIP PAAR addresses a construction threat resulting from trenchless installation of gas pipeline to be responsive to the PHMSA guidance to address identified threats of low frequency, but potentially high consequence.[3] SLIP is considered low frequency due to the

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[2] Docket No. PHMSA–2020–0025: Pipeline Safety: Overpressure Protection on Low-Pressure Natural Gas Distribution Systems, 85 Fed. Reg. 61097, 61099 (Sept. 29, 2020), *available at:* https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2022-01/PHMSA-2020-0025.pdf.

[3] PHMSA, *Gas Distribution Pipeline Integrity Management Enforcement Guidance – 49 CFR Part 192 – Subpart P* (December 2015) at 19, *available at:*

limited number of leak occurrences and is considered high consequence due to the potential migration of gas into the building structure through the sewer line resulting in a hazardous condition if a leak were to occur. Trenchless installation are methods where pipelines are installed underground with minimal required excavation, such as horizontal directional drilling or pneumatic ground piercing. Trenchless installations may inadvertently cross a sewer lateral and bore through it, creating what is referred to as a "cross bore." This confluence of a gas pipeline with the sewer pipeline may cause a blockage in the sewer pipeline. Actions taken to eliminate or clear the perceived sewer debris and blockage may damage the gas pipeline and pose risks to the gas infrastructure and the public.[4] For example, an incident in 2010 in St. Paul, Minnesota highlighted the risk of an unidentified cross bore; a contractor cut a natural gas line while attempting to unclog a sewer pipe, resulting in a gas leak from a plastic gas line that caused an explosion.

SLIP is executed through review of internal data, inspections, evaluations, and remediation. The first step is a comprehensive review of construction documents for pipelines that were installed using trenchless technology to identify and prioritize the inspection of potential areas where cross bores may have occurred. Pipeline installed adjacent to sewer laterals using trenchless technology are inspected in the field. The primary means of inspection is a visual verification using inspection cameras. If a camera cannot confirm the absence of a cross bore, the inspection is completed through physical means or mapping resources. If a cross bore is identified, the conflict is repaired, or if necessary, the pipe segment is replaced.

During the TY 2019 GRC cycle, SoCalGas completed an average of almost 490,000 record reviews each year that helped to identify locations requiring inspections.[5] Informed by these records reviews, SoCalGas performed approximately 65,000 inspections per year to confirm the presence or absence of cross bore intrusions.

It is approximated that, based on the average number of cross bores found per inspection, SoCalGas effectively accelerated the detection and elimination of 23 cross bores (~9% more than

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https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/DIMP_Enforcement_Guidance_12_7_2015.pdf.

[4] Docket No. PHMSA–2020–0025: Pipeline Safety: Overpressure Protection on Low-Pressure Natural Gas Distribution Systems, 85 Fed. Reg. 61097, 61099 (Sept. 29, 2020), *available at:* https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2022-01/PHMSA-2020-0025.pdf.

[5] *See* Sewer Lateral Inspection Project (SLIP) Workpaper (Ex. SCG-02-WP).

originally forecasted). These cross bores present safety risks to customers with the only means of mitigation being discovery through inspections.

B. Data Management, System Knowledge, and GIS

One of the key drivers in the creation of the DIMP regulation was the recognition of the wide diversity among distribution systems and operators and allowing the ability to model their DIMP based on the specifics of their system. The DIMP regulation intends for operators to have an understanding of its distribution system (system knowledge) through reasonably available information and existing data, which is necessary to identify threats and evaluate risk. Operators identify potential improvements to their system knowledge by periodically evaluating their program and recognizing what might enhance their assessment of threats and risks to the system. These data enhancements and improvements include the resolution of incomplete data, the addition of new data elements, or upgrades to the systems that collect and manage data.

SoCalGas uses two GIS applications to support DIMP activities – the Enterprise GIS (eGIS) and the High-Pressure Pipeline Database (HPPD). These systems are integral to DIMP activities, providing an integrated view of pipeline asset information and work management activities. The eGIS stores and maintains pipeline information on distribution pipelines operating at or below 60 psig and the HPPD stores and maintains information on distribution pipelines operating above 60 psig.

In the TY 2019 GRC cycle, SoCalGas completed efforts to enhance the data collected and maintained in these platforms, which supports more effective assessment of threats and risk to the distribution system. These efforts include, but are not limited to the following:

(1) Enhancing the collection of data for leak repairs through improvements in the electronic forms and systems used by field employees.

(2) Efforts to resolve undetermined pipeline manufacturer data in the Enterprise GIS (eGIS) for plastic pipelines installed prior to 1986 to support the identification of Aldyl-A pipe.

(3) To improve understanding of leak causation, SoCalGas developed and implemented leak integration between eGIS and SAP/HANA to enable a more timely and accurate spatial leak representation.

SoCalGas also completed the conversion of all SoCalGas computer aided design (CAD) based regulator station drawings to eGIS to make this data more complete and readily available.

The maintenance of these databases, through editing and quality control, must continually reflect changes in the pipeline system based on new construction, replacements, and abandonments for not only DIMP-related projects, but also for all company-wide projects.

Additionally, SoCalGas updated the eGIS software platform to a more current version to mitigate technical security issues and risk caused by lapsing vendor support of outdated software. The integrity of the eGIS platform is imperative, as the data it stores and maintains are core to the execution of DIMP.

These efforts augmented the assessment of overall DIMP system risk and improved reporting capabilities. Moreover, these data integrations enhanced the DREAMS risk prioritization tool, improving SoCalGas's ability to evaluate and rank risk across locations and assets.

C. Program Management, Risk and Threat, Compliance, Auditing, and Reporting

SoCalGas completes its distribution system risk evaluation through a relative assessment. The relative assessment integrates several data sets and considers industry data and SoCalGas experience to support the DIMP's prioritization of programs and activities to address risk. The relative risk assessments are conducted annually and are the basis for DIMP evaluations of new threats or improved methods for addressing existing threats, as required in 49 CFR §192, Subpart P.

Per 49 CFR §192.1007, the DIMP is required to annually gather and report relevant integrity data regarding overall program measures. The periodic evaluation of performance metrics provides the opportunity to determine whether actions taken to address threats are effective, or whether different actions are needed. SoCalGas performs these analytics annually, utilizing the results to monitor effectiveness of current program measures, make necessary adjustments, and to determine if additional actions are required.

IV. WITNESS QUALIFICATIONS

A. Mark Forster

My name is Mark Forster. I am employed by Southern California Gas Company as the DIMP Governance Manager. My business address is 1919 E. State College Blvd, Anaheim, California 92806.

I graduated from the California State Polytechnic University, Pomona in 2001 with a Bachelor of Science degree in Mechanical Engineering. My employment with Southern California Gas Company began in 2004 with the title of Region Associate Engineer. Since that initial assignment, I have held numerous positions with increasing levels of responsibility including Technical Services Engineer, Supply Management Contracting Agent, Pipeline Integrity Materials Engineer, Compliance Assurance Project Manager, and DIMP Analysis Team Lead. I also worked on several years as part of company initiatives, in various positions, supporting the implementation of new IT systems supporting Distribution work management for operations. In my current position of DIMP Governance Manager, my responsibilities include overseeing DIMP activities for the purposes of administering the DIMP Plan and the overall risk management of the Distribution system.

Prior to joining Southern California Gas Company, I was employed by H. Koch and Sons where I was a Design and Project Engineer developing military life support systems.

I have not previously testified before the Commission.

B. Shaena Walker

My name is Shaena Walker. My business address is 1981 West Lugonia Avenue, Redlands, California, 92374. My title is Director of Distribution PMO & Resource Management.

I have been employed by SoCalGas since 2005 and have 20 years of experience in the utility industry. While at SoCalGas, I have held various positions in staff and line functions in Distribution, Gas Engineering, Commercial and Industrial Services, Project and Program Management, and Asset Management. My present responsibilities include providing leadership in distribution program and project management, engineering, resource and work scheduling, and continuous improvement in addition to the preparation and overall management of the O&M and capital budgets. I received my Bachelor of Science Degree in Chemical Engineering from University of California, Riverside, and a Master of Business Administration from California State University, Fullerton.

I have previously testified before the Commission as a witness in the TY 2024 GRC representing the Gas Distribution witness area.