Company: Southern California Gas Company (U 904 G)
Proceeding: 2028 General Rate Case
Application: A.26-06-014/015
Exhibit: SCG-03.1

REVISED PREPARED DIRECT TESTIMONY OF AMY KITSON

(GAS ENGINEERING & SYSTEM INTEGRITY)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA



September 2026

TABLE OF CONTENTS

I. INTRODUCTION 1

A. Summary of Gas Engineering & System Integrity Costs and Activities 1

B. Organization of Testimony 3

C. Support To and From Other Witnesses 4

II. AFFORDABILITY & EFFICIENCY 5

A. Risk-Based Prioritization 6

B. Integrated Infrastructure Planning and Asset Management Program 6

C. Operational Efficiency and Innovation 7

III. NON-SHARED O&M COSTS – GAS ENGINEERING 8

A. Vice President of Gas Engineering & System Integrity (2EN015.001) 9

1. Description of Costs and Underlying Activities 9

2. Forecast Method 10

3. Cost Drivers 10

B. Gas Decarbonization (2EN016.000) 11

1. Description of Costs and Underlying Activities 11

2. Forecast Method 14

3. Cost Drivers 14

C. Engineering Development & Technology (2EN025) 14

1. Description of Cost and Underlying Activities 14

2. Forecast Method 15

3. Cost Drivers 15

D. Analysis, Testing, and Materials (2EN017.000, 2EN017.002, 2EN017.003, 2EN017.004) 16

1. Description of Costs and Underlying Activities 16

2. Forecast Method 18

3. Cost Drivers 18

E. Land & Right of Way (2EN018) 19

1. Description of Costs and Underlying Activities 19

2. Forecast Method 20

3. Cost Drivers 20

F. Measurement, Regulation, and Controls (2EN020) 21

1. Description of Costs and Underlying Activities 21
2. Forecast Method 22
3. Cost Drivers 23
IV. NON-SHARED O&M COSTS –INFRASTRUCTURE SUPPORT PROGRAMS 23
A. Director of Gas System Integrity and Programs (2EN024.000) 24
1. Description of Costs and Underlying Activities 24
2. Forecast Method 24
3. Cost Drivers 24
B. Gas Operations Training & Development (2EN001.000, 2EN001.001, 2EN001.002, 2EN001.003, 2EN001.004 & 2EN001.005) 25
1. Description of Costs and Underlying Activities 25
2. Forecast Method 28
3. Cost Drivers 29
C. Damage Prevention - Operations Policy & Programs Staff (2EN002 & 2EN026) 30
1. Description of Costs and Underlying Activities 30
2. Forecast Method 34
3. Cost Drivers 35
D. Inspection – Non-Destructive Examination (NDE) (2EN007.000) 35
1. Description of Costs and Underlying Activities 35
2. Forecast Method 36
3. Cost Drivers 36
E. Emissions Strategy Program (2EN008.000) 38
1. Description of Costs and Underlying Activities 38
2. Forecast Method 39
3. Cost Drivers 39
F. Aviation Services & Programs (2EN009.000) 40
1. Description of Costs and Underlying Activities 40
2. Forecast Method 44
3. Cost Drivers 44
G. OPERATOR QUALIFICATION (2EN023.000) 44
1. Description of Costs and Underlying Activities 44
2. Forecast Method 45

3. Cost Drivers 46
H. Emergency Management (2EN010) 46
1. Description of Costs and Underlying Activities 46
2. Forecast Method 49
3. Cost Drivers 49
I. Quality Management – Quality & Risk (2EN011.000) 50
1. Description of Costs and Underlying Activities 50
2. Forecast Method 54
3. Cost Drivers 54
J. Integrated Infrastructure Planning (IIP) (2EN014.003) 54
1. Description of Costs and Underlying Activities 54
2. Forecast Method 55
3. Cost Drivers 55
K. Asset Management Program (2EN014.000) 56
1. Description of Costs and Underlying Activities 56
2. Forecast Methodology 57
3. Cost Drivers 57
V. NON-SHARED O&M COSTS – INTEGRITY MANAGEMENT PROGRAMS 58
A. Transmission Integrity Management Program (TIMP) (2EN004.000) 58
1. Description of Costs and Underlying Activities 59
2. Forecast Method 62
3. Cost Drivers 63
4. Continuation and Modification of the TIMPBA 64
B. Distribution Integrity Management Program (DIMP) (2EN005.000) 68
1. Description of Costs and Underlying Activities 68
2. Forecast Method 78
3. Cost Drivers 78
C. Storage Integrity Management Program (2EN003.000) 79
1. Description of Costs and Underlying Activities 79
2. Forecast Method 86
3. Cost Drivers 86
D. New Rules and Regulations (Gas Safety Enhancement Programs) (2EN006.000) 87

1. Description of Costs and Underlying Activities 87
2. Forecast Method..... 92
3. Cost Drivers 92
E. IM Administrative – Non-Balanced (2EN022.000)..... 93
1. Description of Costs and Underlying Activities 93
2. Forecast Method..... 93
3. Cost Drivers 94
VI. NON-SHARED O&M COSTS – ADAPTATION AND INNOVATION PROGRAMS..... 94
A. Climate Change Adaptation (2EN013.000) 95
1. Description of Costs and Underlying Activities 95
2. Forecast Method..... 99
3. Cost Drivers 99
B. Engineering Program and Training and RD&D (2EN019, 2EN019.001, 2EN019.002, 2EN019.003, 2EN019.004 and 2EN019.005) 100
1. Description of Costs and Underlying Activities 100
2. Forecast Method..... 100
3. Cost Drivers 101
C. Research, Development & Demonstration Program (Balanced) (2EN021) 102
1. Description of Costs and Underlying Activities 102
2. Request for Modifications of the Research Plan Process/ Requirements 108
3. Forecast Method.....112
4. Cost Drivers 112
VII. SHARED O&M COSTS – GAS ENGINEERING 113
A. Director Of Gas Engineering 114
1. Description of Cost and Underlying Activities.....114
2. Forecast Method.....114
3. Cost Drivers 114
B. Measurement, Regulation & Controls & Special Projects (2200-0309).....115
1. Description of Cost and Underlying Activities.....115
2. Forecast Method.....118
3. Cost Drivers 118

C. Gas Engineering Project Manager (2200-1096) 118
1. Description of Cost and Underlying Activities 118
2. Forecast Method 119
3. Cost Drivers 119
D. Engineering Design Manager (2200-0318) 120
1. Description of Cost and Underlying Activities 120
2. Forecast Method 120
3. Cost Drivers 121
E. Engineering Design & Management (2200-0322) 121
1. Description of Costs and Underlying Activities 121
2. Forecast Method 123
3. Cost Drivers 123
F. Engineering Information technology (2200-0026) 124
1. Description of Cost and Underlying Activities 124
2. Forecast Method 126
3. Cost Drivers 126
G. Analysis Testing and Materials (2200-0301, 2200-1178, 2200-1180) 127
1. Description of Costs and Underlying Activities 127
2. Forecast Method 129
3. Cost Drivers 130
H. Safenet Technology Solutions (2200-2248) 130
1. Description of Cost and Underlying Activities 130
2. Forecast 131
3. Cost Drivers 131
VIII. SHARED O&M COSTS – GAS INFRASTRUCTURE SUPPORT PROGRAMS 132
A. Emergency Management – Pipeline Safety Assurance (2200-2473) 132
1. Description of Costs and Underlying Activities 132
2. Forecast Method 134
3. Cost Drivers 134
B. Damage Prevention Public Awareness (2200-2417 & 2200-2361) 134
1. Description of Costs and Activities and Underlying Activities 134
2. Forecast Method 135
3. Cost Drivers 136

C. Gas Standard Governance Pipeline Policy (2200-0970, 2200-2023, 2200-2345, 2200-2484) 136
1. Description of Costs and Underlying Activities 136
2. Forecast Method 136
3. Cost Drivers 137
D. Policy Quality Assurance/Quality Control & Effectiveness (2200-0970) 137
1. Description of Costs and Underlying Activities 137
2. Forecast Method 138
3. Cost Drivers 138
E. Field Technologies (2200-2023) 138
1. Description of Costs and Underlying Activities 138
2. Forecast Method 139
3. Cost Drivers 139
F. Gas Operations Construction & Maintenance Staff (2200-2345) 140
1. Description of Costs and Underlying Activities 140
2. Forecast Method 140
3. Cost Drivers 140
G. Leakage Policy & Technologies (2200-2484) 141
1. Description of Costs and Underlying Activities 141
2. Forecast Method 141
3. Cost Drivers 141
IX. SHARED O&M COSTS – INTEGRITY MANAGEMENT PROGRAMS 142
A. TIMP (2200-7000) 142
1. Description of Costs and Underlying Activities 142
2. Forecast Method 144
3. Cost Drivers 145
B. DIMP (2200-7001) 145
1. Description of Costs and Underlying Activities 145
2. Forecast Method 148
3. Cost Drivers 148
C. GSEP (2200-7002) 149
1. Description of Costs and Underlying Activities 149
2. Forecast Method 151

3. Cost Drivers 151
X. CAPITAL – GAS ENGINEERING 152
A. Engineering Tools And Equipment (Laboratory Equipment - 007300) 153
1. Description 153
2. Forecast Method 153
3. Cost Drivers 154
B. Land Rights (006170) 154
1. Description 154
2. Forecast Method 154
3. Cost Drivers 155
C. Supervision and Engineering Overhead Pool (009080) 155
1. Description 156
2. Forecast Method 156
3. Cost Drivers 156
XI. CAPITAL – INFRASTRUCTURE SUPPORT PROGRAMS 156
A. Asset Management Program (EN756A) 157
1. Description 157
2. Forecast Method 158
3. Cost Drivers 158
B. Aviation Services & Programs (003430) 159
1. Description 159
2. Forecast Method 160
3. Cost Drivers 160
XII. CAPITAL – INTEGRITY MANAGEMANT PROGRAMS 161
A. TIMP (P07560) 162
1. Description 162
2. Forecast Method 164
3. Cost Drivers 164
B. DIMP (D07560) 165
1. Description 165
2. Forecast Method 167
3. Cost Drivers 168
C. SIMP (S04410) 168

1. Description 168
2. Forecast Method 172
3. Cost Drivers 172
XIII. CAPITAL – CLIMATE ADAPTATION 173
A. Climate Adaptation 173
1. Description 173
2. Forecast Method 174
3. Cost Drivers 174
XIV. RISK ASSESSMENT MITIGATION PHASE (RAMP) INTEGRATION 174
A. GRC Risk Controls/Mitigations and Benefit Cost Ratios 174
B. Justification For Proposed Mitigations with BCRS <1 176
C. Changes From 2025 Ramp Report 180
D. Feedback From Safety Policy Division and Parties 182
E. CAVA Integration 182
XV. REASONABLENESS REVIEW 183
A. CAVAMA - Climate Adaptation 183
1. Description of Costs 184
2. Summary of Activities within the CAVAMA 185
3. Conclusion and CAVAMA Recovery Requested 191
B. NGLAPMA - Natural Gas Leak Abatement 191
1. Emissions Strategy Program Unrecovered Memo Account Funding 191
2. NGLAPMA Administrative Costs 193
C. MROWMA - Morongo Rights Of Way 195
XVI. CONCLUSION 196
XVII. WITNESS QUALIFICATIONS 198

APPENDICES

Appendix A – Glossary of Terms A-1
Appendix B – Controls and Mitigation Compliance Roadmap B-1
Appendix C – Capital Expenditures C-1
Appendix D – Transmission Integrity Management Program (TIMP)
Supplemental Description D-1

Appendix E –PHMSA Advisory Bulletins: ALDYL-A Pipelines.....E-1
Appendix F –Independent Study Assessing The Efficiency of
SoCalGas's TIMP AND DIMP.....F-1
Appendix G – Supplemental Appendix Capital CAVA Investment Proposals G-1
Appendix H –RD&D Program Requirements Matrix H-1
Appendix I –Problem Statements and Roadmap For RD&D Gas Systems
Integrity and Decarbonization Themes.....I-1
Appendix J – 2026 SB 1371 Compliance Plan.....J-1
Appendix K – REVISED GRC-RAMP Integration..... K-1

SoCal Gas 2028 GRC Revision Log - September 30, 2026 .....Log-1

SUMMARY

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025 $)			
Categories of Management	**2025 Adjusted-Recorded (000s)**	**TY2028 Estimated (000s)**	**Change (000s)**
Total Non-Shared Services	**86,589**	**118,457**	**31,868**
Total Shared Services (Incurred)	**18,427**	**20,601**	**2,174**
Total O&M	**105,016**	**139,058**	**34,042**

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025 $)							
Categories of Management	**2025 Adjusted-Recorded (000s)**	**Est. 2026 (000s)**	**Est. 2027 (000s)**	**Est. 2028 (000s)**	**Est. 2029 (000s)**	**Est. 2030 (000s)**	**Est. 2031 (000s)**
Total CAPITAL	**55,949**	**56,897**	**58,322**	**63,850**	**66,295**	**68,054**	**61,821**

Summary of Requests

- Support core engineering, technical standards, system analysis, measurement and controls necessary for safe system operation.
- Maintain emergency response capability, workforce training and qualification, inspection and quality oversight, damage prevention, emissions compliance, and aviation services.
- Sustain governance, compliance and risk oversight for transmission, distribution, and storage integrity management programs. SoCalGas also requests a modification to the regulatory account treatment for the Transmission Integrity Management Program and Gas Safety Enhancement Programs Memorandum Account; and the closure of the regulatory accounts for the distribution and storage integrity management programs upon review and approval of costs.
- Expand targeted preventive and mitigative activities to address emerging pipeline threats and strengthen system safety according to state and federal mandates.
- Advance Climate Change Adaptation and Geohazard Management to integrate climate risk into planning and comply with CPUC-mandated adaptation activities, improving system resilience.
- Gas decarbonization initiatives including Market Strategy, Market Development, and Research, Development, and Demonstration (RD&D), to support innovation, advance emerging energy solutions, and enhance safety and operational efficiency

in a prudent and targeted manner consistent with regulatory requirements. SoCalGas also requests a modification to the RD&D Research Plan Process and Requirements to more effectively execute and realize the benefits of RD&D.

- Enhance the Asset Management Program to improve data access, asset lifecycle management, and value-driven project prioritization.
- Advance Integrated Infrastructure Planning to meet General Order 177 and evolving gas planning requirements and support affordable, risk-informed investment decisions.

REVISED PREPARED DIRECT TESTIMONY OF AMY KITSON

(GAS ENGINEERING & SYSTEM INTEGRITY)

I. INTRODUCTION

A. Summary of Gas Engineering & System Integrity Costs and Activities

My name is Amy Kitson, Vice President of Gas Engineering and System Integrity (GESI) for Southern California Gas Company (SoCalGas). In this role, I am responsible for the engineering, integrity management, system planning, emergency preparedness, climate adaptation, and related support functions necessary to operate SoCalGas's natural gas transmission, storage, and distribution systems in a safe, reliable, and resilient manner, while maintaining affordability for customers.

The purpose of my testimony is to present and support SoCalGas's forecasted non-shared and shared operations and maintenance (O&M) costs, as well as capital investments for GESI activities in Test Year (TY) 2028. These activities are critical to:

1. Maintain compliance with state and federal safety and reliability regulations and requirements;
2. Manage system risk through risk-informed and data-driven decision-making;
3. Support operational readiness and emergency response; and
4. Enable efficient planning and long-term system stewardship, consistent with the California Public Utilities Commission (CPUC) direction and customer affordability considerations.

Specifically, this testimony describes:

- Gas Engineering including system design, engineering analysis, testing and materials governance, and land and right-of-way services;
- Gas Infrastructure Programs and Support including training, damage prevention, and inspection, emissions strategy, aviation services, operator qualification, emergency management and quality management;
- Integrity Management Programs including transmission, distribution, and storage integrity management and oversight;
- Climate Adaptation and Geohazards to mitigate risks from climate change and natural hazards;

- Integrated Infrastructure Planning and Asset Management enabling long-term, risk-informed system planning and investment decisions;
- Gas Decarbonization initiatives including Market Strategy, Development, and RD&D initiatives to support innovation, safety improvements, and operational efficiency in a prudent and targeted manner; and
- Reasonableness Reviews describing the basis for recovery of previously authorized programs and costs and demonstrating consistency with CPUC directives and approval conditions.

Collectively, these programs support SoCalGas's commitment to safety and reliability, while managing costs in a manner that is affordable for customers. They also reflect compliance with CPUC directives and alignment with California's decarbonization goals. My testimony provides a description of these activities, explains the drivers behind forecasted costs, and demonstrates why these investments are prudent and necessary to serve our customers and communities. Table AK-1 summarizes my sponsored costs.

TABLE AK-1
Test Year 2028 Summary of Total Costs

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025 $)			
Categories of Management	**2025 Adjusted-Recorded (000s)**	**TY2028 Estimated (000s)**	**Change (000s)**
GAS ENGINEERING	15,701	16,492	791
INFRASTRUCTURE SUPPORT PROGRAMS	25,282	37,226	11,944
INTEGRITY MANAGEMENT PROGRAMS	36,395	45,524	9,129
ADAPTATION & INNOVATION PROGRAMS	9,211	19,215	10,004
Total Non-Shared Services	**86,589**	**118,457**	**31,868**

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025 $)			
Categories of Management	**2025 Adjusted-Recorded (000s)**	**TY2028 Estimated (000s)**	**Change (000s)**
GAS ENGINEERING	12,922	14,456	1,534
INFRASTRUCTURE SUPPORT PROGRAMS	3,437	3,888	451
INTEGRITY MANAGEMENT PROGRAMS	2,068	2,257	189
Total Shared Services (Incurred)	**18,427**	**20,601**	**2,174**

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025 $)							
Categories of Management	**Est. 2025 Adjusted-Recorded (000s)**	**Est. 2026 (000s)**	**Est. 2027 (000s)**	**Est. 2028 (000s)**	**Est. 2029 (000s)**	**Est. 2030 (000s)**	**Est. 2031 (000s)**
GAS ENGINEERING	31,015	32,622	32,629	31,754	31,760	36,724	32,291
INFRASTRUCTURE SUPPORT PROGRAMS	9,364	3,090	6,591	8,497	12,159	7,659	7,659
INTEGRITY MANAGEMENT PROGRAMS	15,570	21,185	19,102	20,849	18,096	19,316	18,096
ADAPTATION & INNOVATION PROGRAMS	0	0	0	2,750	4,280	4,355	3,775
Total CAPITAL	**55,949**	**56,897**	**58,322**	**63,850**	**66,295**	**68,054**	**61,821**

Certain forecasted activities and estimated costs were previously presented in SoCalGas's 2025 RAMP Application (A.25-05-010/013, consolidated) filed on May 15, 2025. Those activities and any changes that have occurred since the RAMP filing are detailed in Section VI below.

B. Organization of Testimony

My testimony presents a description of activities and support for forecasted O&M Shared, Non-Shared and Capital costs in four general categories that address regulatory, safety, and system reliability: (1) Gas Engineering; (2) Infrastructure Support Programs; (3) Integrity Management Programs; and (4) Adaptation and Innovation Programs. My testimony is further organized as follows:

- **Introduction:** Provides an overview of my role, the purpose of this testimony, and the programs under GESI that support safety, reliability, sustainability, and affordability.
- **Affordability & Efficiency:** Discusses how GESI programs apply risk-based prioritization, integrated planning, and innovation to deliver prudent and effective outcomes consistent with CPUC guidance.
- **Non-Shared O&M Costs:** Details forecasted costs and activities for Gas Engineering, Gas Infrastructure Programs and Support, Integrity Management Programs, and planning and adaptation-related functions, including Emergency

Management, Quality Management, Climate Change Adaptation, Integrated Infrastructure Planning, and the Asset Management Program.

- **Shared O&M Costs:** Details forecasted costs and activities for shared service activities and associated costs that benefit both SoCalGas and San Diego Gas & Electric Company (SDG&E), including shared Gas Engineering, Integrity Management, and Infrastructure Programs and Support functions.
- **Capital Investments:** Outlines planned capital projects for engineering tools, Integrity Management, Climate Change Adaptation, and Asset Management, explaining how these investments support system safety and reliability.
- **Risk Assessment Mitigation Phase (RAMP) Integration:** Identifies activities aligned with SoCalGas's RAMP filing and explains how risk mitigation strategies are incorporated into this general rate case (GRC) request.
- **Reasonableness Review:** Provides the justification of the requested costs consistent with CPUC directives requiring these costs to be presented for recovery through SoCalGas's GRC.

C. Support To and From Other Witnesses

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

- Gas Distribution testimony (Ex. SCG-04): Activities and associated costs to execute Distribution Integrity Management Program (DIMP) Projects and Activities to Address Risk (PAARs) are presented in the Gas Distribution testimony. This testimony addresses DIMP program management, system knowledge, data/GIS, and compliance functions.
- Gas Transmission & Storage testimony (Ex. SCG-05): Storage Integrity Management Program (SIMP) execution costs are included in the Gas Transmission & Storage testimony, while this testimony addresses SIMP program management, policy, data governance, and risk-based review activities.
- Gas Major Projects testimony (Ex. SCG-06): Activities and associated costs to execute Transmission Integrity Management Program (TIMP) Assessments & Remediation and corrosion related Preventive & Mitigative activities are presented in the Major Gas Projects testimony, which supports execution of these

field projects. This testimony addresses TIMP program management, system knowledge, data management and record keeping, and compliance functions. Also, Capital and O&M activities associated with the execution of GTSR Part 1 (*e.g.*, MAOP Reconfirmation) and the Valve Rule are sponsored in the Gas Major Projects testimony (Ex. SCG-06).

- Customer & External Relations testimony (Ex. SCG-09): Community engagement and equity related Climate Change Adaptation activities linked to the CAVA and CAVA Community Engagement Plan (CEP) are addressed in the Customer & External Relations testimony.
- Compensation & Benefits (Ex. SCG-16/SDGE-20): Describes the compensation modernization initiative.
- Regulatory Accounts testimony (Ex. SCG-21): Proposals related to TIMP balancing account treatment, DIMP and SIMP account modifications, and the expansion of the Gas Safety Enhancement Program Memorandum Account (GSEPMA) are summarized in the Regulatory Accounts testimony.

II. AFFORDABILITY & EFFICIENCY

Affordability is a critical consideration in how SoCalGas plans, prioritizes, and delivers GESI programs. While safety and reliability remain foundational obligations, GESI programs also apply preventative, risk-informed approaches and prudent resource allocation to maintain system performance while managing overall costs in alignment with statewide policy objectives. For example, pursuant to Ordering Paragraph (OP) 34 of D.24-12-074, Structural Integrity Associates, Inc. (SI Associates) performed a study of the efficiency of SoCalGas's TIMP and DIMP and found that these programs "are effective, efficient, and cost-effective, reflecting industry best practices and a proactive approach to safety and regulatory compliance."[1] In this report, SI Associates describes SoCalGas's approach to allocating resources for the TIMP – further described in my testimony – as helping SoCalGas operate in an efficient way, stating, "There is a high level of collaboration…this collaboration helps identify efficiencies with work that may overlap and be able to […] share resources or leverage shared outages to reduce

[1] *See* Appendix F (SI Associates Report: Aligning Safety, Compliance, and Cost-Effectiveness: A Comprehensive Review of SoCalGas's TIMP and DIMP Programs, January 2026) at Section 1.0 (Executive Summary).

customer impacts."[2] The report also describes SoCalGas's DIMP as optimizing "safety and reliability by focusing on risk-based decision-making using a quantitative risk analysis model," which is further described in this testimony.[3]

Some of the ways in which GESI programs support affordability and efficiency are as follows:

A. Risk-Based Prioritization

SoCalGas's risk-based decision-making is guided by a commitment to maintaining safe and reliable service for customers. Through defined risk assessment methodologies, SoCalGas prioritizes investments that reduce the likelihood and consequences of safety incidents, address compliance obligations, and avoid costly emergency repairs or unplanned outages.

This approach aligns with the CPUC's Risk-Based Decision-Making framework (RDF) and promotes transparency in prioritizing work. For example, integrity management programs focus on mitigating the highest-risk assets first, thereby reducing the likelihood of incidents, and minimizing potential costly emergency repairs.

Risk-based prioritization is applied through both RAMP-related mitigations and non-RAMP activities, including Quality Management, Pipeline Safety Assurance, inspection and oversight programs, and integrity data and analysis functions. These programs emphasize prevention and early identification of potential integrity issues, which helps minimize reliance on higher corrective measures associated with emergency response, unplanned repairs, and service interruptions. SoCalGas's Integrity Management Programs also evaluate geohazard threats, including those influenced by climate change,[4] to inform risk mitigation strategies and support the safe and reliable operation of gas infrastructure throughout the service territory.

B. Integrated Infrastructure Planning and Asset Management Program

The Integrated Infrastructure Planning (IIP) and Asset Management Program (AMP) support affordability by enhancing how SoCalGas evaluates, prioritizes, and sequences infrastructure investments over time. These efforts focus on developing tools, methodologies,

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[2] *Id.* at Section 5.9 (Resource Allocation).

[3] *Id.* at Section 6.0 (DIMP - Program Evaluation for Effectiveness, Efficiency and Cost-Effectiveness).

[4] Climate related geohazards as identified in SoCalGas's 2025 climate adaptation vulnerability assessment (CAVA) include coastal erosion, coastal flooding, inland flooding, landslide and wildfire.

and policies to optimize ongoing system investment. These efforts enhance customer value by strengthening visibility into long-term trends and emerging risks, allowing for more informed and coordinated planning decisions.

IIP and AMP enable consideration of future demand scenarios, compliance pathways, and system constraints, supporting more dynamic, risk-informed valuation and prioritization of investments. These programs also reduce unnecessary or reactive activities by strengthening alignment across engineering, integrity management, capital planning, and operations.

Collectively, these efforts support prudent, coordinated investments that improve system performance while managing total system costs, consistent with Commission guidance on long-term gas system planning.

C. Operational Efficiency and Innovation

Through the innovative deployment of technology, process improvements, and data integration, GESI programs improve operational efficiency and help moderate long-term costs. These efforts emphasize strategic deployment based on risk, applicability, and operational need, including where technology can reduce manual effort or enhance the quality and consistency of decision-making.

GESI enhances workforce effectiveness by leveraging centralized expertise, cross functional collaboration, and risk-informed prioritization to align resources, reduce redundancy, and improve execution efficiency while continuing to support overall workforce growth needs to maintain safety, compliance, and operational performance.

Examples include:

- Centralized asset data and analytics platform that improves data quality, accessibility, and governance, enabling advanced analytics and automation, to support Integrity Management Programs and risk-based decision making;
- Enhanced risk modeling and analytics, including quantitative and scenario-based tools, to better target inspections, assessments, and preventative activities;
- Adoption of new in-line-inspection technologies to improve detection, identification, and remediation of potential defects;
- Use of new risk-modeling methods to support data driven decision making for Integrity Management Programs, including Quantitative Risk Assessment (QRA) model for medium pressure mains.

- Advanced leak detection systems, including aerial leak detection and optical monitoring, that accelerate repairs and minimize methane emissions;
- Digital engineering platforms that streamline design processes and reduce cycle times;
- Alignment of emergency preparedness with operations, so that Emergency Management concentrates resources and planning on scenarios with the greatest customer and infrastructure impacts; and
- RD&D initiatives that support operational improvements, emissions reductions, and safety enhancements in a prudent and targeted manner consistent with CPUC guidance for utility research and demonstration programs.

Together, these efforts reduce asset lifecycle costs, improve execution efficiency, and support SoCalGas's ability to meet safety, reliability, and regulatory obligations while maintaining affordability for customers.

III. NON-SHARED O&M COSTS – GAS ENGINEERING

"Non-Shared Services" are activities that are performed by a utility for its own benefit. This section details forecasted costs and activities for Gas Engineering. This grouping of costs represents the activities that provide company-wide safety, compliance and operational support to maintain the safe, reliable, and compliant operation of SoCalGas's gas infrastructure. Table AK-2 summarizes the total non-shared O&M forecasts for the grouping of Infrastructure-related cost categories.

Corporate 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.

Table AK-2 summarizes the total non-shared O&M forecasts for the grouping of Engineering related cost categories.

TABLE AK-2
Non-Shared O&M Summary of Gas Engineering Costs

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025$)			
GAS ENGINEERING	**2025 Adjusted-Recorded (000s)**	**TY2028 Est. (000s)**	**Change (000s)**
VP GAS ENGINEERING & SYS INTEG	613	613	0
GAS DECARBONIZATION	3,234	3,363	129
ENGINEERING DEVELOPMENT & TECHNOLOGY	858	887	29
ANALYSIS TESTING AND MATERIALS	2,560	3,008	448
LAND AND RIGHT-OF-WAY	3,086	3,130	44
MEASUREMENT REGULATION & CONTROLS	5,350	5,491	141
Total	**15,701**	**16,492**	**791**

A. Vice President of Gas Engineering & System Integrity (2EN015.001)

TABLE AK-3
Non-Shared O&M Costs Vice President Gas Engineering and System Integrity

GAS ENGINEERING	**2025 Adjusted-Recorded (000s)**	**TY2028 Est. (000s)**	**Change (000s)**
VP GAS ENGINEERING & SYS INTEG	613	613	0
Total	**613**	**613**	**0**

1. Description of Costs and Underlying Activities

This cost category supports the expenditures for the Vice President of Gas Engineering and System Integrity. The Vice President Gas Engineering and System Integrity provides governance, technical, and policy guidance to the operating groups for SoCalGas to support the safe, reliable, and resilient operation of the gas infrastructure, while maintaining affordability for customers. Responsibilities include, but are not limited to:

- **Engineering Support & Standards**: Overseeing design standards, technical specifications, and compliance with federal and state regulations.
- **System Integrity Management**: Leading programs such as TIMP, DIMP, and SIMP to maintain pipeline safety.
- **Asset Management & Risk Mitigation**: Managing lifecycle planning for gas assets and implementing risk-based strategies to prevent failures.
- **Research & Development**: Advancing innovation in pipeline materials, leak detection, and decarbonization technologies to enhance system safety and reliability, reduce greenhouse gas emissions, and improve operational efficiency.

- O**perations Technology & GIS**: Supervising technology platforms for system monitoring and geographic information systems to maintain system safety and reliability.
- **Training & Compliance**: Upholding workforce competency and adherence to safety management systems.

2. Forecast Method

A base year forecast methodology was used to determine the Vice President of Gas Engineering and System Integrity cost requirements. This method is most appropriate because the base year best reflects the future labor and non-labor expense requirements for this position.

3. Cost Drivers

The Vice President of Gas Engineering and System Integrity provides guidance and leadership to the operating groups for SoCalGas to support the safe, reliable, and resilient operation of the gas infrastructure, while maintaining affordability for customers including on areas of regulatory compliance, pipeline integrity, technology investments, risk mitigations, research and development, and workforce training and safety culture.

- **Regulatory Compliance:** Increased requirements under TIMP, DIMP, and SIMP drive higher costs for assessments, documentation, and audits.
- **Pipeline Integrity Activities:** Inline inspections (ILI), excavation, and remediation work to address threats such as corrosion and stress corrosion cracking.
- **Technology Investments:** Upgrades to GIS, data analytics, and monitoring systems for real-time integrity management.
- **Risk Mitigation Programs:** Preventive measures like installing permanent launchers/receivers and implementing advanced leak detection.
- **Research & Development:** Supporting innovation in renewable gas source integration and decarbonization initiatives.
- **Workforce Training & Safety Culture:** Continuous improvement programs to meet safety management system standards.

B. Gas Decarbonization (2EN016.000)

TABLE AK-4
Non-Shared O&M Costs - Gas Decarbonization

GAS ENGINEERING	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
GAS DECARBONIZATION	3,234	3,363	129
Total	**3,234**	**3,363**	**129**

1. Description of Costs and Underlying Activities

The role of the Gas Decarbonization organization is to assure compliance and alignment with CPUC's policies, priorities and objectives and California's broader decarbonization goals. Specifically, the Market Strategy and Market Development groups, comprising this organization, are guided by the CPUC's Strategic Directives[5] and Pub. Util Code § 740.4, which authorizes reasonable, ratepayer beneficial economic development activities including market research. To that end, these groups identify, assess and implement decarbonized fuels and technology solutions to provide clean, safe, reliable, and affordable energy to SoCalGas customers.

The Market Strategy group translates continuously evolving external energy market dynamics into actionable business initiatives by continuously tracking global, regional, state, and local trends in decarbonization, commodities, policy, and technology and commercialization, and by conducting targeted techno economic and market strategy analyses. It also leads strategic partnerships with industry stakeholders and applies national and global learnings to inform and optimize the group's activities. Informed by work of the Market Strategy group, the Market Development group evaluates and advances energy solutions and technologies from a concept stage to customer adoption through research, stakeholder engagement, pilot development, and collaboration with industry, agencies, municipalities, and community partners. Key focus areas of the Market Development group include the Renewable Natural Gas (RNG) Market Development Program and the Clean Transportation Program.

[5] CPUC, *CPUC's Strategic Directives*, *available at:* https://www.cpuc.ca.gov/about-cpuc/transparency-and-reporting/cpucs-strategic-directives.

a. Renewable Natural Gas Market Development

California law, including Senate Bill (SB) 1440[6] and SB 1383[7] and CPUC's Biomethane Order Instituting Rulemaking (OIR) (R.13-02-008)[8], provides clear guidance to the CPUC to direct and/or encourage the gas utilities to support the established policy and framework for RNG market development, including gas quality standards, the biomethane interconnection incentive program, and statewide standardization of the Standard Renewable Gas Interconnection Agreement and tariff, as well as woody biomass pilot and renewable gas procurement efforts. The RNG Market Development group supports these CPUC priorities by funding labor and non-labor activities such as tracking RNG policies and regulations, conducting developer outreach on pipeline injection and gas quality requirements, improving the interconnection process, evaluating technology options and high-level project economics, leveraging incentives to maintain affordability, assessing RNG value based on credit prices, and delivering stakeholder education and RNG-focused workshops. The group also supports implementation and compliance for SB 1383, including the CPUC-directed dairy biomethane pilot projects coordinated with the California Air Resources Board (CARB) and the California Department of Food and Agriculture (CDFA), and helps advance SB 1383's organic waste diversion requirements under Health and Safety Code § 39730.6[9] by collaborating with State agencies, developers, customers, local jurisdictions, and air districts to facilitate additional RNG projects. In addition, under D.24-12-032,[10] the group is managing SoCalGas's CPUC-filed woody biomass pilot proposal through regulatory review and, if approved, implementation.[11]

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6 SB 1440 (Hueso, 2018), *available at:* https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB1440.

7 SB 1383 (Lara, 2016), *available at:* https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1383.

8 R.13-02-008, OIR to Adopt Biomethane Standards and Requirements, Pipeline Open Access Rules, and Related Enforcement Provisions (February 13, 2013).

9 Cal. Health & Safety Code § 39730.6 (2017), *available at:* https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC&sectionNum=39730.6.

10 D.24-12-032 at 10-11 (OP 1).

11 Application (A.) 25-10-008, Application of SoCalGas Proposing Woody Biomass Pilot Project (October 15, 2025), *available at:* https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M583/K959/583959234.PDF.

b. Clean Transportation Program

Pub. Util. Code § 740.3 and § 740.8 direct the CPUC to promote the development of equipment and infrastructure for low emission natural gas vehicles and establish ratepayer benefits such as safer, more reliable, and lower cost gas service and the use of alternative fuels. Decision (D.) 05-05-010 directed SoCalGas to include the Low Emission Vehicle (LEV) Program in the GRC.[12] Under D.14-05-021[13] and D.14-12-083[14], SoCalGas was authorized to sell Low Carbon Fuel Standard (LCFS) credits from utility owned Compressed Natural Gas (CNG) stations and required to implement a plan to return LCFS revenues to clean transportation customers, which SoCalGas fulfills through its Clean Transportation Program. The Clean Transportation program incurs labor and non-labor costs to promote the increased development and utilization of organic waste and biogas transportation fuels and to meet CPUC compliance obligations, including Schedule G-NGV[15] tariff updates, LCFS implementation plan updates with semi-annual reporting, and California Gas Report forecasts for the G-NGV market, while also managing requirements from CARB, CDFA, and the California Energy Commission (CEC), including CARB CNG fuel specification exemptions and reporting[16], CDFA CNG labeling compliance[17], and CEC retail fuel reporting.[18] The program also provides RNG market information and customer support and administers offerings such as the LCFS Pump Price Reduction Program, the LCFS Fuel Card Incentive Program, and G-NGV utility services (including billing inquiries).[19] Demand for these services is expected to continue based on historical and forecasted growth in the G-NGV market.

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[12] D.05-05-010 at 17 (OP 4).

[13] D.14-05-021 at 24 (OP 1).

[14] D.14-12-083 at 3-4, 51 (OP 1).

[15] Schedule G-NGV, Natural Gas Service for Motor Vehicles, *available at:* https://tariffsprd.socalgas.com/view/tariff/?utilId=SCG&bookId=GAS&tarfKey=44.

[16] Cal. Code Regs. tit. 13, §§ 2259, 2290, 2291, 2292.5, 2295.

[17] Cal. Code Regs. tit. 4 § 4206.

[18] California Annual Fuel Report, CEC A15, under the Petroleum Industry Information Reporting Act of 1980 (PIIRA), Cal. Pub. Res. Code § 25358 (1980) and § 25362 (2023).

[19] In 2025, SoCalGas served 366 RNG refueling stations dispensing 207.1 million therms (over 165.7 million gasoline gallon equivalents), and CARB LCFS Q2 2025 reporting shows over 98 percent of natural gas dispensed statewide was RNG with an average carbon intensity of minus 211.89 g CO2e per MJ.

2. Forecast Method

A base year forecasting methodology was used to forecast labor and non-labor expenses for the Gas Decarbonization area. This method is most appropriate because the base year is representative of current and expected future operational requirements and resource needs to support the aforementioned activities.

3. Cost Drivers

The labor and non-labor resources required to continue to perform activities of the Gas Decarbonization organization are needed to comply and align with CPUC's Strategic Directives and State policies such as, for example, SB 1440 and the Clean Transportation Program. These resources will be utilized to facilitate and advance environmental sustainability, reliability, resiliency, and affordability of products and services provided by SoCalGas. Continued funding at current level of activities is necessary to continue supporting those key functions and initiatives of the Gas Decarbonization group described above.

C. Engineering Development & Technology (2EN025)

TABLE AK-5
Non-Shared O&M Costs – Engineering Development & Technology

GAS ENGINEERING	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
ENGINEERING DEVELOPMENT & TECHNOLOGY	858	887	29
Total	**858**	**887**	**29**

1. Description of Cost and Underlying Activities

The O&M costs associated with ED&T group are primarily labor-related and reflect the need to maintain a small team with specialized technical expertise and strong program management capabilities within Gas Engineering. Costs reflected in this request support staffing of engineering project management, resiliency engineering, and alternative and renewable power engineering. This group's labor and non-labor resources are required to maintain the implementation of initiatives that span multiple departments and functions, often with compressed timelines, heightened public visibility, and elevated safety and reliability expectations. Large, time certain events and systemwide implementation efforts benefit from early, integrated technical planning to support alignment among engineering, operations, safety, regulatory, and external affairs considerations from the outset. These efforts typically result in updates to engineering standards and materials, constructability and operability assessments, procedure and job aid revisions, training design, pilot/field trial protocols, and Management of

Change (MOC) documentation that enable consistent, safe implementation by operating departments.

This group also supports special initiatives that require interdepartmental and interagency coordination. An example of a special initiative is planning for new high-pressure pipeline repair using new methodologies such as composite repairs intended to support system reliability and affordability with less invasive and lower cost repair methods. The overall forecast for the group has been significantly reduced over the last few years in response to CPUC decisions. However, the need for a cross-department support for complex initiatives remains. As Gas Engineering continues to look for opportunities to increase affordability by streamlining processes/procedure, this team will support MOC protocols to establish sustainable changes including planning, cross-department coordination, internal alignment to design standard changes, workforce development, technical expertise, and potential early-stage support for applications and proceedings.

2. Forecast Method

The forecast method developed for this cost category is the base year. This methodology is appropriate because 2025 costs reflects the current structure of the group's labor and non-labor expenses after its reorganization. Using 2025 as the foundation to support the TY 2028 forecast aligns with present operational realities making it the most accurate method for projecting future requirements.

3. Cost Drivers

The cost drivers behind this forecast reflect the volume and complexity of the interdepartmental efforts described above. In addition, following CPUC decisions that limited certain categories of work, ED&T paused or deferred specific workstreams and repurposed existing resources toward other priority initiatives. Organizational optimization efforts likewise aligned staffing more closely with anticipated workload while preserving the capability to respond to Company needs and externally driven implementation efforts as they arise. This reflects a prudent level of resources necessary to maintain the planning and implementation efforts, whether driven by Commission action or external system needs, in a manner that promotes engineered administrative efficiency, safety, reliability, and affordability, while remaining squarely focused on engineering integration and enterprise implementation.

To help streamline the organization, the cost center associated with the Vice President of Clean Energy Innovation (2200-1022), formerly part of the Clean Energy Innovation group, was retired in 2025, and the VP role was not backfilled.

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

D. Analysis, Testing, and Materials (2EN017.000, 2EN017.002, 2EN017.003, 2EN017.004)

TABLE AK-6
Non-Shared O&M Costs - Analysis Testing and Material

GAS ENGINEERING – ANALYSIS TESTING AND MATERIALS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
EAC-MATERIALS LABORATORY	394	533	139
EAC-ADMINISTRATION	188	195	7
EAC-APPLIED TECHNOLOGY	751	781	30
EAC-MATERIAL QUALITY MANAGEMENT	1,227	1,499	272
Total	**2,560**	**3,008**	**448**

1. Description of Costs and Underlying Activities

The Analysis, Testing, and Materials group is composed of the Engineering Analysis Center (EAC) Material Laboratory, EAC Administration, EAC Applied Technology, and EAC Material Quality Management groups that jointly provides a safe and reliable operating system. These groups manage numerous gas standards, material specification, and job aids, which support compliance with Department of Transportation's (DOT) Pipeline Safety and Hazardous Materials Administration's (PHMSA) 49 Code of Federal Regulations (CFR) § 192, General Order (GO) 112-F, CPUC Tarriff Rule 30, and other applicable industry standards. They also provide laboratory activities, testing, and material governance that support system knowledge, gas quality assurance, system integrity, and material procurement design standards. For example, the environmental chamber allows simulation of field conditions in a cyclical method to understand the impacts of weather over extended period, which can then inform design applications to optimize the longevity of the asset, which are described in greater detail below.

a. EAC – Materials Laboratory (2EN017.000)

The EAC Materials and Coating Laboratory Tech group relies on both labor and non-labor resources to provide critical engineering and laboratory analysis functions that enable the utility to meet regulatory compliance. Their responsibilities include maintaining coating

standards and procedures for piping, vessels and related infrastructure, as well as supporting failure analysis related to coating deficiencies and developing corrective recommendations. The lab techs also support preparation of sample specimens for testing evaluation and verification of materials, coating and field samples that support material traceability and failure testing, material verification, and failure investigations. As part of continuous improvement, these activities are augmented to maintain the safety of employees, contractors, customers, and the public.

The EAC Materials Laboratory group has been impacted by increased requests supporting the initiative to validate pipeline records are traceable, verifiable, and complete (TVC) under the Gas Transmission Safety Rule Program. The team will also devote additional resources to expanded polymer material analysis as part of a collaborative effort to strengthen knowledge of Distribution system. An incremental Full Time Equivalent (FTE) will be added in 2027 to support an increased effort in material testing, failure analysis support and traceability.

b. EAC – Administration (2EN017.002)

This group primarily supports field-facing activities related to gas quality monitoring and verification, as well as hydrocarbon analysis to determine energy content and confirm BTU factors for accurate billing of core customers.

c. EAC – Applied Technology (2EN017.003)

The costs in this category support safe operations, system reliability, emissions monitoring, and the effective implementation of operational improvements. They include advanced testing utilizing environmental chambers to evaluate system components and tools for performance under field conditions; monitoring equipment; identifying and resolving technical issues; coordinating with internal technical teams to complete emissions testing at compressor sites; planning, installation, testing, validation, and maintenance of specialized equipment and monitoring systems needed to collect data for new technology deployments; and preparation of structured technical documentation and communication materials that support compliance, knowledge sharing, and coordinated decision-making across multiple organizations.

d. EAC – Material Quality Management (2EN017.004)

The Material Quality Management team provides a centralized point of contact for Gas Engineering, covering material traceability, material specifications, material quality assurance/control, material quality deficiencies, and vendor evaluations. This centralized function enables increased collaboration among Logistics, Inventory, Integrity Management, and

Construction organizations. In addition, this team can provide strategic direction as federal requirements continue to emphasize material traceability through updating vendor requirements and governance over material specifications. Material Quality Management requests two additional FTEs to backfill; one to support O&M activities for an engineering role to be a operations quality engineer overseeing multiple material specifications along with another FTE for QC inspection activities aligned with SB1371 best practices as further explained in the Cost Drivers section. The costs associated with these labor resources are not captured in the base year; therefore, they are requested as incremental FTEs.

2. Forecast Method

The forecast method developed for this cost category is the base year. This method is most appropriate because the 2025 base year reflects the existing level of activity that is expected to continue to support activities described, which represent the primary drivers of both labor and non-labor costs. However, as stated above there are activities, within the EAC Material Laboratory and EAC Material Quality Management groups, that have increased over time and are expected to continue to expand. To support system integrity, enhance system knowledge, and achieve emission reduction objectives, the forecast includes an adjustment for three incremental FTEs. This incremental staffing represents the only adjustment made to the base-year forecast.

3. Cost Drivers

The cost drivers behind this forecast are regulatory compliance, emerging safety standards, and the need for continuous improvement to support the safety and reliability of the pipeline system. The expanding of material laboratory testing and material quality assurance services is essential to support safety through system integrity, increase system knowledge, and quality assurance. Ongoing activities under the Analysis, Testing, and Materials, such as quality control of plastic piping systems, metallurgical preparation of steel samples, maintenance of lab equipment, and SME support for coating failure investigations and vendor assessments, requires one (1) incremental FTE for EAC Materials Laboratory. The additional two FTE's for EAC Material Quality Management will support the centralized oversight of material specifications, quality control, and procurement that must adapt to evolving industry requirements, maintaining adequate inventory and vendor reliability. Furthermore, the EAC Applied Technologies team continues to bring technical activities in-house and develop standardized procedures and operating manuals, reducing reliance on external contractors and vendors. These initiatives

collectively drive costs through specialized equipment, technical expertise, and system integration efforts necessary to meet compliance and innovation goals.

E. Land & Right of Way (2EN018)

TABLE AK-7
Non-Shared O&M Costs - Land and Right of Way

GAS ENGINEERING – LAND AND RIGHT-OF-WAY	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
LAND AND RIGHT-OF-WAY[20]	3,010	3,052	42
PI FIELD SURVEYS	6	6	0
GEOGRAPHIC ANALYSIS & SURVEY	39	40	1
IPD LAND SERVICS	31	32	1
Total	**3,086**	**3,130**	**44**

1. Description of Costs and Underlying Activities

SoCalGas has an extensive pipeline network that traverses public and private lands. The Land and Right of Way group consists of Land & Right of Way (LRoW), Pipeline Integrity (PI) Field Surveys, Geographic Analysis & Survey (GA&S), and Infrastructure Project Delivery (IPD) Land Services that manage property and land rights, including easement, right-of-way leases, municipal and state permits, and survey activities that allow SoCalGas to access, operate and maintain its pipeline infrastructure on public and private property, as well as public streets and highways.

a. Land & Right of Way (2EN018.000)

The LRoW cost support the management of corresponding property rights that allows SoCalGas to legally access, operate, and maintain its pipeline infrastructure in public and private land, by acquiring new property rights to facilitate pipeline project delivery, administering existing and renewing expiring right-of-way leases (including lease payments), and managing the disposition of property rights which are no longer used and useful. LRoW also provides land rights policy governance including governance of encroachment management in compliance with GO 112-F.

b. PI Field Surveys (2EN018.001) and GA&S (2EN018.002)

The Pipeline Integrity (PI) Field Surveys and GA&S cost supports the safety and reliability of the company's natural gas pipeline system through pre-project research and

[20] The Bureau of Land Management (BLM) provided a revised rent schedule on 05/28/2026, the requested forecast will be revised to reflect the changes at the first available opportunity.

coordination, back-office survey data analysis, field survey activities (*i.e.*, control surveys, above ground marker and construction staking, as-built surveys, as well as land monument, easement and property boundary survey and staking), easement legal description preparation and analysis, and close-out support to facilitate pipeline project delivery. GA&S staffs a licensed surveyor managing pipeline and land survey activities including pre-project property research and field survey activities (*i.e.*, locating and preserving land monuments, easement and property boundary survey and staking), as well as easement legal description preparation and analysis to facilitate distribution pipeline project delivery. This group also prepares and updates State Board of Equalization (SBE) tax maps for SoCalGas' fee-owned properties and provides training on easement legal description preparation to Gas Distribution personnel.

c. IPD Land Services (2EN018.003)

The Infrastructure Project Delivery (IPD) Land Services cost support the management of permitting activities with state agencies and local municipalities, which is necessary for SoCalGas's compliance with applicable ordinances to legally access, operate, and maintain its pipeline infrastructure in public streets and highways. These activities include obtaining permits, adhering to permit conditions, and proper close out of permits.

2. Forecast Method

The forecast method developed for this cost category is based on the base year. This method is most appropriate because base year activity levels and support functions are expected to continue and slightly expand beyond pipeline integrity and major projects moving forward. The Land and Right-of-Way department expanded in 2025 to provide a centralized point of contact for enterprise land services support, which now encompasses both labor and non-labor activities of IPD Land Services and PI Field Surveys teams that were previously within the Gas Major Projects.

3. Cost Drivers

The cost drivers for this forecast account for labor and non-labor activities including the expansion of the Land & Right of Way department which now includes support provided by the IPD Land Services and the PI survey teams, as described above. No incremental increase is requested because the existing funding level is sufficient to sustain this steady-state workload.

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

F. Measurement, Regulation, and Controls (2EN020)

TABLE AK-8
Non-Shared O&M Costs - Measurement Regulation & Controls

GAS ENGINEERING – MEASUREMENT REGULATION & CONTROLS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
METER SHOP & RECORDS	1,591	1,654	63
INSTRUMENT SHOP & METER QUALITY SUPPORT	598	618	20
NGV & ELECTRICAL FIELD MAINTENANCE	3,161	3,219	58
Total	**5,350**	**5,491**	**141**

1. Description of Costs and Underlying Activities

a. Meter Shop & Records (2EN020.000)

The Meter Shop and Records function support the integrity, accuracy, and regulatory compliance of the Company's measurement infrastructure by testing meters returned from the field. Core responsibilities include procuring meters and gas modules to meet operational requirements; administering compliance programs, including General Order 58-A; managing meter repair and testing; overseeing warranty recovery; and maintaining the records needed for audits and regulatory reporting. Warranty recovery and meter refurbishment help reduce replacement and procurement costs, delivering direct savings to ratepayers while supporting system reliability and safety by returning tested, compliant equipment to service and removing underperforming assets from the field. The group also performs statistical analysis of test results from meters returned from the field (*e.g.*, drift and out-of-tolerance rates) to identify performance trends. Based on these reliability assessment results, the Company implements systematic replacement strategies prioritizing meter populations by model, size, manufacturer, age cohort, and/or operating conditions to support effective asset lifecycle management. It is also necessary to maintain sufficient inventory of diaphragm meters, rotary meters, gas modules, Electronic Pressure Monitors, and electronic correctors to support new customer installations, routine replacements, and reliability-driven change-outs based on testing and performance assessments.

Collectively, these efforts strengthen operational reliability and regulatory compliance, as measured by inspection acceptance rates, calibration out-of-tolerance rates, and defective

findings, while reducing total meter and instrument lifecycle costs through warranty recovery, refurbishment, and avoided procurement.

b. Instrument Shop and Meter Quality Support (2EN020.001)

The Instrument Shop and Meter Quality Support group monitors the accuracy and reliability of the Company's measurement systems by preparing and calibrating electronic devices, including Electronic Pressure Monitors (EPMs) and electronic correctors, and by performing quality inspections of new gas meters and modules prior to being placed into service. EPMs support pipeline integrity by providing pressure data that enables timely identification of abnormal conditions and helps maintain safe operating pressures. Electronic correctors support measurement accuracy by calculating temperature and pressure compensated gas usage for high-volume customers, supporting accurate and reliable billing. The group also provides field support through large orifice meter inspections and other measurement integrity activities. Collectively, these efforts enhance operational reliability, support regulatory compliance, and reinforce customer confidence by enabling the delivery of accurate and dependable measurement data.

c. Natural Gas Vehicle and Electrical Field Maintenance (2EN020.003)

The NGV & Electrical Field Maintenance group supports the infrastructure management for 35 CNG sites including: 47 natural gas compressors (critical for maintaining adequate pressure and flow to support fueling operations), 15 public dispensers (to provide access to renewable energy fueling for external customers and promoting sustainable transportation), and 31 company fleet fueling bases (to support SoCalGas fleet fueling needs and enhance operational efficiency and reduce emissions). Responsibilities include routine maintenance, cross-compression activities during pipeline enhancements to reduce methane emissions, electrical maintenance for cathodic protection systems across the service territory by identifying electrical shorts and maintaining rectifier stations to prevent corrosion.

2. Forecast Method

The forecast method developed for all workpapers under Measurement, Regulations, and Controls (*i.e.*, Meter Shop and Records, Instrument Shop and Meter Quality Support, and NGV and Electrical Field Maintenance) is the base year. This method is most appropriate because the activity level is not expected to change.

3. Cost Drivers

The cost drivers necessary to maintain these programs reflect the ongoing operational, compliance, and reliability requirements associated with SoCalGas's measurement, NGV, and electrical maintenance responsibilities. These costs are recurring and essential to sustaining safe and accurate gas measurements, maintaining critical NGV infrastructure, and protecting pipeline assets. This forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

IV. NON-SHARED O&M COSTS –INFRASTRUCTURE SUPPORT PROGRAMS

As described above, "Non-Shared Services" are activities that are performed by a utility for its own benefit. This section details forecasted costs and activities for infrastructure support programs. This grouping of costs represents the activities that provide company-wide safety, compliance and operational support to maintain the safe, reliable, and compliant operation of SoCalGas's gas infrastructure. Table AK-9 summarizes the total non-shared O&M forecasts for the grouping of Infrastructure-related cost categories.

Corporate 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 SoCalGas.

TABLE AK-9
Non-Shared O&M Costs - Infrastructure Support Programs

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025$)			
INFRASTRUCTURE SUPPORT PROGRAMS	**2025 Adjusted-Recorded (000s)**	**TY2028 Est. (000s)**	**Change (000s)**
DIRECTOR OF GIPS	117	122	5
GAS OPERATIONS TRAINING & DEVELOPMENT	7,911	8,307	396
DAMAGE PREVENTION	5,310	8,247	2,937
INSPECTION – NDE	1,567	2,130	563
EMISSIONS STRATEGY PROGRAM	1,705	1,767	62
AVIATION SERVICES & PROGRAMS	1,841	8,147	6,306
OPERATOR QUALIFICATION	2,637	2,735	98
EMERGENCY MANAGEMENT	2,195	2,283	88
QUALITY MANAGEMENT	980	1,021	41
INTEGRATED INFRASTRUCTURE PLANNING	694	1,852	1,158
ASSET MANAGEMENT PROGRAM	325	615	290
Total	**25,282**	**37,226**	**11,944**

A. Director of Gas System Integrity and Programs (2EN024.000)

TABLE AK-10
Non-Shared O&M Costs - Gas Systems Staff

INFRASTRUCTURE SUPPORT PROGRAMS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
DIRECTOR OF GIPS	117	122	5
Total	**117**	**122**	**5**

1. Description of Costs and Underlying Activities

This cost supports the labor and associated non-labor expenses for the Director of Gas System Integrity and Programs. This leadership role is responsible for company-wide oversight that advances safety and reliability through proactive risk management and compliance monitoring, while supporting affordability by implementing cost-effective, preventative actions that reduce long-term operational and customer impacts. These departments include Centralized Operations Training, Operations Policy and Programs Staff, Welding Inspection and Oversight, Operator Qualification, Gas Measurement, and Gas Systems Programs.

These activities contribute to the governance, regulatory compliance, workforce qualification, and program oversight, which are necessary to meet federal and state safety requirements, implement CPUC directives, and maintain the safe and reliable operation of the gas system. In addition to labor costs associated with one director position, this funding category includes related employee expenses, supplies, materials, and the training and development needed to effectively manage these programs.

2. Forecast Method

The forecast method developed for this cost category is base year. This method is most appropriate because the base year best reflects the future labor and non-labor expense requirements for this position as the costs are expected to remain level over time. The base year forecast is representative of expectations for TY 2028.

3. Cost Drivers

The cost drivers behind this forecast include the labor and non-labor expenses associated with the Director role, which is responsible for providing oversight, strategic direction, and governance for the Gas Infrastructure Programs & Support organization. These costs support key management activities such as program review, risk management, regulatory and compliance

alignment, cross-functional coordination, and decision-making necessary to facilitate the effective delivery, oversight, and compliance of Gas Infrastructure initiatives. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

B. Gas Operations Training & Development (2EN001.000, 2EN001.001, 2EN001.002, 2EN001.003, 2EN001.004 & 2EN001.005)

TABLE AK-11
Non-Shared O&M Costs - Gas Operations Training & Development

INFRASTRUCTURE SUPPORT PROGRAMS – GAS OPERATIONS & TRAINING	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
GAS OPERATIONS TRAINING & DEVELOPMENT	1,327	1,377	50
TRAINING – TRANSMISSION/STOR/HP/M&R	837	963	126
TRAINING – DESIGN & SUPPORT	938	978	40
TRAINING – WELDING	1,584	1,629	45
CSF OPS TRAINING & DEVELOPMENT	2,444	2,548	104
CSF INSTRUCTION & DEVELOPMENT	781	811	30
Total	**7,911**	**8,307**	**396**

1. Description of Costs and Underlying Activities

The Gas Operations Training and Development organization costs support SoCalGas's employee operational readiness by training and qualifying employees to perform their roles safely and effectively. These costs include activities and associated O&M expenses to provide training related to the core, non-shared duties of Gas Operations Training and Development, Transmission & Storage Training, Training Design & Support, Welding Training, Customer Service Field Operations Training & Development, and Customer Service Field Instruction & Development. These programs are crucial for compliance with applicable laws, regulations, and standards, while protecting both workforce and public safety. These groups also support SoCalGas's employees operational readiness by training and confirming employees' qualifications to perform their roles safely and effectively. It includes activities and associated O&M expenses to provide training related to the core duties of Gas Operations Training and Development, Transmission & Storage Training, Training Design and Support, Welding Training, Customer Service Field Operations Training & Development, and Customer Service Field Instruction & Development.

Generally, training activity increases with workforce attrition, as well as the introduction of new programs, processes, technologies, and evolving regulatory or compliance obligations.

As experienced employees retire or transition to other roles, SoCalGas's training programs play a critical role in maintaining workforce capability by supporting the development of new and less experienced employees who replace higher-skilled staff.

Training is delivered across three strategically located facilities: Pico Rivera, Bakersfield, and San Bernardino. These locations minimize instructor and employee travel, reducing associated costs while enhancing accessibility. Their location and positioning also enable greater training efficiency, reliability, scalability, and alignment with operational needs.

a. Gas Operations Training & Development (2EN001.000)

The Gas Operations Training & Development training group supports approximately 3,500 field employees across Gas Transmission, Gas Distribution, Customer Services Field, and Gas Storage operations throughout SoCalGas's service territory. Training is delivered through multiple formats, including classroom instruction, virtual, hands-on practice, and one-on-one coaching, complemented by regular engagement with frontline supervisors and employees. This enables employees to confidently apply their knowledge in real-world situations, bridging the gap between theory and practice for long-term success. Furthermore, these efforts are essential to maintaining a competent workforce capable of safely constructing, maintaining, and expanding the Company's pipeline system. By providing technical skills training, refresher courses, and ongoing development programs, the teams also reinforce SoCalGas's safety culture and commitment to readiness for the future.

The group also provides training for large equipment, specialized tools, and the commercial driver's license program. Additionally, the group provides training and company-wide oversight of compliance training requirements, including CPR, First Aid, and respirator fit-testing. This includes initial and refresher training coordination, maintaining training records and documentation, tracking completion of required schedules, and supporting audit readiness and periodic compliance reporting. These costs support the Company's goals of safety and reliability of SoCalGas's system by providing an adequate level of operations support and field technical skills training.

b. Training – Transmission/Storage/HP/M&R (2EN001.001)

Transmission/Storage/HP/M&R training costs support specialized technical training for employees engaged in gas transmission, storage operations, high-pressure (HP) systems, cathodic and system protection, and measurement and regulation (M&R) activities. This training

strengthens employee knowledge, skills, and qualifications necessary to safely operate, maintain, and troubleshoot critical infrastructure. These distinct training programs address regulatory compliance, system integrity, emergency response, and the safe operation of equipment and facilities. Training is delivered through a combination of classroom instruction, hands-on field exercises, and refresher courses to reinforce safe work practices and operational reliability.

c. Training – Design & Support (2EN001.002)

Design and Support training costs support the development, maintenance, and continuous improvement of Gas Operations training programs. This includes instructional design, curriculum updates, learning material development, and administrative support required to respond promptly to changes in regulations, standards, technology, and operational practices. Design and Support monitors training content to remain current, effective, and aligned with Company policies and safety objectives, while leveraging blended learning approaches such as hybrid course offerings, self-paced e-learning, multimedia tools, and instructor-led courses to enhance knowledge retention and accessibility for employees.

d. Training – Welding (2EN001.003)

Welding training costs support qualification, certification, and ongoing proficiency training for employees performing welding activities on gas transmission and distribution systems. This includes establishing and maintaining welding procedures, quality assurance processes, and compliance with federal and state regulations, industry standards, and Company requirements. Welding training also provides subject matter expertise, mentoring, and performance evaluations to maintain weld integrity, reduce risk, and protect the safety and reliability of pipeline and facility assets.

e. CSF Operations Training & Development (2EN001.004)

The Customer Services Field (CSF) Operations Training and Development cost supports technical and operational training for employees performing customer-facing field work. This includes training related to service installations, meter work, leak investigations, customer safety, and compliance with applicable regulations and Company procedures. These programs help confirm CSF employees are qualified to perform their duties safely, efficiently, and consistently while maintaining high standards of customer service and public safety.

f. CSF Instruction & Development (2EN001.005)

The CSF Instruction and Development cost supports the delivery of field instruction, coaching, and skills reinforcement for Customer Services Field employees. Instructors provide hands-on, on-the-job training, performance evaluations, and targeted development to help validate that employees can effectively apply classroom learning in real-world conditions. This subcategory emphasizes continuous improvement, skill standardization, and direct engagement with frontline employees to sustain safety, quality, and reliability.

2. Forecast Method

The forecast for all workpapers under Gas Operations Training and Development (*i.e.*, Gas Operations Training and Development, Training – Transmission/Storage/HP/M&R, Design and Support, Welding, CSF Operations Training and Development, and CSF Instruction and Development) use the base year methodology, with exception of non-labor for Transmission/Storage/HP/M&R. This method is most appropriate because 2025 best reflects current operational needs and resource requirements. It represents a stabilized level of activity following recent program enhancements and organizational restructuring. Using 2025 as the foundation for the test year forecast aligns with present operational needs and program maturity, making it the most accurate method for projecting future requirements.

The non-labor forecast for Training-Transmission/Storage/HP/M&R is best demonstrated using a three-year historical average methodology that smooths year-to-year variability while capturing material operational shifts affecting cost drivers and long-term resource planning. This methodology reflects a significant change in 2025, when the San Bernardino Training facility was constructed, representing a foundational transition in training delivery and workforce support. The facility is strategically leveraged to enhance operational efficiency and optimize employee-related costs by reducing travel, lodging, and time-away-from-work expenses for employees residing in the Inland Empire and surrounding counties. This localized investment supports a sustainable and scalable training model aligned with workforce distribution and anticipated system needs, and the three-year average provides a balanced cost baseline that

reflects both historical performance and the ongoing benefits associated with this infrastructure investment.[21]

3. Cost Drivers

The cost drivers for the Gas Operations Training and Development (*i.e.*, Gas Operations Training and Development, Training – Transmission/Storage/HP/M&R, Design and Support, Welding, CSF Operations Training and Development, and CSF Instruction and Development) forecast are driven by staffing requirements, training scope and complexity, and ongoing support needs. Consolidating CSF and Gas Operations training into a single, integrated team improves operational efficiency, streamlining training delivery, and better aligning resources across similar technical and operational skill sets. Overall cost drivers-operations leadership, operations support, and personnel training, is managed effectively through optimized staffing levels, reduced overhead, and coordinated planning.

Table AK-12 illustrates the number of employees trained in 2024 and 2025, along with the forecast for 2026 across key job classifications.

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

TABLE AK-12
Number of Employees Trained by Year and Key Classification

Job Classification	2024	2025	2026 (Forecast)
Construction Technician	16	15	16
Energy Technician-Distribution	49	38	44
Energy Technician-Residential	134	21	30
Lead Construction Technician	31	27	29
Oxy-Welder	34	36	35
Total	**264**	**137**	**154**

- Maintaining a skilled and qualified workforce is critical, especially as turnover creates challenges in knowledge transfer and proficiency. To address these challenges, SoCalGas is investing in a more diverse and flexible team of

[21] There is a correction that needs to be made as it relates to the costs included in the RO model and revenue requirement that will be addressed at the next available opportunity.

instructors and subject matter experts (SMEs), modernizing audio-visual tools, and upgrading training facilities.

- The need to maintain data integrity and leverage new information systems drives costs for tools and reporting capabilities that support compliance monitoring and operational improvements.
- Introduction of new construction and maintenance methods requires updates to Gas Standards, training materials, and refresher programs, along with technical support and process enhancements.
- Strategic expansion of the field instructor workforce is essential to strengthen curriculum design, foster collaboration, and implement knowledge transfer practices that build long-term resilience.
- Evolving Operator Qualification (OQ) requirements—such as new tasks for in-line inspection, pipeline gas capture, cross compression, wrap-type coating inspection, and service valve maintenance—necessitate continuous updates to training programs and curriculum to reinforce employee readiness to remain adequately qualified. Safety is fundamental to all elements of Gas Operations Training & Development.

C. Damage Prevention - Operations Policy & Programs Staff (2EN002 & 2EN026)

TABLE AK-13
Non-Shared O&M Costs - Damage Prevention

INFRASTRUCTURE SUPPORT PROGRAMS – DAMAGE PREVENTION	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
PUBLIC AWARENESS (NON-SHARED)	1,040	3,859	2,819
DAMAGE PREVENTION STRATEGIES	2,552	2,597	45
POLICIES AND STANDARDS	975	1,016	41
COMPLIANCE ASSURANCE	743	775	32
Total	**5,310**	**8,247**	**2,937**

1. Description of Costs and Underlying Activities

Damage Prevention comprises of the following groups: Operations & Public Awareness, Damage Prevention Strategies, Policies and Standards, and Compliance Assurance.

a. Public Awareness (2EN002.000)

The Operations & Public Awareness group supports Underground Service Alert (811, "call-before-you-dig") system awareness raising by targeting affected audiences communicating

through multiple channels to contractors and the general public. These activities comply with the requirements of 49 CFR § 192.616 and with Public Awareness Programs for Pipeline Operators, API RP 1162, First Edition (RP1162 or 1162);[22] as well as other program expansion recommendations by regulators. These communications educate the public and contractors on the importance of contacting 811 or USA, prior to any project involving digging or excavation. This helps prevent damage that could result in injury or service outages by initiating marking of underground facilities.

In addition, the Operations & Public Awareness group is responsible for providing employees with awareness and knowledge of emergency procedures, and for establishing and maintaining liaisons with first responders. This liaison work is carried out through SoCalGas's First Responder Program, managed by the Emergency Management team. The program is a robust outreach effort designed to educate First Responders on the Company's capabilities during gas pipeline emergencies, identify the types of incidents for which SoCalGas will notify them, and effectively plan collaboration to minimize hazards to life and property. Through ongoing communication and coordination with first responders, SoCalGas promotes compliance with 49 CFR § 192.615, by fostering mutual understanding of roles, responsibilities, and available resources during a gas pipeline emergency, and by supporting preparedness for effective emergency response.

Damage Prevention Strategies (2EN002.001)

The Damage Prevention Strategies group supports management of the damage prevention program in compliance with 49 CFR § 192.614, Cal. Gov't. Code § 4216, industry best practices, and lessons learned. The group's focus is on preventing excavation damage to SoCalGas's buried pipelines. Excavation activities pose a risk to SoCalGas's pipeline infrastructure, which could have catastrophic consequences for public safety.

Key activities in this program include membership in USA North 811 and Dig Alert, outreach by Damage Prevention Analysts, the management of a repeat offender program, and ongoing maintenance of damage prevention policies and procedures. Collectively, these efforts are designed to mitigate excavation-related risks while supporting compliance with state excavation safety requirements. The Damage Prevention Program has demonstrated measurable

[22] 49 CFR § 192.616 expressly requires operators to follow the guidelines and recommendations outlined in API RP 1162.

benefits, including a reduction in the Company's dig-in rate to a historic low in 2025. The dig-in rate is the damage prevention industry standard metric of damages per 1,000 tickets. In 2025 SoCalGas achieved a dig-in rate of 2.19 which is a 36% improvement since 2020. These improvements reflect the effectiveness and efficiency of the program in mitigating excavation-related risk, while supporting compliance with state excavation safety requirements. Damage Prevention activities continue to promote a safer excavation culture by enhancing engagement with excavators and driving continuous improvement of policies and procedures via the Safety Management System (SMS), third-party excavator feedback, and industry lessons learned.

b. Policies and Standards (2EN002.002)

The Customer Service Policy and Standards group are driven by the work required to develop, maintain, and govern the policies and standards that guide Customer Service Field (CSF) operations. This includes establishing and updating procedural requirements aligning field practices with applicable state regulations; incorporating lessons learned, audit findings, and industry best practices; and supporting continuous improvement initiatives to enhance field performance.

The Customer Service Policy and Standards group develop and maintains guidance documents, training materials, and technical resources to promote consistent application of policies and high-quality execution across CSF operations. Effective governance of these policies and standards supports operational consistency, reduces the risk of error, supports regulatory compliance, and improves overall efficiency and reliability of field activities.

c. Compliance Assurance (2EN026.000)

The Compliance Assurance (CA) team is responsible for monitoring required schedules and reviewing the completion of documentation for leak surveys and cathodic protection inspections to maintain consistency with company Gas Standards and the Federal Code of Regulations. CA supports compliance and operational reporting and analysis, acting as a liaison between operating groups and Work Management and Field Technology (WMFT). The team defines requirements and establishes priorities for reporting, configuration, programming, and integration of changes or enhancements. Responsibilities include providing system support for SAP Plant Maintenance M&I, SAP HANA, and SAP WEBI; process support for Gas Distribution Operations (SCG and SDG&E), Field Supervisors, Leakage, System Protection, Pipeline Operations, and Leakage Mitigation; and training support for Gas Distribution

Operations clerical functions and Field Supervisors reporting. Additionally, CA prepares compliance reporting for CPUC audits related to distribution, conducts data analysis and reporting to identify opportunities for process improvements in both field and administrative areas, and develops business requirements for system changes or enhancements to meet business needs, including supporting WMFT and SAP IT in testing and implementation.

d. Description of RAMP Mitigations

Within this cost category there are non-shared O&M costs for risk controls/mitigations that were presented in the 2025 RAMP Report and are listed in the table below.

Activities that are compliance or mandated by CPUC or other agencies are listed in bold; and Appendix B attached to this testimony provides the details regarding these mandates for each control.

TABLE AK-14
Non Shared O&M - RAMP and GRC Risk Control/Mitigation Activities

Excavation Damage Prevention (2EN002.000 & 2EN002.001)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028 Estimate In 2024 $ (000s)**	**2028 GRC 2028 Forecast In 2025 $ (000s)**	**Change ($000s)**
C001	**Excavation DP Strategies**	1,392	1,134	(258)
C002	**Excavation DP Activities**	1,643[23]	1,463	(180)
C003	**Excavation DP Public Awareness**	3,991	3,858	(133)
Total		**7,026**	**6,455**	**(571)**

e. Description of Selection and Prioritization of RAMP Risk Mitigations

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology and are designed to address a specific safety and/or reliability risk. The Company's selection and prioritization of these RAMP mitigation activities considered many factors when determining if these risk mitigation activities are an effective and worthwhile investment. The Enterprise Risk Management (ERM) process for identifying and assessing system risk is described in the RDF Integration testimony (Ex. SCG-02B/SDGE-02B).

[23] The total RAMP O&M forecast for C002 is $31.6 million. The cost shown on the table represents the RAMP O&M forecast allocated to this workpaper, proportional to the GRC O&M forecast, representing 5.2% of the total activity. The other portion of costs for C002 can be found in the Gas Distribution testimony (Ex. SCG-04) and the Gas Transmission & Storage testimony (Ex. SCG-05).

These controls support compliance with applicable California and federal Prevention Program and Public Awareness Program requirements. SoCalGas is required to maintain membership in the Regional Notification Centers, USA North 811 and Dig Alert, pursuant to Cal. Gov't. Code § 421. This membership includes payment of statutory surcharges that fund the California Underground Facilities Safe Excavation Board, as required under Cal. Gov't. Code § 4216.16 and Cal. Code Regs. tit. 19, § 4010.

Membership in both Regional Notification Centers supports SoCalGas's receipt of excavation notifications (811 tickets) in advance of digging activities, enabling the timely identification and marking of gas facilities prior to excavation. Additionally, compliance with public awareness requirements of 49 CFR § 192.616 increases awareness of safe excavation practices among affected stakeholders, including homeowners, municipalities, landscapers, contractors, and other excavators.

Collectively, these measures reduce the probability of excavation-related damage to natural gas facilities,[24] thereby mitigating public safety risk and supporting the safe and reliable operation of SoCalGas's system throughout its service territory.

2. Forecast Method

Except for the Public Awareness Program, the forecast method developed for all groups under the Operations Policy & Programs Staff (*i.e.*, Damage Prevention Strategies, Customer Service Policy and Standards, and Compliance Assurance) is base year. This method is most appropriate because 2025 best reflects current operational needs and resource requirements. 2025 represents a stabilized level of activity following recent program enhancements and organizational restructuring. Using 2025, the foundation aligns with the TY 2028 forecast and reflects operational realities and program maturity. The five-year average method was used for the Public Awareness Program due to media campaigns not undertaken in the base year, resulting in a $1.5 million adjustment. Non-labor cost adjustments are driven by incremental investments associated with enhanced public awareness activities required to support program performance. These include the development of new media content, expanded social media outreach, and sponsorship of large-scale public events (*e.g.* baseball, soccer, basketball, and hockey).

[24] Excavation Damage is no longer a standalone risk chapter, and has been recategorized as a driver to the High Pressure Gas System and Medium Pressure Gas System risks.

Continued enhancements to communication methods and delivery channels contribute to the non-labor cost requirements that are consistent with applicable Federal Public Awareness Programs.

3. Cost Drivers

The primary cost drivers are associated with program enhancements and evolving operational needs, specifically for Public Awareness and Damage Prevention activities. For the Public Awareness program (2EN002.000), forecasted cost increases are driven by non-labor adjustments required to support program enhancements and continued program effectiveness of risk-mitigating outreach activities. These adjustments support continuation of required public awareness activities consistent with safety and regulatory expectations and do not reflect an expansion in program scope. Labor resources supporting oversight, message development, and program administration remain stable and are forecasted at levels necessary to maintain existing work.

Damage Prevention Strategies (2EN002.001) cost increases are also driven by increased enforcement of excavation laws, by the California Underground Facilities Safe Excavation Board compelling more excavators to call 811, and continued construction activity across public and private sectors are expected to generate higher ticket volumes, resulting in higher mandatory notification costs necessary to meet statutory damage prevention requirements.

D. Inspection – Non-Destructive Examination (NDE) (2EN007.000)

TABLE AK-15
Non-Shared O&M Costs - Inspection NDE

INFRASTRUCTURE SUPPORT PROGRAMS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
INSPECTION – NDE	1,567	2,130	563
Total	**1,567**	**2,130**	**563**

1. Description of Costs and Underlying Activities

The Inspection – Non-Destructive Examination (NDE) group supports the development, implementation, and management of Inspection & Oversight Programs (I&OP), including inspection activities of Welding Inspection, Coating Inspection, Utility Inspection, Mechanical Integrity Inspection (American Petroleum Institute (API) API 510, API 570, API 653) and NDE methods such as ultrasonic testing, radiography, magnetic particles, and liquid penetrant testing. Activities include contractor oversight, operator qualification testing, advanced technology

integration for flaw detection, and ongoing coaching and monitoring of inspectors and examiners to sustain adherence to company standards and regulatory requirements.

The Pipeline and Hazardous Materials Safety Administration (PHMSA) Federal Regulations require strict inspection and nondestructive testing practices for pipeline systems to prevent failures and reinforce public safety. Compliance with these regulations necessitates qualified personnel, advanced testing technologies, and strong oversight processes to meet federal standards for both construction and in-service integrity.

California's Code of Regulations (Cal/OSHA) establishes safety requirements that impose additional obligations on inspection activities. These regulations mandate adherence to occupational health and safety standards during construction and maintenance activities. To strengthen the protection of workers and maintain compliance, these regulations require specialized training, certification, and ongoing monitoring to enable adherence.

As a risk-reduction best practice, all NDE inspections and construction activities are formally scheduled and controlled. The program provides oversight of scheduling, contract administration, and invoice review to verify that all work is executed in accordance with approved agreements and established procedures. Invoices are systematically reviewed, and contracts are actively managed to maintain financial transparency and effective cost control. Collectively, these practices reinforce a strong safety culture, enhance organizational accountability, and minimize the potential for errors.

The American Gas Association (AGA) peer review and the API 1173 Safety Management System Standards emphasize the importance of continuous improvement initiatives, proactive risk identification, and transparent communication. To meet these standards, investment in advanced inspection technologies, data management systems, and the engagement of SMEs is necessary to uphold high-quality safety performance.

2. Forecast Method

The forecast method used for this cost category is base year. This method is most appropriate because it reflects a stabilized level of activity, after recent regulatory changes, and program enhancements, making it a reliable benchmark for TY 2028 projections.

3. Cost Drivers

The cost drivers supporting this forecast are the labor and non-labor costs associated with regulatory compliance, industry standards, and operational requirements that maintain the

integrity, safety, and fitness of SoCalGas's pipeline infrastructure. The forecast reflects incremental non-labor costs that are not captured in historical expenditures due to the timing and implementation of enhanced regulatory expectations.

The CPUC Safety Enforcement Division has made important recommendations regarding the oversight of contracted inspectors and examiners. These recommendations, which stem from CPUC audits and enforcement actions, highlight the need for improved contract management, increased field surveillance, and the implementation of corrective actions. As these measures have progressed from audit findings to required actions, additional non-labor investments are necessary to support implementation, including expanded contract labor support, enhanced tools, training and certifications, collectively aimed to strengthen the safety culture, and program development, as well as reduce operational risks.

The 2028 forecast adjustment of $500k is mainly driven by regulatory requirements for inspections of in-service facilities[25], including pressure vessels (API 510)[26], storage tanks (API 653)[27], process piping (API 570), air tanks, and LPG tanks under the Owner-User National Board Quality Program. Responsibilities include witnessing and approving repairs, re-rates, derates, and hydrostatic testing, as well as performing visual inspections and NDE examinations (UT, MT, PT) to assess fitness for service. Oversight extends to contractor inspections, quality review of reports, and data entry into the Plant Condition Management Software (PCMS), which tracks all company assets and determines inspection intervals based on corrosion rates, remaining life, and regulatory requirements.

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

[25] CalGem, Pipeline and Facilities In-service Inspection (Inspection, NDE – 49 CFR § 192.153, 49 CFR § Appendix F, API 510, API 570 API 653, § Appendix F).

[26] Cal. Code Regs. tit. 8, In-Service Inspection Pressure Vessels, Storage Tanks, Non-Transportation Piping (Inspection, NDE – API 510, API 570, API 653).

[27] Cal. Code Regs. tit. 8, Air Tanks and LPG Tanks (Inspection, NDE).

E. Emissions Strategy Program (2EN008.000)

TABLE AK-16
Non-Shared O&M Costs Emissions Strategy Program

INFRASTRUCTURE SUPPORT PROGRAMS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
EMISSIONS STRATEGY PROGRAM	1,705	1,767	62
Total	**1,705**	**1,767**	**62**

1. Description of Costs and Underlying Activities

The Emissions Strategy Program (ESP) supports the ongoing administration, oversight, and regulatory compliance activities required to implement and maintain SoCalGas's Natural Gas Leak Abatement Program (NGLAP), as directed by D.17-06-015 and D.19-08-020. The program primarily consists of labor and related support costs necessary to meet established reporting, planning, and compliance obligations associated with methane emissions reduction requirements.

Key ESP activities include preparation and submission of Annual Emissions Reports and Biennial Compliance Plans, coordination with the CPUC and CARB, and response to regulatory data requests.[28]

ESP also administers compliance with the operational requirements of D.17-06-015 and D.19-08-020, including ongoing maintenance and tracking of mandatory Best Practices for reducing methane emissions and the mandated emissions-reduction performance relative to the established baseline. These activities are ongoing and reflective of a mature, steady-state program.

In addition, ESP participates in required regulatory workshops and coordination forums convened by the CPUC and CARB to support program transparency, alignment, and compliance. The program also includes financial tracking and oversight necessary to support accurate reporting and prudent administration of NGLAP-related activities. The ESP staffing level reflects the resources needed to sustain these established regulatory and administrative responsibilities.

[28] D.17-06-015 and D.19-08-020.

2. Forecast Method

A base year forecasting method was developed for this cost category. This method is utilized because ESP has evolved and stabilized over the course of the program, and the 2025 costs provide the best estimate for maintaining the current program. For example, during the earlier years of the program, SoCalGas needed to implement more projects to comply with the mandatory Best Practices. By 2025, many Best Practices conditions were met, and SoCalGas was able to reduce project activity to only those that require ongoing maintenance and support. The program is expected to remain in this steady-state for upcoming years as outlined in the 2026 Biennial Compliance Plan which can be found in Appendix J.

Historical adjustments were made to the base year to only reflect the administrative costs for the test year forecast.

3. Cost Drivers

The cost drivers behind this forecast are the labor and non-labor costs needed to meet the requirements of SB 1371[29], D.17-06-015, and D.19-08-020 and to continue sustaining long-term emissions management. The costs associated with the primary responsibilities include:

- Annual emissions reporting
- Biennial Compliance Plans
- Participation in workshops with the CPUC and CARB
- Managing ESP program and project finances
- Monitoring and maintaining progress against CPUC emission reduction goals
- Monitoring Best Practice compliance
- Responding to inquiries and data requests from the CPUC and CARB
  Collaborating with the CPUC, CARB, and other California utilities to advance emission reduction practices and calculation methodologies within the NGLAP

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20**.**

[29] SB 1371 (Leno, 2014), *available at:* https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB1371.

F. Aviation Services & Programs (2EN009.000)

TABLE AK-17
Non-Shared O&M Costs - Aviation Services & Program

INFRASTRUCTURE SUPPORT PROGRAMS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
AVIATION SERVICES & PROGRAMS	1,841	8,147	6,306
Total	**1,841**	**8,147**	**6,306**

1. Description of Costs and Underlying Activities

The Aviation Services and Programs group supports the management of two programs: Aviation Services and the Aerial Leak Detection (ALD) Program.

a. Aviation Services

Aviation Services provides company-wide aviation support. It manages all flight operations for SoCalGas, maintaining safety and compliance with Federal Aviation Administration (FAA) regulations, and company aviation standards. Centralized oversight enables consistent application of regulatory requirements and operational best practices.

The team utilizes both crewed aircraft and Uncrewed Aerial Systems (UAS) to enhance situational awareness and operational efficiency by leveraging an internal aviation team to perform flight operations and related services. This approach supports cost control, improves coordination across business functions, and enables more flexible and timely deployment of aviation resources while maintaining high safety and performance standards.

These capabilities improve mandated inspections and patrols, emergency response, and post-incident damage assessments in remote or hazardous areas. Drone technology is also deployed to access locations that are difficult to reach, such as pipe spans, services, and meter set facilities on locked private property.

b. ALD Program

SoCalGas has renamed the Aerial Methane Mapping (AMM) program, previously part of the SB 1371 Natural Gas Leak Abatement program, as ALD to better reflect the expanded benefits. The program was previously funded under SB1371 Tier 3 Advice Letter filing for AMM. Consistent with subsequent CPUC guidance, this request reflects a funding level that is below the previously authorized amount, demonstrating cost efficiency while continuing to deliver program benefits. This program will be managed under Aviation Services & Programs to

improve coordination and strengthen FAA regulatory compliance. The activities associated with this cost center include program implementation costs, categorized as follows:

- **Project Management:** Responsibilities include planning and strategy, flight operations coordination, direction to data management and analytics teams, liaison with Gas Operations management and districts, stakeholder communication, budget and cost control, and risk and compliance management.
- **Flight Costs:** Includes helicopter operations, leasing or paying for LiDAR sensors, data acquisition, and data processing. Costs also include coordinating flights with vendors and complying with requirements from agencies such as the FAA, municipalities, state entities, and tribal authorities.
- **Project Support:** After potential emission source points are identified, they must be routed to the appropriate department. Assigned resources assist field technicians in locating leaks, verifying data accuracy, and updating records.
- **Data Analysis:** Costs in this category support three objectives:
    2. Data Collection and reporting;
    3. Large-scale data analysis to optimize ALD performance; and
    4. Performing ad hoc analysis, including responding to data requests, management inquiries, and analytics related to contract negotiations.

SB 1371 and D.17-06-015 mandates that SoCalGas reduce methane emissions by implementing various *Best Practices*. The regulatory background and discussion of the various programs being implemented to meet SB 1371 are discussed in detail in the section "Emissions Strategy Program (2EN008.000)". One of the programs initiated in 2021 to meet the SB 1371 objectives was ALD. After the program was initiated, SoCalGas and the CPUC's SPD recognized that the program offered customers benefits far beyond methane emissions reduction.[30] Additional benefits include safety, energy efficiency, and energy savings.

[30] CPUC – Safety Policy Division, *SPD Evaluation of Southern California Gas Company's 2024 NGLA Compliance Plan: SoCalGas' Natural Gas Leak Abatement Compliance Plan Review* (May 15, 2025) at 16, *available at:* https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M581/K314/581314636.pdf.

The aerial monitoring program implements *Best Practices*[31] 16, 17, and 20a to meet the requirements of D.17-06-015. The program used LiDAR sensors hosted under a helicopter to detect leaks at a higher frequency than that mandated in G.O. 112-F. As specified in *Best Practice* 16, by detecting leaks sooner, the aerial monitoring program reduced the days a leak would remain open thereby reducing emissions. Additionally, SoCalGas recognized that its Non-State-of-the-Art lines were more prone to leaks on a per-mile basis. As suggested by *Best Practice* 16, targeting these lines in its aerial scanning program would enable SoCalGas to achieve better economics.

From 2021 to 2025, the aerial program detected more than 2,500 leaks on SoCalGas's system ahead of the mandated survey cycle. The early detection provides significant safety, environmental, and cost benefits.

SoCalGas refined the aerial program over four years to maximize emissions reduction per dollar invested. Key improvements included:

- Targeting assets more prone to leak, such as vintage Aldyl A distribution lines, which yielded higher leak detection rates per mile flown.
- Optimizing flight paths to scan additional lines en route, reducing marginal costs.
- Enhancing data systems to find cost efficiencies.
- Negotiating lower vendor rates and streamlining operations for greater efficiency.

The program extended benefits beyond SoCalGas infrastructure by identifying leaks on customer-owned systems near distribution lines. The program significantly enhanced customer safety by detecting more than 4,400 customer system leaks, including indoor leaks, which were subsequently resolved.

The program also achieved environmental benefits. SoCalGas estimates that over 600,000 MCF of customer emissions were abated, contributing to climate and safety goals. Additionally, more than 3,700 instances of incomplete combustion on customer equipment were identified. Preliminary RD&D findings indicate that an average industrial or commercial customer can save approximately 330 MCF of methane annually by addressing incomplete combustion.

[31] Best Practice 16 – Special Leak Surveys: Mandates SoCalGas to conduct surveys "at a more frequent interval than required by G.O. 112-F" and to "focus on specific pipeline materials known to be susceptible to leaks or other known pipeline integrity risks." (D.17-06-015 at 81).

Beyond emissions reduction, the program delivered measurable improvements in three critical areas:

- Customer Affordability: Leak detection and mitigation lowered energy costs and improved affordability.
- Safety Enhancement: Eliminating leaks reduced hazards and improved public safety.
- Energy Efficiency: Addressing incomplete combustion improved equipment performance and sustainability.

In recognition of these benefits, CPUC's SPD stated that "SPD recognizes that the greenhouse gas reduction benefits that Aerial Monitoring provides are just the same as reductions achieved for the utility system. Furthermore, detection of leaks on customer facilities offers safety and cost-saving advantages for customers." The report further noted, "SPD approves the Aerial Monitoring program as proposed in SoCalGas's 2024 Plan."[32] Despite SPD's recommendation, the CPUC's Energy Division denied funding for the program in Resolution G-3605.[33] That denial does not prohibit SoCalGas from seeking funding for this important program here.

Moreover, when SoCalGas had an active aerial monitoring program, it was able to divert assets quickly for emergency response as needed. The PHMSA has also acknowledged the importance of using aerial technologies[34].

Based on these benefits and SPD's 2024 approval, SoCalGas proposes resuming the aerial program. The enhanced program will continue reducing emissions while helping customers identify and address leaks, expanding benefits across safety, affordability, and emissions reduction.

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[32] CPUC – Safety Policy Division, *SPD Evaluation of Southern California Gas Company's 2024 NGLA Compliance Plan: SoCalGas' Natural Gas Leak Abatement Compliance Plan Review* (May 15, 2025) at 16, *available at:* https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M581/K314/581314636.pdf.

[33] Res. G-3605 (September 18, 2025), *available at:* https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M581/K286/581286999.PDF.

[34] Pipeline Safety: Advisory Bulletin on Protecting Pipeline Integrity During Extreme Winter Weather, Rapid Thaw, and Geohazard Events, 91 Fed. Reg. 28,6287 (February 11, 2026), *available at:* https://www.govinfo.gov/content/pkg/FR-2026-02-11/pdf/2026-02666.pdf.

2. Forecast Method

The forecast method for this cost category is based on a four-year average (2022 - 2025), adjusted to reflect program growth. This method is most appropriate because it reflects a reasonable estimate of costs for a representative test year by mitigating the effects of annual fluctuations.

3. Cost Drivers

The cost drivers behind the Aviation Services & Programs forecast are linked to supporting the aerial needs for Operations and to support the Emissions Strategy Aerial Leak Detection Program. The department supports planned flights, such as various scheduled inspections for operations, and the various flights to assist with emissions reduction. The department will also support some unplanned events, such as emergency responses and hard-to-reach area investigations. In 2025, Uncrewed Aerial Vehicles (UAVs) were deployed for 98 missions, totaling 106 days and nearly 8,000 flight minutes. Crewed aircraft services supported 132 days of operations, totaling over 750 flight hours.

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

G. OPERATOR QUALIFICATION (2EN023.000)

TABLE AK-18
Non-Shared O&M Costs - Operator Qualification

INFRASTRUCTURE SUPPORT PROGRAMS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
OPERATOR QUALIFICATION	2,637	2,735	98
Total	**2,637**	**2,735**	**98**

1. Description of Costs and Underlying Activities

The Operator Qualification (OQ) group supports the administration and oversight of SoCalGas's Operator Qualification program as required by 49 CFR Part 192, Subpart N, and GO 112-F. The OQ group qualifies pipeline personnel, including employees and contractors, to perform OQ tasks, supporting public safety and the integrity of SoCalGas's pipeline system.

The OQ group manages implementation, provides governance, ongoing maintenance, and continuous improvement. Core responsibilities include: scheduling qualification and requalification activities; maintaining and monitoring qualification records; identifying and

addressing potential compliance issues; conducting department evaluations; and implementing corrective actions and enhancements, as needed. The department also develops and maintains OQ-related training materials, supported by a dedicated instructional designer resource, to promote consistent and effective delivery of qualification content.

A key function of the OQ group is contractor oversight. Through the Contractor Oversight function, OQ personnel review and audit contractor qualification processes and verify compliance with applicable regulatory requirements. This function provides oversight of over 400 pipeline contracting companies and approximately 3,500 contractor employees performing OQ tasks on behalf of SoCalGas. Oversight activities are designed to confirm contractor personnel qualifications and verify that contracted work complies with 49 CFR § 192.805 and related requirements. This group collaborates closely with SoCalGas's Contractor Safety group,[35] namely through the drug and alcohol program, and continuous improvement efforts.

The OQ group follows a Plan-Do-Check-Act framework to support continuous improvement, as described in Ex. SCG-18, Safety Culture testimony. Recent enhancements include expanding the number of OQ tasks, refining task requirements, increasing the frequency and scope of contractor oversight activities, and implementing mandatory qualification when a contractor's tasks are suspended or disqualified.

2. Forecast Method

OQ costs are forecasted using a base year methodology, which reflects stable staffing levels, workload, and ongoing compliance activities following recent program enhancements and regulatory changes. The department has reached a steady-state level of operation, and workload changes such as new qualification tasks, evaluator oversight, onboarding, and requalification requirements are fully incorporated in the base year and assumed to continue at current levels. Ongoing activities to maintain qualification elements, electronic records, and compliance with applicable federal and state regulations, including G.O. 112-F and 49 CFR Part 192, Subpart N, are expected to remain consistent, resulting in no projected increase in costs through the Test Year 2028.

[35] *See* Safety & Culture Testimony (Ex. SCG-18).

3. Cost Drivers

The cost drivers for the OQ forecast are federal and state regulatory requirements under 49 CFR Part 192, Subpart N, and GO 112-F. These requirements necessitate ongoing evaluation of employees and contractor qualifications for OQ tasks, record maintenance, oversight activities, and department effectiveness reviews. Continued funding at current levels is necessary to sustain the OQ team's role in supporting regulatory compliance, data integrity, operational oversight, and continuous improvement.

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

H. Emergency Management (2EN010)

TABLE AK-19
Non-Shared O&M Costs - Emergency Management

INFRASTRUCTURE SUPPORT PROGRAMS – EMERGENCY MANAGEMENT	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
EMERGENCY STRATEGY & OPERATION	396	413	17
TRAINING & PLANNING	823	857	34
WATCH OFFICE	976	1,013	37
Total	**2,195**	**2,283**	**88**

1. Description of Costs and Underlying Activities

Emergency Management comprises of the following groups: Emergency Strategy & Operations; Emergency Management – Training & Planning; and Emergency Management – Watch Office.

a. Emergency Strategy & Operations (2EN010.002)

The Emergency Strategy & Operations group's primary objective is to oversee SoCalGas's maintenance of comprehensive and coordinated emergency preparedness, response, and recovery programs that comply with applicable state and federal requirements. This workgroup includes one specialist role and the Director of Emergency Management Strategy and Operations who oversees three main workgroups: Pipeline Safety Assurance, Training & Planning, and Emergency Management's Watch Office. Emergency Management Strategy & Operations reflects SoCalGas's implementation of the Safety Management System[36] element for

[36] SoCalGas's Safety Management System (SMS) is sponsored in the Safety& Culture testimony (Ex. SCG-18).

Emergency Preparedness & Response through the strategy, planning, and coordination of response to and recovery from emergency incidents. Though centralized, this group engages cross-functional teams across the Company to proactively plan for and respond to emergency events.

b. Emergency Management – Training & Planning (2EN010.001)

The EM – Training and Planning group supports the business operations with first responder outreach and training in the areas of emergency response, preparedness, and recovery. This includes responsibility for Emergency Response Training, Emergency Response Exercises and Drills, Stakeholder Outreach, Incident Command System, Mutual Assistance, and Crisis Communications Technologies. This area plays a critical role in strengthening SoCalGas's preparedness, response, and recovery capabilities before, during, and after emergent events. The team is comprised of a manager role, four (4) Program Managers, and one (1) Advisor. Key responsibilities include:

- Developing and maintaining emergency management policies and documentation to align with SoCalGas policies and regulatory requirements.
- Overseeing Emergency Action Plans (EAPs) and Business Continuity Plans (BCPs), verifying these frameworks are practical, current, and ready to support continuity of operations during outages, emergencies, or catastrophic incidents.
- Conducting After-Action Reviews (AARs) to evaluate emergency activations, exercises, and drills, and capturing lessons learned, identifying strengths and improvement opportunities, and driving corrective actions. Emergency Management then coordinates feedback, facilitates improvement with operational partners, and publishes AARs to share with impacted stakeholders.
- Designing and delivering Emergency Responder Training for all SoCalGas responders, confirming employees across the enterprise are equipped with the knowledge and confidence to fulfill their roles during an emergency. This includes requiring all SoCalGas management personnel who respond to incidents to complete ICS-100 and ICS-200 FEMA training, along with several SoCalGas specific training curriculums. This program is reviewed annually for accuracy and completeness and is guided by API RP 1173.

- Leading the First Responder Program, an outreach initiative that fosters strong, ongoing relationships with fire departments, law enforcement, and other emergency response agencies throughout SoCalGas's service territory. SoCalGas's program is driven by DOT Regulation 49 CFR § 192.615(c), Pub. Util. Code § 956.5, and API RP 1162.
- Planning, conducting, and evaluating exercises and drills to validate readiness, strengthen coordination, and identify opportunities for continuous improvement.

This centralized group, in collaboration with cross-functional teams both within and outside the Company, connects policy with practice, builds resilience across the Company's operations, and maintains trusted partnerships with the external first responder community. By preparing SoCalGas's workforce and sustaining these critical relationships, EM Training & Planning supports SoCalGas's commitment to public, employee, infrastructure, and contractor safety, as well as regulatory compliance.

c. Emergency Management – Watch Office (2EN010.000)

The Emergency Management (EM) – Watch Office supports the Company as the central hub for communication, situational awareness, and coordination during incidents, assuring timely stakeholder updates, regulatory compliance, and operational efficiency across departments. It is a 24/7 staffed team responsible for maintaining operational readiness by continuously evaluating internal and external communications, situational data, and emerging threats across the SoCalGas service territory. The team consists of a manager and eight Watch Specialists. Key responsibilities include:

- Centralized monitoring to anticipate emerging issues, identify anomalies or disruptions, and maintain heightened readiness during elevated risk conditions (*e.g.*, severe weather, seismic activity, system alarms, or regional emergencies).
- Structured and timely communication to internal stakeholders—ranging from field operations leadership to the executive leadership team—by issuing routine status summaries, event briefings, escalation notifications, and operational advisories.
- Initial coordination during incidents; the Watch Office activates or supports the utility's incident response structure.

- Regulatory reporting obligations to confirm incidents are documented, escalated, and reported in accordance with applicable CPUC, California Governor's Office of Emergency Services (CalOES), and other regulatory requirements.

Based on the evaluation of the incident, the Watch Office recommends whether an Emergency Operations Center (EOC) activation is required. Once activated, the objectives of the EOC are to:

- Obtain situational awareness of the incident, including gathering information to determine safety issues, identifying system damage, reporting repair and resource availability, and reporting the status of restoration activities;
- Provide timely and accurate information to government officials, regulatory authorities, employees, customers, the public, and the media;
- Provide guidance in alignment with SoCalGas policy for repair and restoration activities;
- Coordinate incident operations with the City, County, State, and Federal emergency service organizations; and
- Manage acquisition and allocation of resources.

These capabilities have matured into ongoing operational functions that maintain real-time system awareness, enable timely notifications, and support effective incident coordination across the Company.

2. Forecast Method

The forecast method developed for this cost category is base year with no incremental requests. This method is most appropriate because it accurately represents this workgroup's continued forecasted resource needs over the TY 2028 GRC cycle which has transitioned to a stable operational cadence. The cost forecast supports the staffing and resources needed to sustain these essential oversight functions.

3. Cost Drivers

The cost driver for this group is the ongoing need to maintain SoCalGas's emergency preparedness, response, and recovery programs and to confirm alignment and compliance with state and federal regulatory requirements.

The primary cost drivers for Emergency Management – Strategy & Operations are the ongoing need to maintain governance, oversight, policy maintenance, and strategic alignment functions necessary to support emergency preparedness and response, within SoCalGas's Emergency Management program.

The primary cost drivers for the EM Training & Planning workgroup represent the resources required to support compliance-driven and operationally necessary training programs, emergency exercises, and planning cycles, necessary to meet regulatory expectations and maintain workforce readiness in response to evolving operational risks and hazards.

The primary cost drivers for the Emergency Management (EM) Watch Office are the ongoing requirements to maintain mature capabilities that have been built over multiple GRC cycles, including continuous 24/7 situational monitoring, event coordination, and real-time communication capabilities necessary to support incident response, operational continuity, and compliance with regulatory reporting obligations.

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

I. Quality Management – Quality & Risk (2EN011.000)

TABLE AK-20
Non-Shared O&M Costs - Quality Management – Quality & Risk

INFRASTRUCTURE SUPPORT PROGRAMS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
QUALITY MANAGEMENT - QUALITY & RISK	980	1,021	41
Total	**980**	**1,021**	**41**

1. Description of Costs and Underlying Activities

The Quality Management group (QM) at SoCalGas comprises a manager, two Team Leads, and eight support staff. They provide oversight through independent quality assessments of Gas Distribution, Gas Transmission, and CSF activities to confirm adherence to established regulations, standards and policies. This group also created and leads SoCalGas's Enterprise Quality Committee, made up of a cross-functional group of operations representatives, which is responsible for:

- Overseeing Quality Assurance/Quality Control (QA/QC) standards across the Company;

- Reviewing regulatory changes impacting QA/QC and interpreting implications;
- Aligning QA/QC processes, expectations, and execution across all entities;
- Monitoring quality metrics and trends for continuous improvement;
- Identifying opportunities to enhance QA/QC practices;
- Sharing best practices among committee members; and
- Setting priorities for improvement initiatives.

Quality Management group utilizes the Plan Do Check Act (PDCA) methodology from API RP 1173[37] focused on a quality assessment program, corrective action planning, sharing, and collaboration, followed by developing recommendations and verifying corrective actions. The activities led by this group support the Safety Assurance and Operational Controls elements of the SoCalGas Safety Management System.

a. Description of RAMP Mitigations

Within this cost category there are non-shared O&M costs for risk controls that were presented in the 2025 RAMP Report and are listed in the table below.

As discussed in SoCalGas's 2025 RAMP Application[38] and Report (Chapter SCG-Risk-2: High Pressure Gas System and Chapter SCG-Risk-3: Medium Pressure Gas System), quality management is a necessary risk mitigation providing a structured framework for continuously assessing, verifying, and improving the integrity and performance of SoCalGas assets. The QM group conducts annual quality assessments of a random selection of completed leak survey orders. They also review required documentation (equipment logs), perform leakage equipment tests, and conduct field assessments using GIS maps. During the field assessments, the QM group reviews the meter and meter set assembly, checks for missed leaks, and assesses the pipe structure for integrity. These assessments are performed to evaluate the effectiveness, consistency, and maturity of SoCalGas's programs and processes to strengthen overall safety

[37] American Petroleum Institute (API). ANSI/API Recommended Practice 1173: Pipeline Safety Management Systems, First Edition (July 2015). This Recommended Practice establishes a formal Pipeline Safety Management System (PSMS) framework for organizations operating hazardous liquid and gas pipelines and defines the elements needed to identify and address pipeline safety throughout the asset lifecycle.

[38] A.25-05-010, Application of SoCalGas to Submit its 2025 Risk Assessment and Mitigation Phase Report (May 15, 2025), *available at:* https://www.socalgas.com/socalgas-2025-ramp-application.

performance and continuous improvement. These activities help to maintain system reliability, promote public and infrastructure safety, and validate compliance with applicable regulations.[39]

Table AK-21 demonstrates consistent annual quality assessment activity for leak survey orders and locate & mark (L&M) orders from 2021 through 2025. While there is modest year-to-year variability and a gradual decline in total assessments in the most recent years, the data reflect sustained execution of quality assurance reviews at a steady cadence.

This consistency indicates that the program is mature and well established, with processes functioning as intended. To preserve the effectiveness of this mitigation, the current level of effort and ongoing support should be maintained, allowing the program to continue providing reliable oversight and risk reduction outcomes.

TABLE AK-21
Quality Assessment Activity

	2021	2022	2023	2024	2025
QA of Leak Survey Orders	106	101	106	87	76
QA of L&M	103	93	100	85	73

The 2025 RAMP Report indicated zero historical costs for this activity. SoCalGas is correcting that error, by clarifying that there are historical costs and continued funding necessary to sustain the Quality Management mitigation for the medium- and high-pressure gas system. While the mitigation has transitioned into a stable, ongoing operational function—focused on maintaining oversight of asset integrity, validating work quality, and supporting compliance with engineering and operational standards, the activities remain essential for managing system risk. The forecast maintains the level of resources required to support these established processes and does not request incremental funding, but it expressly recognizes the need for ongoing support to preserve the effectiveness of this mitigation going forward.

Activities that are compliance or mandated by CPUC or other agencies are listed in bold; and Appendix B attached to this testimony provides the details regarding these mandates for each Control.

[39] 49 CFR § 192.605(b)(8) and § 192.605(c)(4).

TABLE AK-22
RAMP and GRC Risk Control/Mitigation Activities – Non Shared Services O&M

Medium/High Pressure Gas System Quality Assurance (2EN011.000)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028 Estimate In 2024 $ (000s)**	**2028 GRC 2028 Forecast In 2025 $ (000s)**	**Change ($000s)**
C156	**HP Gas Sys QA Transmission**	370	167	(203)
C159	**MP Gas Sys QA Distribution**	331	501	170
	Total	**701**	**668**	**(33)**

b. Description of Selection and Prioritization of RAMP Risk Mitigations

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology and are designed to address a specific safety and/or reliability risk. The Company's selection and prioritization of these RAMP mitigation activities considered many factors when determining if these risk mitigation activities are an effective and worthwhile investment. The Enterprise Risk Management (ERM) process for identifying and assessing system risk is described in the RDF Integration testimony (Ex. SCG-02B/SDGE-02B).

Quality assessments of transmission and distribution assets are prioritized as a key risk-mitigation activity for SoCalGas's Medium-Pressure and High-Pressure pipeline systems because they provide independent, objective verification that work affecting pipeline integrity is performed in compliance with regulatory requirements, industry standards, and Company procedures. Given the higher potential consequences associated with failures on elevated-pressure systems, including impacts to customer safety and the safety of surrounding communities, independent oversight is a critical control to reduce the likelihood of conditions that could lead to releases, service disruptions, or other safety events.

Quality assessments function as a preventive safeguard by identifying latent defects, potential workmanship issues, and process weaknesses before they manifest as incidents affecting SoCalGas infrastructure, customers or the public. Independence from day-to-day execution allows the QM group to identify systemic issues or emerging trends that may not be apparent within routine operational activities. By enabling timely corrective actions, quality assessments help protect public and customer safety, support system reliability, and reduce the risk of unplanned outages or emergency response events, making this activity an appropriate and essential mitigation within SoCalGas's pipeline risk management framework.

2. Forecast Method

The forecast method developed for this cost category expenses is the base year method with no incremental request. This method signals the maturity of this program and need to maintain status quo and continue this activity at the same level of ongoing support to preserve the effectiveness of this mitigation going forward.

3. Cost Drivers

The cost drivers supporting this forecast are the labor and non labor resources required to sustain the established oversight structure and responsibilities of the Quality Management group, described above. This group performs independent evaluations of construction and operational activities to assess alignment with applicable regulations, engineering standards, and internal policies. The resulting oversight and continuous-improvement activities are essential mitigation measures that support system integrity and operational consistency.

J. Integrated Infrastructure Planning (IIP) (2EN014.003)

TABLE AK-23
Summary of Non-Shared O&M Costs - Integrated Infrastructure Planning (IIP)

INFRASTRUCTURE SUPPORT PROGRAMS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
INTEGRATED INFRASTRUCTURE PLANNING	694	1,852	1,158
Total	**694**	**1,852**	**1,158**

1. Description of Costs and Underlying Activities

The Integrated Infrastructure Planning (IIP) group was established in 2023 to manage existing and emerging regulatory requirements and long-term infrastructure planning activities, with a focus on maintaining safe, reliable, affordable energy service.

The group was formed following the CPUC's Rulemaking (R.) 20-01-007, initiated in 2020 to address long-term gas system planning and the adoption of GO 177 in D. 22-12-021, which increased the need for focused regulatory engagement.

Since 2023, the IIP team has led compliance activities associated with GO 177 and managed activities associated with the successor proceeding, R.24-09-012, including initial implementation of SB 1221 and other infrastructure planning efforts.

IIP supports and advances long-term infrastructure planning policies through active participation in CPUC-directed activities, integration of evolving regulatory requirements into business practices, and integration of new compliance systems and processes. Core

responsibilities include managing proceeding filings and data requests, supporting workshops, developing internal processes, and providing training and guidance. IIP also manages GO 177 compliance, including project identification, annual reporting, and public notification and project application requirements, as well as supporting transmission capacity reporting as required by D.22-07-00243 and transmission asset review requirements established by D.23-12-003.

In addition, the IIP team manages emerging infrastructure planning policies and programs, including compliance with SB 1221 through collaboration with internal teams, the CPUC, and other external stakeholders. These efforts support statutory compliance, program development, and the integration of lessons learned into future planning practices. The IIP team also oversees Interim Actions and long-term gas transition planning activities identified in R.24-09-012.

The funding request reflects baseline, ongoing needs to support IIP activities. Labor funding supports personnel required to manage regulatory and planning initiatives, while non-labor funding supports analytics, tools, research, and travel. Potential future activities, such as full SB 1221 program implementation and scenario-based integrated planning are excluded from this GRC request due to ongoing policy development (*e.g.*, in R.24-09-012) and to allow for greater transparency and evaluation of cost effectiveness. These activities may be incorporated into future GRCs following additional Commission direction.

2. Forecast Method

A base year methodology with incremental adjustments was used, reflecting anticipated growth in scope under R.24-09-012 while acknowledging remaining policy determinations in R.24-09-012, including development of a long-term integrated planning framework.

3. Cost Drivers

Labor adjustments reflect growth from a baseline of three FTEs. Non-labor cost increases support expanded analytical, collaboration, and travel needs. Key activities include:

- Management of R.24-09-012 and compliance with associated CPUC decisions;
- Development of internal policies and practices to support long-term planning;
- GO 177 compliance, reporting, and applications support as needed; and

- Design and basic implementation of Non-Pipeline Alternative (NPA) pilot programs aligned with SB 1221 and the Interim Actions framework.

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

K. Asset Management Program (2EN014.000)

TABLE AK-24

Non Shared O&M Costs - Asset Management Program (AMP)

INFRASTRUCTURE SUPPORT PROGRAMS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
ASSET MANAGEMENT PROGRAM	325	615	290
Total	**325**	**615**	**290**

1. Description of Costs and Underlying Activities

a. Overview of the Asset Management Program

The Asset Management Program (AMP), previously referred to as Enterprise Asset Management (EAM) in the 2024 GRC, provides an asset lifecycle-based framework for consistent, risk informed asset management decisions.[40] AMP's primary objective is to support SoCalGas's long-term infrastructure planning by providing oversight and enabling analytics through its reliable, accessible, and well-governed asset data lake. AMP's framework is aligned with industry standards and best practices.[41]

AMP is phased and designed to mature progressively across multiple GRC periods to manage resource needs and rate impacts, while leveraging ongoing data and technology improvements. AMP is organized around four core capability areas: (1) "Asset Management Strategy" provides oversight and program governance; (2) "Asset Data Management" establishes a governed asset data lake; (3) "Asset Performance and Analytics" enables advanced tools to monitor asset health and operation; and (4) "Asset Investment Management" standardizes asset

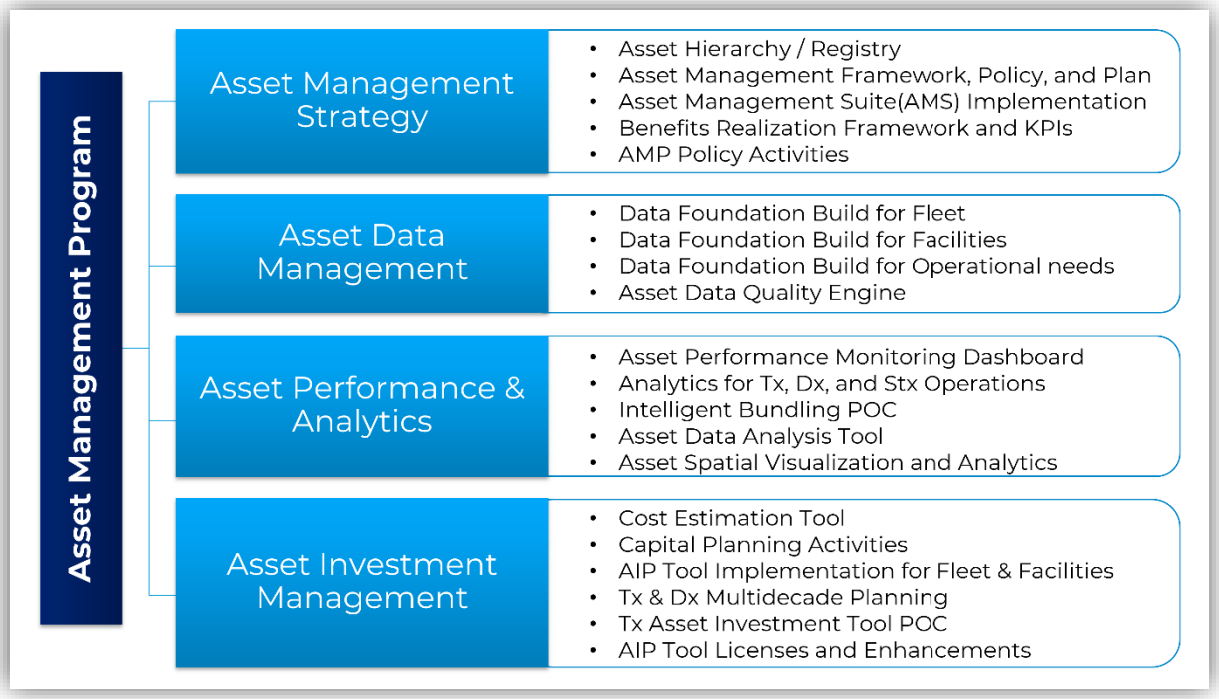
[40] Activities related to the selection and implementation of EAM systems supporting Operations' work execution, asset records, and field activities are addressed separately in the Work Management Program Next Generation Field Service Delivery and Work Management Program Next Generation for Transmission and Storage testimonies in the Information Technology (IT) chapter.

[41] For example, Pipeline Safety Management Systems (PSMS), International Organization for Standardization (ISO) 55000 and API RP 1173.

planning activities. Figure AK-1 below presents a high-level view of AMP activities planned for the 2026–2031 period.

Figure AK-1

AMP Core Capabilities and Activities



Activities include defining and applying standardized asset management definitions and processes, managing data systems and workflows, supporting data stewardship and governance, coordinating across functional groups, maintaining analytics tools, supporting data requests, reports, and audits, and delivering training and change management to enable adoption of new tools and processes.

2. Forecast Methodology

A base year plus incremental forecast methodology was used for AMP, as it provides a reasonable basis for estimating ongoing operational requirements in the Test Year. Adjustments reflect expected changes, including labor shifts for employees transitioning from capital to O&M funding, and nonlabor increases associated with application infrastructure services and support.

3. Cost Drivers

Labor costs reflect the internal resources needed to administer AMP applications and support day-to-day use by business users. Non-labor costs primarily include training and

professional development, supplies and materials, and technology operating expenses, including cloud consumption and application hosting and support services.

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

V. NON-SHARED O&M COSTS – INTEGRITY MANAGEMENT PROGRAMS

As described previously, "Non-Shared Services" are activities that are performed by a utility for its own benefit. This section details forecasted costs and activities for integrity management programs. This grouping of costs represents the activities that provide company-wide safety, compliance and operational support to maintain the safe, reliable, and compliant operation of SoCalGas's gas infrastructure. Table AK-25 summarizes the total non-shared O&M forecasts for the grouping of infrastructure integrity-related cost categories.

Corporate 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.

TABLE AK-25
Summary of Non-Share O&M Costs – Integrity Management Programs
(2EN004, 2EN005, 2EN003, 2EN006 & 2EN022.000)

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025$)			
INTEGRITY MANAGEMENT PROGRAMS	**2025 Adjusted-Recorded (000s)**	**TY2028 Est. (000s)**	**Change (000s)**
TRANSMISSION INTEGRITY MGMT PROGRAM (TIMP)	17,699	23,367	5,668
DISTRIBUTION INTEGRITY MGMT PROGRAM (DIMP)	10,233	11,513	1,280
STORAGE INTEGRITY MGMT PROGRAM (SIMP)	7,116	9,444	2,328
NEW RULES AND REGULATIONS (GSEP)	424	421	(3)
IM ADMINSTRATIVE – NON-BALANCED	923	779	(144)
Total	**36,395**	**45,524**	**9,129**

A. Transmission Integrity Management Program (TIMP) (2EN004.000)

TABLE AK-26
Non-Shared O&M Costs - Transmission Integrity Management Program (TIMP)

INTEGRITY MANAGEMENT PROGRAMS	**2025 Adjusted-Recorded (000s)**	**TY2028 Est. (000s)**	**Change (000s)**
TRANSMISSION INTEGRITY MGMT PROGRAM (TIMP)	17,699	23,367	5,668
Total	**17,699**	**23,367**	**5,668**

1. Description of Costs and Underlying Activities

SoCalGas's Transmission Integrity Management Program (TIMP) was established pursuant to 49 CFR § 192, Subpart O, which mandates operators, such as SoCalGas, to identify threats to transmission pipelines in High Consequence Areas (HCAs)[42] (including internal and external corrosion, stress corrosion cracking, manufacturing defects, construction and fabrication issues, weather-related and outside forces, incorrect operations, equipment failure, and third-party damages), determine the risk posed by these threats, schedule prescribed assessments to evaluate these threats, collect information about the condition of the pipelines, take actions to minimize applicable threat and integrity concerns to reduce the risk of a pipeline failure, and report findings to regulators. In recent years, the Pipeline and Hazardous Materials Safety Administration (PHMSA) published several rules and regulatory actions that have enhanced requirements for the TIMP, which are detailed in Appendix E of my testimony.

The activities prescribed by PHMSA[43] for the TIMP are primarily managed by employees in the Integrity Management (IM) department of the GESI organization, which comprises engineers, project managers, technical advisors, project specialists, and other employees with varying degrees of responsibility. SoCalGas currently organizes its TIMP activities and costs into four distinct categories: 1) Assessments & Remediation; 2) Preventive & Mitigative (P&M) Measures; 3) Data and GIS; and 4) Program Management Support/Threat & Risk. The forecasted TIMP labor and non-labor costs within this testimony and associated workpapers support the management of three of the four categories: Data and GIS, Program Management Support/Threat & Risk, and P&M Measures categories. Details on each of these three categories can be found in Appendix D of my testimony.

GESI manages the foundational and programmatic TIMP activities to leverage the centralized expertise of its integrity management professionals across its portfolio of Integrity Management Programs: TIMP, DIMP and SIMP.[44] As described above, SI Associates performed

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[42] The introduction of 49 CFR § 192.710 through the *Pipeline Safety: Safety of Gas Transmission Pipelines: Maximum Allowable Operating Pressure (MAOP) Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments* final rule (GTSR Part 1, also known as RIN 1) expanded assessment and remediation requirements outside of HCAs.

[43] 49 CFR Part 192, Subpart O and 49 CFR § 192.710.

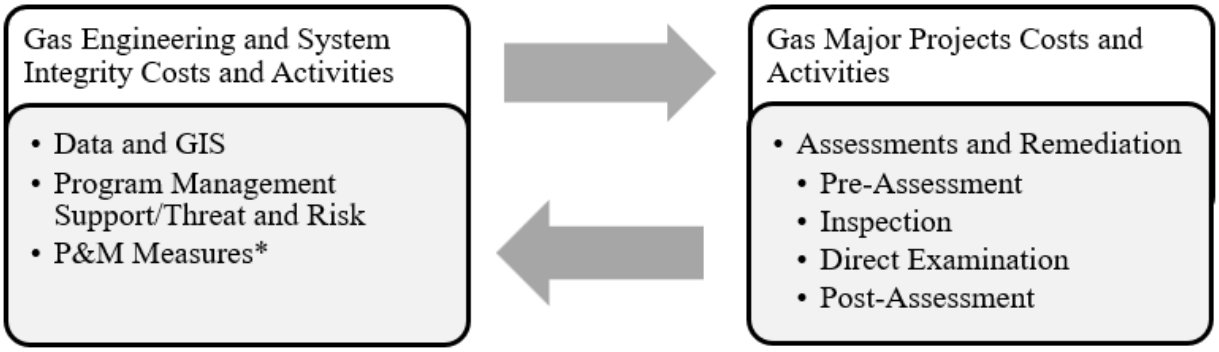
[44] *See* Appendix F at Section 5.9 (Resource Allocation). SI Associates reviewed the SoCalGas TIMP and DIMP programs and pointed out that the "strong leadership and expertise of the IM teams contribute

an independent, comprehensive evaluation of the TIMP and DIMP program. The evaluation concluded that the TIMP program meets its core objectives while strategically managing resources to deliver measurable value.[45] The forecasted TIMP labor and non-labor costs necessary for the Assessments & Remediation category and corrosion-related P&M Measures activities (a subset of the P&M Measures category) are presented in Ex. SCG-06, Gas Major Projects testimony.

Figure AK-2 delineates the forecasted costs across each witness area. Details on the four cost categories can be found in Appendix D.

Figure AK-2

Delineation of TIMP Activities



*Corrosion Projects identified within P&M Measures are included in Gas Major Projects testimony

a. Description of RAMP Mitigations

This cost category consists of non-shared O&M costs for the risk control/mitigation that was presented in the 2025 RAMP Report and is listed in Table AK-27 below. All TIMP activities are risk mitigation measures that address safety risks and were identified in the 2025 RAMP Report for SCG-Risk 2 High Pressure Gas System.

Appendix B attached to this testimony provides the details regarding the mandates for this control.

to execution efficiency by directing the projects towards success using expertise and proven best practices."

[45] *See* Appendix F.

TABLE AK-27
RAMP and GRC Risk Control/Mitigation Activities – Non-Shared O&M

High Pressure Gas System Integrity Assessments & Remediation (2EN004.000)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028 Estimate In 2024 $ (000s)**	**2028 GRC 2028 Forecast In 2025 $ (000s)**	**Change ($000s)**
C171	**HP Gas System Integrity Assessments & Remediation**	20,770[46]	23,367	2,597
	Total	**20,770**	**23,367**	**2,597**

b. Description of Selection and Prioritization of RAMP Risk Mitigations

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology and are designed to address a specific safety and/or reliability risk. The Company's selection and prioritization of these RAMP mitigation activities considered many factors when determining if these risk mitigation activities are an effective and worthwhile investment. The Enterprise Risk Management (ERM) process for identifying and assessing system risk is described in the RDF Integration testimony (Ex. SCG-02B/SDGE-02B).

As described above, SoCalGas's TIMP is designed to comply with 49 CFR Part 192, Subpart O and 49 CFR § 192.710. Consistent with regulations, SoCalGas assesses transmission pipelines[47] for threats, including internal and external corrosion, stress corrosion cracking, manufacturing defects, construction and fabrication issues, weather-related and outside forces, incorrect operations, equipment failure, and third-party damages. SoCalGas evaluates pipeline data, operating conditions, and other necessary data to determine the appropriate actions needed to maintain system integrity and reliability. Factors such as regulatory mandates and guidance (*e.g.*, advisory bulletins), current pipeline data, historical activity levels, and system needs inform the scope of this control.

[46] The total 2025 RAMP O&M forecast for C171 is $146.9 million. The cost shown on the table represents the RAMP O&M forecast allocated to this workpaper, which represents 14.1% of the total activity. The other portion of costs for C171 can be found in the Gas Major Projects testimony (Ex. SCG-06).

[47] HCA, Class 3, Class 4, and piggable MCA pipeline segments as scoped by 49 CFR Part 192 Subpart O and 49 CFR § 192.710, as well as any pipeline segments scoped as a result of 49 CFR § 192.917(e)(5)-(e)(6).

SoCalGas is continuing its risk-informed TIMP activities to provide safe and reliable transmission service, support system integrity, and maintain compliance. In the independent study evaluating the efficiency of SoCalGas's TIMP and DIMP,[48] SI Associates observed that efficiency in the TIMP is reflected in structured planning and risk-based prioritization, and that SoCalGas's TIMP follows a rigorous project management process to support consistent execution. SI Associates also observed that the number of assessments performed annually, timely repairs following those assessments, and year-over-year increases in pipeline mileage retrofitted to enable ILI demonstrates effective planning, continuous improvement, risk mitigation, and public safety benefits.[49] The Gas Major Projects testimony (Ex. SCG-06) sponsors the portion of C171 costs and activities associated with execution of assessment and remediation, as well as select P&M scope for the TIMP, which is separate and distinct from the program management costs and activities sponsored in this testimony.

2. Forecast Method

The forecast method for TIMP Program Management uses the recorded three-year average. TIMP federal regulations have evolved over the last few years (2019-2024), increasing activity levels and costs for the program. With GTSR Part 1 taking effect in 2020 and 2021 (but interpretive clarification that impacted SoCalGas's TIMP activities by requiring additional assessment work being provided in 2022-2023)[50], as well as GTSR Part 2 taking effect in 2023[51], the years of 2023, 2024, and 2025 best represent the current structure of the organization and the level of activity that must be maintained to comply with newly enhanced federal regulations. The three-year average method reflects sustained conditions and smooths fluctuations in program management activity, including data integration and ongoing identification and evaluation of

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48 *See* Appendix F.

49 *Id.* at Section 1.0 (Executive Summary) and Section 10.0 (Conclusion).

50 PHMSA, John A. Gale, Director of Office of Standards and Rulemaking at PHMSA Letter to Christine Cowsert VP, Gas Asset Mgmt. & System Operations at PG&E (June 23, 2021), *available at:* https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/standards-rulemaking/pipeline/interpretations/75361/pacific-gas-and-electric-company-pi-21-0004-06-24-2021-part-192939.pdf.

51 PHMSA, Notice of Limited Enforcement Discretion for Existing Onshore Gas Transmission Pipelines (December 6, 2002), *available at*: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/safety-and-enforcement-division/gsrb/phmsa-onshore-gas-transmission-notice-of-limited-enforcement-discretion.pdf.

threats, that may result from factors such as temporary reallocation of resources or delays [52] while providing a representative baseline of the workload required under the current regulatory framework.

SoCalGas has made incremental adjustments to the TY 2028 forecast to account for increased Data and GIS and Threat & Risk activities to comply with enhanced requirements resulting from GTSR Part 1 and GTSR Part 2, and plans to increase P&M activity in the forecast years to address enhancements to threat identification and P&M requirements mandated through GTSR Part 2, as discussed in Appendix D.

3. Cost Drivers

As further described in Appendix D, TIMP costs are primarily driven by the level of activity required to meet programmatic and regulatory compliance obligations, encompassing Prevention & Mitigation (P&M) measures, Data and GIS management, and Program Management Support/Threat & Risk. These are performed using a combination of labor and non-labor resources. While 2023-2025 best represents the level of activity and staffing necessary to maintain TIMP compliance, GESI continues to integrate process improvements and program updates into the TIMP and is actively evaluating recommendations from PHMSA, as well as, the independent TIMP and DIMP efficiency study.[53] Regulatory actions such as PHMSA advisory bulletins and rulemakings may also alter the scope of TIMP program management activities and cause associated costs to vary from the current forecast.

As federal requirements have evolved, increased emphasis has been placed on data collection and integration, documentation, and expanded re-evaluation of threat conditions across the transmission system. In response to enhanced federal requirements 49 CFR § 192.935(a) and the more frequent occurrence of severe weather related and outside force (WROF) events, GESI has forecasted approximately 54 annual depth-of-cover (DOC) surveys to assess ground conditions, identify early signs of potential pipeline exposures, and determine where mitigation may be required. As more data becomes available, additional sites may be added for continued monitoring. By linking DOC conditions to the threat categories specified in 49 CFR

[52] Costs incurred in 2025 were lower due primarily to delays in Data and GIS activities as well as temporary resource reallocation.

[53] Appendix F at Section 9.1 (TIMP Recommendations).

§ 192.917(a), SoCalGas strengthens its P&M actions to address risks in line with federal requirements. These conditions inform the need for enhanced P&M measures, such as increased patrols, DOC surveys, mitigations, and marker frequency, to reduce the elevated likelihood of damage from external forces.

Additionally, GESI anticipates the need for expanded pipeline marker coverage in HCAs where excavation-related threats remain elevated over the forecast period. These areas are identified by the Threat and Risk team using threat information from integrity management risk evaluations, One-Call ticket activity trends, DOC assessments, and field reports. Based on these evaluations, GESI plans to implement prevention measures, including additional pipeline markers, repair or replacement of non-functional markers, and increase cover depth of pipelines in accordance with 49 CFR § 192.935(a)(1)(xiii). These activities are designed to reduce the likelihood of damage from external forces while supporting public and excavator awareness of pipeline locations. While cost estimates for these additional P&M surveys have been incorporated into the TY 2028 GRC forecast, actual costs remain subject to variation based on field conditions, system reliability requirements, and survey findings that could trigger additional capital remediation not currently forecasted.

4. Continuation and Modification of the TIMPBA

Given that such regulatory actions such as PHMSA advisory bulletins and rulemakings have the potential to either increase or decrease program costs, the CPUC has long recognized the variability of TIMP activities and the likelihood that regulations will continue to evolve, consistently authorizing a balancing account mechanism that enables cost recovery, beginning with the two-way balancing account in the TY 2012 GRC cycle, which was found to be "appropriate due to[sic] the costs of complying with Subpart O and possible changes in pipeline inspection requirements in the future." [54] The CPUC stated that the two-way balancing account would "ensure that SoCalGas has sufficient funds to carry out all the necessary TIMP-related work to ensure that its gas transmission system remains safe and reliable."[55]

Factors that continue to influence TIMP costs and are expected to drive variability in forecasted TIMP activity levels include, but are not limited to the following:

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[54] D.13-05-010 at 422.

[55] *Id.*

- **Regulatory Impacts:** As summarized above, PHMSA has issued a variety of regulatory communications/actions over the last several years that have or are expected to have impact on the TIMP. The rulemaking examples that have been described (GTSR Part 1 and GTSR Part 2) both drove changes in costs associated with Data and GIS activities. For example, the requirements related to TVC records from GTSR Part 1 (*e.g.*, 49 CFR §§ 192.607 and 192.624) continue to drive the level of activity associated with Data and GIS updates. The expansion of data gathering requirements (49 CFR § 192.917(b)) in GTSR Part 2 also continues to increase the activity levels necessary to support the collection and maintenance of pipeline data for the TIMP. Advisory bulletins that introduce changes to SoCalGas's planned TIMP activities also have the potential to influence actual costs. In 2024, for example, PHMSA issued an advisory bulletin titled *Pipeline Safety: Identification and Evaluation of Potential Hard Spots—In-Line Inspection Tools and Analysis* "to notify pipeline owners of the importance of evaluating their pipeline facilities for the existence and potential threat of hard spots" and recommends, amongst other actions, that operators consider expanding their threat evaluation to all pipe manufactured prior to 1970.[56] While the evaluation and integration of the recommendations are in progress, threat expansion has historically increased data gathering and assessment activity scope and costs (*e.g.*, SCC threat activation).[57] Though advisory bulletins are advisory in nature and not intended to be binding, they are often prompted by safety concerns and SoCalGas responds with careful consideration.[58] Generally, should new regulatory actions arise, costs associated with the TIMP could increase or

[56] Pipeline Safety: Identification and Evaluation of Potential Hard Spots—In- Line Inspection Tools and Analysis, 89 Fed. Reg. 222,90827 (November 18, 2024), *available at:* https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2024-11/2024-26725.pdf.

[57] A.25-04-020, SoCalGas Prepared Direct Testimony of Travis T. Sera, Chapter 1: TIMP Development and Implementation, Ex. SCG-01 at 1, 8, *available at:* https://www.socalgas.com/sites/default/files/2025-04/SCG-01_TIMP_Testimony_Implementation_Sera.pdf/.

[58] The CPUC, through the Safety Enforcement Division (SED), engages operators on advisory bulletins to determine what processes and actions have been or will be implemented to align with federal guidance.

decrease which further necessitates the continuation of SoCalGas's TIMPBA as discussed in detail in the Regulatory Accounts direct testimony (Ex. SCG-21).

- **Program Enhancements:** As mandated by 49 CFR Part 192, Subpart O, SoCalGas is required to evaluate program performance and maintain a quality assurance process in its TIMP. Accordingly, SoCalGas regularly identifies and implements program enhancements and process improvements to maintain the program's effectiveness. These program enhancements are also a cost driver for the TIMP Program Management O&M activities since they may increase activity levels or focus resources to certain activity categories (*e.g.*, P&M Measures) depending on need. At the end of 2025, the independent study on the efficiency of SoCalGas's TIMP and DIMP was finalized and SI Associates included a few recommendations that could potentially increase the TIMP's cost efficiency.[59] SoCalGas had been in the process of evaluating some of these recommendations prior to the study (*e.g.*, stress corrosion cracking threat evaluation enhancements, composite repairs) and continues to assess these opportunities, including newer recommendations such as applying the robotic ILI validation spools process to conventional ILIs.[60] However, the potential cost impacts are uncertain at this time.
- **P&M Measures:** GESI reviews and determines the measures to be conducted in response to assessment-related conditions, which are subject to change from project to project. The activity level forecasted is based on the best available information at the time of filing and actual timing and costs of each project is subject to variation due to factors such as system reliability requirements, field conditions, and resource availability. SoCalGas has estimated costs associated with the additional P&M surveys that will be needed to comply with enhanced regulations. However, depending on survey findings, SoCalGas could incur costs associated with capital remediation that is not forecasted for TY 2028 GRC at this time.

[59] Appendix F at Section 9.1 (TIMP Recommendations).

[60] *Id*.

In the TY 2024 GRC cycle, the CPUC converted SoCalGas's balancing account (TIMPBA) to a one-way balancing account, with excess costs and undercollections recorded in a memorandum account (TIMPMA) subject to reasonableness review in an application, stating "this ensures a reduction in the amounts that may be recovered in rates in balancing accounts through Advice Letters and provides the rate recovery of any above-authorized costs will occur via the more thorough reasonableness review application process that will better protect ratepayers."[61]

For the TY 2028 GRC cycle, SoCalGas requests the CPUC revert the TIMPBA to a two-way balancing account but does not request the restoration of the mechanism under which SoCalGas was previously authorized to recover undercollections associated with up to 35% of actual expenditures greater than authorized expenditures through a Tier 3 Advice Letter. As described in the Regulatory Accounts testimony of (Ex. SCG-21), a two-way balancing account with any undercollection subject to a reasonableness review in an application is functionally equivalent to a one-way balancing account and memorandum account but reduces the administrative burden of accounting for TIMP costs in two separate accounts.

SoCalGas also requests that the CPUC modify the TIMPBA to include a 50% interim rate recovery mechanism that will allow SoCalGas partial recovery of actual TIMP under-collected balances on an annual basis, subject to refund. Since TIMP activities are mandatory and driven by the principles of pipeline and public safety, a 50% interim rate recovery mechanism would enable SoCalGas to maintain mandatory safety activities while also reducing the negative effects of large undercollected balances (*e.g.*, accumulation of interest, impacts to a utility's financial health and increased cost of borrowing) as discussed in the Regulatory Accounts testimony (Ex SCG-21). In approving interim rate recovery, the CPUC has considered various benefits to ratepayers such as savings on interest rate cost,[62] intergenerational equity,[63] reducing the potential for rate shock,[64] and ensuring rate stability[65] when authorizing interim rate recovery.[66] These

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61 D.19-09-051 at 191

62 D.26-02-006 at 4, 12.

63 *Id*.

64 D.16-08-003 at 9; see also D.26-02-006 at 4.

65 D.20-10-026 at 24, 26-27.

66 D.26-02-006 at 4, 12-13.

factors would similarly weigh in favor of interim rate recovery here. Further, ratepayers are protected in that this interim rate recovery mechanism would not constitute pre-approval of costs and therefore does not reduce SoCalGas's accountability as to reasonableness of costs. Any undercollection must still be reviewed by the CPUC through an application and recovery would be subject to refund should the CPUC find any incurred costs unreasonable.

B. Distribution Integrity Management Program (DIMP) (2EN005.000)

TABLE AK-28
Non-Shared O&M Costs - Distribution Integrity Management Program

INTEGRITY MANAGEMENT PROGRAMS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
DISTRIBUTION INTEGRITY MGMT PROGRAM (DIMP)	10,233	11,513	1,280
Total	**10,233**	**11,513**	**1,280**

1. Description of Costs and Underlying Activities

SoCalGas's Distribution Integrity Management Program (DIMP) is designed to comply with the requirements of 49 CFR Part 192, Subpart P – Gas Distribution Pipeline Integrity Management. The objective of the DIMP is to mitigate safety-related risks utilizing a forward-looking risk-informed approach. SoCalGas's DIMP accomplishes this objective through additional risk informed processes and procedures that identify monitoring activities, assessments, and proactive remediation to enhance the safety activities performed by SoCalGas as prescribed by 49 CFR Part 192, Subparts A–N.

The DIMP is a sophisticated, comprehensive, data-driven program that continually integrates national and local information in evaluating system risks and risk reduction measures. As an alternative to a wholesale replacement approach, the DIMP's risk assessment methodology is an iterative process that prioritizes risk reduction measures for highest threats, including low probability, high consequence threats, in a manner that supports affordability. To that end, the DIMP is implemented by a highly specialized team of engineers, data scientists, technical advisors, and industry consultants whose experience and expertise ranges across a variety of disciplines including materials and corrosion, operations, and risk analytics. Effective implementation of the program necessitates both analytical capability and applied knowledge gained through operational experience with system design, material behavior, and failure mechanisms.

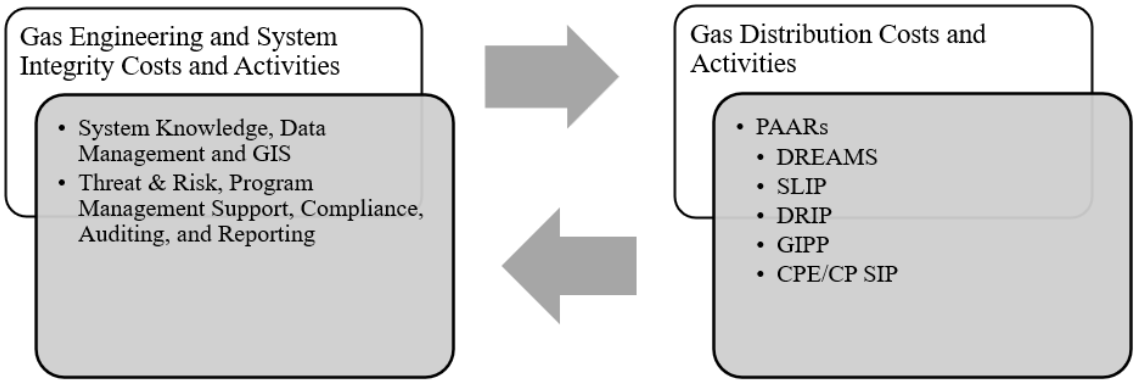
The DIMP framework includes key elements such as system knowledge, threat identification, risk evaluation and prioritization, and the implementation of programs and

activities that enhance distribution integrity and safety.[67] SoCalGas currently organizes its DIMP activities and costs into three distinct categories: 1) System Knowledge, Data Management, and GIS, 2) Threat & Risk, Program Management Support, Compliance, Auditing, and Reporting, and 3) Projects and Activities to Address Risk (PAARs). SoCalGas's DIMP activities require collaboration between multiple organizations within the company to accomplish the established objectives of the federal regulations.

GESI manages the foundational and programmatic oversight activities (*e.g.*, data gathering, risk evaluation, program evaluation and reporting) of the DIMP primarily through the IM and IM&SP organizations to leverage the centralized expertise of integrity management professionals.[68] The forecasted DIMP labor and non-labor costs for these activities are presented in this testimony and associated workpapers. The operational responsibility for the day-to-day execution of the PAARs resides with dedicated teams embedded within SoCalGas's Gas Distribution organization. The forecasted DIMP labor and non-labor costs necessary for the execution of the PAARS are presented in the Gas Distribution testimony (Ex. SCG-04).

SoCalGas's DIMP is structured in alignment with regulatory requirements and incorporates coordinated activities between GESI and Gas Distribution as part of its implementation plan. Figure AK-3 delineates the forecasted activities between GESI and Gas Distribution.

Figure AK-3:
Delineation of DIMP Activities



[67] 49 CFR Part 192, Subpart P.

[68] Appendix F at Section 9.1 (TIMP Recommendations).

a. System Knowledge, Data Management, and GIS

DIMP regulation acknowledges that distribution systems and operators vary widely, necessitating a flexible, performance-based framework that enables operators to model their DIMP based on the unique attributes of their systems. 49 CFR § 192.1007(a) intends for operators to develop an understanding of its distribution system ("System Knowledge") through reasonably available information and existing data. Data management and GIS are part of the System Knowledge grouping of activities in Figure AK-3. System knowledge is developed through the collection and analysis of reasonably available information, including but not limited to system design, materials, construction methods, pipeline conditions, past and present operations and maintenance, local environmental factors, and additional data such as leak history. Comprehensive and accurate system knowledge is fundamental to the effective implementation of the DIMP, as it supports threat identification, risk evaluation, and the identification and prioritization of risk-mitigation measures. Data collection for SoCalGas's over 100,000 miles of distribution mains and services is an extensive process that is continually being improved upon through targeted research, technology and changes in data capture as needed.

SoCalGas's GIS houses and maintains information on all distribution assets and is at the core of all DIMP activities. GESI uses the GIS application to spatially manage, analyze, and visualize distribution assets and associated operational data. 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; in order to analyze the entire distribution pipeline system and determine programs and activities needed to address risk. Various tool sets (application) within the database allow for analysis and relative risk evaluation of the distribution system.

Data integrity is imperative to analyze SoCalGas's vast distribution pipeline system and to develop projects and activities to address risk. GESI utilizes the centralized data lake, described in the Asset Management section above. For DIMP specifically, the data lake will centralize inspection, maintenance, and risk-related distribution data for streamlined access and analysis. Costs associated with the data lake efforts for DIMP are forecasted separately from the Asset Management Program workpaper (2EN014.000). As discussed in the SI Associates efficiency study, enhancements to data management, including centralized data platforms,

integrated data systems, and advanced analytics, further strengthen and enhance program effectiveness. These initiatives are in alignment with SI Associates' recommendations to enhance the quality and utility of data, with a focused emphasis on improving data integration and analytics capabilities.[69]

Resources supporting the DIMP System Knowledge, Data Management, and GIS activities also support other integrity management programs, such as the TIMP. Costs incurred to manage these programs, including employee labor costs, are allocated to designated program-specific accounts based on scoped activity (*e.g.*, DIMP internal orders).

b. Threat & Risk, Program Management Support, Compliance, Auditing, and Reporting

The IM and IM&SP organizations consist primarily of engineers, project managers, technical advisors, project specialists, and other professionals with varying levels of responsibility. These employees perform functions related to the overall oversight, coordination, and administration of the Company's Integrity Management programs. Personnel typically support multiple integrity-related programs and allocate their time and associated labor costs to designated, program-specific accounts in accordance with established cost-tracking practices.

Employees supporting the DIMP Program Management Support, Threat & Risk, compliance, auditing, and reporting cost category are responsible for managing and implementing activities necessary to comply with 49 CFR Part 192, Subpart P. Key activities include program planning and governance, threat identification and risk assessment, development and maintenance of compliance documentation, internal and external audit support, performance monitoring, and preparation of required regulatory reports. These efforts enable DIMP to be consistently implemented, documented, and continuously improved to meet regulatory requirements and support the safe and reliable operation of the gas distribution system.

Pursuant to 49 CFR §192.1007(b), SoCalGas has implemented a robust and systematic process for identifying threats to the integrity of its natural gas distribution system ("Threat Identification"). This process is conducted annually and is the basis for DIMP evaluations of new threats or improved methods for addressing existing threats (*e.g.*, corrosion, excavation damage, equipment failure, and incorrect operation). This threat identification process is

[69] Appendix F at Section 6.21 (DIMP Program Effectiveness Enhancements.

foundational in developing an understanding of the threats that SoCalGas evaluates in the subsequent DIMP processes. Consistent with the requirements of 49 CFR 192.1007(c), the risk evaluation process relies on the results of Threat Identification to determine the relative significance of each threat and to rank threats accordingly ("Evaluation and Rank Risk"). For each identified threat, historical leak trends are analyzed to assess system performance and to estimate the likelihood of failure. These likelihood assessments are then combined with evaluation of the potential consequences associated with each threat to develop the overall risk results. GESI incorporates regulatory advisories issued by PHMSA when evaluating threats and determining appropriate risk-reduction measures.[70]

DuPont Aldyl-A polyethylene pipe (Aldyl-A) has been identified by SoCalGas, the natural gas industry, and both California and federal regulators as a material that is at an increased risk of failure due to its documented susceptibility to slow crack growth, brittle like failure behavior, and environmentally accelerated degradation. Material failures in Aldyl-A can occur abruptly, leading to sudden and unpredictable leakage, which may go undetected between routine leakage survey intervals, thus posing a significant threat to the integrity of natural gas distribution systems and the public.

PHMSA's 2007 advisory bulletin (ADB-07-01) warned that historical standards may have overestimated the long-term strength of plastic pipes manufactured from the 1960s through early 1980s, and emphasized the need for robust leak surveillance, improved data collection, and targeted testing.[71]

The CPUC's 2014 report underscored the importance of replacements rates that meaningfully reduce risks associated with early-vintage Aldyl-A.[72] Further, on January 23, 2026, PHMSA issued an updated advisory (ADB-2026-01) urging operators to consider accelerated material degradation in elevated-temperature environments and to complete inventories of

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[70] *See* Appendix E – PHMSA Advisory Bulletins: Aldyl-A Pipelines.

[71] Pipeline Safety: Updated Notification of the Susceptibility to Premature Brittle-Like Cracking of Older Plastic Pipe, 72 Fed. Reg. 172,51301, (September 6, 2007), *available at:* https://www.govinfo.gov/content/pkg/FR-2007-09-06/pdf/07-4309.pdf.

[72] CPUC, Hazard Analysis and Mitigation Report: Aldyl A Polyethylene Gas Pipelines (June 11, 2014) at 29, *available at*: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/safety-policy%20division/reports/ra-doc-10-aldyla.pdf.

potentially susceptible plastic pipes and components.[73] This advisory responds to NTSB recommendations following the March 2024 West Reading incident (discussed below).

Numerous incidents nationwide demonstrate the significant safety risks posed by aging Aldyl-A infrastructure:

- Greater than 15 Aldyl-A failures have occurred in California alone, resulting in 15 ignitions, nine explosions, and six injuries since 1982. Of these incidents, SoCalGas has experienced eight, including two separate incidents that resulted in serious injuries, each of which occurred as recently as 2017-2018.
- On March 24, 2023, at a chocolate factory in West Reading, Pennsylvania, a leak from a retired Aldyl-A service tee installed in 1982 caused an explosion and fire that resulted in seven deaths and 10 injuries.
- On November 6, 2024 in South Jordan, Utah, an explosion associated with a subsurface gas leak from an Aldyl-A gas main installed in 1976 destroyed a home and resulted in the death of a 15-year-old boy.

These events further highlight the importance of incorporating industry learnings, regulatory advisories, and historical performance data into a quantitative risk assessment (QRA) methodology.

QRA is data-driven method of assigning a numeric value to risks using a model. In simplified form, QRA can be conceived as framework consisting of three main parts: 1) input data, 2) a mathematical model, and 3) a ranked output. Commonly, the ranked output is quantitative and can be compared to an acceptable risk threshold which is used to trigger action when the risk is too high. When taken as a whole, the benefits of a QRA based approach to risk management include improved transparency and consistency - key objectives of SoCalGas's continuing drive toward a mature Safety Culture.

As part of SoCalGas's ongoing efforts to optimize the effectiveness of the DIMP, QRA prioritizes activities that provide the greatest risk reduction based on life-safety consequences. For example, SoCalGas prioritizes replacing non-cathodically protected steel pipe segments and early vintage plastic pipe segments through the Distribution Risk Evaluation and Monitoring

[73] Pipeline Safety: Distribution Integrity Management Program Considerations for Plastic Piping and Components, 91 Fed. Reg. 15,2995 (January 23, 2026), *available at*: https://www.govinfo.gov/content/pkg/FR-2026-01-23/pdf/2026-01321.pdf.

System (DREAMS), which is informed by QRA results. Segments are prioritized for replacement when the location risk exceeds the established threshold of 6×10^{-6} (6 in 1 million) probability of a serious incident annually. Risk is determined not only at the segment level, but also through location-based aggregation, which incorporates the additional risk of adjacent segments. This approach prioritizes areas where high-risk segments are clustered, reflecting elevated cumulative risk, as the most critical locations for mitigation. These results are used to prioritize targeted asset replacement through the DREAMS programs, enabling investments to be focused on locations that provide the greatest reduction in safety risk.

The program's objective is to replace the identified pipeline segments prior to the year they exceed this threshold, known as the Year of Exceedance (YoE). As the distribution system continues to age, the number of miles identified for replacement is anticipated to increase. In order to avoid future unsustainable workloads, the replacement rate must keep pace with anticipated population growth. Accordingly, the program also prioritizes replacing identified segments before their projected YoE to maintain system risk levels below the established threshold and support long-term system safety and reliability.

DIMP will continue to evolve and refine its DREAMS safety-based risk analytics, leveraging new information to enhance the prioritization of higher-risk pipeline segments. As these analytics advance, the accuracy of estimating failure into the future is expected to improve[74], leading to better-targeted investments and potential cost efficiencies over time. This strategy supports disciplined capital deployment using both risk driven resource allocation to drive program effectiveness, and continuously improved analytical capabilities to reduce long-term costs.

The effectiveness of the DIMP PAARs is monitored through measures required to be collected in accordance with 49 CFR § 192.1007(e) ("Measure Performance, Monitor Results, and Evaluate Effectiveness"). On an annual basis, integrity data relevant to the overall program measures identified in 49 CFR § 192.1007(e)(i) through (iv) are collected and reported in accordance with 49 CFR § 192.1007(g) using Form PHMSA F 7100.1-1 ("Report Results"). The

[74] PHMSA emphasizes that "upgrades to risk assessment processes using quantitative or probabilistic risk models is a prudent step for operators to take to improve IM programs, allowing better definition of the risks on pipeline systems and better support for risk management practices." PHMSA, *Pipeline Risk Modeling* (February 1, 2020) at 19, *available at*: https://www.ntsb.gov/investigations/AccidentReports/Reports/PIR2601.pdf.

periodic evaluation of performance metrics provides the opportunity to determine whether actions taken to address threats are effective, or whether different actions are needed. The DIMP threats and risks are evaluated at a frequency not exceeding once every five years in accordance with 49 CFR § 192 Subpart P. This is conducted through threat specific analysis and considers the significance of threat location and other factors ("Periodic Evaluation and Improvement"). Furthermore, as part of its commitment to continuous improvement, SoCalGas periodically updates the DIMP to incorporate lessons learned from operating and industry experience, insights derived from the distribution integrity management process, and new or enhanced tools and techniques as they become available.

c. PAARs

GESI designs and administers various projects and activities to address threats on SoCalGas's distribution system (collectively referred to as Projects and Activities to Address Risk or PAARs). PAARs are intended to meet the requirements of 49 CFR § 192.1007(d) ("Identify and Implement Measures to Address Risk") by implementing additional or accelerated actions to manage identified system risk, complementing current regulatory operations and maintenance requirements (federal and state). Utilizing system knowledge and the evaluation and ranking of risk, new PAARs may be identified as needed to address emerging risks on the distribution system. In alignment with PHMSA's intent and recognition that a PAAR needs to be operator-specific, GESI develops PAARs that are specific to the SoCalGas system.

Since implementing the DIMP, GESI has created several system specific PAARs to identify and reduce pipeline integrity risks for distribution lines in accordance with 49 CFR § 192, Subpart P. These include Distribution Risk Evaluation and Monitoring System (DREAMS), Distribution Riser Inspection Project (DRIP), Gas Infrastructure Protection Project (GIPP), Sewer Lateral Inspection Project (SLIP), Cathodic Protection System Improvement Plan (CP SIP) and CP Effectiveness (CPE). The forecasted DIMP labor and non-labor costs necessary for executing PAARs are presented in the Gas Distribution testimony (Ex. SCG-04).

d. Proposed Closure of the DIMPBA

The 2024 GRC Final Decision established the one-way DIMP balancing account and a memorandum account to recover above-authorized spending when needed. In this GRC, SoCalGas requests the closure of the one-way balancing account and will seek closure of the memorandum account once any costs that are in the account have undergone review. Since the

adoption of Subpart P requirements, SoCalGas has invested several years in the development, refinement, and implementation of its risk models, forecasting tools, and associated governance processes. As a result of program maturity and enhanced analytical capability, SoCalGas has a greater level of confidence in its ability to manage DIMP requirements and program management costs within authorized funding levels, absent changes and interpretations that add to the requirement of Subpart P which will be recorded in the Gas Safety Enhancement Programs Memorandum Account (GSEPMA), as applicable.[75] In light of this experience, and recognizing that Subpart P is performance-based, SoCalGas is proposing the closure of the one-way DIMP balancing account in this rate period. SoCalGas summarizes its request to discontinue existing cost recovery mechanisms in Regulatory Accounts testimony (Ex. SCG-21).

e. Description of RAMP Mitigations

Within this cost category are non-shared O&M costs for risk control that were presented in the 2025 RAMP Report and are listed in the table below. All DIMP activities are risk mitigation measures addressing safety risks identified in the 2025 RAMP Report, Chapter SCG-Risk-3, Medium Pressure Gas System, as described above.

Activities that are compliance or mandated by CPUC or other agencies are listed in bold; and Appendix B attached to this testimony provides the details regarding these mandates for each control.

TABLE AK-29
RAMP and GRC Risk Control/Mitigation Activities - O&M
In 2025 $ (000s)

Medium Pressure Gas System Distribution (2EN005.000)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028 Estimate In 2024 $ (000s)**	**2028 GRC 2028 Forecast In 2025 $ (000s)**	**Change ($000s)**
C120	**Distribution Riser Inspection Program (DRIP)**	6,934[76]	4,169	(2,765)
C121	**Gas Infrastructure Protection Program (GIPP)**	405[77]	410	5

[75] *See* the Regulatory Accounts testimony (Ex. SCG-21).

[76] The total RAMP O&M forecast for C120 is $26.1 million. The cost shown on the table represents the RAMP O&M forecast allocated to this workpaper, proportional to the GRC O&M forecast, representing 26.6% of the total activity. The other portion of costs for C120 can be found in the Gas Distribution testimony (Ex. SCG-04).

[77] The total RAMP O&M forecast for C121 is $1.5 million. The cost shown on the table represents the RAMP O&M forecast allocated to this workpaper, proportional to the GRC O&M forecast,

Medium Pressure Gas System Distribution (2EN005.000)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028 Estimate In 2024 $ (000s)**	**2028 GRC 2028 Forecast In 2025 $ (000s)**	**Change ($000s)**
C122	**Sewer Lateral Inspection Program (SLIP)**	5,619[78]	5,250	(369)
C129	**Cathodic Protection System Improvement**	143[79]	111	(32)
C182	**Distribution Risk Evaluation & Monitoring System (DREAMS)**	1,032[80]	1,573	541
	Total	**14,133**	**11,513**	**(2,620)**

f. Description of Selection and Prioritization of RAMP Risk Mitigations

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology and are designed to address a specific safety and/or reliability risk. The Company's selection and prioritization of these RAMP mitigation activities considered many factors when determining if these risk mitigation activities are an effective and worthwhile investment. The Enterprise Risk Management (ERM) process for identifying and assessing system risk is described in the RDF Integration testimony (Ex. SCG-02B/SDGE-02B).

As described above, SoCalGas's DIMP is designed to comply with 49 CFR Part 192, Subpart P, which requires operators to understand system conditions, identify and evaluate threats, implement measures to address risk, monitor performance, and periodically evaluate and improve the program. Consistent with regulations, SoCalGas evaluates its distribution system for threats including corrosion, natural forces, other outside force damage, pipe, weld, or joint

representing 26.6% of the total activity. The other portion of costs for C121 can be found in the Gas Distribution testimony (Ex. SCG-04).

78 The total RAMP O&M forecast for C122 is $21.1 million. The cost shown on the table represents the RAMP O&M forecast allocated to this workpaper, proportional to the GRC O&M forecast, representing 26.6% of the total activity. The other portion of costs for C122 can be found in the Gas Distribution testimony (Ex. SCG-04).

79 The total RAMP O&M forecast for C129 is $537 thousand. The cost shown on the table represents the RAMP O&M forecast allocated to this workpaper, proportional to the GRC O&M forecast, representing 26.7% of the total activity. The other portion of costs for C129 can be found in the Gas Distribution testimony (Ex. SCG-04).

80 The total RAMP O&M forecast for C182 is $3.9 million. The cost shown on the table represents the RAMP O&M forecast allocated to this workpaper, proportional to the GRC O&M forecast, representing 26.6% of the total activity. The other portion of costs for C182 can be found in the Gas Transmission & Storage testimony (Ex. SCG-05).

failure, equipment failure, and incorrect operations, and develops and implements PAARs to reduce the likelihood and consequences of failures that could result in leaks, service interruptions, injuries or fatalities, environmental impacts, or property damage.

SoCalGas considers system knowledge, performance data, resourcing, and other information such as the results of ongoing risk evaluation and program reviews to determine where continued or additional risk reduction activities are needed under the DIMP. Factors such as regulatory mandates and guidance (*e.g.*, advisory bulletins) and past activity levels also inform the scope of this control. SoCalGas plans to maintain the activity level of most of the DIMP PAARs at previously authorized levels, with the exception of the DREAMS PAAR for which SoCalGas requests authorization to increase the scope to align with updated quantitative risk results and manage system risk at a sustainable pace.

The Gas Distribution testimony (Ex. SCG-04) also sponsors a portion of C120, C121, C122, C129, and C182 costs and activities associated with execution of DIMP which is separate and distinct from the program management costs and activities sponsored in this testimony.

2. Forecast Method

The forecast method developed for this cost category is base-year with adjustments to account for changes from the base year through forecast years. Because the DIMP is a continuously evolving, risk-driven program, the base year provides the most up-to-date and accurate representation of the effort and resources required going forward. This is due to recent enhancements in the QRA methodology, threat and risk evaluation processes, and supporting systems/tools which have established a more robust and mature programmatic baseline. These improvements are expected to be maintained at a relatively consistent level, with incremental adjustments to support future data-validation efforts, as well as the database maintenance and enhancements necessary for the effective implementation of the DIMP.

3. Cost Drivers

SoCalGas's service territory covers approximately 24,000 square miles and 5.9 million service meters within diverse geographical terrain and climate (coastal, mountains, deserts, agricultural, urban). The size and location of operations have a direct and significant bearing on overall costs to comply with federal DIMP requirements.

The cost drivers behind this forecast include both labor and non-labor components. The cost drivers for labor are primarily attributed to Program Management team activities related to

strategic oversight, data analysis, regulatory compliance, and program alignment. These teams facilitate adherence to contractual obligations, regulatory compliance, and maintain governance standards. Additionally, non-labor costs are driven by supplemental contracted resources that are engaged to address process optimization, provide specialized guidance, and support during peak operational periods. Cost increases are driven by the need to update and maintain distribution asset information to reflect ongoing projects, evolving regulatory requirements, and enhancements to the DIMP. Starting in 2028, labor adjustment is also being made for the incremental hires under Threat & Risk team that are considered backfill from 2025 to support compliance with regulatory requirements related to threat identification.

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

C. Storage Integrity Management Program (2EN003.000)

TABLE AK-30
Non-Shared O&M Costs - Storage Integrity Management Program

INTEGRITY MANAGEMENT PROGRAMS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
STORAGE INTEGRITY MGMT PROGRAM (SIMP)(81)	7,116	9,444	2,328
Total	**7,116**	**9,444**	**2,328**

1. Description of Costs and Underlying Activities

SoCalGas's Storage Integrity Management Program (SIMP) is a comprehensive program designed to support activities required to comply with applicable federal and state regulations. At the federal level, 49 CFR §192.12, effective in 2020, mandates the implementation of an integrity management framework consistent with API Recommended Practice 1171 to promote the safe and reliable operation of underground gas storage facilities. At the state level, underground natural gas storage facilities are regulated under the 14 CCR §1726, effective in 2018, which established requirements to enhance gas storage well, environmental protection and operational safety.

81 Only costs associated with programmatic SIMP activities are shown in this table. Costs associated with SIMP execution activities are presented in the Gas Transmission and Storage testimony (Ex. SCG-05).

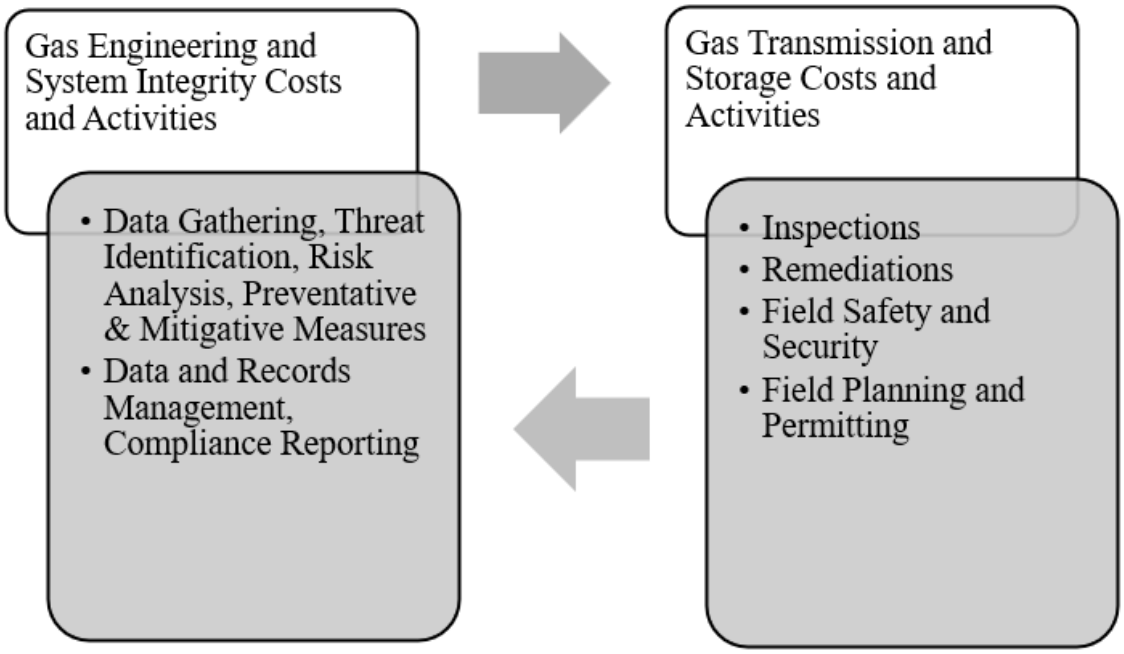
SoCalGas's underground storage system is increasingly critical to sustaining both electric and gas reliability. A robust SIMP mitigates safety-related risks and reduces potential impacts to gas system reliability. SoCalGas currently organizes its SIMP activities into three distinct categories: (1) Data Gathering, Threat Identification and Risk Assessment, and Preventive and Mitigative (P&M) Measures; (2) Data and Records Management and Reporting; and (3) Integrity Assessments and Remediations.

This testimony includes the forecasted SIMP labor and non-labor costs only for the first two categories (Data Gathering, Threat Identification and Risk Assessment, P&M Measures and Data and Records Management and Reporting). These activities are programmatic in nature and are necessary for regulatory compliance, system safety, and system reliability. These activities are performed and managed by the GESI organization.

The forecasted SIMP labor and non-labor costs associated with the third category (Integrity Assessments and Remediations) are execution related SIMP costs. These costs are presented in the Gas Transmission and Storage (GT&S) testimony (Ex. SCG-05), and these activities are managed by teams embedded within SoCalGas's GT&S organization.

SoCalGas manages the programmatic activities described below through the GESI organization, leveraging the centralized expertise of integrity management which includes, but is not limited to, professional engineers, project managers, and technical specialists. Employees supporting the SIMP develop and implement processes and procedures to comply with both existing and evolving underground storage regulations, while providing engineering support, threat and risk assessment, compliance reporting and administrative oversight of the Company's SIMP. Figure AK-4 delineates the forecasted costs by witness area.

Figure AK-4
SIMP Delineation By Witness Area



a. Data Gathering, Threat Identification and Risk Assessment, and Preventive and Mitigative (P&M) Measures

SoCalGas gathers and uses data, including industry incident and failure records, operational performance and maintenance data, and geotechnical information such as well logs, well reassessment data and engineering reports, to assess susceptibility to threats, hazard-related events, and potential threat interactions.

Well reassessment evaluations are core programmatic SIMP activities which include the review and analysis of tubing and downhole casing inspection data, assessment of casing integrity, and interpretation of logging data to identify actionable conditions using estimated failure pressure and remaining life calculations. Pursuant to 14 CCR §1726, CalGEM requires biennial re-inspection (mechanical integrity testing) cycle. However, where sufficient remaining life is demonstrated, SoCalGas may request approval under 14 CCR §1726.6(a)(2), for a risk-based re-inspection interval. As part of the SIMP framework, inspection results are evaluated, extension requests are submitted to CalGEM, and remediation recommendations are provided to the SIMP Execution organization. Well reassessments and remediations related operational costs are addressed in Ex. SCG-05, Gas Transmission and Storage testimony.

SoCalGas identifies and evaluates potential threats impacting gas storage wells, reservoirs, and surface assets. Risk is estimated based on the likelihood and consequence of failure. For gas storage wells, risk assessment is conducted through the SIMP Quantitative Risk Assessment (QRA), which integrates individual well integrity reassessment results with well attribute and other operations and maintenance data to quantify the risk of a loss of containment or a leak through the wellbore and/or wellhead resulting in a release of gas to the atmosphere. To support data driven decision making, SIMP continues to develop dashboards and analytical tools for visualization and trend analysis. In addition, a dedicated risk framework will also be designed for non-gas storage wells located within the storage field Area Of Review (AOR) as required by federal and state regulations.[82] Furthermore, the program will incorporate evaluations of human factors to facilitate comprehensive risk identification and mitigation measures.

The SIMP includes the development of Preventive and Mitigative (P&M) measures to monitor and/or further reduce and manage risks to storage wells, reservoirs, and surface assets. SoCalGas implements P&M measures in accordance with API RP 1171 and CalGEM Cal. Code Regs. tit 14, § 1726. The P&M measures include, but are not limited to, developing training and safety programs for company and contract personnel, routine condition monitoring activities, and data-driven evaluations, such as inspection of well laterals for sand erosion related impacts, that inform the need for additional actions. P&M process development, P&M procedure training, and technical support for P&M field activities are part of programmatic SIMP activities.

b. Data and Records Management and Compliance Reporting

Data and records management activities are critical for threat identification and risk assessment. These activities include gathering, validation, integration, and maintenance of various data elements associated with determining potential threats. Well-related information, inspection results, geological information, close-out documentation, and operational data are stored, maintained, and accessible via company-approved repositories and databases. Well-related data is gathered and validated by the data management team into the WellView application. The scheduling of any well work that requires a rig to complete is managed and tracked by the RigView application. Electronic storage records are consolidated and maintained

[82] 49 CFR §192.12(d)(2) and Cal. Code Regs., tit. 14, § 1726.3 (2025).

in the Open Text Record Document Management System (RDMS) platform, which complies with the regulatory requirements set forth for Well Records Management in API RP 1171.

In addition, Compliance Reporting is another set of activities to collect, manage and retain data for compliance with regulatory requirements. Compliance Reporting team supports, manages, and facilitates the reporting for Idle Well Management, Underground Injection Control, and annual Pipeline and Hazardous Materials Safety Administration (PHMSA) audits.

On July 1, 2025, CalGEM implemented new requirements under SB 463, requiring natural gas storage operators to develop and maintain a comprehensive well chemical inventory tracking, conduct fluid testing, develop well control plans, develop well-by-well corrosion risk ranking and track operational incidents. The same day, the Pipeline and Hazardous Materials Safety Administration (PHMSA) issued a Direct Final Rule (DFR) to adopt the second edition of API RP 1171, which became effective on January 1, 2026. The second edition of API RP 1171 introduces enhanced requirements for operators related to recordkeeping, inclusion of third-party wells in risk assessments, improved data integration, incorporation of safer work practices, and formalized risk prioritization. The close timing of these two major state and federal regulatory changes has placed significant demands on program resources, requiring concurrent updates to procedures, systems, training, and documentation. Compliance with these overlapping requirements has increased administrative and technical workload, implementation and reporting costs, necessitating additional staffing, particularly as CalGEM's regulatory framework continues to expand in scope and complexity.

SIMP has invested several years in the development, refinement, and implementation of its risk models, forecasting tools, and associated governance processes. Well integrity assessments are required for each gas storage well at a two-year recurring frequency[83] unless otherwise approved by CalGEM. Since 2022, SoCalGas has received one-time extensions of up to seven years. These defined mandated assessment intervals enable more effective planning and forecasting of integrity activities with improved confidence based on historical data, operational experience, system knowledge, and real-time surveillance data. Additionally, costs associated with programmatic SIMP activities have become more predictable and can be reliably forecasted based on historically available data and existing regulatory requirements.

[83] Cal. Code Regs. tit. 14, §1726.6(a) (2018).

c. Proposed Closure of the SIMPBA

The 2024 GRC Final Decision established the one-way SIMP balancing account and a memorandum account to recover above-authorized spending when needed. In this GRC, SoCalGas requests the closure of the one-way balancing account and will seek closure of the memorandum account once any costs that are in the account have undergone review. As a result of program maturity and enhanced analytical capability, SoCalGas is better able to forecast SIMP programmatic and execution activities based on current requirements. However, incremental costs resulting from new regulations that go into effect in the future are not forecasted in this GRC and will be tracked in the GSEPMA[84] to enable full compliance and cost recovery. SoCalGas summarizes its request to discontinue the SIMP one-way balancing and memorandum accounts in Regulatory Accounts testimony (Ex. SCG-21).

d. Description of RAMP Mitigations

Within this cost category there are non-shared O&M costs for a risk control/mitigation that was presented in the 2025 RAMP Report and is listed in the table below. All of the SIMP activities are risk mitigation measures addressing safety risks identified in the 2025 RAMP Report for SCG Risk 4, Underground Gas Storage System.

Activities that are compliance or mandated are listed in bold; and Appendix B attached to this testimony provides the details regarding these mandates for each control.

TABLE AK-31
RAMP and GRC Risk Control/Mitigation Activities - O&M

Gas Storage System Integrity Management (2EN003.000)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028 Estimate In 2024 $ (000s)**	**2028 GRC 2028 Forecast In 2025 $ (000s)**	**Change ($000s)**
C401	**Storage IMP (SIMP)**	8,662[85]	9,444[86]	782
	Total	**8,662**	**9,444**	**782**

[84] *See* the Regulatory Accounts testimony (Ex.SCG-21).

[85] The 2028 total RAMP O&M forecast for C401 is $19.8 million. The cost shown in the table represents only the RAMP O&M forecast associated with SIMP programmatic activities included in this testimony, representing 44% of the total activity. The other portion of costs for C401 can be found in the Gas Transmission and Storage testimony (Ex. SCG-05).

[86] Cost associated with SIMP programmatic activities included in this testimony.

e. Description of Selection and Prioritization of RAMP Risk Mitigations

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology and are designed to address a specific safety and/or reliability risk. The Company's selection and prioritization of these RAMP mitigation activities considered many factors when determining if these risk mitigation activities are an effective and worthwhile investment. The Enterprise Risk Management (ERM) process for identifying and assessing system risk is described in the RDF Integration testimony (Ex. SCG-02B/SDGE-02B).

The Gas Transmission and Storage testimony (Ex. SCG-05) sponsors a portion of C401 costs and associated activities related to the execution of SIMP inspections, field security, and field planning and management. These execution-related costs and activities are distinct from, and separate from, the programmatic SIMP costs and activities sponsored in this direct testimony.

As described in the Description of Costs and Underlying Activities section above, SoCalGas's SIMP is designed to comply with 49 CFR §192.12 and Cal. Code Regs. tit. 14, § 1726. Consistent with regulations, SoCalGas assesses gas storage wells for threats, including external corrosion, internal corrosion, manufacturing defects, construction and fabrication issues, weather related and outside forces, incorrect operations, equipment failure, and third-party damage. Assessment data, operating conditions, and other necessary data are evaluated to determine the appropriate actions needed to maintain system integrity, safety, and reliability. SIMP programmatic activities described in this testimony as well as SIMP execution activities described in the Gas Transmission & Storage testimony (Ex. SCG-05), are measures to reduce the likelihood and consequences of failure of an underground gas storage well that could result in serious injuries, fatalities, property damage, operational and reliability impacts, and environmental impacts.

SoCalGas considers regulatory requirements, system knowledge, performance data, resourcing, and other information such as the results of ongoing risk evaluation and program reviews to determine where continued or additional risk reduction activities are needed under the SIMP. Factors such as regulatory mandates and guidance, well data, historical activity, and system needs inform the scope of this control.

Underground gas storage assets are essential components of California's reliable energy delivery infrastructure. Accordingly, SoCalGas is continuing its SIMP activities to enhance the safety and reliability of the natural gas infrastructure, mitigate associated risks, and comply with state and federal regulations.

2. Forecast Method

The forecast method for O&M SIMP programmatic activities is based on a three-year historical average, with adjustments applied to account for anticipated cost impacts. This approach is most appropriate because the last three years (2023-2025) best represent SIMP's current costs and activities, particularly those related to compliance reporting and data management, as well as the existing regulations and requirements. Adjustments were incorporated to account for anticipated changes, including additional costs associated with the ongoing implementation of CalGEM's SB 463[87] regulatory requirements under Cal. Code Regs. tit. 14, § 1726 in 2026 and 2027, and incremental funding for 2.7 FTEs starting 2028 to support SB 463's new requirements, risk strategy, and geohazard and risk analysis work.

3. Cost Drivers

The cost drivers behind the forecast of O&M SIMP programmatic activities are safety, risk management, and compliance with state and federal regulations. The primary drivers are the CalGEM requirements outlined in California Underground Gas Storage Projects (Cal. Code Regs. tit. 14, § 1726) and the PHMSA Underground Natural Gas Storage regulations (49 CFR §192.12).

O&M costs associated with SIMP programmatic activities are driven by the ongoing development, implementation, and management of multiple interrelated integrity management components. These include the development and maintenance of risk management plans and well-by-well risk and threat evaluation that require periodic reassessment as new data, operating conditions, and risk insights emerge. Further costs are associated with the management and continuous refinement of processes and procedures governing well design, inspection, testing, maintenance, and regulatory compliance reporting.

[87] SB 463 (Stern, 2019), *available at:* https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201920200SB463.

On July 1, 2025, CalGEM implemented new regulations under SB 463 requiring natural gas storage operators to establish and maintain comprehensive well chemical inventory tracking; conduct fluid testing; develop well control plans; implement well-by-well corrosion risk rankings; and track incidents associated with natural gas storage operations. Additionally, on July 1, 2025, the Pipeline and Hazardous Materials Safety Administration (PHMSA) issued a Direct Final Rule adopting the second edition of API RP 1171, which became effective on January 1, 2026. API RP 171 introduces enhanced requirements for operators related to recordkeeping, inclusion of third-party wells in risk assessments, improved data integration, incorporation of safer work practices, and formalized risk prioritization. As a result, SoCalGas is requesting incremental funding for these regulatory changes, including the ongoing implementation of CalGEM's SB 463 requirements under Cal. Code Regs. tit. 14, § 1726 in 2026 and 2027, as well as funding for 2.7 FTEs starting 2028 to support CalGEM's SB 463 new requirements, risk strategy, and geohazard and risk analysis work.

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

D. New Rules and Regulations (Gas Safety Enhancement Programs) (2EN006.000)

TABLE AK-32
Non-Shared O&M - New Rules and Regulations (Gas Safety Enhancement Programs)

INTEGRITY MANAGEMENT PROGRAMS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
NEW RULES AND REGULATIONS (GSEP)	424	421	(3)
Total	**424**	**421**	**(3)**

1. Description of Costs and Underlying Activities

The regulatory framework governing utility gas systems has evolved substantially in recent years, shaped by lessons learned from pipeline incidents – most notably the 2010 San Bruno explosion and the 2018 Merrimack Valley over-pressurization event – and propelled by Congressional mandates enacted through the Protecting Our Infrastructure of Pipelines and Enhancing Safety (PIPES) Acts of 2020. The Gas Safety Enhancement Programs (GSEP) are safety-driven programs developed and established in response to various safety-related

regulations issued by federal and state regulators. As new federal and state safety regulations develop, SoCalGas continues to provide regulatory input to support effective implementation and outcomes consistent with its commitment to safety. Over the past several years, SoCalGas has established a consistent framework for monitoring, evaluating, and incorporating new regulatory requirements, providing greater stability and predictability in its compliance efforts. The forecasted GSEP labor and non-labor costs within this testimony and associated workpaper support SoCalGas's effort for monitoring new state and federal regulations where expenses are primarily staffing needs for monitoring regulatory activity.

SoCalGas's pipelines and facilities are operated and maintained according to PHMSA regulations at the federal level and CPUC regulations at the state level. California's rules for gas transmission and distribution piping systems are specified in General Order 112-F, which incorporates 49 CFR Parts 191, 192, 193, and 199. SoCalGas's wells and gas storage facilities are also operated in accordance with PHMSA and CalGEM regulations. CalGEM, certified by PHMSA, handles inspection and enforcement of natural gas storage wells.

Although pending PHMSA and state regulatory requirements currently under development are not forecasted in this TY 2028 GRC application, forthcoming rules will continue to affect SoCalGas's operations. PHMSA rulemakings driven by congressional mandates remain ongoing, and additional regulatory actions are anticipated during this GRC period. As discussed earlier in this section, the PIPES Act of 2020 continues to serve as the primary statutory driver for PHMSA's pipeline safety, integrity and oversight initiatives. In 2025, Congress advanced legislation to reauthorize the PIPES Act (PIPES Act of 2025), further strengthening PHMSA's mandate to develop new and updated safety regulations across a broad range of pipeline-safety focus areas. This reauthorization directs PHMSA to continue expanding and refining regulatory requirements, including but not limited to:

- Updating safety standards for above-ground storage tanks that remain in active use;
- Enhancing operators' ability to test and deploy new technologies in real-world operating environments;
- Addressing risks associated with pipelines constructed from composite materials;
- Strengthening state call-before-you-dig programs to reduce excavation-related damage;

- Advancing safety requirements for emerging CO_2 and hydrogen pipeline systems;
- Formalizing cybersecurity requirements to prevent attacks similar to the 2021 Colonial Pipeline incident;
- Mitigating failures associated with aging plastic components and addressing land-movement threats such as landslides and seismic activity;
- Evaluating geological hazards through required assessment reports and potential follow-on regulations;
- Reviewing and issuing recommendations related to Maximum Allowable Operating Pressure (MAOP) reconfirmation records; and
- Updating methodologies for calculating Potential Impact Radius (PIR).

PHMSA has also, through the testimony of Administrator Paul Roberti on March 4, 2026, reinforced its commitment to publishing a final rule enhancing the safety of gas distribution pipelines.[88] Although not all forthcoming requirements have been fully defined, preliminary *Pipeline Safety: Safety of Gas Distribution Pipelines* rulemaking language indicates that SoCalGas will be required to implement additional safety measures, revise operational practices, and update internal procedures as these rules are finalized.[89]

a. Continuation and Proposed Modification of GSEPMA

To address these uncertainties and enable appropriate cost tracking, in SoCalGas's TY2024 GRC, the CPUC approved the Gas Safety Enhancement Programs Memorandum Account (GSEPMA)[90] to record incremental, substantial, and non-speculative costs resulting from PHMSA amendments to federal regulations. For the TY2028 GRC, SoCalGas proposes to retain the GSEPMA and modify the account to allow for the creation of new subaccounts specific to new or amended state and local regulatory requirements. Expanding the scope of the

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[88] Written Statement of the Honorable Paul Roberti, Administrator Pipeline and Hazardous Materials Safety Administration, Before the U.S. House of Representatives Committee on Energy and Commerce Subcommittee on Energy Hearing on Pipeline Safety Reauthorization at 3, *available at:* https://www.congress.gov/119/meeting/house/119016/witnesses/HHRG-119-IF03-Wstate-RobertiP-20260304.pdf.

[89] Pipeline Safety: Safety of Gas Distribution Pipelines and Other Pipeline Safety Initiatives, 88 Fed. Reg. 172,61746 (September 7, 2023), *available at:* https://www.govinfo.gov/content/pkg/FR-2023-09-07/pdf/2023-18585.pdf.

[90] D.24-12-074 at 1090 (OP 10(e)).

GSEPMA will provide a more comprehensive mechanism to track and record incremental costs to comply with federal, state and local regulatory changes that are issued between rate case funding cycles for which SoCalGas has not been able to incorporate a forecast of costs. For example, in recent years, CalGEM also enacted new regulations and rulemakings which are currently impacting underground storage.[91] CalGEM's implementation of SB 463 illustrates that rulemakings can remain open and evolve for multiple years, nearly six years in this case, creating uncertainty regarding the timing, scope and cost of future compliance obligations. SoCalGas anticipates that ongoing and future federal and state pipeline safety rulemakings will continue to introduce new and expanded compliance obligations during this GRC period, resulting in incremental safety, operational, and regulatory activities.

To achieve timely and effective compliance with evolving federal, state, and local mandates, GESI must continually monitor, review, and analyze new and proposed regulations from all applicable agencies. This ongoing process includes evaluating the implications of new rules, assessing their impacts on existing policies, procedures, and field operations, and determining system, training, and process modifications necessary for integration. Through this proactive regulatory oversight, GESI supports operational readiness, maintains compliance, and facilitates the efficient and consistent incorporation of new requirements across the organization. However, due to the uncertainty regarding the timing, scope, and specific requirements of forthcoming rulemakings, associated activities and costs cannot be reasonably forecasted for TY2028 GRC, SoCalGas requests that it retain and modify its existing cost recovery mechanism, described in more detail in the Regulatory Accounts testimony (Ex. SCG-21).

b. Description of RAMP Mitigations

Within this cost category there is non-shared O&M cost for risk controls/mitigations that were presented in the 2025 RAMP Report and are listed in the table below. All GSEP activities are risk mitigation measures addressing safety risks identified in the 2025 RAMP Report for SCG-Risk 2 High Pressure Gas System, as described above. Activities that are compliance or

[91] On April 30, 2025, the Office of Administrative Law approved the SB 463 Chemical Inventory and Root Cause Analysis Regulations. The regulations were filed with the Secretary of State and took effect July 1, 2025. On June 24, 2024, the Office of Administrative Law approved the Cost Estimate Regulations for Oil and Gas Operations. The regulations were filed with the Secretary of State and took effect on October 1, 2024.

mandated by CPUC or other agencies are listed in bold; and Appendix B attached to this testimony provides the details regarding these mandates for each control.

TABLE AK-33

RAMP and GRC Risk Control/Mitigation Activities – Non Shared O&M

High Pressure Gas Transmission System Reconfirmation (2EN006.000)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028 Estimate In 2024 $ (000s)**	**2028 GRC 2028 Forecast In 2025 $ (000s)**	**Change ($000s)**
C013	**GTSR – MAOP Reconfirmation**	2,988	421	(2,567)
	Total	**2,988**	**421**	**(2,567)**

c. Description of Selection and Prioritization of RAMP Risk Mitigations

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology and are designed to address a specific safety and/or reliability risk. The Company's selection and prioritization of these RAMP mitigation activities considered many factors when determining if these risk mitigation activities are an effective and worthwhile investment. The Enterprise Risk Management (ERM) process for identifying and assessing system risk is described in the RDF Integration testimony (Ex. SCG-02B/SDGE-02B).

SoCalGas's GSEP O&M supports the implementation and ongoing integration of new pipeline safety regulations. In support of the MAOP reconfirmation scope of work required by 49 C.F.R. § 192.624[92] and other new federal regulatory actions, SoCalGas maintains regulatory and project management resources to monitor, evaluate, and manage changes associated with federal pipeline safety communications, rulemakings, and regulatory activity. This support enables SoCalGas to timely review new and proposed PHMSA requirements and guidance, evaluate their applicability to SoCalGas's system and operations, and coordinate the implementation of new procedures, training, and system/tool updates needed to maintain compliant operations. PHMSA's regulatory actions generally address significant pipeline incidents and seek to prevent similar incidents from occurring in the future.[93] The O&M costs

[92] Refer to Gas Major Projects testimony (Ex. SCG-06).

[93] Pipeline Safety: Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments, 84 Fed. Reg. 190,52180, (October 1, 2019), *available at:* https://www.govinfo.gov/content/pkg/FR-2019-10-01/pdf/2019-20306.pdf;

and activities to manage new regulations helps SoCalGas maintain compliance while safely integrating evolving federal mandates.

2. Forecast Method

The forecast method used for the GSEP O&M program management is base-year. GESI has now established a mature structure and a dedicated team to monitor and facilitate the implementation of new federal pipeline safety regulations. Over the past several years, GESI has developed a consistent framework for monitoring, assessing, and integrating new rules, resulting in a more predictable and stable level of effort. Accordingly, base year costs represent a reasonable basis for forecasting TY 2028 expenses for GSEP program management. Adjustment to the forecast years were made to reflect the reduction of non-labor costs associated with consulting support. As discussed above, should new or revised regulatory requirements create incremental costs beyond those reflected in the base year forecast, SoCalGas will record the costs in the GSEPMA.

3. Cost Drivers

The cost drivers behind the GSEP O&M program management forecast are SoCalGas's ongoing activities to monitor, review, and analyze new and proposed regulations at the federal state, and local levels. This continuous work includes evaluating the implications of emerging regulatory requirements, assessing their impacts on existing policies, procedures, and field operations, and identifying the system, training, and process modifications necessary to integrate these requirements into SoCalGas's operations. In addition, due to the uncertainty regarding the timing, scope, and specific requirements from federal, state and local regulatory agencies, associated activities and costs cannot be reasonably forecasted for the TY2028 GRC. As such, if new or revised regulatory mandates drive substantial incremental costs beyond what is currently forecasted, SoCalGas will record those costs in the GSEPMA.

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

Pipeline Safety: Requirement of Valve Installation and Minimum Rupture Detection Standards, 87 Fed. Reg. 68,20940 (April 8, 2022), *available at:* https://www.govinfo.gov/content/pkg/FR-2022-04-08/pdf/2022-07133.pdf.

E. IM Administrative – Non-Balanced (2EN022.000)

TABLE 34
Non-Shared O&M Costs - IM Administrative – Non-Balanced

INTEGRITY MANAGEMENT PROGRAMS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
IM ADMINISTRATIVE – NON-BALANCED	923	779	(144)
Total	**923**	**779**	**(144)**

1. Description of Costs and Underlying Activities

The IM Administrative cost category consists of support costs incurred by the Integrity Management organization that are not directly attributed to any specific Integrity Management program (*e.g.*, TIMP, DIMP or SIMP). These costs support the overall operation and oversight of the Integrity Management organizations and its portfolio of programs. The non-labor costs included in this workpaper enable Integrity Management personnel to maintain required qualifications, adhere to professional standards, and effectively perform foundational management and administrative responsibilities. Typical cost categories include, but are not limited to:

- Seminars and training required to maintain professional competency and alignment with evolving industry standards and best practices.
- Professional fees, such as dues, certifications, and services needed to maintain the technical and professional standing of Integrity Management staff.
- Travel and expenses associated with attending required meetings, training sessions, industry forums, and other activities necessary for the efficient management and coordination of non-balanced Integrity Management functions.

Because these expenditures are essential to the organization's ability to manage and oversee Integrity Management activities holistically—but are not tied to any single balanced program—they are presented and forecasted as non-balanced O&M costs within the 2EN022.000 workpaper.

2. Forecast Method

The forecasting method developed for this cost category is the base year. The program has been in its current structure since 2016 allowing it to mature and stabilize, thus the costs provide an accurate estimate for maintaining the current program. This method is considered

most appropriate because 2025 reflects the current level of activity and staffing necessary to continue to operate the program.

3. Cost Drivers

The primary cost drivers for this forecast consist of labor and non-labor components that represent integrity management program general support. These activities cannot be attributed to specific integrity management programs due to their broad, general nature and support of overall organizational operations. The cost structure includes both workforce-driven and baseline components. Workforce driven costs are primarily influenced by FTE staffing levels, as labor-related expenses increase or decrease in direct proportion to workforce requirements. Non-labor costs similarly include scalable components that align with staffing levels, as well as baseline components required to sustain foundational administrative and management functions. Baseline costs can include expenditures required for personnel to maintain mandatory qualifications, comply with professional standards, and effectively perform ongoing operational responsibilities. Together, these labor and non-labor drivers establish the basis for the forecasted costs in this workpaper.

VI. NON-SHARED O&M COSTS – ADAPTATION AND INNOVATION PROGRAMS

As described above, "Non-Shared Services" are activities that are performed by a utility for its own benefit. This section details forecasted costs and activities for adaptation and innovation programs supporting climate resilience and research, development, and demonstration (RD&D) efforts. This grouping of costs represents activities associated with climate adaptation and RD&D innovation programs for natural gas infrastructure, which support system durability, safety, regulatory compliance, and the continued safe and reliable operations of SoCalGas's gas infrastructure. Table AK-35 summarizes the total non-shared O&M forecasts for the grouping of adaptation and innovation-related cost categories.

Corporate 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 SoCalGas.

TABLE AK-35
Summary of Non-Shared O&M Costs – Adaptation & Innovation Programs;

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025$)			
ADAPTATION & INNOVATION PROGRAMS	**2025 Adjusted-Recorded (000s)**	**TY2028 Est. (000s)**	**Change (000s)**
CLIMATE CHANGE ADAPTATION	236	995	759
ENGINEERING PROGRAM & TRAINING	709	726	17
RD&D PROGRAM	8,266	17,494	9,228
Total	**9,211**	**19,215**	**10,004**

A. Climate Change Adaptation (2EN013.000)

TABLE AK-36
Non-Shared O&M Costs - Climate Adaptation

ADAPTATION & INNOVATIONS PROGRAMS	**2025 Adjusted-Recorded (000s)**	**TY2028 Est. (000s)**	**Change (000s)**
CLIMATE CHANGE ADAPTATION	236	995	759
Total	**236**	**995**	**759**

1. Description of Costs and Underlying Activities

Non-shared O&M costs consist of labor and non-labor activity costs for two areas: 1) labor for the Climate Adaptation and Geohazard Management Program (CAGMP); and 2) preparation of and activities related to the third CAVA (referred to as CAVA 2032). These costs and underlying activities are described below.

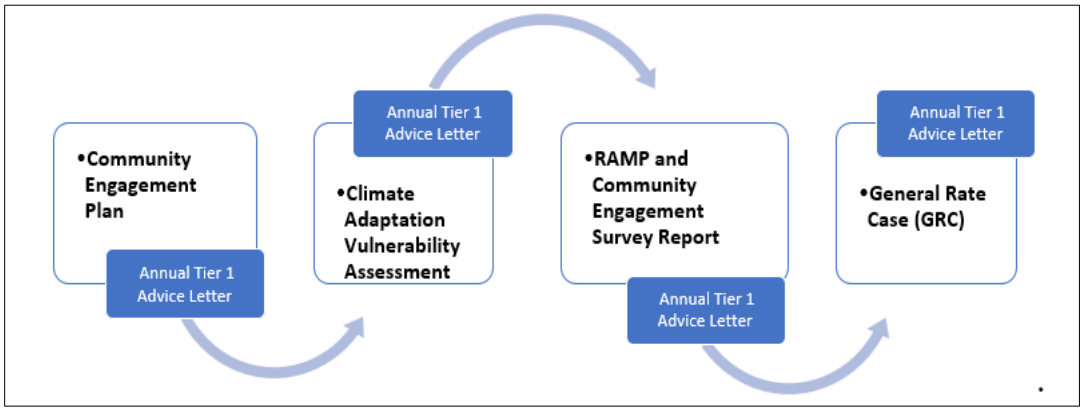
a. Planning for Climate Change Adaptation

Projected increases in climate change and extreme weather events pose growing risks to utility infrastructure, operations, and services. To address this challenge, in 2018, the CPUC issued the Climate Change Adaptation OIR (R.18-04-019). Three subsequent Decisions (D.19-10-054, D.20-08-046, D.24-08-005) [94] mandate how investor-owned gas and electric utilities (IOUs) in California should assess their vulnerabilities to climate risks. D.19-10-054 defines climate change adaptation in the context of energy utilities, identifies proper data sources for climate projections, and sets planning standards related to climate scenarios. D.20-08-046 defines disadvantaged vulnerable communities (DVCs) in a climate adaptation context and emphasizes the importance of integrating DVCs into the adaptation process, particularly through promoting reliable service to all customers, including DVC members. In addition, it set

[94] In April 2026, a new Commissioner Ruling in the Climate Change Adaptation OIR was issued to address climate adaptation in the review of energy applications. At the time of this GRC filing, the regulatory impact and level of effort to address the requirements of the Ruling are unknown.

requirements for filing a climate adaptation vulnerability assessment (CAVA) and Community Engagement Plan (CAVA CEP).[95] D.24-08-005 adopts refinements to climate adaptation preparation guidance including the use of Shared Socioeconomic Pathway (SSP) greenhouse gas emissions scenario 3-7.0 as the reference scenario for energy utility use and Global Warming Level approach as the basis of CAVA planning, and updates the timing of utility submittal of CAVAs to be filed one year prior to RAMP applications. These decisions created a four-year cycle (with ongoing climate work occurring annually) during which SoCalGas's climate change adaptation activities are communicated, evaluated, reported, and operationalized, as shown in Figure AK-5.[96] These activities underpin the cost drivers and forecast for Climate Change Adaptation.

Figure AK-5:
Four-Year Cycle for Key Deliverables Related to Climate Change Adaptation OIR



b. Climate Adaptation and Geohazard Management Program (CAGMP)

SoCalGas established the CAGMP in July 2025 to guide the programmatic evaluation of climate change impacts, implementation of long-term goals adapting to climate risk and programmatic administration of geohazard management. The CAGMP currently is staffed by individuals who are directly engaged with SoCalGas operational departments to evaluate and integrate climate adaptation activities comprehensively across the Company, including

[95] Activities, including the CAVA CEP, and estimated cost are addressed in the Customer & External Relations testimony (Ex. SCG-09).

[96] Consistent with D.20-08-046, annual Tier 1 Advice Letters have been and will continue to be filed. Additionally, SoCalGas is preparing its next CAVA for submittal in 2028. Costs to date related to the CAVA and associated stakeholder engagement through December 31, 2025 are discussed in "Reasonableness Review, CAVAMA Climate Adaptation."

coordinating the climate change team that reports to an executive.[97] The CAGMP also aligns with the other major California IOUs by having a centralized climate change adaptation function.[98]

Given the extensive scope of work and regulatory compliance milestones established in the Climate Change Adaptation OIR and associated CPUC decisions (see "Planning for Climate Change" section above), there is a need for two new FTE to support climate change adaptation activities, specifically 1) Climate Adaptation Advisor to be a SME on climate adaptation data analytics and guide the execution of climate science initiatives; [99] 2) Project Manager to support the oversight and data tracking related to projects within the CAGMP portfolio. The "CAVA Investment Proposal" projects are described in the Capital section below. The CAGMP will continue to develop and manage the overarching deliverables as prescribed in the Climate Change Adaptation OIR and associated Decisions, drive operationalizing the adaptation measures identified in the 2025 CAVA[100] and future CAVAs, and provide programmatic governance of the Company's Geohazard Management Program.

c. Climate Adaptation Vulnerability Assessment (CAVA) 2032

The CAVA evaluates the risks of short term (2030) and longer term (2050, 2070) climate hazards to SoCalGas's gas infrastructure, operations, and services, and recommends strategies to address these risks. SoCalGas filed its first CAVA in May 2025, is actively preparing the CAVA 2028 and developing methodologies for CAVA 2032, based on the latest climate models and projections.[101] In its CAVA 2032, SoCalGas will continue to explore ways to integrate climate exposure data and vulnerability analysis into its quantitative risk models, as well as mature

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[97] D.20-08-046 at 118 (OP 13). The climate change team is a part of the Company's larger Climate Advisory Group, which provides strategic guidance about climate adaptation efforts.

[98] Climate adaptation is currently managed by the IOUs as follows: SDG&E - "Fire Science and Climate Adaptation" department; PG&E - "Climate Resilience" department; SCE – "Climate Adaptation and Resilience Planning" department.

[99] The need for a climate adaptation advisor was flagged in Advice Letter 6116 dated March 31, 2023 filed with the CPUC. SoCalGas continued to rely on external consultants; however, a more cost effective approach to address the Climate Change Adaptation OIR requirements would be to retain a climate adaptation advisor.

[100] Filed on May 15, 2025.

[101] SoCalGas is actively developing its CAVA that will be submitted in May 2028. SoCalGas will record costs from January 1, 2026 through December 31, 2027 to the CAVAMA with the disposition of the CAVAMA balance to be included as part of a reasonableness review in its 2032 GRC.

community adaptative capacity and equity metrics.[102] SoCalGas continues to operationalize maintenance/investment programs around climate adaptation mitigations and focus on risk mitigations. In addition, SoCalGas will continue to integrate climate change adaptation community engagement into its routine business practices, see Ex. SCG-12, Customer and External Relations testimony.

d. Long Term Goals for Adapting to Climate Risk and Associated Geohazard Threats

SoCalGas's long term-goals for adapting to climate risk and associated geohazards[103] are guided by the Company's Geohazard Management Program (GMP), overarching sustainability strategy[104] and consistent with the requirement of the Climate Change Adaptation OIR.

The GMP enables the proactive evaluation of geohazard threats to minimize the likelihood of a potential impact on SoCalGas infrastructure, operations and customers. Various elements of geohazard management have been in place at SoCalGas for many years in accordance with federal regulations and industry standards. Geohazard threats are evaluated as WROF required by 49 CFR 192, Subpart O "Gas Transmission Pipeline Integrity Management," and "natural forces" under Gas Distribution Pipeline Integrity Management under 49 CFR 192 Subpart P, described above. The results of these evaluations guide activities such as the TIMP Assessment Plan described above and geologic field assessments (referred to as "Level 2 Geohazard Threat Assessment"). SoCalGas enhanced the GMP in response to the Montecito Debris Flow in 2018, in alignment with updated PHMSA guidance in 2022,[105] consistent with INGAA geohazard management framework in 2023,[106] and additional PHMSA guidance in

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[102] SPD's RAMP Report recommends that: "1.Quantification of climate risk was not required in these filings, but SDG&E and SoCalGas should continue to work toward incorporating quantified climate risk elements in future RAMP filings. 2. SDG&E and SoCalGas should include in future climate change adaptation RAMP chapters a list of the assets that were included in their respective CAVA but omitted from RAMP risk chapters due to RDF prioritization criteria." SPD RAMP Report at 188.

[103] Climate related geohazards as identified in the 2025 CAVA include coastal erosion, coastal flooding, inland flooding, landslide and wildfire. Refer to SoCalGas's 2025 CAVA at ES-4.

[104] SoCalGas's sustainability strategy is available at: www.socalgas.com/sustainability/aspire-2045.

[105] Pipeline Safety: Potential for Damage to Pipeline Facilities Caused by Earth Movement and Other Geological Hazards, 87 Fed. Reg. 106,33576 (June 2, 2022), *available at:* https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2022-06/2022-11791.pdf.

[106] Interstate Natural Gas Association of America (INGAA), *Framework for Geohazard Management* (March 31, 2023), *available at:* https://ingaa.org/wp-content/uploads/2023/11/2023_Framework-For-Geohazard-Management_Public.pdf.

2026.[107] The GMP continues to mature, and several future enhancements are planned. These include LiDAR monitoring, enhancements to the strain gauge program, asset-specific measures, development of strain-based assessments and fitness-for-service as part of TIMP. These holistic measures of the GMP implemented across the GESI organization provide greater operational resilience in the face of climate change.

Long term goals for adapting to climate risk are also a component of SoCalGas's sustainability strategy. SoCalGas's 2025 CAVA considered "green and sustainable remedies"[108] for vulnerable infrastructure, such as exploring ways to integrate climate exposure data and vulnerability analysis into its risk model and integrating sustainable business practices, like vegetative stabilization, green buffers, and bioengineered slopes to help control erosion and reduce landslide risks. SoCalGas will continue to explore green and sustainable options in its upcoming vulnerability assessments.

2. Forecast Method

SoCalGas's O&M forecast is base year and has been developed referencing actual costs tracked in the CAVAMA, established in September 2020. This method is appropriate because this group is still evolving as R.18-04-019 and climate adaptation in general continue to evolve and mature.

3. Cost Drivers

The cost drivers behind this O&M forecast are related to the labor and non-labor required to integrate climate adaptation over a four-year cycle during which climate adaptation is evaluated, forecasted, reported, and operationalized. Given the extensive scope of work and regulatory compliance milestones established in R.18-04-019 and associated Commission decisions, SoCalGas is requesting two additional staff to support climate change adaptation activities, and additional non-labor cost to support preparation of the 2032 CAVA.

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[107] Pipeline Safety: Potential for Damage to Pipeline Facilities Caused by Earth Movement and Other Geological Hazards, 87 Fed. Reg. 106,33576 (June 2, 2022), *available at:* https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2022-06/2022-11791.pdf.

[108] D.20-08-046 at 118 (Conclusions of Law (COL) 65).

B. Engineering Program and Training and RD&D (2EN019, 2EN019.001, 2EN019.002, 2EN019.003, 2EN019.004 and 2EN019.005)

TABLE AK-37
Summary of Non-Shared O&M Costs - Engineering Program and Training

ADAPTATION & INNOVATION PROGRAMS – ENGINEERING PROGRAM AND TRAINING	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
OPERATIONS RD&D PROGRAM	170	170	0
GE RESEARCH & TECHNOLOGY	190	198	8
SB1371 RD&D	47	49	2
RENEWABLE BLENDING RESEARCH	286	293	7
CUSTOMER SOLUTIONS RD&D	12	12	0
LOW CARBON RESOURCES RD&D	5	5	0
Total	**710**	**727**	**17**

1. Description of Costs and Underlying Activities

This section describes activities for the following groups: 2EN019.000, 2EN019.001, 2EN019.002, 2EN019.003, 2EN019.004 and 2EN019.005. The labor and non-labor costs supports training and development for the Gas Engineering department, provides subject-matter expertise for emerging technologies deployed in the field, and covers certain employee management and training activities for RD&D teams that are not directly attributable to the RD&D Program (Balanced)—such as company compliance training, safety training, leadership development, and general supplies. These training and support functions strengthen team effectiveness, knowledge management, and coaching, all of which are essential to maintaining a strong safety-focused culture. In addition, this cost area includes the development and ongoing maintenance of internally created Gas Engineering Training modules that support the training of new employees and facilitate knowledge transfer from experienced personnel, thereby strengthening workforce effectiveness, system reliability, and safety amid an evolving workforce.

2. Forecast Method

The forecasting method developed for this cost category is the base year.[109] The program has been in its current structure since 2016 allowing it to mature and stabilize, thus the costs provide an accurate estimate for maintaining the current program. This method is considered

[109] There is a correction that needs to be made as it relates to the costs included in the RO model and revenue requirement that will be addressed at the next available opportunity.

most appropriate because 2025 reflects the current level of activity and staffing necessary to continue to operate the program.

3. Cost Drivers

The primary cost drivers for this area are the staffing and labor resources required to provide RD&D activities, including technical knowledge development, internally developed technical gas system standards, and subject matter expertise for emerging technologies for the Gas Engineering organization. These cost drivers include the development, delivery, and ongoing maintenance of training and standards that are informed by RD&D activities, emerging technologies and evolving engineering practices. Labor resources are also required to provide subject-matter expertise related to new and developing technologies, and to support their transition from research to practical application.

Non-labor cost drivers include annual memberships and dues that follow predictable payment cycles and are required to maintain continuity of research activities and active participation in ongoing studies. Additionally, routine operational support expenses, including mobile communications, supplies, and other program support costs, are necessary to enable effective execution of these activities in support of safety and operational efficiency objectives.

Given the timing and uncertainty associated with the Research Plan approvals, and the availability of research funding, requesting funding in this section maintains continuity of essential RD&D support activities. This approach allows RD&D-related knowledge and technical capabilities to be sustained and effectively integrated into operations, thereby enabling timely applications of research outcomes and allowing customers to receive the full operational and safety benefits of the RD&D efforts. In addition, this forecast reflects changes in connection with the compensation modernization initiative. See the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

C. Research, Development & Demonstration Program (Balanced) (2EN021)

TABLE AK-38
Non-Shared O&M Costs – Research Development & Demonstration Program

ADAPTATION & INNOVATION PROGRAMS – RD&D PROGRAM	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
RD&D PROGRAM (BALANCED)	6,420	13,378	6,958
SB1371 RD&D (BALANCED)	1,846	4,116	2,270
Total	**8,266**	**17,494**	**9,228**

1. Description of Costs and Underlying Activities

In compliance with Public Utilities Code §740.1 and CPUC's direction in D.19-09-051 and subsequent resolutions, SoCalGas's RD&D Program supports advancing the research, development, and demonstration of technologies that can provide ratepayer benefits, enhanced safety, reliability and affordability. SoCalGas is uniquely positioned to conduct research since it operates transmission, distribution and storage infrastructure encompassing transport, storage, and end use. RD&D projects could range from early-stage concepts and bench-scale evaluations to pre-commercial demonstrations. The RD&D Program strives to align with State climate, air quality, and energy reliability objectives, which are complementary to SoCalGas's mission to provide safe, reliable, and affordable energy.

The RD&D Program costs include labor and non-labor expenses to support internal and external resources needed to administer and execute the program in alignment with CPUC direction. The primary costs of the program are direct project costs that support research areas and are incurred throughout the project lifecycle. These costs include both labor and non-labor expenses associated with conducting research projects internally at SoCalGas and externally through collaboration with third party vendors. The remaining costs are focused on program administration activities to support effective management of the RD&D Program and to comply with CPUC's regulatory requirements[110] such as the development of the Research Plan and Annual Report. In addition, program oversight, stakeholder engagement and maintenance of the RD&D database are included in this budget.

The RD&D Program is focused on two primary themes: Gas System Integrity and Decarbonization. These themes and the corresponding research areas align with current State

[110] A matrix summarizing current program requirements is included in Appendix H.

and CPUC policies, follow current priorities set by Energy Division, and are intended to provide ratepayer benefits, enhanced safety, reliability, and affordability.

- Gas System Integrity: This area of RD&D investment is the focus of the majority of the RD&D investment. These research areas and projects support gas operations through innovations that enhance pipeline, public and employee safety, maintain system reliability, increase operational efficiency, improve affordability, and reduce impacts on the environment. The primary goals are to develop, test and introduce new gas operations technologies. In addition, RD&D investments facilitate technology development driven by emerging regulatory requirements, and support integration of RNG into the SoCalGas system safely, reliably, and affordably to benefit customers and the environment.
- Decarbonization: This theme includes research areas and projects that seek to advance technologies that improve affordability, availability, reliability and integration of low-carbon fuels and energy systems for SoCalGas customers. Additionally, this area seeks to accelerate the development and deployment of solutions that support California's climate and energy goals, particularly through the integration of renewable fuels, select advanced storage technologies, and emissions-reducing systems.

Research areas are designed to deliver ratepayer benefits by identifying key technology gaps and challenges. These are defined as problem statements for each research theme and presented in the roadmaps in Appendix I, *RD&D Theme Problem Statements*. Building on prior research and current objectives, the roadmaps inform the RD&D Program's focus areas for the 2028-2031 GRC cycle.

Table AK-39 below provides an illustrative example of how the RD&D Program translates a defined problem statement into a structured research pathway and expected future-state outcomes. This problem assessment framework supports prioritization of RD&D investments by aligning identified gaps with solutions that deliver quantifiable safety, affordability, and emissions reduction benefits. In this example, the proposal is to take existing usage and advanced leakage data to identify potential energy waste on the customer's system. This proposal illustrates how by leveraging existing data from the Advanced Meter network and prior research on methane plume identification, the RD&D Program can increase safety, provide

direct ratepayer savings, and support long-term affordability. This RD&D effort aims to advance algorithms and machine-learning capabilities to deliver actionable insights. These insights will enable customers to detect and reduce unintended energy usage, lower greenhouse gas emissions, and ultimately decrease their utility bills while improving overall system safety.

TABLE AK-39
Example of Problem Assessment and Research Pathway

Problem Statement	Pathways – Roadmap	Future State
Energy waste and system inefficiencies drive up costs, reduce affordability, and introduce potential safety risks. Addressing these challenges requires a cost-effective, scalable solution that minimizes energy loss, improves operational efficiency and enhances system safety, without compromising system performance or ratepayer value.	Improve anomaly classification and accuracy to reduce false positives and earlier leak identification.	• Quantifiable reductions in unintended gas usage • Lower ratepayer energy bills from avoided waste • Reduced GHG emissions from ratepayer-side sources. • Fewer unnecessary field investigations, reducing O&M costs. • Improved safety, transparency, and affordability for all communities.
	Automate prioritization of high economic impact anomalies such as those in disadvantaged communities.	
	Identify communities with recurring energy losses to support targeted conservation efforts in high-burden areas.	
	Identify or develop new technologies or methodologies for gas quality monitoring and integration.	

a. Integration of SB1371 RD&D Program (2EN021.001)

As directed in Resolution G-3605, SoCalGas is incorporating the SB 1371 RD&D activities into the RD&D Program in this GRC. The SB 1371 RD&D Program costs support expenses and activities related to the SB1371 RD&D Program. Over the past several years, the SB 1371 RD&D Program has advanced technologies and methodologies for detecting,

quantifying, and characterizing emission sources, allowing the company to identify major contributors and guide effective mitigation strategies. As these efforts transition into the broader RD&D Program, the intent is to build on the progress achieved while exploring new opportunities to improve the cost-effectiveness and efficiency of current emission reduction programs.

b. RD&D Program Governance and Research Plan Development Process

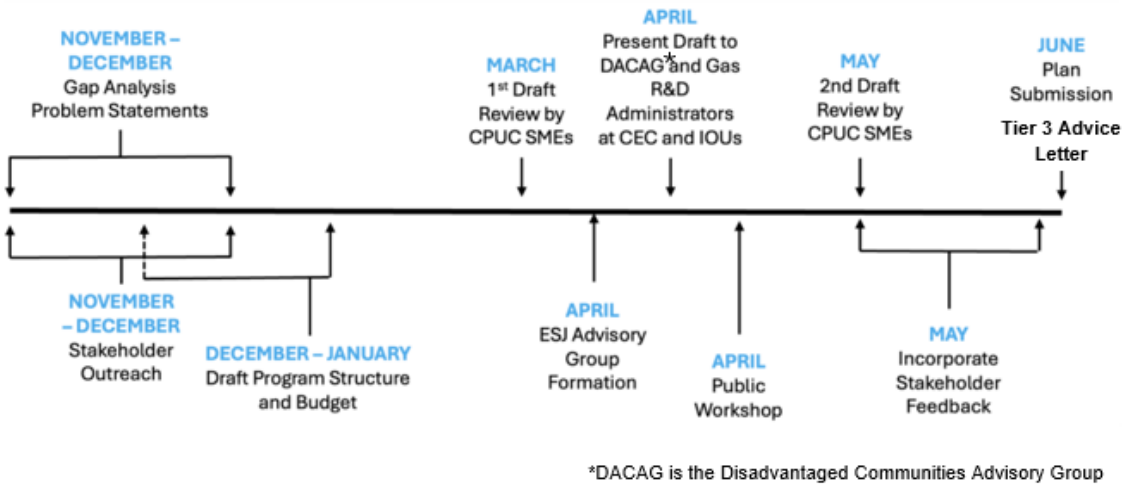
Pursuant to D.19-09-051,[111] the RD&D Program is required to submit a Research Plan in consultation with the CPUC's Energy Division each calendar year describing how funding authorized through the GRC will be allocated across themes. Consultation with Energy Division encompasses stakeholder engagement through public workshops and feedback forums detailed in Figure AK-6. SoCalGas publicly publishes RD&D program accomplishments for the year providing transparency and accountability of program management. SoCalGas also submits an Annual Report, conducts public workshops and other stakeholder engagement activities as part of a robust and collaborative process that provides transparency, public accountability, and enables the incorporation of feedback from stakeholders, including Energy Division.

Development of each Research Plan is a multi-month process that includes:

- Review of applicable statutory, regulatory and policy drivers,
- Internal coordination across utility departments,
- Engagement with external stakeholders, including research institutions, community based organizations (CBOs), Environmental and Social Justice (ESJ) organization's representatives, and government entities,
- Iterative consultation with Energy Division staff and CPUC SMEs.

[111] D.19-09-051 at 379.

FIGURE AK-6
Typical Timeline for the Research Plan Development Process



The Research Plan development process takes about eight months, including holding an annual workshop in the second quarter of the year as required by D.19-09-051[112], with the final Research Plan submitted via a Tier 3 Advice Letter, typically around June, the year prior to the research year. This is intended to provide adequate time for regulatory review and approval prior to the start of the research year. While the development process itself is robust and transparent, the current requirement to submit the Research Plan annually through a Tier 3 Advice Letter has resulted in approval timelines that are incompatible with effective research planning and execution.

c. Impact of Tier 3 Advice Letter Approval Timing on the Research Plan Development Process

Although most Research Plan development requirements support transparency, accountability, consistency with State policy, and collaboration, the Tier 3 Advice Letter approval timing has presented challenges. Coupled with 2019 GRC decision, which does not allow RD&D project expenses to be recorded until the Tier 3 Advice Letter is approved, the Tier 3 Advice Letter approval process inhibits the ability to execute new projects and creates barriers for SoCalGas to be a reliable collaborator to cofounders and the broader research community such as the CEC.

[112] D.19-09-051 at 783 (OP 30).

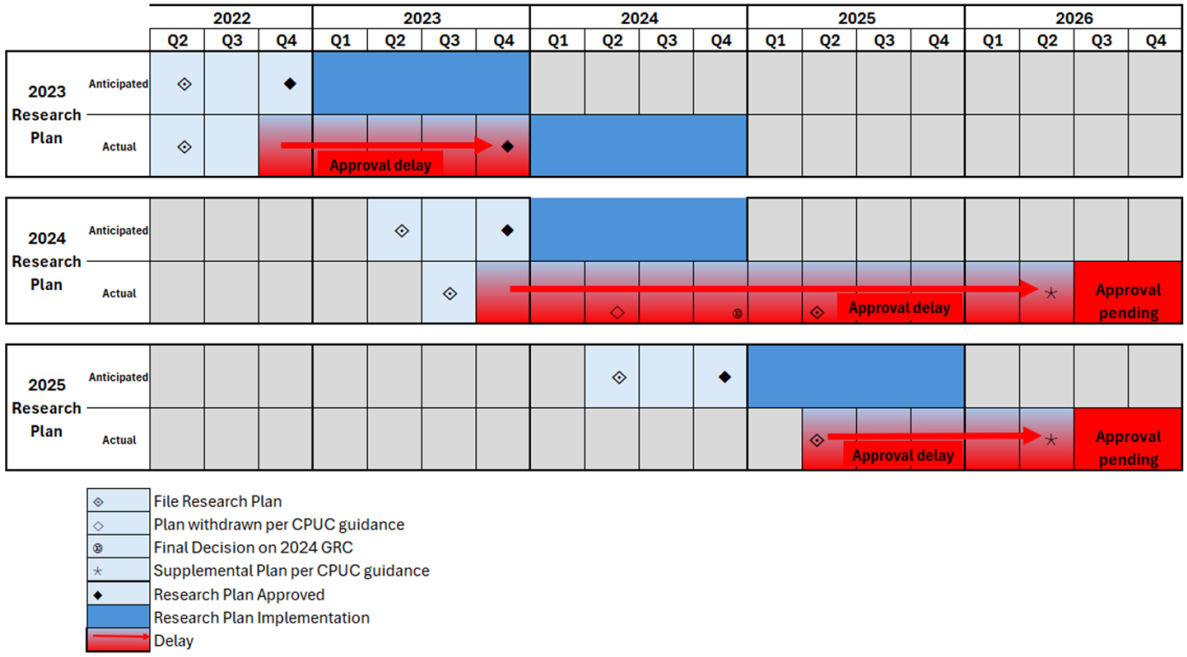
The following illustrates the impact on SoCalGas's ability to execute new projects for each Research Plan between 2023-2025 due to delays in approval of the Tier 3 Advice Letters submitted with each Research Plan:

- 2023 Research Plan: The 2023 Research Plan Tier 3 Advice Letter 5991-G was filed June 15, 2022. In 2023, a resolution on the 2023 Research Plan was issued November 30, 2023, 11 months after the beginning of the Research Plan year and more than 18 months after the Research Plan was submitted. As a result, the RD&D Program could not execute any new projects under this Research Plan until December of 2023. SoCalGas was granted authority to use the 2023 authorized budget to execute new projects during calendar year 2024.[113]
- 2024 Research Plan: Approval of the 2024 Research Plan is still pending as of April 2026, over two years after the start of the Research Plan year. As a result, SoCalGas RD&D has been unable to initiate any new projects.
- 2025 Research Plan: Approval of the 2025 Research Plan is still pending as of April 2026, over 15 months after the start of the Research Plan year. As a result, SoCalGas RD&D has been unable to initiate any new projects.

Figure AK-7 illustrates these impacts and includes the anticipated or planned timeline as well as the status of the actual timeline as of April 2026.

[113] Resolution G-3601 at 43 (OP 7).

Figure AK-7
Timeline to Approve RD&D Research Plans 2023/2024/2025



Despite ongoing collaboration with Energy Division, SoCalGas's efforts have not resolved the structural delays associated with the Tier 3 Advice Letter process. These approval timelines associated with the current Tier 3 Advice Letter process are fundamentally misaligned with a calendar year budget and Research Plan. The process does not reflect the multi-year aspect of research including the lead times required to plan, procure, and execute research and demonstration projects, prevents timely initiation of research projects, disrupts continuation of successful research efforts reducing the value of prior research investments, and delays realization of ratepayer benefits.

2. Request for Modifications of the Research Plan Process/Requirements

a. Carry Forward Authorized Funding Between GRC Cycles

As discussed above, approval delays for the 2024 and 2025 Research Plans have substantially compressed the time available for SoCalGas to conduct research under those plans. In addition, the 2026 and 2027 Research Plans have a concurrent submittal timeline of June 2026. As a result, executing four years of planned research within the 2024-2027 GRC cycle is not feasible. Further, absent process change, the Tier 3 Advice Letter process is also expected to delay approval of the 2028 Research Plan.

Accordingly, SoCalGas respectfully requests authorization to carry forward unspent RD&D funds from the 2024-2027 GRC cycle into the calendar years for the 2028-2031 cycle until the 2028 Research Plan is approved. During this interim period, the carried over funds would be used to support active research areas under previously approved Research Plans. Upon receipt of a decision approving the first Research Plan of the 2028-2031 cycle that authorizes spending, any remaining unspent funds from the 2024-27 cycle shall be returned to ratepayers.[114]

b. Increase Program Administration Cap to 15%

D.24-12-074 allocates ten percent of the annual budget to program administration, however, SoCalGas is requesting the program administration be increased from ten to 15%.[115] SoCalGas's request to increase the program administration allocation to 15% is intended to cover the additional cost of complying with new program requirements, which has continued to accumulate through subsequent Research Plan resolution, GRC decision and guidance provided by CPUC's Energy Division staff, as listed in Appendix H *RD&D Program Requirements Matrix*. For example, the last resolution approving the 2023 Research Plan added an additional 36 items including, the formation of an ESJ Advisory Panel, presentations to the DACAG and a comprehensive program evaluation, which was proceeded by a 15-month financial audit from the Utility Audit Branch.[116] The resolution also directed SoCalGas to adopt the Uniform Impact Analysis Framework and Program Administration categories from the Electric Program Investment Charge (EPIC) research program designed for electric utilities.[117] Because these EPIC requirements do not apply directly to Gas RD&D, they must be translated and adjusted, resulting in significant effort to convert them to SoCalGas's context. A comprehensive list of these extensive requirements is found in Appendix H, further validating the increase requested to the administrative budget to 15%.

c. Modify Approval Process for Research Plans

As illustrated in Figure AK-7, the extended approval timelines under the current Tier 3 Advice Letter process delay execution of projects even though funding is already authorized in the GRC. To improve this process, SoCalGas respectfully requests replacing the current annual

[114] D.24.12.074 at 1097 (OP 37).

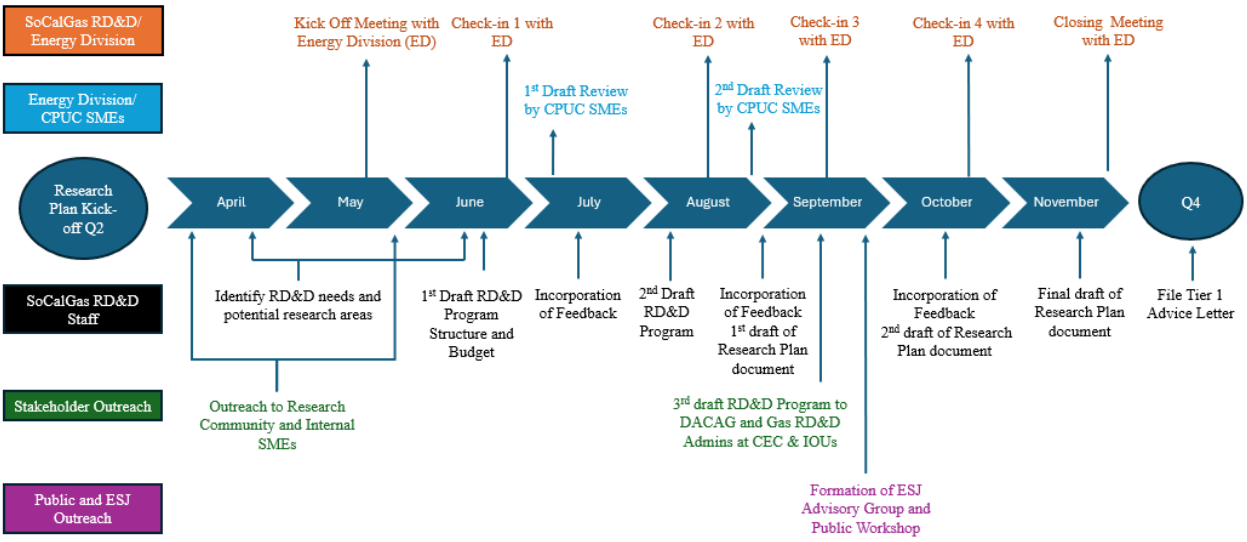
[115] D.24-12-074 at 329.

[116] Res. G-3601 at 11-13, 16-21, 26-29, 32, 34, 37, 39-42 (OP 1-9).

[117] Res. G-3601 at 37.

Tier 3 Advice Letter requirement with a structured and collaborative review process with CPUC's Energy Division, culminating in approval of a two-year Research Plan via a Tier 1 Advice Letter. Under this proposal, SoCalGas would engage in regular meetings with Energy Division during the Research Plan development period to review drafts, receive feedback, and demonstrate incorporation of feedback prior to the Tier 1 Advice Letter submission. This cadence mirrors the process shown in Fig. AK-7 and is illustrated in Fig. AK-8. This proposed approach maintains equivalent regulatory scrutiny while reducing approval risk, positioning SoCalGas RD&D as a reliable collaborator, preserving research continuity, and improving on timely delivery of RD&D benefits to ratepayers.

Figure AK-8
RD&D Illustrative Timeline for a
Two-Year Research Plan Development Process



The intent of each of the six meetings with Energy Division included in this timeline is described in the table below.

TABLE AK-40
Research Plan Review Meetings - Proposed

Meeting #	Meeting Name	Agenda	Deliverable
1	**Kick Off Meeting (May)**	Overview of the process, timeline, initial feedback from outreach to the research community and internal SMEs, discussion on RD&D needs and problem statements.	NA
2	**Check-in Meeting 1 (June)**	Discussion on first draft of program structure and budget and additional stakeholder outreach.	1st draft slide deck (PowerPoint).
3	**Check-in Meeting 2 (August)**	Update on CPUC SMEs feedback received on first draft slide deck and how it was incorporated into the second draft slide deck of the Research Plan.	2nd draft slide deck (PowerPoint).
4	**Check-in Meeting 3 (September)**	Update on CPUC SMEs feedback received on second draft slide deck and how it was incorporated into the third draft of the Research Plan slide deck. Discussion on DACAG and ESJ panel draft slide deck, receive feedback. Discussion on first draft of Research Plan document provided and Regulatory Requirements Matrix.	3rd draft slide deck (PowerPoint). Draft DACAG slide deck (PowerPoint). 1st draft Research Plan (Word document).
5	**Check-in Meeting 4 (October)**	Discussion on public workshop, DACAG and ESJ Panel feedback. Update on how feedback was incorporated into the second draft of the Research Plan document.	2nd draft Research Plan (Word document).
6	**Closing Meeting (November)**	Discussion on final draft of Research Plan document, stakeholder feedback themes, challenges and lessons learned. Determine any updates needed to finalize Research Plan document.	Final draft Research Plan (Word document).

Upon completion of this collaborative review process, the resulting two-year Research Plan will be submitted to CPUC via a Tier 1 Advice Letter. The Research Plan cycle will commence once approval of this GRC and acceptance of the proposed methodology is received. In conjunction with the request to carry forward previously authorized funds from the 2024-2027

GRC cycle, this approach promotes continuity of research activities and supports the timely delivery of ratepayer benefits, fully aligned with the intent of Public Utilities Code §740.1. All other current programmatic requirements described above for development of the Research Plan, Annual Report, and public workshop should remain the same, as they facilitate stakeholder engagement and communication of project results. Furthermore, because the list of requirements is extensive and encompasses multiple decisions and resolutions by CPUC, as listed in Appendix H, SoCalGas respectfully requests the CPUC consolidate these requirements into the 2028 GRC decision, which would supersede all prior decisions and resolutions on this matter for SoCalGas.

d. Benefits Derived by Conducting RD&D Projects Outside California

SoCalGas respectfully requests that research be directed to give preference to California based entities, instead of being restricted to California-only entities. The restriction that all research occurs in California places an undue burden on ratepayers because it reduces or eliminates the ability to obtain co-funding from the federal government, out-of-state IOUs, and other industry partners. It also impacts the ability to collaborate and support valuable research when working to address problems and gaps applicable to the California IOUs, and to bring technologies from out-of-state to California for the benefit of ratepayers.

3. Forecast Method

The forecast method developed for the RD&D Program is the five-year average. It is reasonable to base the forecast method on the average trend of costs incurred over five years. The five-year average mitigates impacts caused by annual variations due to delays in the approval of RD&D Program's Research Plan, which resulted in low spending years such as 2025, as no new RD&D projects could be executed.

4. Cost Drivers

The cost drivers behind this forecast reflect the level of activity in research, development and demonstration projects that can provide ratepayer benefits, enhanced safety, reliability and affordability. The difference between the estimated test year 2028 and test year 2025 is the regulatory delay in the approval of the 2024 and 2025 Research Plans. This had a significant impact in base year 2025, when the RD&D Program was unable to initiate or fund any new projects the entire year. For this reason, the 2028 requested funding appears incremental

compared to the 2025 base year; however, the 2028 requested funding is actually lower than the authorized funding in the 2024 GRC cycle and includes costs related to the integration of SB1371 RD&D Program into the RD&D Program.

VII. SHARED O&M COSTS – GAS ENGINEERING

As described in the Shared Services testimony Ex.SCG-22/SDGE-27, Shared Services are activities performed by a utility shared services department (*i.e.*, functional area) for the benefit of: (i) 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. The grouping of Shared O&M Costs – Gas Engineering cost categories are engineering activities provided by SoCalGas that benefit SDG&E facilities and operations.

Table AK-41 summarizes the total shared O&M forecasts for the listed Shared O&M Gas Engineering cost categories.

TABLE AK-41
Summary of Shared O&M Costs – Gas Engineering

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025$)			
GAS ENGINEERING[118]	**2025 Adjusted-Recorded (000s)**	**TY2028 Est. (000s)**	**Change (000s)**
DIRECTOR OF GAS ENGINEERING	594	605	11
MEAS REG & CONTRL MGR & SPECIAL PROJ	3,080	3,329	249
GAS ENGINEERING PROJECT MANAGER	241	250	9
ENGINEERING DESIGN MANAGER	175	182	7
ENGINEERING DESIGN & MANAGEMENT	3,276	3,506	230
ENGINEERING INFORMATION TECHNOLOGY	1,075	1,530	455
ANALYSIS TESTING AND MATERIALS	4,318	4,705	387
SAFENET TECHNOLOGY SOLUTIONS	163	349	186
Incurred Costs Total	**12,922**	**14,456**	**1,534**

[118] The Shared Service Percentage Allocations contained an error and will be corrected at the first available opportunity to reflect the appropriate allocations for the workpapers included in the Gas Engineering category.

A. Director Of Gas Engineering

TABLE AK-42
Shared O&M Costs - Director of Gas Engineering (2200-0300)

GAS ENGINEERING	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
DIRECTOR OF GAS ENGINEERING	594	605	11
Total	**594**	**605**	**11**

1. Description of Cost and Underlying Activities

The Director of Gas Engineering is essential to promote a safe, reliable, and compliant planning, design, and execution of engineering activities across the natural gas system for SoCalGas and SDG&E as a shared function. The Director of Gas Engineering provides senior level technical leadership and governance necessary to manage increasing system complexity, evolving regulatory requirements, and heightened integrity expectations. These activities include oversight and strategic direction of engineering standards, specification, and governance for distribution, transmission, storage and related facilities to support compliance with regulatory requirements set forth by PHMSA, CPUC and other state agencies. Guidance on technical risk management for projects needed to support the natural gas system. Wide-view and management of engineering resources, prioritization and project coordination. In addition, support of regulatory proceedings, audits, and data requests requiring senior-level technical review. The Director of Gas Engineering provides leadership, oversight, technical and policy guidance to the operating groups within the Gas Engineering department for the shared services of SoCalGas and SDG&E. The Director establishes goals and objectives for Gas Engineering.

2. Forecast Method

The forecast method developed for this cost category is the base year. This method is most appropriate because this is an established group that does not anticipate changes to the organization's activities best reflects the continuation of on-going activities.

3. Cost Drivers

The cost drivers include labor expenses related to the Director of Gas Engineering position. Non-labor cost drivers include technical licenses fees to maintain subscription to technical papers; for example, technical documents published by ASME and NACE that are not publicly available. Maintaining subscriptions to those technical documents is essential for a safety and compliance driven organization to validate that engineering standards, and procedures

are adhering to the latest best practices and industry standards. In addition, these documents provide access to failure data, case studies, and best practices. This strengthens engineering judgement, and technical decision-making by aligning with the most current industry standards and research available. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

B. Measurement, Regulation & Controls & Special Projects (2200-0309)

TABLE AK-43
Shared O&M Costs – Measurement Regulation & Controls & Special Projects

GAS ENGINEERING	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
MEAS REG & CONTRL & SPECIAL PROJECTS	3,080	3,329	249
Total	**3,080**	**3,329**	**249**

1. Description of Cost and Underlying Activities

The Measurement, Regulation and Controls and Special Projects (MRC) group is composed of various engineering disciplines and technical teams that provide guidance and policies related to overall Standards and Designs, Field Commissioning, Measurement Technology, Measurement Metrology, Measurement and overall MRC management for SoCalGas and SDG&E. These discipline teams manage approximately 200 gas standards and material specifications. The Company standards support compliance with 49 CFR § 192, GO 112-F, and other applicable industry standards. The management of these standards includes regular review, updates based on regulatory changes, review of industry incident investigations, and providing day-to-day support to Distribution, Transmission and Storage Operations as questions or clarifications arise. The following engineering services are shared and provided for both SoCalGas and SDG&E.

a. MRC Standards and Design

The MRC Standards and Design group provides technical expertise and policies for design and consultation activities related to meter set assemblies, from residential to large industrial customers to support compliance with federal requirements. For example, 49 CFR § 192.357(a) requires each meter and/or regulator to be installed to minimize anticipated stresses on piping and the meter, which this team accounts for in designs and policies. This group is responsible for the detailed engineering design, material selection, installation and field support

of regulator stations, pressure limiting stations, point of receipt interconnections, pressure protection for pipelines, and other related automated controls, the evaluation of regulators and related components, the system engineering associated with the design, operation, and related compliance and safety aspects of large gas handling facilities. The work related to the GTSR valve ruling and valve rupture mitigation is also another responsibility of the team, encompassing multiple areas such as standards and design development, ongoing maintenance, and design reviews.

b. Field Commissioning

The Field Commissioning group provides technical expertise and support in the commissioning phase of complex stations and facilities requiring factory acceptance testing, site acceptance testing, point-to-point verification for SCADA communications, remote terminal unit (RTU) and programmable logic controller (PLC) programming and start-up of specialized equipment. SCADA communications is a critical part of monitoring the pipeline system and supports RAMP mitigations. As these stations and facilities are commissioned into service, the Field Commissioning team provides troubleshooting, diagnostics and on-site support across the service territory to validate that equipment is working as intended.

c. Measurement Technology

The Measurement Technology group supports and validates accurate gas measurement, gas quality monitoring, and regulatory compliance through technology evaluation, standards participation, and operational support. Activities include reviewing advanced metering solutions, evaluating measurement technologies for quality control and deployment, supporting renewable gas billing readiness, and participating in national standards committees. The group also supports system acceptance testing, publishes measurement procedures, advises on pressure monitoring deployments, and performs failure analysis to improve system performance. In addition, the group fulfills regulatory reporting and compliance obligations, including LUAF analysis required for PHMSA yearly reporting per 49 CFR § 191.11 (Distribution system: Annual report), BTU District per GO 58-A, and submissions for approval of new measurement technologies per GO 58-B.

d. Measurement

The Measurement group oversees the testing, evaluation, and selection of all gas metering equipment used by SDG&E and SoCalGas, including residential diaphragm meters and

large-capacity rotary, turbine, and ultrasonic meters, as well as associated electronic measurement devices. The group develops and maintains the technical standards and procedures that reinforce all metering assets operate within required accuracy and reliability thresholds. The group administers the company's meter accuracy and commercial/industrial regulator maintenance programs, including periodic verification, performance testing, and application of AGA, ANSI, and NIST traceability requirements. These activities support accurate billing, safe delivery pressures, and compliance with regulatory measurement standards. The Measurement group also manages the full life cycle of meters and MTUs, issuing inspection schedules, maintaining installation and replacement records, reconciling field activity, and generating required reporting for compliance. In addition, the group conducts audits of measurement sites to verify adherence to approved technical specifications, installation requirements, and company policies. Through these functions, the Measurement group validates that gas measurement across the system remains accurate, traceable, and compliant with all applicable regulatory and industry standards.

e. Metrology

The Metrology group monitors the accuracy, integrity, and regulatory compliance of various measurement equipment used across gas operations. This includes the calibration of tools and instruments that support critical functions such as confirming system parameters, validating device performance, and inspecting key operational components. These activities collectively uphold measurement integrity, maintain system safety, and support full compliance with CPUC-regulated standards. The group also manages the configuration, programming, testing, repair, and technical assessment of electronic measurement devices used in customer billing to verify that they operate within required accuracy tolerances and meet all applicable regulatory requirements. Additionally, the Metrology group conducts specialized evaluations of gas meters removed from the field in response to safety concerns, measurement discrepancies, or other reportable conditions. The group is further responsible for the maintenance, troubleshooting, repair, and upgrading of bell provers – the primary, traceable measurement test standards used by both SoCalGas and SDG&E. These systems support the verification of more than 100,000 meters annually and play a critical role in ensuring consistent adherence to established measurement standards and regulatory expectations.

2. Forecast Method

The forecast method developed for this cost category is the base year. This method is most appropriate because this is an established group that anticipates modest changes to the level of on-going activities.

3. Cost Drivers

The cost drivers for the MRC group include the labor related to the development of standards, designs, procedures, measurement technology, and field support as detailed above to meet the various regulatory requirements. The MRC group will provide ongoing support for field devices, while also contributing to the development of relevant policies and procedures. In addition, improvements in technology and requirements for increased monitoring continue to expand the need to evaluate, select and implement guidance and policies for the safe operation of the measurement, regulation and controls systems and equipment. Additionally, the requested funding supports one incremental FTE necessary to re-establish a dedicated Senior Engineering position for the Measurement Technology group to support the evaluation of emerging measurement technologies, approving new measurement devices, and validating billing accuracy. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

C. Gas Engineering Project Manager (2200-1096)

TABLE AK-44
Shared O&M Costs – Gas Engineering Project Manager

GAS ENGINEERING	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
GAS ENGINEERING PROJECT MANAGER	241	250	9
Total	**241**	**250**	**9**

1. Description of Cost and Underlying Activities

The Gas Engineering Project Manager (Project Engineering) cost category consists of project engineers and managers who provide technical engineering support across the full lifecycle of projects supported by Gas Engineering. Although most of the work performed is capitalized into the projects that are managed by this department, the department leads the development of governance documents, processes, and procedures to implement technical scopes and engineering schedules/estimates, with a primary focus on producing accurate and complete

technical deliverables that are considered O&M. Project Engineering serves as the central point of contact for Gas Engineering's SME and verifies timely coordination, reporting, integration and execution of engineering deliverables that support safe, reliable and efficient design. The department applies engineering governance with company SMEs and the engineering oversight function to maintain effective management controls. Project Engineering manages technical interfaces among internal disciplines and engineering suppliers. It promotes consistent design assumptions and data, monitors quality, proposals, and enforces company requirements with supplier partners.

Project Engineering activities include compiling technical requirements, assembling engineering criteria, engineering cost validation support, cost tracking, integrating SME inputs, and verifying that all analyses, drawings, specifications, and calculations meet established company standards. The department aligns with Gas Engineering's vision to support safe, reliable, and affordable designs through structured engineering governance and timely technical execution. Project Engineering provides support to a variety of project types, including but not limited to specialty projects, compressor modernization, and Gas Transmission and Storage infrastructure projects.

2. Forecast Method

The forecasting method developed for this cost category utilizes the base year. This method is most appropriate because the group was formed in 2021 and has been developed over several years to reach its intended operating maturity, with 2025 best reflecting forward-looking activities. The base year forecast is expected to meet future funding requirements and will provide the labor resources needed to support responding to changes in regulations, increases in safety activities, or the development of new processes and procedures to improve safety.

3. Cost Drivers

The cost drivers supporting this forecast are the labor and non-labor resources required to maintain the responsibilities of the Project Engineering group as current activity levels and support functions are expected to continue. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

D. Engineering Design Manager (2200-0318)

TABLE AK-45
Shared O&M Costs- Engineering Design Manager (2200-0318)

GAS ENGINEERING	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
ENGINEERING DESIGN MANAGER	175	182	7
Total	**175**	**182**	**7**

1. Description of Cost and Underlying Activities

The Engineering Design Manager provides strategic leadership and comprehensive oversight for a broad portfolio of engineering disciplines and functions including Design Drafting, Design Closeout & QA/QC, Pipeline Design & Engineering, Gas Process Engineering, Mechanical Engineering, Electrical Engineering and Design, Engineering Information Technology, Civil/Structural Engineering & Hazard Mitigation, and Gas System Engineering. This group plays a critical role in advancing the company's long-term strategy of safe, reliable, and affordable energy. The Engineering Design Manager positions the companies to leverage emerging intelligent technologies, including digital twin solutions, advanced 3D modeling platforms capabilities that support more efficient designs, enhanced asset visibility, and improved lifecycle management. By aligning technical resources, modern engineering tools, and IT driven solutions with corporate safety and reliability objectives, the group enables adaptability to evolving federal and state regulatory requirements, including expanding professional engineering stamping mandates in response to implementation of National Transportation Safety Board's (NTSB) recommendation.[119]

2. Forecast Method

The forecasting method developed for this cost category utilizes the base year. This method is most appropriate because this is an established group requiring the same level of ongoing support. The base year forecast is expected to meet future funding requirements and will provide the labor resources needed to support the activities performed by this group.

[119] ADMIN Monitor, *Workshop: Implementation of the National Transportation Safety Board's (NTSB) Safety Recommendation P-19-016* (January 13, 2022), *available at:* http://adminmonitor.com/ca/cpuc/workshop/20220113/.

3. Cost Drivers

The cost drivers are the labor and non-labor resources required to sustain current activity levels, including continued engineering support under the leadership of the Engineering Design Manager. These investments enable more intelligent, data-driven engineering practices, strengthen performance management, and support the strategic implementation of AWS cloud-based IT architecture, all of which are essential to improving operational efficiency, optimizing resource utilization, and ultimately delivering reliable engineering outcomes in a cost-effective manner. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

E. Engineering Design & Management (2200-0322)

TABLE AK-46
Shared O&M Costs - Engineering Design & Management (2200-0322)

GAS ENGINEERING	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
ENGINEERING DESIGN & MANAGEMENT	3,276	3,506	230
Total	**3,276**	**3,506**	**230**

1. Description of Costs and Underlying Activities

The Engineering Design & Management group is composed of various engineering disciplines (Civil, Mechanical, Design, Materials) that provide guidance and develop policies related to Pipeline Design, Design Drafting, Civil/Structural, Gas Systems Engineering, and Material/Plastic pipe systems that support SoCalGas and SDG&E. For each engineering discipline, the group validates that designs are safe, efficient, reliable, and meet or exceed industry standards. These discipline teams manage approximately 400 gas standards, material specifications, design standards, bulletins, and drafting job aids. The company standards support compliance 49 CFR § 192, General Order (GO) 112-F, and other applicable industry standards. The management of these standards includes regular review, updates based on regulatory changes, review of industry incident investigations, and providing day-to-day support to Distribution, Transmission and Storage Operations as projects, questions or clarifications arise.

The Pipeline Design group provides engineering and technical support for the safe and cost-effective operation of SoCalGas and SDG&E pipeline systems. Their work spans engineering and design—including both typical and non-typical pipeline design—pipeline stress

analysis, and geotechnical and seismic design criteria. The group provides technical consulting, pipeline hazard mitigation and analysis, emergency technical support, and manages pipeline-related databases. They also perform a wide range of engineering analyses such as class location changes, purging, hydrostatic testing, hazard reviews, wheel loading, pipeline lowering and spanning, blasting assessments, and design data sheet development. Additionally, the group supports regulation and code interpretation, reviews federal and state legislation, and develops Engineering and Design Gas Standards.

The Design Drafting group establishes guidance and policies for drawing design requirements, deployment of intelligent and 3D software technologies, as-built support, quality assurance, development of job aids, design information bulletins, and other activities including internal audits on design deliverables and processes, verification of design workflows, training, best practices implementations, continuous improvement initiatives for design quality, properly documenting and recording acceptance data.

The Civil/Structural and Hazard Mitigation group is primarily responsible for developing policies and delivering comprehensive structural and civil engineering design solutions to address site-specific infrastructure. This group evaluates geohazards such as earthquakes, landslides, and subsidence and recommends mitigation strategies that protect critical facilities and maintain system resilience. They are integral to the Company's Geohazard Management Program and provide technical expertise to the Climate Adaption program by leveraging internal subject matter experts through the Climate Advisory Group to inform climate risk assessment and adaptation planning.

The Gas System Engineering group provides technical, data, and policy implementation to Distribution Engineering practices, developing and executing new technologies to enhance safety, efficiency, and productivity. Key activities include: (1) creating, maintaining, and validating computer hydraulic models for medium- and high-pressure distribution networks; (2) managing and enhancing pressure monitoring programs; (3) developing and delivering system design and analysis training for Distribution Engineering staff; (4) evaluating other renewable gas sources; (5) management in areas such as gas venting, isolation area management, year-end gas inventory reporting, standards review and updates, and participation in industry committees.

The Plastic Piping Systems and Material and Equipment groups within the EAC support systemwide policies and procedures, with a primary focus on material quality, analysis, and in-field installation requirements for steel and plastic. The groups develop and maintain testing standards and protocols to evaluate materials, to support compliance with applicable industry standards and best practices for plastic and steel pipe, fittings, and components, which is essential to the safe and reliable operation of the gas system. Additionally, the groups support an average of 400 material failure investigations per year, using analytical procedures to determine root causes and implementing corrective actions to mitigate risk and prevent recurrence and leveraging resources in the Laboratory Tech team to prepare and test samples.

2. Forecast Method

The base year approach was developed for labor and non-labor forecasting. The base year best represents the starting point that reflects the team's current structure and non-labor support required to meet current and evolving federal and state regulations, including mandate for drawings to be stamped by licensed professional engineers[120] One incremental FTE has been added to the labor forecast to support materials testing, analysis, and traceability.

3. Cost Drivers

Gas Engineering anticipates ongoing demand for design support and the continued integration of intelligent technologies and 3D software tools, and maintenance of company standards related to Civil/Structural, gas systems, plastic and steel pipe, and geohazards. The Material & Equipment team is requesting approval for an incremental full-time equivalent (FTE) position to support an increase in steel pipe sampling and failure analysis activities requiring technical SME oversight.

This increase in workload is driven by regulatory requirements related to material verification, testing, and traceability under 49 CFR §§ 192.607, 192.617, and 192.624, which have increased sampling, documentation, and analytical requirements as well as internal policy enhancements and continuous process improvements implemented in 2025. In parallel, the Gas Transmission Safety Rule (GTSR) Program is now fully implemented, further increasing the number of samples that must be received, managed, and tracked through the material verification

[120] ADMIN Monitor, *Workshop: Implementation of the National Transportation Safety Board's (NTSB) Safety Recommendation P-19-016* (January 13, 2022), *available at:* http://adminmonitor.com/ca/cpuc/workshop/20220113/.

process. The combined impact of these initiatives has significantly increased both the volume and complexity of work performed by this group, thereby compounding existing resource demands. The requested FTE is necessary to support timely analysis, maintain regulatory compliance, and data integrity while supporting ongoing safety and reliability obligations.

In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

F. Engineering Information technology (2200-0026)

TABLE AK-47
Shared O&M Costs - Engineering Information Technology

GAS ENGINEERING	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
ENGINEERING INFORMATION TECHNOLOGY	1,075	1,530	455
Total	**1,075**	**1,530**	**455**

1. Description of Cost and Underlying Activities

The Engineering Information Technology Workpaper covers the activities conducted by The Engineering Construction Design group which is composed of various engineering processes that provide guidance and policies related to Gas Process Engineering, Mechanical Engineering, Electrical Engineering, Instrumentation and Controls, and Engineering Information Technology. For each engineering process, the group validates that designs are safe, efficient, reliable, and meet or exceed industry standards. These teams manage approximately 50 gas standards, material specifications, and over 30 data-centric reference guides and job aids. The company standards support compliance with 49 CFR § 192, GO 112-F, CPUC Tariff Rule 30, and other applicable industry standards. The management of these standards includes regular review, updates based on regulatory changes, review of industry incident investigations, and providing day-to-day support to Distribution, Transmission and Storage Operations.

Gas Process Engineering provides technical expertise in process engineering systems. This group is responsible for the design, selection, installation, and operations and maintenance support of gas processing equipment and systems (*e.g.* dehydration systems, vapor recovery systems, filtration systems, storage tanks and gas quality monitoring equipment) at storage fields and gas transmission. These responsibilities, for example, support compliance with Rule 30 which details gas delivery specifications, including moisture content and other content criteria.

The Gas Process Engineering team also provides technical guidance on policies relating to process safety reviews such as process hazard analyses.

Mechanical Engineering provides technical expertise in mechanical equipment, systems and piping designs. The group is responsible for the design, selection, installation, and operations and maintenance support for mechanical equipment and systems (*e.g.* utility water systems, utility air systems, air compressors, fire suppression systems, and pumps) throughout the gas system infrastructure. The Mechanical Engineering group also provides guidance and policies related to mechanical systems such as energy source isolation.

Electrical Engineering provides technical expertise in electrical equipment. This group is responsible for the design, selection, installation, and operations and maintenance support for electrical equipment and systems (*e.g.* power distribution centers, power distribution panels, power distribution systems within the gas facility, backup power systems and power generators) throughout the gas system infrastructure. The Electrical Engineering group also provides guidance and policies related to electrical systems such as electrical safety programs and identification of electrical hazardous areas.

Instrumentation and Control (I&C) is primarily responsible for the design, selection, installation and operations and maintenance support for control systems and instrumentation equipment (*e.g.* network and communications systems within the gas facility, methane detection systems, remote terminal units, programmable logic controllers, pressure, temperature, flow and position transmitters) used throughout the gas infrastructure. The control systems and equipment are used to process, operate, and monitor large pipeline valves, customer gas measurement facilities, gas compressors, generator engines, wellhead safety systems, natural gas dehydration systems, greenhouse gas (GHG) monitoring systems and various other stand-alone process variables such as pressure, temperature, level, and vibration sensing. The I&C team is also responsible for providing guidance and policies related to design control philosophies, alarming strategies, and instrumentation documentation.

Engineering Information Technology offers administration and strategies for establishing and utilizing data-centric design software, applications, infrastructure architecture, and database integration solutions, including intelligent piping and instrumentation diagrams (P&IDs) and three-dimensional (3D) modeling. Additionally, EIT develops working instructions, workflows, training, data requirements, and asset tagging requirements related to design and 3D applications.

The EIT enables the use of dashboards and data processing tools to deliver reliable and actionable information to the organization in support of complex Storage and Transmission projects. In alignment with these objectives, the company has migrated from a CITRIX-based virtual desktop environment to a modern, AWS-enabled cloud infrastructure. This transition introduces new requirements for system administration, troubleshooting, and quality assurance.

2. Forecast Method

The forecast method developed for labor and non-labor cost is base year with an incremental adjustment to support valve management activities and the transition to AWS-enabled cloud infrastructure. The base year is representative of the existing size, structure, and support level moving forward, with labor being a major component of the cost. The base year is also representative of non-labor resources required to advance and support critical projects.

3. Cost Drivers

The cost drivers for the labor and non-labor forecast include existing workforce required to implement the activities described above along with contractor support needed for equipment troubleshooting/repair, design modeling, and drawings review.

Upward cost pressures within the EIT group are driven by both incremental labor and incremental non-labor cost components. The labor-related cost increase reflects the request for an additional FTE to provide specialized engineering and technical expertise required to sustain and support evolving workload demands such as review and validation of three-dimensional models and engineering datasets from complex facility initiatives, including Compressor Modernization projects and valve automation maintenance-related activities. The incremental non-labor costs are primarily associated with the company's migration from CITRIX-based virtual desktop environments to a modern, AWS-enabled cloud infrastructure. This transition introduces additional expenses related to cloud platform licensing and ongoing maintenance, system configuration and integration, field deployment and commissioning activities, enhanced data management and visualization capabilities, and coordination across multiple engineering and IT disciplines. Together, the incremental labor and non-labor investments are necessary to deliver accurate, reliable, and fit-for-purpose engineering designs and to support standardized, data-centric three-dimensional modeling and integrated software solutions for effective management of complex facility projects. In addition, this forecast reflects changes in

connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

G. Analysis Testing and Materials (2200-0301, 2200-1178, 2200-1180)

TABLE AK-48
Summary of Shared O&M Costs - Analysis Testing and Materials

GAS ENGINEERING – ANALYSIS TESTING & MATERIALS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
EAC – ENGINR ANALYSIS CTR MANAGER	210	218	8
EAC – ENVIRONMENT & CHEM SERVICES	2,203	2,282	79
EAC – COMPRESSOR SERVICES	1,905	2,205	300
Total	**4,318**	**4,705**	**387**

1. Description of Costs and Underlying Activities

The Engineering Analysis Center (EAC) provides integrated leadership, oversight, and technical expertise for the Analysis, Testing, and Materials category, delivering critical services that support the safe, reliable, and environmentally responsible operation of the SoCalGas and SDG&E systems. These services operate as centralized, shared resources and are essential to risk mitigation, regulatory compliance, and consistent application of engineering standards across the organizations.

Activities within this category include gas quality management, odorization programs, materials and coatings evaluation, environmental and chemical analysis, and air quality and compressor performance services. The EAC supports coordination and prioritization of these functions, enabling data-driven decision-making, operational reliability, and regulatory readiness. Work performed under this category supports compliance with a broad range of federal and state requirements, including 49 CFR §192, CPUC General Orders and Tariff Rules, CalGEM regulations, SB 463, CARB mandates, and air quality standards related to emissions and constituents of concern.

a. Engineering Analysis Center Manager (2200-0301)

The Engineering Analysis Center (EAC) Manager provides leadership, oversight, and technical support across the Company's Analysis, Testing, and Materials functions, which deliver critical shared services that underpin system safety, reliability, and regulatory compliance for both SoCalGas and SDG&E. The EAC management team enables effective execution, prioritization, and alignment of activities including gas quality policy and analysis, odorization management, materials and coating testing and evaluation, and transmission compressor and

engine performance monitoring and air quality compliance testing. These functions are fundamental to maintaining a safe operating environment, minimizing risk to employees, contractors, customers, and the public, and help operate the natural gas system in an environmentally responsible manner. The oversight and coordination responsibilities continue to support compliance with CalGEM requirements, SB 463, GTSR, CPUC Rule 45, CARB testing for Constituents of Concern, and ongoing SO_x and NO_x air quality reduction initiatives, maintaining consistent application of engineering standards, data-driven decision-making, and regulatory readiness across all programs.

b. Environmental and Chemical Services (2200-1178)

The Environmental and Chemical Services at EAC provides support to the Environmental Organization and Gas Operation across SoCalGas and SDG&E service territories as a shared service. This team manages approximately 43 gas standards, material specifications, reference guides, and job aids. The company standards support compliance with 49 CFR § 192, GO 112-F, CPUC Tariff Rule 30, CPUC Tariff Rule 40 and other applicable industry standards. The group provides engineering and technical expertise and governance, along with direct resource support, across critical operational areas. These include gas quality monitoring, BTU factor measurement, odorization, drip liquid sampling/testing, and environmental and chemical analysis.

The Environmental and Chemical Services team, in collaboration with the Integrity and Operations teams, initiated the development of baseline processes to identify and document underground storage well chemical inventories in compliance with CalGEM SB 463 requirements. Initial efforts to establish the necessary processes and procedures began in 2025 and are expected to evolve into field-facing support activities in 2026 and beyond, requiring additional staffing and technical resources to sustain effective implementation.

Revisions to CPUC Tariff Rule 45 issued in December 2024 now require testing for additional constituents of concern and mandate the retesting of every RNG interconnector facility within the SoCalGas system within an 18-month timeframe. These expanded regulatory obligations have significantly increased workload and schedule pressure on this work group. In recent years, natural disasters, particularly mudslides and wildfires, have had an increasing impact on the company's service territory, driving a rise in chemical analyses and inquiries related to gas odorization fade following pipeline replacement activities. While a portion of this

work relates to post-event restoration, the ongoing unpredictability and recurrence of these events indicate the sustained need for this group's specialized functions and support.

c. Compressor Services (2200-1180)

The Engineering Analysis Center (EAC) Air Quality and Compressor Services group provides support to the Environmental, Gas Transmission and Gas Storage Organizations for SoCalGas and SDG&E. This group's activities include managing emissions compliance testing for engines, turbines, and other emissions producing equipment, and providing technical support in compliance assurance monitoring, and permitting. The group's field-focused activities include providing technical support and troubleshooting for compressors, engines, and turbines. They also support tuning and troubleshooting of emissions control systems and perform compressor performance monitoring and vibration analysis to resolve operational issues and prevent catastrophic failures. Additionally, the group assists the Environmental department by reviewing regulatory changes, conducting laboratory and on-site testing, and communicating with regulators to support accurate compliance. As the EAC Compressor Services group continues to provide essential technical expertise supporting the safe, reliable, and environmentally compliant operation of engines, compressors, and turbines across the SoCalGas and SDG&E service territories, the workload and complexity of required activities have increased. The increase is primarily driven by Air District's command-and-control retrofits, aging hardware, New Source Review (NSR), and CARB Oil & Gas Greenhouse Gas (GHG) measurement requirements.

2. Forecast Method

The forecast method used for all workpapers under the Analysis, Testing and Materials cost category is the base year. This method is the most appropriate starting point because 2025 reflects similar expense requirements to provide support to the activities described above and represents a stable baseline of operations moving forward. For the EAC Manager, the base year reflects current resource levels which are expected to continue in support of the activities, as described above, that provide the foundational compliance framework for SoCalGas and SDG&E. For Environmental and Chemical Services, the base year methodology is also appropriate as 2025 incorporates the impact of recent regulatory changes and increased activity levels, including expanding testing requirements and compliance obligations. For Compressor Services the increased activity level requires an -increase of two incremental FTEs to support safety and compliance requirements as they evolve and increase to support emissions goals.

Non-labor costs embedded in the base year remain essential to support emissions testing validation, compliance certification, and overall operational performance.

3. Cost Drivers

The cost forecasts for the Analysis, Testing and Materials category are driven by the resources required to sustain critical compliance, operational, and technical support activities across the EAC. The cost drivers supporting the forecast for the EAC Manager are expected to continue in support of the activities, as described above, that provide the foundational compliance framework for SoCalGas and SDG&E. For Environmental and Chemical Services, cost drivers are directly tied to the resources required to support the activities described above including expenses related to resolving pipeline odor fade safety concerns and addressing equipment malfunctions that impact gas quality. Labor and non-labor costs fund the team's ability to conduct comprehensive incident evaluations, advance regulatory compliance initiatives, and implement policies under enterprise assurance programs. For Compressor Services, the increase in labor and non-labor costs, as referenced above, are primarily driven by Air Districts' command-and-control retrofits, aging hardware, NSR, and CARB Oil & Gas GHG measurement requirements. To meet these demands, the addition of two FTEs is necessary: one dedicated to in-field assessments, diagnostics, and troubleshooting, and another focused-on managing, scheduling, and coordinating regulatory emissions testing across multiple facilities. Non-labor costs remain an integral component of these activities. These costs support the validation and certification of emissions testing, equipment operation, and other compliance-related work to support adherence to applicable environmental regulations and to maintain responsible, reliable operational performance.

H. Safenet Technology Solutions (2200-2248)

TABLE AK-49
Shared O&M Costs - SafeNet Technology Solutions

GAS ENGINEERING	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
SAFENET TECHNOLOGY SOLUTIONS	163	349	186
Total	**163**	**349**	**186**

1. Description of Cost and Underlying Activities

The SafeNet Technology Solutions (SafeNet) group activities range from field integration, field equipment calibration, regulatory compliance, testing of upgrades prior to

deployment and field support for certain equipment used to monitor or control the pipeline system. For example, the group supports the deployment of Optical Pipeline Monitoring (OPM), which supports third party intrusion detection, leakage, and ground subsidence. Optical pipeline monitoring technology can serve as an early warning system to mitigate the risk of pipeline damage or incidents by detecting unauthorized construction activities or encroachments. The group supports the testing of new models of remote terminal units (RTU) prior to deployment to evaluate communication protocols and validate cybersecurity protection across the pipeline system. In addition, the group reviews Automatic Shutoff Valve (ASV) configurations to support reliable performance under emergency conditions. Automatic Shutoff Valve (ASV) sites are reviewed, analyzed, and updated to reflect changes in infrastructure and operating conditions, supporting compliance with valve installation and minimum rupture detection requirements (87 FR 20940). Overall, the team leverages new technologies to enhance the functionality or increase the safety of assets without requiring major retrofits. This work enables more efficient use of resources by enhancing the remote capabilities of existing assets, reducing the frequency of field personnel deployment.

2. Forecast

The forecast method developed for this cost category is the base year. For labor cost, the most recent year's actual expenditures provide the best estimate for future expenses, as the activities listed above are expected to continue and support the safety and reliability of the pipeline system. The base year for non-labor accounted for minor non-labor resources needed to support niche testing or activities performed by third parties that are required to maintain the safety of the pipeline system, and to reflect costs associated with OPM network monitoring subscriptions and additional hardware and materials needed to support ongoing maintenance activities, recently transitioned to this group.

3. Cost Drivers

The primary labor and non-labor cost driver is support for the on-going calibration, testing, monitoring, support, and maintenance of deployed OPM technology along with the planned deployment of more OPM sites and additional underground access points allowing technicians to access, maintain, and connect the installed fiber-optic cables. As noted above, the base forecast was adjusted to reflect the required non-labor resources associated with OPM activities including costs associated with the vendor service contract for OPM network

monitoring subscriptions, as well as additional hardware and materials needed to support ongoing maintenance activities, recently transitioned to this group, such as power and electrical reliability components, control, instrumentation, and monitoring hardware, IT and communications equipment, and other consumable and replaceable electrical materials.

VIII. SHARED O&M COSTS – GAS INFRASTRUCTURE SUPPORT PROGRAMS

As described in the Shared Services testimony Ex. SCG-22/SDGE-27, Shared Services are activities performed by a utility shared services department (*i.e.*, functional area) for the benefit of: (i) 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. This grouping of Shared O&M costs are for Gas Infrastructure Support groups.

TABLE AK-50

Summary of Shared O&M Costs – Infrastructure Support Programs

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025$)			
INFRASTRUCTURE MANAGEMENT PROGRAMS	**2025 Adjusted-Recorded (000s)**	**TY2028 Est. (000s)**	**Change (000s)**
EMERGENCY MANAGEMENT PIPELINE SAFETY ASSURANCE	1,080	1,430	350
DAMAGE PREVENTION PUBLIC AWARENESS ACTIVITIES	317	331	14
GAS STANDARD GOVERNANCE PIPELINE POLICY	2,040	2,127	87
Total	**3,437**	**3,888**	**451**

A. Emergency Management – Pipeline Safety Assurance (2200-2473)

TABLE AK-51

Shared O&M Costs - Emergency Management – Pipeline Safety Assurance

INFRASTRUCTURE MANAGEMEN PROGRAMS – EMERGENCY MANAGEMENT	**2025 Adjusted-Recorded (000s)**	**TY2028 Est. (000s)**	**Change (000s)**
PIPELINE SAFETY ASSURANCE	1,080	1,430	350
Total	**1,080**	**1,430**	**350**

1. Description of Costs and Underlying Activities

Emergency Strategy & Operations consists of the Pipeline Safety Assurance (PSA) group, a shared service, focused on monitoring, distributing, tracking, and reporting regulatory inspections, audits, and guidelines. The group is currently comprised of eight FTEs and this testimony proposes two incremental to support a projected increase in regulatory oversight, including expanded CPUC audit, inspection, and investigation activities. PSA serves as the

primary liaison to state and federal regulatory agencies, including the CPUC, Safety and Enforcement Division (SED), PHMSA, Underground Safety Board (USB), and, when applicable, CalGEM and the Chemical Safety and Hazard Investigation Board (CSB). The group acts as a central point of contact during audits, inspections, and investigations, and provides foundational support for associated compliance reporting.

When regulators are onsite at a facility or job location, a PSA representative is available to advise personnel, document interactions, and coordinate the response to data requests. If the group cannot be physically present, PSA will support remotely and remain available throughout the duration of the regulator's visit through the hotline or group email distribution.

In addition to supporting routine regulatory engagement, PSA anticipates an increase in frequency and complexity of CPUC oversight activities, requiring enhanced coordination, real-time support, and timely response to expanded data requests and regulatory inquiries. As a proactive measure, PSA conducts internal reviews to assess the effectiveness of infrastructure safety programs and controls, identifies gaps or areas for improvement, and oversees the tracking of corrective actions to closure. The group plays a key role in providing assurance that pipeline safety mitigation activities are aligned with risk priorities and regulatory expectations.

In parallel, SoCalGas is expanding its internal review framework to identify and address potential infrastructure, operational, and process level risks earlier in the lifecycle. This includes increased use of preaudit reviews, expanded internal reviews triggered by inspections or incidents, and deeper cross functional assessments intended to identify systemic risk patterns rather than isolated deficiencies. These activities are intentionally front-loaded to reduce the likelihood of findings, incidents, or corrective actions originating from external oversight, but they are more resource intensive and require consistent advisor involvement across multiple organizations.

PSA is also actively involved in organizational learning efforts, including participation in learning teams and management-of-change processes, to support continuous improvement and the integration of lessons learned across operations, engineering, and risk management functions. Through these activities, PSA serves as a critical second-line assurance function, supporting proactive risk management, compliance sustainability, and overall infrastructure safety performance.

2. Forecast Method

The base-year method was developed as the forecast methodology for this cost category. This approach most appropriately reflects the operational requirements of this group, particularly considering the anticipated increase in CPUC oversight. Based on communications from the CPUC indicating expanded assessment activity, SoCalGas expects the need for two incremental FTEs to manage the expanding scope of audits, inspections, investigations, regulatory communications, and related inquiries.

3. Cost Drivers

The need for incremental staffing is driven by the increasing scope and complexity of pipeline safety assurance activities, coupled with a deliberate shift toward more proactive, risk-focused internal oversight. Engagements with the CPUC, PHMSA, and other regulatory authorities continue to grow in frequency, depth, and expectations, requiring sustained coordination, technical review, and documentation beyond traditional compliance response functions.

The addition of two PSA FTEs supports this evolving operating model by providing the capacity necessary to scale proactive internal reviews, maintain effective regulatory engagement, and sustain continuous improvement in pipeline safety assurance. Without these incremental resources, the organization would face increased pressure to revert to a more reactive posture focused primarily on compliance closeout, undermining the effectiveness of current risk mitigation efforts and long-term safety performance.

B. Damage Prevention Public Awareness (2200-2417 & 2200-2361)

TABLE AK-52

Shared O&M Costs – Damage Prevention Public Awareness Activities

INFRASTRUCTURE MANAGEMEN PROGRAMS – DAMAGE PREVENTION PUBLIC AWARENESS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
SHARED PUBLIC AWARENESS ACTIVITIES	204	213	9
GAS STANDARD GOVERNANCE	113	118	5
Total	**317**	**331**	**14**

1. Description of Costs and Activities and Underlying Activities

The Shared Public Awareness Activities cost supports the central management of both SoCalGas and SDG&E's Public Awareness plans. This co-operator approach offers resource

efficiencies by leveraging knowledge to the benefit of both companies. The Public Awareness work group is focused on the mandates outlined in 49 CFR § 192.616 and § 192.614, including requirements to implement a public awareness program and support damage prevention through participation in "Call Before You Dig" (811) notification systems, and the additional outreach and messaging, which necessitate the development and implementation of a public awareness program. The Public Awareness team is an intra-company group comprising representatives from key departments who assist in communications and outreach with targeted audiences, and are involved in the development and implementation of public awareness communications, including messaging to promote safe excavation practices and compliance with 811 notification requirements.

Public Awareness manages public awareness programs, focusing on the compliance program and overall public awareness initiatives. This includes media, social, and advertising campaigns, as well as relationships with external organizations that provide outreach on preventing excavation damages to SoCalGas and SDG&E's buried pipelines. SoCalGas and SDG&E utilize multiple channels for this communication, including billboards, bill inserts, radio advertisements, bumper stickers, safety outreach events, press releases, social media, advertising campaigns, and sponsorships, to reach a broad audience. Damages resulting from excavation activity are a significant threat to SoCalGas and SDG&E's pipeline infrastructure, with potential for catastrophic consequences to public safety.

The Damage Prevention Public Awareness Program's purpose is to develop and implement a continuing public education program focused on use of the One-Call notification system; hazards associated with the unintended release of gas; physical indications that an unintended release of gas has occurred; steps that should be taken to protect public safety in the event of gas release; and procedures for reporting unintended releases of gas.

2. Forecast Method

The forecast method developed for Shared Public Awareness Activities is the base year. This method is most appropriate because 2025 represents a stabilized level of activity following recent program enhancements and organizational restructuring. Using 2025 as the foundation for the TY 2028 forecast aligns with present operational realities and program maturity making it the most accurate method for projecting future requirements.

3. Cost Drivers

The cost drivers supporting this forecast are the labor and non labor resources required to sustain the ongoing PHMSA requirements and established communication activities resulting from Public Awareness audit recommendations made by the CPUC. In addition, as stated in the 2025 RAMP Report, Public Awareness is mandated pursuant to 49 CFR § 192.616. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

C. Gas Standard Governance Pipeline Policy (2200-0970, 2200-2023, 2200-2345, 2200-2484)

TABLE AK-53

Shared O&M Costs - Gas Standard Governance Pipeline Policy

INFRASTRUCTURE SUPPORT PROGRAMS - GAS STANDARDS GOVERNANCE PIPELINE POLICY	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
POLICY QA/QC & EFFECTIVENESS	550	574	24
FIELD TECHNOLOGIES	85	88	3
GAS OPS CONSTRCTN & MAINTNCE STAFF	939	979	40
LEAKAGE POLICY & TECHNOLOGIES	466	486	20
Total	**2,040**	**2,127**	**87**

1. Description of Costs and Underlying Activities

The Gas Standards Governance group supports the publishing and distribution of operating and maintenance procedures through the Document Library system to promote safety, effective and consistent operations, compliance with Federal and State regulations and laws, and the reduction of human error. Oversight of publication quality control and ongoing maintenance of these procedures supports consistency, as well as adherence to established standards governing pipeline materials, equipment, and construction for both SoCalGas and SDG&E.

Key activities include administering the Document Library publishing system, validating publication submissions, assigning and coordinating document ownership, and supporting document owners throughout the publication process, and maintaining and archiving records and policies.

2. Forecast Method

The forecast method developed for Gas Standard Governance is the base year. This method is most appropriate because 2025 represents a stabilized level of activity following recent program enhancements and organizational restructuring. Using 2025 as the foundation for

the TY 2028 forecast aligns with present operational realities and program maturity making it the most accurate method for projecting future requirements.

3. Cost Drivers

The labor and non-labor cost drivers behind this forecast are the requirements to manage the publication and system process, which contains over 3,300 policies, procedures, and other documents in the document library for quality and conformance with publishing standards. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

D. Policy Quality Assurance/Quality Control & Effectiveness (2200-0970)

TABLE AK-54

Shared O&M Costs - Policy Quality Assurance Control Effectiveness

INFRASTRUCTURE SUPPORT PROGRAMS - GAS STANDARDS GOVERNANCE PIPELINE POLICY	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
POLICY QA/QC & EFFECTIVENESS	550	574	24
Total	**550**	**574**	**24**

1. Description of Costs and Underlying Activities

The Policy Quality Assurance (QA)/Quality Control (QC) and Effectiveness costs support activities required to develop and maintain the Gas Standard Effectiveness Program. 49 CFR § 192.605(b)(8), prescribes the minimum requirements for periodically reviewing the work performed by operator personnel to determine the adequacy and effectiveness of the procedures. The periodic review is to be completed on SoCalGas and SDG&E procedures, generally referred to as Gas Operation Standards (GOS), which are listed in the Operating and Maintenance Plan as required by PHMSA in 49 CFR § 192.605.

The Gas Standard Effectiveness Program is responsible for conducting various methods of observations at SoCalGas and SDG&E that are conducted to determine and document the adequacy and effectiveness of procedures. Underlying activities include identifying the Companies' operational standards that require observations, scheduling field observations, documenting the adequacy and effectiveness of the procedures, initiating updates to the procedures when necessary, and publishing and deploying the enhanced procedures.

The Gas Standards Effectiveness Program (GSEP/Policy QA) assesses whether Gas Operations Standards and procedures are adequate and effective by engaging frontline employees to gather feedback, observe workflow, and recommend policy refinements; any field presence is

solely to validate procedure design, not to audit compliance. In contrast, the Quality Management (QM) group performs QA/QC assessments of active and completed work to verify documentation is traceable, verifiable, and complete and that execution complies with policy requirements—confirming required reports, markings, materials/testing/records.

2. Forecast Method

The forecast method developed for Policy QA/QC Effectiveness is the base year. This method is most appropriate because it best reflects current operational needs and resource requirements. Using 2025 as the foundation for the TY 2028 forecast aligns with present operational realities and program maturity, making it the most accurate method for projecting future requirements.

3. Cost Drivers

The cost drivers behind this forecast are the labor and non-labor resources required to sustain the ongoing responsibilities of the Policy QA/QC and Effectiveness group in support of the Gas Standard Effectiveness Program, which is driven by federal requirements under 49 C.F.R. § 192.605(b)(8) to periodically evaluate the adequacy and effectiveness of operating and maintenance procedures. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

E. Field Technologies (2200-2023)

TABLE AK-55
Shared O&M Costs – Field Technologies

INFRASTRUCTURE SUPPORT PROGRAMS - GAS STANDARDS GOVERNANCE PIPELINE POLICY	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
FIELD TECHNOLOGIES	85	88	3
Total	**85**	**88**	**3**

1. Description of Costs and Underlying Activities

The Field Technologies group evaluates new tools and technologies that enhance or replace existing processes or tools, providing benefits in the form of improved safety, regulatory compliance, and efficiency. Field Technologies supports Field Operations by conducting evaluations of new tools and technologies, developing Request for Proposals, negotiating with equipment and tool vendors, deploying new equipment, and training employees to become proficient in the use of new and existing tools and equipment. This group's activities help

prevent injuries to employees and the public, help mitigate risks associated with leak identification and repairs, improve accuracy of locating and marking gas pipelines, and reduce gas emissions.

Examples include:

- Accurate locating of gas pipelines ahead of excavation to avoid damaging gas lines;
- Continuous improvements for leak mitigation equipment, for both public safety and environmental compliance for methane leaks at facilities;
- Refresher training on key equipment and technologies needed to meet regulatory compliance and public safety, and to minimize the potential for fines; and
- Develop strategies for tracking inspections and repairs to critical tools and equipment.

2. Forecast Method

The forecast method developed for Field Technologies is the base year. This method is most appropriate because it best reflects current operational needs and resource requirements. This approach was selected because 2025 represents a stabilized level of activity following recent program enhancements and organizational restructuring. Using 2025 as the foundation to support the TY 2028 forecast aligns with present operational realities and program maturity, making it the most accurate method for projecting future requirements.

3. Cost Drivers

The cost drivers behind this forecast include the labor and non-labor required to sustain the ongoing procurement, deployment, policy development, technology support, and research on equipment, all of which are necessary to meet the Company's practices, procedures, and regulatory requirements. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

F. Gas Operations Construction & Maintenance Staff (2200-2345)

TABLE AK-56
Shared O&M Costs - Gas Operations Construction and Maintenance Staff (2200-2345)

INFRASTRUCTURE SUPPORT PROGRAMS - GAS STANDARDS GOVERNANCE PIPELINE POLICY	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
GAS OPS CONSTRCTN & MAINTNCE STAFF	939	979	40
Total	**939**	**979**	**40**

1. Description of Costs and Underlying Activities

The Gas Operations Construction and Maintenance Staff group are SME for standards that affect field operations in various areas, including pressure control, construction, excavations, pipeline policy, maintenance, welding, construction inspections, field emergencies, and self-audit requirements. The costs consist of the labor, employee expenses, and non-labor materials and services required to develop and maintain policies needed for gas operations, construction, and maintenance.

2. Forecast Method

The forecast developed for Gas Operations Construction and Maintenance Staff is the 2025 base year. This method is most appropriate because it best reflects current operational needs and resource requirements. This approach was selected because 2025 represents a stabilized level of activity following recent program enhancements and organizational restructuring. Using 2025 as the foundation for the TY 2028 forecast aligns with present operational realities and program maturity, making it the most accurate method for projecting future requirements.

3. Cost Drivers

49 CFR §§ 192.301, 192.601, and 192.701 prescribe the minimum requirements for construction, operations, training, and maintenance procedures, respectively. The cost drivers in this area pertain to the continuous maintenance of standards that must comply with these regulations, including, but not limited to, tapping, pressure control, maintenance, inspections, valve operations, field emergencies, and other relevant standards. Additional cost drivers include continuous improvements based on safety improvements, incident reviews, process assessments, construction contractor management feedback, and inspections of construction activities trends and industry best practices. In addition, this forecast reflects changes in connection with the

compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

G. Leakage Policy & Technologies (2200-2484)

TABLE AK-57
Shared O&M Costs - Leakage Policy & Technologies

INFRASTRUCTURE SUPPORT PROGRAMS - GAS STANDARDS GOVERNANCE PIPELINE POLICY	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
LEAKAGE POLICY & TECHNOLOGIES	466	486	20
Total	**466**	**486**	**20**

1. Description of Costs and Underlying Activities

The Leakage Policy and Technologies group develops and maintains policies needed for gas operations, equipment calibration and maintenance, and emergency response related to leakage detection, identification, mitigation, and pipeline patrol. Activity costs are comprised of the labor and employee expenses for travel to support all districts across the service territory at SoCalGas and SDG&E, and non-labor materials and services.

2. Forecast Method

The forecast developed for Leakage Policy and Technologies is the base year. This method is most appropriate because it best reflects current operational needs and resource requirements. 2025 represents a stabilized level of activity following recent program enhancements and organizational restructuring. Using 2025 as the foundation for the TY 2028 forecast aligns with present operational realities and program maturity, making it the most accurate method for projecting future requirements.

3. Cost Drivers

The labor and non-labor cost drivers behind this forecast are the implementation of best practices and SoCalGas and SDG&E goal of reducing methane emissions. These objectives necessitate updates to policies, processes, and technology used for leakage abatement. The associated practices and policy enhancements strengthen emergency procedures, training, leakage detection, leakage mitigation, new methane detection technology, and electronic leak surveys. Other cost drivers include continuous improvement opportunities identified during incident evaluations and process reviews. These evaluations create the need to update training materials, leak mitigation standards, and the Notice of Publications (NOP). In addition, this

forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

IX. SHARED O&M COSTS – INTEGRITY MANAGEMENT PROGRAMS

The grouping of Shared O&M Costs – Integrity Management Programs cost categories consist of program administration, management, and support activities provided by SoCalGas that benefit SDG&E's integrity management programs.

Table AK-58 summarizes the total shared O&M forecasts for the listed Shared O&M Integrity Management cost categories.

PROGRAMS TABLE AK-58
SHARED O&M COSTS - INTEGRITY MANAGMENT

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025$)			
INTEGRITY MANAGEMENT PROGRAMS	**2025 Adjusted-Recorded (000s)**	**TY2028 Est. (000s)**	**Change (000s)**
TIMP SUPPORT FOR SDG&E	896	862	(34)
DIMP SUPPORT FOR SDG&E	836	1,050	214
GSEP SUPPORT FOR SDG&E	336	345	9
Total	**2,068**	**2,257**	**189**

A. TIMP (2200-7000)

TABLE AK-59
TIMP Project Support Shared O&M Costs

INTEGRITY MANAGEMENT PROGRAMS	**2025 Adjusted-Recorded (000s)**	**TY2028 Est. (000s)**	**Change (000s)**
TIMP SUPPORT FOR SDG&E	896	862	(34)
Total	**896**	**862**	**(34)**

1. Description of Costs and Underlying Activities

The costs associated with the TIMP Project Support (SDG&E) cost category captured in Table AK-59 are incurred by SoCalGas in support of SDG&E's TIMP. Similar to SoCalGas's TIMP, SDG&E's TIMP framework is structured in alignment with the requirements of 49 CFR § 192.911, follows a cyclical set of processes as depicted in the Appendix D, and is divided into four distinct categories of activities and costs. SoCalGas's GESI provides policy and process support for the categories of Preventive & Mitigative Measures, Data and GIS, and Program Management Support/Threat & Risk to SDG&E. Activities that SoCalGas resources support include – but are not limited to – risk assessment and assessment planning, data management, financial controls, and program governance. This coordination, which leverages the centralized expertise of the same Integrity Management resources managing SoCalGas's TIMP program

management policies and processes, enhances operational efficiency and consistent implementation across the two companies. SDG&E's TIMP is described in SDG&E GESI testimony (Ex. SDG&E-03).

a. Description of RAMP Mitigations

Within this cost category there are shared services O&M costs for risk controls/mitigations that were presented in the 2025 RAMP Report and are listed in the table below. All TIMP activities are risk mitigation measures that address safety risks and were identified in the 2025 RAMP Report for SCG-Risk 2 High Pressure Gas System, as described above in *Non-Shared O&M Costs Integrity Management Programs Description of Costs Underlying Activities)*.

Activities that are compliance or mandated by CPUC or other agencies are listed in bold; and Appendix B attached to this testimony provides the details regarding these mandates for each control.

TABLE AK-60
RAMP and GRC Risk Control/Mitigation Activities

High Pressure Gas System Integrity Assessments & Remediation (2200-7000)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028 Estimate In 2024 $ (000s)**	**2028 GRC 2028 Forecast In 2025 $ (000s)**	**Change ($000s)**
C171	**Assessments & Remediation**	766[121]	862	96
	Total	**766**	**862**	**96**

b. Description of Selection and Prioritization of RAMP Risk Mitigations

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology and are designed to address a specific safety and/or reliability risk. The Company's selection and prioritization of these RAMP mitigation activities considered many factors when determining if these risk mitigation activities are an effective and worthwhile investment. The Enterprise Risk Management (ERM) process for identifying and assessing system risk is described in the Risk Philosophy testimony (Ex. SCG/SDGE-02).

[121] The total RAMP O&M forecast for C171 is $146.9 million. The cost shown on the table represents the estimated RAMP O&M forecast allocated to this utility shared service workpaper, proportional to the GRC O&M forecast, representing .5% of the total activity. The other portion of costs for C171 can be found in the Gas Major Projects testimony (Ex. SCG-06).

The Gas Major Projects testimony (Ex. SCG-06) also sponsors a portion of C171 costs and activities for the execution of assessment and remediation and select P&M scope for the TIMP, which is separate and distinct from the program management costs and activities sponsored in this testimony.

As described above, SoCalGas and SDG&E's TIMP is designed to comply with 49 CFR Part 192, Subpart O and 49 CFR § 192.710. Consistent with regulations, SoCalGas and SDG&E assess higher risk transmission pipelines[122] for threats, including internal and external corrosion, stress corrosion cracking, manufacturing defects, construction and fabrication issues, weather-related and outside forces,[123] incorrect operations, equipment failure, and third-party damages. SoCalGas and SDG&E evaluate pipeline data, operating conditions, and other necessary data to determine the appropriate actions needed to maintain system integrity and reliability. Factors such as regulatory mandates and guidance (*e.g.*, advisory bulletins), current pipeline data, historical activity levels, and system needs inform the scope of this control.

SoCalGas and SDG&E are continuing its risk-informed TIMP activities to provide safe and reliable transmission service, support system integrity and maintain compliance. In the independent study of the efficiency of SoCalGas and SDG&E's TIMP and DIMP, SI Associates observed that efficiency in the TIMP is reflected in structured planning and risk-based prioritization, and that SoCalGas's TIMP follows a rigorous project management process to support consistent execution.[124] SI Associates also observed that the number of assessments performed annually, timely repairs following those assessments, and year-over-year increases in mileage able to accommodate ILI reflect effective planning, continuous improvement, risk mitigation, and public safety benefits.[125]

2. Forecast Method

The forecast method developed for the TIMP Program Management costs is the recorded three-year average. This method is most appropriate because 2023, 2024, and 2025 best

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[122] HCA, Class 3, Class 4, and piggable MCA pipeline segments as scoped by 49 CFR Part 192 Subpart O and 49 CFR § 192.710.

[123] Geohazard management is a subset of "weather related and outside force" required by 49 CFR § 192, Subpart O "Gas Transmission Pipeline Integrity Management" (49 CFR § 192.917(a)(3)). SoCalGas's Threat and Risk supports the evaluation of geohazards within SDG&E's service territory.

[124] *See* Appendix F.

[125] *Id.* at Section 1.0 (Executive Summary) and Section 10.0 (Conclusion).

represent the level of activity needed to support the program management of the TIMP under the current regulations promulgated in the last three years by PHMSA. As also described in SDG&E's GESI testimony (Ex. SDGE-03), regulatory changes such as those mandated under the GTSR Part 2 have impacted and increased the activity levels necessary to comply with TIMP requirements since 2023.

3. Cost Drivers

These costs are driven by the level of activity needed to support the program management of SDG&E's TIMP as described in SDG&E's GESI testimony (Ex. SDGE-03), which includes threat identification, risk assessment, and program governance. As described above under Non-shared O&M TIMP and in Appendix D of this testimony and similar for SDG&E TIMP, the primary driver is the complexity and scope of work resulting from the regulatory changes that have resulted in a need for increased data integration, threat identification, and risk assessment activities.

B. DIMP (2200-7001)

TABLE 61
DIMP Project Support Shared O&M Costs

INTEGRITY MANAGEMENT PROGRAMS		2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
DIMP SUPPORT FOR SDG&E		836	1,050	214
Total		**836**	**1,050**	**214**

1. Description of Costs and Underlying Activities

The costs associated with the DIMP Support for SDG&E cost category captured in Table AK-61 are incurred by SoCalGas in support of SDG&E's DIMP. Similar to SoCalGas's DIMP, SDG&E's DIMP framework is structured in alignment with the requirements of 49 CFR Part 192 Subpart P and follows a cyclical set of processes as visualized in Figure AK-3 above, and is divided into three distinct categories of activities and costs.[126] SoCalGas's GESI provides policy and process support for the categories of Data Management, System Knowledge, and GIS. Program Management Support, Threat & Risk, Compliance, Auditing, and Reporting that

[126] See *DIMP Non-shared O&M Description of Costs and Underlying Activities*.

SoCalGas resource support include – but are not limited to – risk assessment,[127] data management, financial controls, and program governance. This coordination, which leverages the centralized expertise of the same Integrity Management resources managing SoCalGas's DIMP program management policies and processes, enhances operational efficiency and consistent implementation across the two companies. SDG&E's DIMP is described in SDG&E GESI testimony (Ex. SDGE-03).

a. Description of RAMP Mitigations

Within this cost category there are shared services O&M costs for risk controls that were presented in the 2025 RAMP Report and are listed in the table below. All DIMP activities are risk mitigation measures addressing safety risks identified in the 2025 RAMP Report for SCG Risk 3, Medium Pressure Gas System, as under DIMP non-shared O&M section.

Activities that are compliance or mandated by CPUC or other agencies are listed in bold; and Appendix B attached to this testimony provides the details regarding these mandates for each control.

TABLE AK-62
RAMP and GRC Risk Control/Mitigation Activities

Medium Pressure Gas System Distribution (2200-7001)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028 Estimate In 2024 $ (000s)**	**2028 GRC 2028 Forecast In 2025 $ (000s)**	**Change ($000s)**
C120	**Distribution Riser Inspection Program (DRIP)**	632[128]	380	(252)
C121	**Gas Infrastructure Protection Program (GIPP)**	37[129]	37	0
C122	**Sewer Lateral Inspection Program (SLIP)**	513[130]	479	(34)

[127] Risk assessment activities performed by SoCalGas for SDG&E as part of DIMP include geohazard management.

[128] The total RAMP O&M forecast for C120 is $26.1 million. The cost shown on the table represents the estimated RAMP O&M forecast allocated to this utility shared service workpaper, proportional to the GRC O&M forecast, representing 2.4% of the total activity.

[129] The total RAMP O&M forecast for C121 is $1.5 million. The cost shown on the table represents the estimated RAMP O&M forecast allocated to this utility shared service workpaper, proportional to the GRC O&M forecast, representing 2.4% of the total activity.

[130] The total RAMP O&M forecast for C122 is $21.1 million. The cost shown on the table represents the estimated RAMP O&M forecast allocated to this utility shared service workpaper, proportional to the GRC O&M forecast, representing 2.4% of the total activity.

Medium Pressure Gas System Distribution (2200-7001)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028 Estimate In 2024 $ (000s)**	**2028 GRC 2028 Forecast In 2025 $ (000s)**	**Change ($000s)**
C129	**Cathodic Protect System Improvement**	13[131]	10	(3)
C182	**Distribution Risk Evaluation & Monitoring System (DREAMS)**	94[132]	144	50
	Total	**1,289**	**1,050**	**(239)**

b. Description of Selection and Prioritization of RAMP Risk Mitigations

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology and are designed to address a specific safety and/or reliability risk. The Company's selection and prioritization of these RAMP mitigation activities considered many factors when determining if these risk mitigation activities are an effective and worthwhile investment. The Enterprise Risk Management (ERM) process for identifying and assessing system risk is described in the Risk Philosophy testimony (Ex. SCG/SDGE-02).

The Gas Distribution direct testimony (Ex. SCG-04) also sponsors a portion of C120, C121, C122, C129, and C182 costs and activities associated with execution of the DIMP, which is separate and distinct from the program management costs and activities sponsored in this testimony.

As described under DIMP Non-shared O&M Description of Costs and Underlying Activities), SoCalGas's and SDG&E's DIMP is designed to comply with 49 CFR Part 192, Subpart P, which requires operators to understand system conditions, identify and evaluate threats, implement measures to address risk, monitor performance, and periodically evaluate and improve the program. Consistent with regulations, SoCalGas and SDG&E evaluate the distribution systems for threats including corrosion, natural forces, other outside force damage, pipe, weld, or joint failure, equipment failure, and incorrect operations, and develops and

[131] The total RAMP O&M forecast for C129 is $537 thousand. The cost shown on the table represents the RAMP O&M forecast allocated to this utility shared service workpaper, proportional to the GRC O&M forecast, representing 2.4% of the total activity.

[132] The total RAMP O&M forecast for C182 is $3.9 million. The cost shown on the table represents the RAMP O&M forecast allocated to this utility shared service workpaper, proportional to the GRC O&M forecast, representing 2.4% of the total activity.

implements PAARs to reduce the likelihood and consequences of failures that could result in leaks, service interruptions, injuries or fatalities, environmental impacts, or property damage.

SoCalGas and SDG&E consider system knowledge, performance data, resourcing, and other information such as the results of ongoing risk evaluation and program reviews to determine where continued or additional risk reduction activities are needed under the DIMP. Factors such as regulatory mandates and guidance (*e.g.*, advisory bulletins) and past activity levels also inform the scope of this control.

2. Forecast Method

The forecast method developed for this cost category is base-year recorded with adjustments to account for changes from the base year through forecast years. This method is most appropriate because the base year best represents the current structure of the organization and costs, with incremental adjustments for future efforts related to data validation, as well as database maintenance and enhancements. As described in this testimony and in SDG&E's GESI testimony (Ex. SDG&E-03), accurate and robust system data are fundamental to the effective implementation of the DIMP, as they support threat identification, risk evaluation, and the identification and prioritization of risk-mitigation measures.

3. Cost Drivers

These costs are driven by the level of activity needed to support the program management of SDG&E's DIMP as described in SDG&E's GESI testimony (Ex. SDGE-03) and in this testimony, which includes threat identification, risk evaluation, PAAR development, and program governance. The primary driver for the incremental costs is due to expanded data validation efforts and enhancements to the system's database as described above. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

C. GSEP (2200-7002)

TABLE 63
GSEP Project Support Shared O&M Costs

INTEGRITY MANAGEMENT PROGRAMS	2025 Adjusted-Recorded (000s)	TY2028 Est. (000s)	Change (000s)
GSEP SUPPORT FOR SDG&E	336	345	9
Total	**336**	**345**	**9**

1. Description of Costs and Underlying Activities

The costs captured in Table AK-63 are incurred by SoCalGas in support of the SDG&E GSEP efforts (*i.e.*, implementation of new federal and state regulatory requirements). As previously described in this testimony, the GSEP are safety-driven programs developed and established in response to various safety-related regulations issued by federal and state regulators. As new federal and state safety regulations develop, SoCalGas continues to provide regulatory input to support effective implementation and outcomes consistent with its commitment to safety. SoCalGas's GESI maintains a small group that monitors and facilitates implementation of new regulatory guidance and requirements. This same team provides support to SDG&E, including but not limited to distribution and transmission organizations, to enhance both efficiency and consistency of interpretation and implementation across the two companies. The forecasted GSEP labor and non-labor costs within this testimony and associated workpaper support SoCalGas's efforts for monitoring new state and federal regulations where expenses are primarily staffing needs for monitoring regulatory activity to support SDG&E.

a. Description of RAMP Mitigations

Within this cost category there are shared services O&M costs for risk controls that were presented in the 2025 RAMP Report and are listed in the table below. All GSEP activities are risk mitigation measures addressing safety risks identified in the 2025 RAMP Report for SCG-Risk 2 High Pressure Gas System, as described above.

Activities that are compliance or mandated by CPUC or other agencies are listed in bold; and Appendix B attached to this testimony provides the details regarding these mandates for each control.

TABLE AK-64
RAMP and GRC Risk Control/Mitigation Activities

High Pressure Gas Transmission System Reconfirmation (2200-7002)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028 Estimate In 2024 $ (000s)**	**2028 GRC 2028 Forecast In 2025 $ (000s)**	**Change ($000s)**
C013	**GTSR – MAOP Reconfirmation**	2,988	344	(2,644)
	Total	**2,988**	**344**	**(2,644)**

b. Description of Selection and Prioritization of RAMP Risk Mitigations

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology and are designed to address a specific safety and/or reliability risk. The Company's selection and prioritization of these RAMP mitigation activities considered many factors when determining if these risk mitigation activities are an effective and worthwhile investment. The Enterprise Risk Management (ERM) process for identifying and assessing system risk is described in the Risk Philosophy testimony (Ex. SCG/SDGE-02).

As described in this testimony, SoCalGas's and SDG&E's Gas Safety Enhancement Programs (GSEP) supports the implementation and ongoing integration of new federal pipeline safety requirements. In support of the MAOP reconfirmation scope of work required by 49 C.F.R. § 192.624[133]and other new federal regulatory actions, SoCalGas maintains regulatory and project management resources to monitor, evaluate, and manage changes associated with federal pipeline safety communications, rulemakings, and regulatory activity. This support enables SoCalGas to timely review new and proposed PHMSA requirements and guidance, evaluate their applicability to SDG&E's system and operations, and coordinate the implementation of new procedures, training, and system/tool updates needed to maintain compliant operations. PHMSA's regulatory actions generally address significant pipeline incidents and seek to prevent similar incidents from occurring in the future.[134] The O&M costs

[133] GSEP execution activities and forecast are described in Ex. SCG-06 (Gas Major Projects testimony).

[134] Pipeline Safety: Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments, 84 Fed. Reg. 190,52180, (October 1, 2019), *available at:* https://www.govinfo.gov/content/pkg/FR-2019-10-01/pdf/2019-20306.pdf; Pipeline Safety: Requirement of Valve Installation and Minimum Rupture Detection Standards, 87

and activities to manage new regulations helps both companies maintain compliance while safely integrating evolving federal mandates.

2. Forecast Method

The forecast method developed for this cost category is base year. The GSEP O&M costs are associated with the monitoring and management of new regulatory actions and requirements that SDG&E must implement. As this program has developed over the last seven years, SoCalGas has developed a consistent framework for monitoring, assessing, and integrating new rules, resulting in a more predictable and consistent level of effort. Accordingly, base year costs represent a reasonable basis for forecasting TY 2028 expenses for GSEP program management. Adjustment to the forecast years were made to reflect the reduction of non-labor costs associated with consulting support. As discussed above, should new or revised regulatory requirements create incremental costs beyond those reflected in the base year forecast, SoCalGas will record such costs in the GSEPMA.

3. Cost Drivers

Costs are driven by the activity level needed to support the SDG&E GSEP. This activity level is influenced by the volume of PHMSA's regulatory actions and communications from year to year, which in turn influences the amount of FTEs needed to monitor and manage new regulations. As described above, SoCalGas bases its forecast on the same level of activity as in 2025. In addition, due to the uncertainty regarding the timing, scope, and specific requirements from federal, state and local regulatory agencies, associated activities and costs cannot be reasonably forecasted for the TY2028 GRC. As such, if new or revised regulatory mandates drive substantial incremental costs beyond what is currently forecasted, SoCalGas will record those costs in the GSEPMA. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

Fed. Reg. 68,20940 (April 8, 2022), *available at:* https://www.govinfo.gov/content/pkg/FR-2022-04-08/pdf/2022-07133.pdf.

X. CAPITAL – GAS ENGINEERING

This section of the testimony addresses the capital expenditures projected for SoCalGas's Gas Engineering Operations, specifically for transmission projects involving land rights, capital tools, laboratory equipment, and overhead costs within the local Supervision and Engineering capital pool. The guiding principle behind SoCalGas's capital investment strategy is to support a safe, resilient, and reliable delivery of natural gas, while maintaining affordability for customers. These investments also aim to improve operational efficiency, enhance responsiveness, and maintain compliance with all applicable regulatory and environmental requirements.

Table AK-65 summarizes capital forecasts for 2026 through 2031. The in-service dates for the capital expenditures that underly these forecasts are provided in workpapers (Ex. SCG-03-CWP). Appendix C to this testimony provides a table that illustrates the capital expenditures that are estimated to have in-service dates between 2026 and Test Year 2028. Capital expenditures that are in-service between 2026-2028 will contribute to the Test Year 2028 revenue requirement request presented in the Summary of Earnings testimony (Ex. SCG-27). Capital expenditures with in-service dates in the post-test years (*i.e.*, 2029-2031) are also included in Appendix C. The post-test year revenue requirement request is included in the Post-Test Year Ratemaking testimony (Ex. SCG-28).

TABLE AK-65
Capital Expenditures Gas Engineering
Summary of Costs
In 2025$ (000s)

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025 $)							
GAS ENGINEERING	**Est. 2025 Adjusted-Recorded (000s)**	**Est. 2026 (000s)**	**Est. 2027 (000s)**	**Est. 2028 (000s)**	**Est. 2029 (000s)**	**Est. 2030 (000s)**	**Est. 2031 (000s)**
ENGINEERING TOOLS AND EQUIPMENT	709	1,149	1,149	1,149	1,149	1,149	1,149
LAND RIGHTS	168	1,084	1,084	220	220	5,184	751
SUPERVISION AND ENGINEERING OVERHEAD POOL	30,138	30,389	30,396	30,385	30,391	30,391	30,391
Total	**31,015**	**32,622**	**32,629**	**31,754**	**31,760**	**36,724**	**32,291**

A. Engineering Tools And Equipment (Laboratory Equipment - 007300)

TABLE AK-66
Capital Expenditures – Engineering Tools and Equipment –
Summary of Costs

GAS ENGINEERING	Est. 2025 Adjusted-Recorded (000s)	Est. 2026 (000s)	Est. 2027 (000s)	Est. 2028 (000s)	Est. 2029 (000s)	Est. 2030 (000s)	Est. 2031 (000s)
ENGINEERING TOOLS AND EQUIPMENT	709	1,149	1,149	1,149	1,149	1,149	1,149
Total	**709**	**1,149**	**1,149**	**1,149**	**1,149**	**1,149**	**1,149**

1. Description

The Engineering Analysis Center (EAC) serves as a fully operational laboratory supporting Air Quality and Compressor Services, Materials Quality Management, the Non-Destructive Examination (NDE), and the Applied Technologies Lab. This capital request is essential to support the operations of the EAC and its laboratory activities, which include testing pipe samples, processing environmental samples, evaluating emissions, odorization, and gas quality, among other critical functions. Funding will be used to maintain, purchase, and upgrade laboratory equipment including, but not limited to, ovens, burners, microscopes, scales, handling equipment, and tools for computed radiography. Current regulatory and operational requirements necessitate the maintenance and upgrading of laboratory equipment used to support pipeline material analysis emissions evaluations, and related testing functions for both pipeline and engine monitoring. Lab equipment replacement and upgrade schedules for laboratory instrumentation are established based on useful life, technological improvements, enhanced capabilities, and industry-standard laboratory practices. These factors drive the need to replace or upgrade laboratory equipment and procure specialized add-on components to maintain accurate, reliable, and compliant testing and analysis capabilities. These investments also strengthen the efficiency and responsiveness of gas operations while maintaining compliance with all applicable regulatory and environmental requirements.

2. Forecast Method

The forecast method developed for this cost category is a five-year average. This approach provides a balanced and reliable estimate for TY 2028 because laboratory equipment costs tend to fluctuate due to supply and demand dynamics and variations in work activities that influence equipment requirements. By smoothing out the year-to-year variations, the five-year

average offers a more representative basis for capital expenditures in this category versus a single-year snapshot.

3. Cost Drivers

The requested funding is necessary to provide equipment that is available and ready to support operations, including compliance requirements, field testing, monitoring, and emergency response. As with any technology, instrumentation and equipment continue to advance, offering greater accuracy and efficiency. Equipment and instruments are regularly evaluated to determine replacement needs, considering factors such as life expectancy, regulatory requirements, and overall cost. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

B. Land Rights (006170)

TABLE AK-67
Capital Expenditures Summary of Costs

GAS ENGINEERING	Est. 2025 Adjusted-Recorded (000s)	Est. 2026 (000s)	Est. 2027 (000s)	Est. 2028 (000s)	Est. 2029 (000s)	Est. 2030 (000s)	Est. 2031 (000s)
LAND RIGHTS	168	1,084	1,084	220	220	5,184	751
Total	**168**	**1,084**	**1,084**	**220**	**220**	**5,184**	**751**

1. Description

This cost category provides capital funding to acquire land or land rights necessary for access, construction, operation, and maintenance of pipeline infrastructure on both public and private properties. Federal law requires that public utility lines occupying these lands be protected through the acquisition of appropriate land rights. Pipeline rights-of-way, which vary in widths and configurations, provides the Company with the necessary access to allow pipeline infrastructure to cross both public and private properties. SoCalGas compensates property owners for the required interests in accordance with contractual terms providing continued access, operation, and maintenance of pipeline infrastructure across public and private properties.

2. Forecast Method

The forecast method developed for this cost category is a five-year average. This approach is most appropriate because historical data reflects fluctuations in acquisition costs driven by market conditions, negotiated contractual terms, and published rent schedules for

public lands under federal jurisdiction. Current base activity levels and support functions are expected to remain stable; therefore, the five-year average provides a reliable estimate of future funding needs. Additionally, an incremental one-time adjustment for federal lands, based on Bureau of Land Management (BLM) fee schedules and rates under ROW Regulations (43 CFR Part 2800) have been incorporated into the forecast to account for two specific purchases as follows:

TABLE AK-68
Federal Land One Time Adjustment

Facility	Year	Renewal Cost	Area
L5000/BLM Renewal	2026	$0.98M	~64 acres
L6902/BLM Renewal	2027	$0.98M	~66 acres

3. Cost Drivers

The cost drivers behind this activity vary and are needed to provide a safe, resilient, and reliable system. This project portfolio includes continual land right management support for projects and activities as well as the establishment of programmatic permits to facilitate construction activity in certain areas within the service territory. This forecast includes acquisitions for expiring land rights and payments to jurisdictional agencies that enable access, construction, operation, and maintenance of pipeline infrastructure on publicly managed lands. Annual payment amounts vary due to differing expiration intervals and market conditions. For federal lands, rates are determined by Bureau of Land Management (BLM) fee schedules under ROW Regulations (43 CFR Part 2800), which establish per-acre rental rates by county zone. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

C. Supervision and Engineering Overhead Pool (009080)

TABLE AK-69
Capital Expenditures Summary of Costs

GAS ENGINEERING	Est. 2025 Adjusted-Recorded (000s)	Est. 2026 (000s)	Est. 2027 (000s)	Est. 2028 (000s)	Est. 2029 (000s)	Est. 2030 (000s)	Est. 2031 (000s)
SUPERVISION AND ENGINEERING OVERHEAD POOL	30,138	30,389	30,396	30,385	30,391	30,391	30,391
Total	**30,138**	**30,389**	**30,396**	**30,385**	**30,391**	**30,391**	**30,391**

1. Description

Supervision and Engineering charges are initially recorded directly in this category and then reassigned to capital projects. This budget code maintains an established accounting procedure for charging. The capital expenditures support projects focused on safety, compliance, reliability, and affordability. The Supervision and Engineering Overhead Pool are described in the GESI capital workpapers (Ex. SCG-03-CWP).

2. Forecast Method

A three-year average was developed for this cost category because historical data from 2023–2025 shows that the volume of activities and the number of capital projects within SoCalGas's scope have steadily increased, along with corresponding staffing levels, and are expected to remain stable going forward. This approach provides the most accurate basis for projecting future resource needs.

3. Cost Drivers

The primary cost drivers for this capital overhead pool stem from the labor required to plan and engineer capital work. These costs reflect the ongoing, day-to-day demands to sustain established engineering oversight of construction activities. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16.

XI. CAPITAL – INFRASTRUCTURE SUPPORT PROGRAMS

This section of the testimony addresses the capital expenditures projected for SoCalGas's Infrastructure Support operations. The guiding principle behind SoCalGas's capital investment strategy is to support a safe, resilient, and reliable delivery of natural gas, while maintaining affordability. These investments also aim to improve operational efficiency, enhance responsiveness, and maintain compliance with all applicable regulatory and environmental requirements.

Table AK-70 summarizes capital forecasts for 2026 through 2031. The particular in-service date for the capital expenditures that underly these forecasts is provided in workpapers. Appendix C to this testimony provides a table that illustrates the capital expenditures that are estimated to have in-service dates between 2026 and Test Year 2028. Capital expenditures that are in-service between 2026-2028 will contribute to the Test Year 2028 revenue requirement

request presented in the Summary of Earnings testimony (Ex. SCG-27). Capital expenditures with in-service dates in the post-test years (*i.e.*, 2029-2031) are also included in Appendix C. The post-test year revenue requirement request is included in the Post-Test Year Ratemaking testimony (Ex. SCG-28).

TABLE AK-70
Capital Expenditures Infrastructure Support Programs
Summary of Costs In 2025$ (000s)

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025 $)							
INFRASTRUCTURE SUPPORT PROGRAMS	**Est. 2025 Adjusted-Recorded (000s)**	**Est. 2026 (000s)**	**Est. 2027 (000s)**	**Est. 2028 (000s)**	**Est. 2029 (000s)**	**Est. 2030 (000s)**	**Est. 2031 (000s)**
ASSET MANAGEMENT PROGRAM	8,026	2,590	6,091	7,158	11,659	7,159	7,159
AVIATION SERVICES	1,338	500	500	1,339	500	500	500
Total	**9,364**	**3,090**	**6,591**	**8,497**	**12,159**	**7,659**	**7,659**

A. Asset Management Program (EN756A)

TABLE AK-71
Capital Expenditures Asset Management Program
Summary of Costs In 2025$ (000s)

INFRASTRUCTURE SUPPORT PROGRAMS	**Est. 2025 Adjusted-Recorded (000s)**	**Est. 2026 (000s)**	**Est. 2027 (000s)**	**Est. 2028 (000s)**	**Est. 2029 (000s)**	**Est. 2030 (000s)**	**Est. 2031 (000s)**
ASSET MANAGEMENT PROGRAM	8,026	2,590	6,091	7,158	11,659	7,159	7,159
Total	**8,026**	**2,590**	**6,091**	**7,158**	**11,659**	**7,159**	**7,159**

1. Description

AMP provides a lifecycle-based framework for making consistent, risk informed, and transparent asset management decisions. AMP's primary objective is to support SoCalGas's infrastructure planning by enhancing governance and analytics through reliable, accessible data. As noted in the AMP Non-Shared O&M section of this testimony, AMP is designed to mature progressively across multiple GRC cycles within its four capabilities: (1) Asset Management Strategy; (2) Asset Data Management; (3) Asset Performance and Analytics; and (4) Asset Investment Management. Each capability includes capital activities and is phased to balance resource availability, rate impacts, and implementation risk.

Activities in Asset Management Strategy include the implementation of the Asset Management Suite tool.

Activities in Asset Data Management include defining requirements and integrating datasets across fleet, facilities, and non-Integrity Management Program (IMP) assets into the asset data lake, implementing tools to automate data ingestion, and building tools to monitor and improve data quality. These efforts also require system configuration, data standardization, and supporting software and vendor resources to enable enterprise-wide data integration and analytics capabilities. Consistent with cost allocation practices, IMP-related expenditures are addressed separately, while broader asset management applications are reflected in this section.

Activities in Asset Performance and Analytics include development of asset performance dashboards, analytics for Transmission, Distribution, and Storage Operations, developing an asset spatial visualization tool, intelligent bundling proof of concept efforts, and the design and building of asset data analysis tools that strengthen enterprise planning and prioritization.

Activities in Asset Investment Management includes the development of a cost estimation tool, deploying a proof of concept asset investment planning (AIP) tool for Transmission, implementing the AIP tool for Fleet and Facilities, capital planning activities, and licensing necessary to support ongoing improvements in asset investment planning and prioritization.

2. Forecast Method

The AMP capital forecast developed a base year methodology, which is appropriate given that AMP capital activities have stabilized and are expected to continue with targeted adjustments during 2026-2027 and the 2028 GRC period. The forecast reflects an increase of 4.2 FTEs in 2026 from the Base Year and 6 FTEs in the Test Year, resulting from a shift of existing employee time from balanced to base capital.

3. Cost Drivers

The non-labor capital costs are driven by system configuration, data standardization and integration, consultant and other vendor support, and software licensing needed to enable enterprise-wide analytical and planning capabilities, including the continued development and continuous improvement of the asset data lake to support a broader range of asset classes beyond integrity management programs. Forecast adjustments reflect software licensing renewals,

which increase non-labor capital in certain years, and higher labor costs beginning in the Test Year to support expanded AMP capabilities.[135]

Together, these investments advance SoCalGas's AMP in support of safe, reliable, and affordable energy service over the long term.

B. Aviation Services & Programs (003430)

TABLE AK-72
Capital Expenditures Summary of Costs

INFRASTRUCTURE SUPPORT PROGRAMS	Est. 2025 Adjusted-Recorded (000s)	Est. 2026 (000s)	Est. 2027 (000s)	Est. 2028 (000s)	Est. 2029 (000s)	Est. 2030 (000s)	Est. 2031 (000s)
AVIATION SERVICES	1,338	500	500	1,339	500	500	500
Total	**1,338**	**500**	**500**	**1,339**	**500**	**500**	**500**

1. Description

This program provides company-wide aviation support across multiple departments, delivering safe and efficient aerial operations. Centralizing this program under a dedicated department will enhance operational oversight and facilitate more effective resource allocation.

The use of drone and aerial technologies has expanded due to advances in autonomous systems, increased availability of licensed operators, and the integration of specialized sensors and tools. Utilities across the energy sector, including electric and gas companies, have adopted these technologies to support infrastructure inspections. These investments support the continued safe and compliant use of aerial technologies, including adherence to Federal Aviation Administration (FAA) requirements, and enable the timely replacement of aerial assets that have reached the end of their useful life.

The requested funds will support the Aviation Services team in acquiring or replacing advanced aerial tools, including uncrewed aircraft systems (UAS) and related equipment, including platforms equipped with methane detection sensors, high-resolution imaging systems, and live video capabilities. These resources enable Gas Operations to perform patrols and inspections in remote, difficult-to-access or hazardous areas, and conduct leak surveys in

[135] There is a correction that needs to be made as it relates to the costs included in the RO model and revenue requirement that will be addressed at the next available opportunity.

compliance with GO-112F. In addition, SoCalGas can respond to emergencies more efficiently. By maintaining these capital resources in-house, SoCalGas can reduce overall costs by performing aerial services internally rather than relying on external providers.

The use of drone and aerial technologies continues to expand across multiple industries, and SoCalGas is leveraging these technologies based on their demonstrated safety, operational, and environmental benefits. Federal agencies have acknowledged this value. Notably, PHMSA has clarified that drones may be used for right of way inspections, citing potential cost savings as well as safety and environmental benefits. PHMSA further observes that uncrewed aircraft systems (UAS) and satellite surveys are often less costly than traditional ground-based inspections or those conducted using fixed wing or rotary wing aircraft.[136]

2. Forecast Method

A base year forecast was developed for this cost category because this provides the most representative forecast of future costs. The base year Capital spend reflects the future needs of aerial technology and SoCalGas anticipates that Capital expenditure in TY2028 will be consistent with 2025.

3. Cost Drivers

The continued capital investment in drone and aerial technologies includes gas detection sensors and advanced imaging systems. These resources enable aviation-based solutions that provide technical expertise, equipment, and operational support to Gas Operations. While historical capital has supported replacement of equipment at the end of its useful life, holding funding steady enables the company to continue to support ongoing deployment, operational demands, and evolving use cases without interruption. Maintaining this funding level allows SoCalGas to keep pace with technological advancements, deploy aerial technologies efficiently, enhance operational responsiveness in targeted areas, and maintain compliance with applicable regulatory and environmental requirements. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

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[136] DOT, *Pipeline Safety: Integration of Innovative Remote Sensing Technologies for Right-of-Way Patrols on Gas and Hazardous, Liquid Pipelines, Preliminary Regulatory Impact Analysis,* Docket No. PHMSA-2025-0118 (April 2026), *available at:* https://downloads.regulations.gov/PHMSA-2025-0118-0010/attachment_1.pdf.

XII. CAPITAL – INTEGRITY MANAGEMANT PROGRAMS

This section of the testimony addresses the capital expenditures projected for SoCalGas's Integrity Management Programs. The guiding principle behind SoCalGas's capital investment strategy is to support a safe, resilient, and reliable delivery of natural gas, while maintaining affordability for customers. These investments also aim to improve operational efficiency, enhance responsiveness, and maintain compliance with all applicable regulatory and environmental requirements.

Table AK-73 summarizes capital forecasts for 2026 through 2031. The particular in-service date for the capital expenditures that underly these forecasts is provided in workpapers. Appendix C to this testimony provides a table that illustrates the capital expenditures that are estimated to have in-service dates between 2026 and Test Year 2028. Capital expenditures that are in-service between 2026-2028 will contribute to the Test Year 2028 revenue requirement request presented in the Summary of Earnings testimony (Ex. SCG-27). Capital expenditures with in-service dates in the post-test years (*i.e.*, 2029-2031) are also included in Appendix C. The post-test year revenue requirement request is included in the Post-Test Year Ratemaking testimony (Ex. SCG-28).

TABLE AK-73
Capital Expenditures Integrity Management Programs
Summary of Costs

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025 $)							
INTEGRITY MANAGEMENT PROGRAMS	**Est. 2025 Adjusted-Recorded (000s)**	**Est. 2026 (000s)**	**Est. 2027 (000s)**	**Est. 2028 (000s)**	**Est. 2029 (000s)**	**Est. 2030 (000s)**	**Est. 2031 (000s)**
DIMP – PROGRAM MANAGEMENT	4,008	7,169	6,005	4,040	4,040	4,040	4,040
TIMP – PROGRAM MANAGEMENT	11,562	13,096	13,097	13,096	13,096	13,096	13,096
SIMP – PROGRAM MANAGEMENT	0	920	0	3,713	960	2,180	960
Toal	**15,570**	**21,185**	**19,102**	**20,849**	**18,096**	**19,316**	**18,096**

A. TIMP (P07560)

TABLE AK-74
Summary of TIMP Capital Costs

INTEGRITY MANAGEMENT PROGRAMS	Est. 2025 Adjusted-Recorded (000s)	Est. 2026 (000s)	Est. 2027 (000s)	Est. 2028 (000s)	Est. 2029 (000s)	Est. 2030 (000s)	Est. 2031 (000s)
TIMP – PROGRAM MANAGEMENT	11,562	13,096	13,097	13,096	13,096	13,096	13,096
Total	**11,562**	**13,096**	**13,097**	**13,096**	**13,096**	**13,096**	**13,096**

1. Description

Budget Code 756 captures all TIMP-related capital costs for IT-related activities such as implementing and enhancing software applications and data models to manage and maintain TIMP data. Costs in this area are necessarily incurred to update the TIMP data systems to support SoCalGas's various and evolving TIMP activities (*e.g.*, pipeline system data integration, threat identification and risk assessment, pipeline assessments and remediation, preventive and mitigative measures). The primary activities driving costs during this period are the ongoing development and enhancements of the transmission data lake and related databases (*e.g.*, GIS). As described in *Non-Shared TIMP O&M – Description of Costs and Underlying Activities* and in Appendix D, data integration is essential to SoCalGas's ability to assess asset conditions, evaluate system threats and risks, and determine appropriate actions. Continuing development and enhancement of the data lake and GIS will enable a comprehensive data ingestion and integration capability to support the TIMP by consolidating transmission pipeline data from multiple sources. Centralizing inspection and operational data will improve traceability, reduce manual data handling, and support more effective planning, driving greater operational efficiency and customer affordability. The integrated platform will enable advanced analytics and visualization for TIMP assessments, ultimately enhancing threat identification and risk assessment.

a. Description of RAMP Mitigations

This cost category consists of Capital costs for risk control(s)/mitigation(s) that were presented in the 2025 RAMP Report and are listed in the table below. All TIMP activities are risk mitigation measures that address safety risks and were identified in the 2025 RAMP Report for Chapter SCG-Risk-2 High Pressure Gas System.

Activities that are compliance or mandated by CPUC or other agencies are listed in bold; and Appendix B attached to this testimony provides the details regarding these mandates for each control.

TABLE AK-75
RAMP and GRC Risk Control/Mitigation Activities – Capital

High Pressure Gas System Integrity Assessments & Remediation (P07560)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028-2031 Estimate In 2024 $ (000s)**	**2028 GRC 2028-2031 Forecast In 2025 $ (000s)**	**Change ($000s)**
C171	**Assessments & Remediation**	52,197[137]	52,384	187
	Total	**52,197**	**52,384**	**187**

b. Description of Selection and Prioritization of RAMP Risk Mitigations

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology and are designed to address a specific safety and/or reliability risk. The Company's selection and prioritization of these RAMP mitigation activities considered many factors when determining if these risk mitigation activities are an effective and worthwhile investment. The Enterprise Risk Management (ERM) process for identifying and assessing system risk is described in the Risk Management Volume testimony (Ex. SCG-02/SDGE-02).

As described above, SoCalGas's TIMP is designed to comply with 49 CFR Part 192, Subpart O and 49 CFR § 192.710.[138] Consistent with regulations, SoCalGas assesses higher risk transmission pipelines[139] for threats, including internal and external corrosion, stress corrosion cracking, manufacturing defects, construction and fabrication issues, weather-related and outside forces, incorrect operations, equipment failure, and third-party damages. SoCalGas evaluates pipeline data, operating conditions, and other necessary data to determine the appropriate actions needed to maintain system integrity and reliability. Factors such as regulatory mandates and

[137] The 2028-2031 total RAMP capital forecast for C171 is $595.2 million. The cost shown on the table represents only 8.8% the estimated RAMP capital forecast associated with HP Gas System Integrity Assessments & Remediation activities included in this testimony, proportional to the GRC capital forecast. The other portion of costs for C171 can be found in the Gas Major Projects testimony (Ex. SCG-06).

[138] CFR Part 192, Subpart O; 49 CFR § 192.710; see also Gas Major Projects testimony (Ex. SCG-06).

[139] HCA, Class 3, Class 4, and piggable MCA pipeline segments as scoped by 49 CFR Part 192 Subpart O and 49 CFR § 192.710.

guidance (*e.g.*, advisory bulletins), current pipeline data, historical activity levels, and system needs inform the scope of this control.

SoCalGas is continuing its risk-informed TIMP activities to provide safe and reliable transmission service, support system integrity and maintain compliance. In the independent study of the efficiency of SoCalGas's TIMP and DIMP, SI Associates observed that efficiency in the TIMP is reflected in structured planning and risk-based prioritization, and that SoCalGas's TIMP follows a rigorous project management process to support consistent execution.[140] SI Associates also observed that the number of assessments performed annually, timely repairs following those assessments, and year-over-year increases in mileage able to accommodate ILI reflect effective planning, continuous improvement, risk mitigation, and public safety benefits.[141]

The Gas Major Projects testimony (Ex. SCG-06) sponsors the portion of C171 costs and activities associated with execution of assessment and remediation, as well as select P&M scope for the TIMP, which is separate and distinct from the program management costs and activities sponsored in this testimony.

2. Forecast Method

The forecast method developed for this cost category is the recorded three-year average. This method is most appropriate because 2023, 2024, and 2025 best represent the current structure of the organization and necessary activity levels as Program Management has evolved to support the TIMP. A longer history of costs is not the most appropriate method as it will not factor in the layers of changes that were incorporated into the program during the last few years to comply with the new regulations.

3. Cost Drivers

Cost drivers for Budget Code 756 are the continuous enhancements of software applications and integrations to manage TIMP data. SoCalGas has established an Asset Management Program (AMP) data foundation lake, which is discussed in more detail above. The development of the data lake has in large part been driven by the enhancements to regulatory requirements and the increasing complexity in data gathering, management, and analysis. The

[140] *See* Appendix F.

[141] *Id.* at Section 1.0 (Executive Summary) and Section 10.0 (Conclusion).

capital costs associated with this workpaper are for the portion of activities that relate to the TIMP to account for the separation of TIMPBA costs from other SoCalGas funding mechanisms.

Capital costs forecasted also include ongoing enhancements to the GIS database and applications used for the TIMP. Enhancements to the GIS database continue to be needed as SoCalGas responds and adapts to regulatory changes that have strengthened data collection and integration requirements, as well as requirements for processes that rely on GIS capabilities (*e.g.*, threat identification and risk analysis). This is described in more detail in Appendix D.

As discussed in more detail in Regulatory Accounts testimony (Ex. SCG-26) and in Non-shared O&M Costs – Continuation and Modification of the TIMPBA above, SoCalGas requests the Commission revert the TIMPBA to a two-way balancing account with a 50% interim rate recovery mechanism.

B. DIMP (D07560)

TABLE AK-76
Summary of DIMP Capital Costs

INTEGRITY MANAGEMENT PROGRAMS	Est. 2025 Adjusted-Recorded (000s)	Est. 2026 (000s)	Est. 2027 (000s)	Est. 2028 (000s)	Est. 2029 (000s)	Est. 2030 (000s)	Est. 2031 (000s)
DIMP – PROGRAM MANAGEMENT	4,008	7,169	6,005	4,040	4,040	4,040	4,040
Total	**4,008**	**7,169**	**6,005**	**4,040**	**4,040**	**4,040**	**4,040**

1. Description

The Budget Code 756 captures all DIMP-related capital costs for IT-related activities such as implementing and enhancing software applications and data models to manage and maintain DIMP data. As previously discussed, the development of a data lake is primarily supported through capital investments to consolidate and integrate asset data across multiple systems. Its purpose is to establish a robust and scalable data infrastructure that supports the development of advanced, reusable data products. The capital costs associated with this workpaper are allocated to activities supporting both the creation of the data lake and the development and enhancement of related data products for the DIMP. As explained above in DIMP non-shared O&M Description of Costs and Underlying Activities, these investments improve data quality, accessibility, and interoperability across systems, thereby forming the foundational infrastructure for advanced analytics and enhanced risk management necessary for the effective implementation of the DIMP.

a. Description of RAMP Mitigations

Within this cost category there are Capital costs for risk controls that were presented in the 2025 RAMP Report and are listed in the table below. All DIMP activities are risk mitigation measures addressing safety risks identified in the 2025 RAMP Report for SCG Risk 3, Medium Pressure Gas System, as described in the section above and in DIMP non-shared O&M Description of Costs and Underlying Activities.

Activities that are compliance or mandated by CPUC or other agencies are listed in bold; and Appendix B attached to this testimony provides the details regarding these mandates for each control.

TABLE AK-77
RAMP and GRC Risk Control/Mitigation Activities – Capital

Medium Pressure Gas System Distribution (D07560)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028-2031 Estimate In 2024 $ (000s)**	**2028 GRC 2028-2031 Forecast In 2025 $ (000s)**	**Change ($000s)**
C121	**Gas Infrastructure Protection Program (GIPP)**	356[142]	360	4
C129	**Cathodic Protection System Improvement**	311[143]	318	7
C182	**Distribution Risk Evaluation & Monitoring System (DREAMS)**	9,254[144]	15,482	6,228
	Total	**9,921**	**16,160**	**6,239**

b. Description of Selection and Prioritization of RAMP Risk Mitigations

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology and are designed to address a specific safety and/or reliability risk. The Company's selection and prioritization of these RAMP mitigation

[142] The 2028-2031 total RAMP capital forecast for C121 is $23.6 million. The cost shown on the table represents only 1.5% of the estimated RAMP capital forecast associated with Gas Infrastructure Inspection Program (GIPP) activities included in this testimony, proportional to the GRC capital forecast. The other portion of costs for C121 can be found in the Gas Distribution testimony (Ex. SCG-04).

[143] The 2028-2031 total RAMP capital forecast for C129 is $20.8 million. The cost shown on the table represents only 1.5% of the estimated RAMP capital forecast associated with Cathodic Protection System Improvement activities included in this testimony, proportional to the GRC capital forecast. The other portion of costs for C129 can be found in the Gas Distribution testimony (Ex. SCG-04).

[144] The 2028-2031 total RAMP capital forecast for C182 is $611.9 million. The cost shown on the table represents only 1.5% of the estimated RAMP capital forecast associated with Risk Evaluation & Monitoring (DREAMS) activities included in this testimony, proportional to the GRC capital forecast. The other portion of costs for C182 can be found in the Gas Distribution testimony (Ex. SCG-04).

activities considered many factors when determining if these risk mitigation activities are an effective and worthwhile investment. The Enterprise Risk Management (ERM) process for identifying and assessing system risk is described in the RDF Integration testimony (Ex. SCG-02B/SDGE-02B).

The Gas Distribution direct testimony (Ex. SCG-04) also sponsors a portion of C121, C129, and C182 costs and activities associated with execution of the DIMP, which is separate and distinct from the program management costs and activities sponsored in this testimony.

As described in DIMP non-shared O&M Description of Costs and Underlying Activities above, SoCalGas's DIMP is designed to comply with 49 CFR Part 192, Subpart P, which requires operators to understand system conditions, identify and evaluate threats, implement measures to address risk, monitor performance, and periodically evaluate and improve the program. Consistent with regulations, SoCalGas evaluates its distribution system for threats including corrosion, natural forces, other outside force damage, pipe, weld, or joint failure, equipment failure, and incorrect operations, and develops and implements PAARs to reduce the likelihood and consequences of failures that could result in leaks, service interruptions, injuries or fatalities, environmental impacts, or property damage.

SoCalGas considers system knowledge, performance data, resourcing, and other information such as the results of ongoing risk evaluation and program reviews to determine where continued or additional risk reduction activities are needed under the DIMP. Factors such as regulatory mandates and guidance (*e.g.*, advisory bulletins) and past activity levels also inform the scope of this control.

SoCalGas plans to maintain DIMP risk reduction activities at previously authorized levels, while increasing the scope of the DREAMS PAAR to align with updated quantitative risk results and manage system risk at a sustainable pace.

2. Forecast Method

The forecast method developed for this cost category is base year recorded with adjustments. The base year method is most appropriate because GESI anticipates costs associated with database maintenance and enhancements to remain steady at the 2025 level over the forecast period. The forecasts for 2026 and 2027 are adjusted to account for the incremental upfront costs associated with developing and enhancing the DIMP data lake and related databases (*e.g.*, GIS).

3. Cost Drivers

The cost drivers behind this forecast are primarily associated with the enhancement, development, and integration of software applications, such as the data lake and related databases (*e.g.*, GIS), to effectively manage data and support the implementation of the DIMP. Costs for IT applications are influenced by the activities required to maintain the system and the frequency of data model changes necessary to integrate regulatory requirements across multiple databases. The capital costs reflected in this workpaper pertain solely to DIMP-related activities, encompassing the development of the data lake and the ongoing enhancement of GIS databases and applications supporting DIMP.

As discussed in more detail in Regulatory Accounts testimony (Ex. SCG-21) and in DIMP non-shared O&M Description of Costs and Underlying Activities above, SoCalGas requests the Commission close the DIMP one-way balancing and memorandum accounts. In addition, this forecast reflects changes in connection with the compensation modernization initiative. Please refer to the Compensation & Benefits testimony, Ex. SCG-16/SDGE-20.

C. SIMP (S04410)

TABLE AK-78
Summary of SIMP Capital Costs

INTEGRITY MANAGEMENT PROGRAMS	Est. 2025 Adjusted-Recorded (000s)	Est. 2026 (000s)	Est. 2027 (000s)		Est. 2028 (000s)	Est. 2029 (000s)	Est. 2030 (000s)	Est. 2031 (000s)
SIMP – PROGRAM MANAGEMENT	0	920	0		3,713	960	2,180	960
Total	**0**	**920**	**0**		**3,713**	**960**	**2,180**	**960**

1. Description

Budget Code 441 captures SIMP capital costs. SIMP programmatic activities are managed through the GE&SI organization. SIMP execution activities are managed by teams embedded within SoCalGas's Gas Transmission and Storage organization. Costs associated with SIMP execution activities are summarized in the Gas Storage and Transmission testimony (Ex. SCG-05).

This testimony includes the capital costs associated with SIMP programmatic activities, which include IT-related activities such as software license fees and implementation of new software applications and data models to manage and maintain SIMP data. Data integration is

essential to SoCalGas's ability to assess asset conditions, evaluate system threats and risks, and determine appropriate actions.

Costs associated with Capital SIMP programmatic activities are described below. Additional details supporting these expenditures are provided in capital workpaper, Ex. SCG-03-CWP.

Data Management

Data management capital costs include licensing for the cloud-based WellView solution utilized by the company for managing well data. Historically, WellView license costs were recorded as O&M expenses. Starting in 2026, the company will make upfront payments for cloud resources and capitalize those costs, consistent with the methodology approved under D.24-12-074 (p. 84). A planned enhancement to the WellView application includes the implementation of a well barrier tool to support the increased emphasis on data integration and documentation under the second edition API 1171. This tool will provide a real-time view of the primary and secondary well barriers in place, which maintain and provide redundancy for well control and integrity, enabling the identification, verification, and monitoring of each barrier element. Static well diagrams, like those currently used, provide only a fixed visual snapshot without integrated risk and have a limited ability to show the barrier status of changes over time.

UGS Allocation Report Automation

This project aligns with Cloud and Automation Strategy and will deliver direct benefits to the SIMP. This project will enhance data quality and streamline compliance reporting by significantly reducing or eliminating manual data entry and calculations, thereby minimizing the risk of human error. Additionally, it will lay the foundation for future system integration and advanced analytics.

Data Governance Application for SIMP

This project focuses on developing and implementing a data governance application to support asset management by promoting consistent data quality, integrity, and accessibility across systems. Data Foundation will support implementation of this project. It includes the creation of structured data quality (DQ) rules and the deployment of governance tools that enforce standards across asset-related data flows. By establishing clear ownership, validation processes, and metadata standards, the initiative enhances the reliability of data used in asset lifecycle planning and decision-making. It also supports the SIMP by improving the consistency

and traceability of inspection and risk modeling data across platforms. Ultimately, by reducing data errors, minimizing rework, and enabling more accurate analytics, the project contributes to customer affordability through more efficient operations.

SIMP Data Ingestion & Insights Enablement

This project will enable a comprehensive data ingestion and integration capability to support the SIMP by consolidating storage and well-related data from multiple sources—including WellView, Aveva PI, RDMS, spreadsheets, and other formats—into the enterprise data lake. By harmonizing both structured and unstructured data, the initiative can improve data accessibility, identify quality gaps, and support more consistent and validated data flows across the asset lifecycle. Building on this integrated foundation, the solution will support advanced analytics and visualization capabilities for SIMP-related assessments, including regulatory reporting, QRA modeling, condition monitoring, and well integrity management. Centralizing inspection and operational data is expected to strengthen the ability to identify risks more effectively. From an asset management perspective, the project will enhance traceability, facilitate lifecycle planning, and minimize manual data handling—potentially leading to improved customer affordability through increased operational efficiency and more effective maintenance and capital planning.

a. Description of RAMP Mitigations

Within this cost category there are capital costs for a risk control/mitigation that was presented in the 2025 RAMP Report and listed in the table below. All SIMP activities are risk mitigation measures addressing safety risks identified in the 2025 RAMP Report for SCG Risk 4, Underground Gas Storage System. Activities that are compliance or mandated by CPUC or other agencies are listed in bold; and Appendix B attached to this testimony provides the details regarding these mandates for each control.

TABLE AK-79
RAMP and GRC Risk Control/Mitigation Activities – Capital

Gas Storage System Integrity Management (S04410)				
ID	**Control/Mitigation Name**	**2025 RAMP 2028-2031 Estimate In 2024 $ (000s)**	**2028 GRC 2028-2031 Forecast In 2025 $ (000s)**	**Change ($000s)**
C401	**Storage IMP (SIMP)**	2,211[145]	7,813[146]	5,602
	Total	**2,211**	**7,813**	**5,602**

b. Description of Selection and Prioritization of RAMP Risk Mitigations

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology and are designed to address a specific safety and/or reliability risk. The Company's selection and prioritization of these RAMP mitigation activities considered many factors when determining if these risk mitigation activities are an effective and worthwhile investment. The Enterprise Risk Management (ERM) process for identifying and assessing system risk is described in the RDF Integration testimony (Ex. SCG-02B/SDGE-02B).

The Gas Transmission and Storage testimony (Ex. SCG-05) sponsors a portion of C401 costs and associated activities related to the execution of SIMP well assessments, remediations, and abandonments. These execution related costs and activities are distinct from, and separate from, the programmatic SIMP costs and activities sponsored in this testimony.

As described above, SoCalGas's SIMP is designed to comply with 49 CFR §192.12 and 14 CCR §1726. Consistent with regulations, SoCalGas assesses gas storage wells for threats, including external corrosion, internal corrosion, manufacturing defects, construction and fabrication issues, weather related and outside forces, incorrect operations, equipment failure, and third-party damage. Assessment data, operating conditions, and other necessary data are evaluated to determine the appropriate actions needed to maintain system integrity and reliability. SIMP programmatic activities described in this testimony as well as execution activities described in the Gas Transmission & Storage testimony (EX. SCG-05), are measures to

[145] The total 2028-2031 RAMP capital forecast for C401 is $269.5 million. The cost shown on the table represents the RAMP capital forecast allocated to this workpaper representing 1% of the total activity. The other portions of the costs for C401 can be found in the Gas Transmission & Storage testimony (Ex. SCG-05).

[146] Costs associated with SIMP programmatic activities included in this testimony.

reduce the likelihood and consequences of failure of an underground gas storage well that could result in serious injuries, fatalities, property damage, operational and reliability impacts, and environmental impacts.

SoCalGas considers regulatory requirements, system knowledge, performance data, resourcing, and other information such as the results of ongoing risk evaluation and program reviews to determine where continued or additional risk reduction activities are needed under the SIMP. Factors such as regulatory mandates and guidance, well data, historical activity, and system needs inform the scope of this control.

Underground gas storage assets are essential components of California's reliable energy delivery infrastructure. Accordingly, SoCalGas is continuing its SIMP activities to enhance the safety and reliability of the natural gas infrastructure, mitigate associated risks, and comply with state and federal regulations.

2. Forecast Method

The forecast method developed for SIMP capital programmatic activities is zero-based. This method is appropriate because the forecasted capital costs relate to new projects and activities that do not have historical costs associated with them, making historical cost data an unreliable basis for comparison. In addition to the forecasted new projects and activities, Well View license costs which were historically O&M expenses, will be capitalized starting 2026. See capital workpaper, Ex, SCG-03-CWP for details.

3. Cost Drivers

The cost drivers behind the forecasts of capital SIMP programmatic activities are safety, risk management, and compliance with state and federal regulations. The primary drivers are the CalGEM requirements outlined in California Underground Gas Storage Projects (14 CCR §1726) and the PHMSA Underground Natural Gas Storage regulations (49 CFR§192.12). No historical capital programmatic costs were recorded for 2025, as no SIMP programmatic activities were undertaken during that year; therefore, the forecasted amounts beginning in 2026 represent incremental requests necessary to initiate and support the required programmatic activities described above.

XIII. CAPITAL – CLIMATE ADAPTATION

This section of the testimony addresses the capital expenditures projected for SoCalGas's Climate Adaptation Program. The guiding principle behind SoCalGas's capital investment strategy is to support a safe, resilient, and reliable delivery of natural gas, while maintaining affordability for customers. These investments also aim to improve operational efficiency, enhance responsiveness, and maintain compliance with all applicable regulatory and environmental requirements.

TABLE AK-80
Capital Expenditures Climate Adaptation
Summary of Costs In 2025 $ (000s)

GAS ENGINEERING & SYSTEM INTEGRITY (In 2025 $)							
ADAPTATION & INNOVATION	**Est. 2025 Adjusted-Recorded (000s)**	**Est. 2026 (000s)**	**Est. 2027 (000s)**	**Est. 2028 (000s)**	**Est. 2029 (000s)**	**Est. 2030 (000s)**	**Est. 2031 (000s)**
CLIMATE ADAPTATION	0	0	0	2,750	4,280	4,355	3,775
Total	**0**	**0**	**0**	**2,750**	**4,280**	**4,355**	**3,775**

A. Climate Adaptation

1. Description

The TY and PTY forecasts for Climate Adaptation for 2028, 2029, 2030, and 2031 are $2,750,000, $4,280,000, $4,355,000, $3,775,000 respectively. SoCalGas's Climate Adaptation capital forecast is based on the 2025 CAVA and the four CAVA Investment Proposals: 1) installation of new strain gauges; 2) LiDAR of High and Medium Pressure Pipelines; 3) High-Pressure Pipeline Hardening Projects; and 4) CAVA Assessment Adaptation Measures.[147] The details of each CAVA Investment Proposal is contained in Appendix G.

The CAVA Investment Proposals[148] are designed to proactively address climate change impacts to existing infrastructure and are grounded in the 2025 CAVA and Commission guidelines adopted in D.24-08-005.[149] Each CAVA Investment Proposal is demonstrably

[147] D.20-08-046 requires that investor owned utilities (IOUs) "shall include in their General Rate Case filings the main takeaways from the vulnerability assessments as a separate section or chapter that contains, at a minimum: 1) a list of vulnerabilities, 2) proposals addressing those vulnerabilities (with options), and 3) long-term goals for adapting to climate risks." D.20-08-046 at 128-129.

[148] D.24-05-005; Climate Lexicon Working Group Report.

[149] D.24-08-005 at 82 (COL 15).

incremental to those investments approved for reliability, safety, and resiliency purposes; prioritizes infrastructure identified in the CAVA as high-risk and low-adaptive capacity within the 10-20-year analytical timeframe of the CAVA; cost-effective relative to alternative adaptation options identified in the CAVA; and, are not duplicative to other costs already authorized by or requested from the Commission.

2. Forecast Method

The forecast method developed for this cost category is zero based, reflecting new activities. Estimates are based on consultant input and the company's historical costs for similar projects, estimated as approximately $2.5 million per project.

3. Cost Drivers

The cost drivers for Climate Adaptation are prescribed by R.18-04-019 and related Commission Decisions, including but not limited to D.19-10-054, D.20-08-046, D.24-08-005. CPUC direction requires "that the energy utilities we regulate are prepare to upgrade their infrastructure, operations, and services to adapt to climate change, and to ensure safe and reliable energy service to all Californians – including those most vulnerable and disadvantaged."[150] CAVA Investment Proposals are driven by SoCalGas's climate adaptation vulnerability assessment that focuses on "climate risk to operations and services as well as to utility assets over which IOUs have direct control."[151] These proposals address climate hazards associated with certain assets or are proactive adaption measures to identify climate hazards that were identified in SoCalGas's 2025 CAVA[152] within the 10-20 year analytical timeframe.

XIV. RISK ASSESSMENT MITIGATION PHASE (RAMP) INTEGRATION

A. GRC Risk Controls/Mitigations and Benefit Cost Ratios

As previously discussed, certain costs supported in this testimony are for Control/Mitigation activities described in SoCalGas's May 15, 2025 RAMP Report[2] for activities designed to reduce risk. Specifically, the controls and mitigations in this testimony were included in: SCG-Risk 1 Excavation Damage; SCG-Risk 2 High Pressure Gas System and SCG-

[150] D.20-08-046 at 2.

[151] *Id.* at 4.

[152] *See* SoCalGas's 2025 CAVA Table 5-1: Priorities for Project-Level Adaptation Analysis and Table 5-2: Potential Adaptation Strategies.

Risk 3 Medium Pressure Gas System. As further reference, a roadmap matching controls and mitigations to both the 2025 RAMP and the TY 2028 GRC testimony is appended to the RDF Integration testimony, Ex. SCG-02B/SDGE-02B.

Table AK-81 below summarizes the Control/Mitigation BCRs based on the costs forecasted[3] in this testimony and estimated in the 2025 RAMP with the associated BCRs. Controls/Mitigations that are mandated by CPUC or other agencies are listed in bold in the table below and are listed in Appendix B attached to this testimony, providing the details regarding the respective mandates for each Control/Mitigation. Appendix K provides a GRC workpaper breakdown for the RAMP controls and mitigations sponsored in this testimony.

TABLE AK-81
Comparison of RAMP and GRC Risk Control/Mitigation Benefit Cost Ratios

SoCalGas Gas Engineering & System Integrity (GESI)							
ID	**Control/ Mitigation Name**	**2025 RAMP Direct, in 2024$ (000s) 2028-2031**			**2028 GRC Direct, in 2025 $ (000s) 2028-2031**		
		BCR Societal	**BCR Hybrid**	**BCR WACC**	**BCR Societal**	**BCR Hybrid**	**BCR WACC**
C001	**Damage Prevention Strategies (HP)**	1.91	2.04	1.91	20.39	21.64	20.46
C001	**Damage Prevention Strategies (MP)**	1.91	2.04	1.91	0.92	0.96	0.92
C002	**Damage Prevention Activities (HP)**	18.23	19.49	18.28	151.12	159.92	151.46
C002	**Damage Prevention Activities (MP)**	18.23	19.49	18.28	10.51	11.04	10.53
C003	**Damage Prevention – Public Awareness (HP)**	0.82	0.88	0.83	1.76	1.86	1.77
C003	**Damage Prevention – Public Awareness (MP)**	0.82	0.88	0.83	0.41	0.43	0.41
C013	**Gas Transmission Safety Rule - MAOP Reconfirmation**	0.35	0.25	0.22	0.88	0.34	0.27
C120	**Distribution Riser Inspection Program (DRIP)**	0.11	0.02	0.01	0.20	0.03	0.02
C121	**Gas Infrastructure Protection Program (GIPP)**	0.01	0.01	0.01	0.02	0.01	0.01
C122	**Sewer Lateral Inspection Project (SLIP)**	0.01	0.01	0.01	0.01	0.01	0.01
C129	**Cathodic Protection System Improvement**	0.28	0.22	0.22	1.22	0.95	0.95

SoCalGas Gas Engineering & System Integrity (GESI)							
ID	Control/ Mitigation Name	2025 RAMP Direct, in 2024$ (000s) 2028-2031			2028 GRC Direct, in 2025 $ (000s) 2028-2031		
		BCR Societal	BCR Hybrid	BCR WACC	BCR Societal	BCR Hybrid	BCR WACC
C156	**Quality Assurance Transmission Assets**	1.02	1.07	1.01	0.50	0.53	0.50
C159	**Quality Assurance Gas Distribution Assets**	0.22	0.22	0.22	0.16	0.16	0.16
C171	**Integrity Assessments & Remediation**	3.97	3.82	3.43	4.22	3.94	3.58
C182	**Distribution Risk Evaluation & Monitoring System (DREAMS)**	2.28	0.23	0.22	3.23	0.29	0.27
C401	**Storage Integrity Management Program (SIMP)**	1.80	0.75	0.74	3.38	0.97	0.96

B. Justification For Proposed Mitigations with BCRS <1

The RDF prescribes a methodology for calculation of Benefit Cost Ratios under three discount rates as detailed in the table above. Certain of these calculations result in a BCR that is less than one. SoCalGas/SDG&E justifies the selection of these mitigations based on a thorough analysis of operational considerations. Details regarding the justification for each mitigation are provided in the table below and are compiled with all mitigations in Ex. SCG-02B/SDGE-02B, Compliance testimony. A list of compliance drivers is attached to this testimony in Appendix B.

Table AK-82
Control/Mitigation Justification

ID	Control/Mitigation Name	Justification
C001	**Damage Prevention Strategies (MP)**	Damage Prevention Strategies supports management of the damage prevention program in compliance with 49 CFR 192.614, California Government Code Section 4216, industry best practices, and lessons learned. Damage Prevention Strategies manage several activities designed to mitigate excavation-related risks, including membership in USA North 811 and Dig Alert, outreach by Damage Prevention Analysts, management of a repeat offender program, and maintenance of policies and procedures. All of this work contributes to addressing the likelihood of excavation damage, a significant risk driver to the High Pressure Gas System and Medium Pressure Gas System risks.

ID	Control/Mitigation Name	Justification
C003	**Damage Prevention – Public Awareness (MP)**	Damage Prevention Awareness supports USA 811 system awareness with contractors and the general public, in compliance with the requirements of 49 C.F.R. § 192.616 and with Public Awareness Programs for Pipeline Operators, API RP 1162, First Edition (RP1162 or 1162), as well as other program expansion recommendations by regulators. Public awareness contributes to addressing the likelihood of excavation damage, a significant risk driver to the High Pressure Gas System and Medium Pressure Gas System risks.
C013	**Gas Transmission Safety Rule - MAOP Reconfirmation**	This mitigation is required for compliance with the PHMSA-issued GTSR Part 1 rule. Operators must reconfirm the MAOP of high-pressure pipelines in populated areas in accordance with 49 CFR §192.624(a).
C120	**Distribution Riser Inspection Program (DRIP)**	This DIMP mitigation addresses an ongoing safety risk with the potential for serious incidents and fatalities. PHMSA advisory bulletins have emphasized the importance of addressing hazardous leaks, minimizing gas releases, and maintaining effective corrosion control, including corrosion protection for coated pipe and riser configurations.[153] Anodeless steel risers can corrode over time due to environmental conditions and, because they are typically located adjacent to residences, an unintentional gas release can result in significant damage, service impacts, injuries, or fatalities if not identified and addressed. SI Associates found that DRIP remained above an annual efficiency baseline through their review period, which indicates the program continues to be executed effectively while SoCalGas works to improve resource utilization.[154]
C121	**Gas Infrastructure Protection Program (GIPP)**	This DIMP mitigation complies with PHMSA's requirement that operators evaluate not only high frequency and high consequence failures, but also those with low frequency yet high consequences, such as failures associated with vehicular damage to above-

[153] PHMSA, Advisory Bulletin ADB-2021-01, *Statutory Mandate to Update Inspection and Maintenance Plans to Address Eliminating Hazardous Leaks and Minimizing Releases of Natural Gas from Pipeline Facilities*, 86 Fed. Reg. 22,279 (Apr. 27, 2021); PHMSA, Advisory Bulletin ADB-2016-04, *Pipeline Safety: Corrosion Protection*, 81 Fed. Reg. 82,075 (Nov. 18, 2016).

[154] Appendix F at Section 6.3 (DIMP – Efficiency of Programs).

ID	Control/Mitigation Name	Justification
		ground gas facilities.[155,156] Vehicular damage incidents can result in consequences such as significant property damage, service impacts, injuries, or fatalities. In their independent efficiency study of TIMP and DIMP, SI Associates notes that GIPP measures have proven effective in reducing both the frequency of incidents and the potential consequences of vehicular damage, noting targeted prioritization of inspection and remediations based on historical data and risk categorization, as well as improvements to scheduling and resource allocation.[157]
C122	**Sewer Lateral Inspection Project (SLIP)**	This DIMP mitigation addresses the threat of cross bores, about which PHMSA and industry consortiums (*e.g.*, NAPSR) have repeatedly raised concerns. Incidents resulting from cross bores can result in serious public safety consequences due to possible gas migration into sewer systems. PHMSA requires operators to also address low frequency failures with high consequences that can result in significant damage, service impacts, injuries, and/or fatalities. The lower BCR reflects limitations in benefit quantification for a condition that is generally not observable until inspection or remediation. SoCalGas continues to consistently find cross bores in its system due to prior installation practices used before the threat of trenchless installations was recognized in the industry. SoCalGas also continues to improve its efficiency, as noted by SI Associates in its efficiency study.[158]
C129	**Cathodic Protection System Improvement**	This DIMP mitigation addresses corrosion risk on NSOTA steel medium-pressure pipelines and supports compliance with 49 C.F.R. Part 192, Subpart I. CP SIP provides a targeted integrity management approach for eligible NSOTA segments, which reduces the number of

[155] PHMSA, *Gas Distribution Pipeline Integrity Management Enforcement Guidance 49 CFR Part 192 – Subpart P* (2015) at 22 available at: https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/DIMP_Enforcement_Guidance_12_7_2015.pdf.

[156] Pipeline Safety: Overpressure Protection on Low-Pressure Natural Gas Distribution Systems, 85 Fed. Reg. 189, 61097 (Sept. 29, 2020), *available at:* https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2022-01/PHMSA-2020-0025.pdf.

[157] Appendix F, Report at 58-59, 86-89.

[158] Appendix F, Report 9-10, 81-85.

ID	Control/Mitigation Name	Justification
		pipeline segments prioritized for accelerated replacement under the DREAMS PAAR. As described in my testimony, SIP complements DREAMS by converting eligible segments to cathodically protected systems as a more cost-effective alternative to full replacement. Continued SIP investment remains a prudent, risk-informed mitigation that reduces corrosion risk and supports system integrity and affordability.
C156	**Quality Assurance Transmission Assets**	Through structured assessments, QA strengthens operational discipline, reinforces compliance—including adherence to 49 CFR §192.605 and API RP 1173 requirements for monitoring and verifying controls – and supports a proactive risk management approach.
C159	**Quality Assurance Gas Distribution Assets**	Through structured assessments, QA strengthens operational discipline, reinforces compliance—including adherence to 49 CFR §192.605 and API RP 1173 requirements for monitoring and verifying controls – and supports a proactive risk management approach.
C182	**Distribution Risk Evaluation & Monitoring System (DREAMS)**	This DIMP mitigation addresses safety risk associated with Aldyl-A plastic pipe and bare steel pipe. Bare steel pipe has been recognized by PHMSA as higher-risk pipe.[159] Aldyl-A has shown a propensity for failure due to low resistance to brittle-like cracking. There have been more than 15 Aldyl-A failures in California alone, resulting in multiple explosions and injuries. More recently, an incident in South Jordan, UT resulted in a fatality.[160] The CPUC's 2014 Hazard Analysis and Mitigation Report on Aldyl-A underscored the importance of replacements rates that meaningfully reduce risks associated with Aldyl-A. [161] SoCalGas employs quantitative risk analysis (QRA) to prioritize and target replacements and continues to enhance its data and tools. Replacement of pipeline

[159] PHMSA, *Pipeline Replacement Background*, *available at:* https://www.phmsa.dot.gov/data-and-statistics/pipeline-replacement/pipeline-replacement-background.

[160] National Transportation Safety Board, Pipeline Investigation Report PIR-26-02, Enbridge Inc. Natural Gas–Fueled Home Explosion and Fatality, South Jordan, Utah, November 6, 2024 (Mar. 31, 2026), at 1, 4-5, *available at:* https://www.ntsb.gov/investigations/AccidentReports/Reports/PIR2602.pdf.

[161] CPUC, *Hazard Analysis and Mitigation Report: Aldyl A Polyethylene Gas Pipelines* (June 11, 2014) at 29, https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/safety-policy-division/reports/ra-doc-10-aldyla.pdf.

ID	Control/Mitigation Name	Justification
		segments prior to exceeding the risk threshold supports both safety and cost efficiency.
C401	**Storage Integrity Management Program (SIMP)**	This mitigation is required to comply with both federal and state regulations governing underground gas storage projects. At the federal level, 49 CFR §192.12, effective in 2020, mandates the implementation of an integrity management framework consistent with API Recommended Practice 1171 to promote the safe and reliable operation of underground gas storage facilities. At the state level, underground natural gas storage facilities are regulated under the 14 CCR §1726, effective in 2018, which established requirements for underground natural gas storage projects. In accordance with these regulatory requirements, SoCalGas perform monitoring activities and integrity assessments on gas storage wells at mandated prescribed intervals to identify potential issues. Subsequently, assessment and monitoring data are evaluated to determine the actions necessary to maintain well integrity, regulatory compliance, and safety. Post-assessment mitigation measures may include well remediation or abandonment, as appropriate.

C. Changes From 2025 Ramp Report

Since the timing of the filing of the 2025 RAMP Report in May 2025some circumstances may have changed that impact the control/mitigation scope – including units, costs, and other factors that influence the forecast. In addition, updates may have occurred affecting the underlying assumptions used to calculate the BCRs and are described in the Risk Philosophy testimony (Ex. SCG/SDGE-02). Key changes impacting the forecasts include:

- C001 Damage Prevention Strategies: Relative to the 2025 RAMP filing, the units of measure for both medium- and high-pressure damage prevention strategies in the TY2028 GRC forecast were revised from the number of USA tickets to full-time equivalents (FTEs). This change resulted in corresponding revisions to the mitigation unit counts. Additionally, based on updated estimates of FTE costs, the associated cost forecast has been reduced.
- C003 Damage Prevention – Public Awareness: Compared with the 2025 RAMP filing, the units of measure for both medium- and high-pressure public awareness programs in the TY2028 GRC forecast were revised from the number of

communications sent to the number of USA tickets generated. This revision resulted in corresponding changes to the mitigation unit counts.

- C013 Gas System Gas Transmission Safety Rule - MAOP Reconfirmation: Compared to the 2025 RAMP report, the TY 2028 GRC forecast for C013 reflects lower units and lower costs. The change reflects refinement of the forecasted scope for MAOP reconfirmation based on updated scope validation efforts.
- C120 Distribution Riser Inspection Program (DRIP): Compared to 2025 RAMP report, the TY2028 GRC forecast for C120 reflects lower units and lower costs. The decrease reflects updated forecast assumptions for DRIP activity, including lower forecasted inspection volumes over the forecast period. The lower costs forecast corresponds to the reduced level of forecasted activity.
- C121 Gas Infrastructure Protection Program (GIPP): Compared to 2025 RAMP report, the TY2028 GRC forecast for C121 reflects higher units and lower costs. The increase in units reflects an updated forecast activity for remaining GIPP mitigations sites. The decrease in costs reflects an updated mix of forecasted mitigation work in TY2028, including a greater share of standard mitigations relative to the more complex mitigation work forecasted in earlier years.
- C122 System Sewer Lateral Inspection Project (SLIP): Compared to 2025 RAMP report, the TY2028 GRC forecast for C122 reflects lower units and slightly lower costs. The decrease in units reflects refinement of the remaining SLIP inspection scope based on continued records review. The lower costs forecast corresponds to the reduced level of forecasted activity.
- C129 Cathodic Protection System Improvement: Compared to the 2025 RAMP report, the TY 2028 GRC forecast for C129 reflects an update to the unit of measure from feet to miles. On a comparable basis, the forecasted scope remains generally consistent with the scope reflected in RAMP.
- C171 Integrity Assessments & Remediation: TIMP forecast updates are informed by the latest assessment plan information, evolving compliance requirements, and updated assumptions regarding planned integrity assessment and remediation activity. The number of forecasted projects and associated costs has been updated

to reflect the latest projections and as three-year historical average method, as described above in TIMP Non-shared O&M and Capital forecast method sections.

- C182 Distribution Risk Evaluation & Monitoring System (DREAMS): Compared to the 2025 RAMP report, the TY 2028 GRC forecast for C182 reflects higher units and higher costs. The increase in units reflects updated planning for DREAMS replacement activity based on current risk assessment information and prioritization of additional higher risk pipeline segments. The increase in costs reflects the updated scope and work required to replace those identified segments.
- C401 Storage Integrity Management Program (SIMP): Compared to the 2025 RAMP report, the TY 2028 GRC forecast for C401 reflects higher units and higher costs. The increase is primarily attributed to the difference in the number of inspections assumed in the 2025 RAMP forecast compared to those reflected in the TY2028 forecast. Fluctuations in inspection volume are primarily attributable to well integrity-related findings and CalGEM-approved inspection interval extensions. Details about inspection costs and units can be found in the Gas Transmission and Storage testimony and workpapers[162].

D. Feedback From Safety Policy Division and Parties

The Commission's Safety Policy Division (SPD) issued their assessment report on October 10, 2025 regarding the Companies' 2025 RAMP Reports. Parties subsequently served opening and reply comments on November 17, 2025, and December 1,2025, respectively. Appendix B in the RDF Integration testimony (Ex. SCG-02B/SDGE-02B), appends a summary of the feedback and recommendations received and the Companies' responses.

E. CAVA Integration

Pursuant to Commission decisions in the Climate Adaptation OIR (R.18-04-019),[6] SoCalGas performed a Climate Adaptation Vulnerability Assessment (CAVA) focused on years 2030, 2050, and 2070, with the aim of identifying asset and operational vulnerabilities to climate hazards across the SoCalGas system.[163] Climate change is recognized as a factor that can drive,

[162] Gas Transmission testimony, Ex. SCG-05, Ex. SCG-05-CWP, and Ex. SCG-05-WP.

[163] Climate related geohazards as identified in the 2025 CAVA include coastal erosion, coastal flooding, inland flooding, landslide and wildfire. *See* SoCalGas's 2025 CAVA at page ES-4.

trigger, or exacerbate multiple RAMP risks. Implementing climate change adaptation measures and integrating climate vulnerability considerations into RAMP controls and mitigations can enhance system infrastructure longevity and reduce the severity of climate impacts. The controls and mitigations align with the goal of increasing SoCalGas's physical and operational resilience to the increasing frequency and intensity of climate hazards. See SoCalGas's Chapter RAMP-5 Climate Change Adaptation.

TABLE AK-83
Controls and Mitigations that Align with Increasing Resilience to Climate Hazards

Potential Climate Hazard(s)	Relevant ID	Relevant Control / Mitigation	Risk Chapter
Inland Flooding and Landslides	C013	Maximum Allowable Operating Pressure (MAOP) Reconfirmation	High-Pressure Gas System
Inland Flooding and Landslides	C171	TIMP	
Inland Flooding and Landslides	C120	DIMP - Distribution Riser Inspection Program (DRIP)	Medium-Pressure Gas System
Inland Flooding and Landslides	C182	DIMP - Distribution Risk Evaluation & Monitoring System (DREAMS)	
Inland Flooding, Landslides, and Wildfires	C401	Storage Integrity Management Program (SIMP)	Underground Gas Storage

XV. REASONABLENESS REVIEW

A. CAVAMA - Climate Adaptation

In 2018, the Commission issued the Climate Change Adaptation OIR. Three subsequent Decisions (D.19-10-054, D.20-08-046, D.24-08-005) mandate how investor-owned gas and electric utilities (IOUs) in California should assess their vulnerabilities to climate risks. D.20-08-046, OP 10 directs SoCalGas to establish a Climate Adaptation Vulnerability Assessment Memorandum Account (CAVAMA) "for the purpose of tracking costs directly related to the vulnerability assessments and any incremental costs related to the community engagement, the Community Engagement Plans, and the related community engagement surveys ordered in this decision."[164] Furthermore, the Commission also noted that "we believe climate adaptation measures should be proposed in IOU applications, separate rulemaking, or GRCs….we will

[164] D.20-08-046 at 125 (OP 10).

allow IOUs to set up memorandum accounts, titled 'Climate Adaptation Vulnerability Assessment Memorandum Account – CAVAMA' for the purpose of tracking costs directly related to the vulnerability assessments ordered in this decision." D.20-08-046 OP 13 also requires that SoCalGas submit an annual Tier 1 Advice Letter and that it "shall include a status update that describes the activities of the climate change team in the last year and anticipated upcoming milestones" [165] leading up to the next CAVA. In accordance with D.20-08-046, SoCalGas established its CAVAMA in September 2020.

As described herein, SoCalGas establishes that the costs associated with CAVAMA activities were appropriately recorded and that such activities to prepare a vulnerability assessment and perform related stakeholder engagement were conducted in a reasonable and prudent manner leveraging existing internal technical resources and community engagement frameworks to the extent possible or prudently engaging external consultant support to provide the resources not available internally. SoCalGas timely filed its annual Tier 1 Advice Letter each year, providing a description of activities from the prior year as well as anticipated milestones in the upcoming year. SoCalGas anticipates sunsetting the CAVAMA by December 31, 2027 and will reconcile any costs incurred and booked to the CAVAMA subsequent to filing this GRC Application to be included as part of a reasonableness review in its 2032 GRC or other applicable proceeding.

1. Description of Costs

Labor costs for the activities to develop the CAVA, CAVA CEP and perform community engagement (collectively "CAVA Deliverables") consist of support from SoCalGas personnel within the Integrity Management & Strategic Planning organization (*e.g.*, directors, managers, engineers), as well as personnel from other departments in areas such as general administration, regulatory and policy, and public affairs. The subject matter expertise within SoCalGas was utilized throughout the development of the CAVA Deliverables. Leveraging this institutional knowledge allowed for alignment with company standards, industry codes, and technical requirements. Non-labor costs for the CAVA Deliverables consist of third-party contractor costs, payment to support participation to more than twenty CBOs, and miscellaneous expenses. Costs

[165] D.20-08-046 at 129 (OP 13).

requested for recovery are shown in Table AK-83 below. Please also refer to the Regulatory Accounts testimony (SCG-21) for more details.

TABLE AK-84
CAVAMA Cost

Unrecovered Memo Account Funding	
Year	**Amount**
2021	$ 12,136
2022	$ 639,117
2023	$ 1,272,016
2024	$ 725,854
2025	$ 431,330

Vulnerability assessments and associated community stakeholder engagement related to climate change adaptation are incremental to base business, and as such, accounting protocols were established to track incremental labor and non-labor costs.

2. Summary of Activities within the CAVAMA

This section provides a summary of activities from each of the annual Tier 1 Advice Letters filed with the Commission from 2021 to 2025. Please refer to the Tier 1 Advice Letters for a complete overview of annual activities.[166]

a. 2020 (Advice Letter 5788/Accepted 03-31-2021)

SoCalGas established the CAVAMA on September 25, 2020. During the following three months, SoCalGas identified a technical lead for the CAVA and a community stakeholder engagement lead for the CAVA CEP/associated activities and identified the company's climate change team.[167] Accounting controls to prudently manage cost were established to allocate incremental labor (as small as 0.25 hour) and non-labor costs based on activities for development of the CAVA and community stakeholder engagement/CAVA CEP. SoCalGas began the important task of GIS data compilation to identify DVCs within its service territory. Internal meetings were held to discuss climate adaptation regulatory requirements and to develop task lists with timelines for key deliverables, which enabled efficient oversight of the activities. Given the significant technical analysis and community engagement required by Commission decisions, external consultants were essential to 1) offset staff workload and 2) provide the

[166] SoCalGas Advice Letters are available at: https://tariffsprd.socalgas.com/scg/filings/.

[167] D.20-08-046 at 129 (OP 13).

necessary technical expertise that was not available internally.[168] SoCalGas began the consultant selection process by initiating discussions about potential scope and budget with external parties.

b. 2021 (Advice Letter 5958/Accepted 03-31-2022)

Climate activities continued to solidify in 2021 with a strong focus on the CAVA CEP and engagement activities. SoCalGas developed a list of community partners and organizations with input from regional public affairs managers to enable a "boots on the ground" approach to community engagement. GIS mapping sought to ground federal and state DVC data (Climate + Economic Justice Screening Tool [CJEST] and CalEnviroScreen, respectively) at the regional and local level.

SoCalGas also continued to advance the vulnerability assessment. As a natural gas utility with a service territory over 20,000 square miles, the sheer scope of the analysis required consideration of over 5.9 million assets that were grouped into five larger asset classes.[169] The analysis had to account for a diverse geographic area with wide ranging average temperatures[170] and climate hazards varying by location as directed by D.19-10-054 and D.20-08-046.[171] SoCalGas retained Golder Associates USA, Inc. (Golder) to prepare the vulnerability assessment and HDR to prepare the CAVA CEP and support engagement activities.

Governance and management of climate change adaptation required strong coordination and communication. SoCalGas created the Climate Advisory Group (CAG), composed of the climate change team and other staff involved in climate adaptation activities. The first CAG meeting occurred on February 22, 2022 during which background information on the Climate Change Adaptation OIR and required deliverables was shared. The CAG meetings provided collaboration opportunities, established roles and responsibilities and sound financial and

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[168] For example, SoCalGas does not currently employ a climate scientist but has identified this expertise as indispensable to continue to integrate climate change adaptation into company business. In fact, this need was flagged in Advice Letter 6116 dated March 31, 2023.

[169] Asset classes evaluated in the CAVA include High-Pressure Pipelines; Medium-Pressure Pipelines; Facilities; Regulators, Compressors, Valves; and Storage Fields.

[170] SoCalGas's service territory experiences vastly different temperatures. The city of Blythe in the Mojave Desert at the California/Arizona border averages high temperatures in July of 110 degrees. Conversely, the city of Big Bear Lake averages low temperatures of 24 degrees in January, *see* U.S. Climate Data, *available at:* www.usclimatedata.com.

[171] Climate related geohazards as identified in the 2025 CAVA include coastal erosion, coastal flooding, inland flooding, landslide and wildfire. *See* SoCalGas's 2025 CAVA at ES-4, D.19-10-054 at 56-57 (OP 3, 4, 5) and D.20-08-046 at 125 (OP 9).

administrative practices to cost effectively meet compliance requirements, follow industry best practices and identify and incorporate process improvements.

c. 2022 (Advice Letter 6116/Accepted 03-31-2023)

SoCalGas continued ramping up its community engagement activities throughout 2022. SoCalGas conducted internal training using local Disadvantaged Business Enterprise firm, Del Sol Group (Del Sol), which has extensive expertise in both Southern California and developing equitable engagement strategies for historically underprioritized communities. The training also focused on expanding staff's cultural competence and engaging new and hard-to-reach stakeholder groups.

Importantly, SoCalGas also surveyed CBOs to identify baseline awareness of and interest in the Climate Change Adaptation OIR. SoCalGas received 104 responses from CBOs over the course of approximately one month. Based on the survey responses, SoCalGas was able to identify CBO partners who had expressed interest via the survey in participating in the engagement process. These organizations demonstrated strong connections to DVCs, and/or demonstrable experience with climate change/adaptation or environmental justice work. This approach allowed engagement activities to be tailored to the specific needs identified by the community.

SoCalGas continued to develop its vulnerability assessment. Climate exposure analysis focused on extreme temperatures and hazard mapping by overlaying exposure results with asset system began. Given SoCalGas's knowledge and expertise in gas infrastructure, SoCalGas performed SDG&E's gas infrastructure analysis for inclusion in SDG&E's CAVA. Accounting controls were established to allocate labor and non-labor cost for work supporting SDG&E and record those costs in SDG&E's CAVAMA.[172] Monthly meetings between SoCalGas/SDGE/Golder were held to gather and share information on gas infrastructure, operations and services with additional ad hoc meetings scheduled as needed. This routine and frequent collaboration enabled alignment on the vulnerability assessment methodology for both utilities.

[172] *See* the Regulatory Accounts testimony (Ex. SDGE-26) for additional details.

d. 2023 (Advice Letter 6287/Accepted 03-31-2024)

Significant milestones in both the vulnerability assessment and community engagement occurred in 2023, guided by input from the CPUC Energy Division and the required CEP submittal in May 2024. Throughout 2023, Energy Division met with SoCalGas/SDG&E representatives directly or in workshops (March 13 and October 2) to discuss the status of the CAVA and CAVA CEP and provide feedback.

Major community stakeholder engagement in alignment with Commission decisions and Energy Division direction also occurred in 2023. SoCalGas finalized partnerships with CBOs to create four Regional Advisory Boards (RABs): Northern, Los Angeles, Orange Coast, and South Inland. Throughout the four regions, 28 CBOs agreed to attend three RAB workshops, providing feedback on program materials, reviewing translated materials (if applicable), and distributing materials to their community networks. The CBOs were compensated according to their level of participation up to $7,500 total or $150/hour, with costs booked to the CAVAMA.

A total of 12 RAB workshops were held (three for each region) over four months across SoCalGas's service territory. CBOs provided important engagement information, including translation needs for Climate Adaptation Program materials, feedback on SoCalGas's outreach approach, and outreach tactics. This feedback ultimately informed the CAVA CEP. Notably, CBO partners expressed satisfaction with the Climate Adaptation Program and RAB workshops.

SoCalGas also conducted significant Tribal engagement beyond the RABs. Nine Tribal Nations[173] were selected based on their location within SoCalGas's service territory and their utilization of SoCalGas gas service to engage in scheduled "talking circles." Talking circles provide opportunities for Tribal leaders and community members to gather and share their perspectives, needs, and lived experiences connected to local and regional impacts of climate change and gather feedback on the engagement process. In general, Tribal members shared concerns about the impacts of wildfires, floods, drought and extreme weather.

In December 2023, SoCalGas shared the Draft CEP and "CBO toolkit" which included the public survey, social media posts, and program materials to distribute to their communities.

[173] The nine Tribal Nations include: Agua Caliente Band of Cahuilla Indians; Augustine Band of Cahuilla Mission Indians; Cabazon Band of Mission Indians; Morongo Band of Cahuilla Mission Indians; Pechanga Band of Luiseño Mission Indians; San Manuel Band of Serrano Mission Indians; Santa Ynez Band of Chumash Mission Indians; Soboba Band of Luiseño Indians; Twenty-Nine Palms Band of Mission Indians.

The survey and materials were prepared in eight languages requested by CBO partners: English, Arabic, Spanish, Simplified Chinese, Vietnamese, Korean, Tagalog, and Punjabi.

Finally, internal coordination continued to advance the technical analysis of the vulnerability assessment. The vulnerability assessment included supplemental analyses on how exposure to extreme temperatures affects compressor stations, gas demand, outdoor workers, and control equipment. SoCalGas also held CAG meetings in June and December 2023 to share progress updates and obtain departmental feedback on the CAVA analysis.

The significant community stakeholder engagement activities performed in 2023 resulted in more than a dozen community meetings, routine engagement with CPUC staff, and internal coordination to inform the Draft CEP and enable the timely submittal of the CAVA CEP in May 2024.

e. 2024 (Advice Letter 6458/Accepted 03-31-2025)

In May 2024, SoCalGas filed its CAVA CEP with the CPUC. The CAVA CEP incorporated feedback from CBOs received on the December 2023 Draft CEP and input from Tribal Nations as part of talking circles in January 2024. Subsequent to the filing of the CAVA CEP, SoCalGas attended 35 community events (including CBO recommended events) in different areas of the service territory to share information about the Climate Adaptation Program, gather feedback from community members about climate impacts, and promote the public survey. In October and November 2024, SoCalGas held a fourth round of CBO RAB workshops with Tribal Nation partners to provide updates on the Climate Adaptation Program, public survey responses, upcoming community events, and the preliminary findings from the vulnerability assessment. At these workshops, SoCalGas distributed printed translated educational materials to CBOs to share with their networks and at community events in their areas.

Internal coordination continued to advance the technical analysis of the vulnerability assessment. SoCalGas held CAG meetings in June and December 2024 to share progress updates. Staff training around DVC and climate adaptation also occurred, with the development of an online learning modules to introduce staff to climate equity and the Commission's mandates on engaging with ESJ communities and DVCs as well as providing best practices for engagement.

The vulnerability assessment also advanced throughout 2024 to enable a May 2025 CAVA submittal, as required by D.20-08-046. The vulnerability assessment incorporated ongoing input from the Commission to consider the quantification of equity metrics and evaluate asset and community adaptive capacity. SoCalGas participated in CPUC CAVA Phase 2 Track 2 workshops in October (in person) and November (virtual), which continued to inform the analysis in the CAVA. The draft CAVA was completed in December 2024.

f. 2025 (Advice Letter 6619-G/Submitted March 31, 2026)

In May 2025, SoCalGas filed its CAVA with the CPUC. The submittal was preceded by SoCalGas's Climate Adaptation Workshop with the Commission February 2025. The public was afforded the opportunity to ask questions and provide feedback, which ultimately informed the final CAVA.

In July 2025, SoCalGas formally established the Climate Adaptation and Geohazard Management Program (CAGMP). This organization guides the programmatic evaluation of climate change impacts, implementation of long-term goals adapting to climate risk and programmatic administration of geohazard management. The CAGMP is also in alignment organizationally with the other major California IOUs which have established a centralized climate adaptation function. Through the CAGMP, SoCalGas along with the other IOUs established the Lexicon Working Group and jointly hosted a Public Workshop on July 10, 2025, to obtain party input on the climate terms and proposed definitions as directed by D.24-08-005. The IOUs reached consensus on all terms and definitions proposed in the Lexicon Report due to diligent utility collaboration and timely filed the Climate Lexicon Working Group Report.

SoCalGas continued to integrate climate change adaptation in its operational activities, and throughout 2025, SoCalGas continued to collaborate with the Commission and IOUs in various forums, including CPUC workshops on August 27 and September 25, and participate in R.18-04-019.

SoCalGas is currently in the process of developing its CEP Survey Report, which will be filed with the Commission in May 2026. The CEP Survey Report is a requirement of D.20-08-046 to "assess whether the IOUs' community engagement is productive and engenders trust."[174] As of the date of this filing, SoCalGas has received 52% of responses from RAB members and

[174] D.20-08-046 105 (OP 24).

Tribal Nations. Some key insights that are demonstrative of SoCalGas's commitment to meaningful engagement include:

- 85% of respondents said this engagement led to increased networking
- 100% of respondents were interested in continuing participation
- 93% said they gained a deeper understanding of climate change impacts
- 100% of respondents agreed the "Climate Adaptation team was respectful, encouraging, and valued my input, expertise, and feedback"

SoCalGas continues to reinforce the importance of adapting to the changing climate by ongoing climate change team/CAG meetings to operationalize the findings of the CAVA and to incorporate equity into utility planning. Ongoing climate change adaptation activities will be booked to base business, rather than the CAVAMA, starting January 1, 2028. Those activities have been described in my Testimony above.

3. Conclusion and CAVAMA Recovery Requested

SoCalGas respectfully requests that the Commission approve this request for cost recovery of its CAVAMA in full (approximately $3.08M). As demonstrated above, in accompanying workpaper and described in its timely filed annual Tier 1 Advice Letters, SoCalGas has established that the activities conducted related to the development of its first CAVA, CAVA CEP and associated stakeholder engagement were prudently planned, managed, and executed in accordance with R.18-04-019.

B. NGLAPMA - Natural Gas Leak Abatement

1. Emissions Strategy Program Unrecovered Memo Account Funding

On January 22, 2015, the CPUC issued Rulemaking R.15-01-008 to implement provisions of SB 1371, which set forth requirements for natural gas leak abatement. On June 15, 2017, the CPUC issued D.17-06-015 outlining the NGLAP for the utilities, pursuant to Pub. Util. Code §§ 975, 977, and 978. D.17-06-015 ordered SoCalGas to submit a Tier 1 Advice Letter to create a Memorandum Account for incremental administrative costs associated with NGLAP expenditures,[175] and D.17-06-015 ordered SoCalGas to submit Tier 3 Advice Letters to establish 2018 and 2019 revenue requirement forecasts and caps for the NGLAP.[176] On July 17, 2017,

[175] D.17-06-015 at 161 (OP 8).

[176] *Id.* at 161-162 (OP 10).

SoCalGas submitted the requisite Tier 1 Advice Letter (AL 5166) to establish the Natural Gas Leak Abatement Memorandum Account (NGLAMA), establish the Natural Gas Leak Abatement Balancing Account (NGLABA), and revise the New Environmental Regulatory Balancing Account (NERBA) Preliminary Statement to include the Natural Gas Leak Abatement Program Subaccount. The CPUC approved this Advice Letter on September 6, 2017, with an effective date of July 17, 2017.

Following the approval of AL 5166, SoCalGas submitted Tier 3 AL 5211 on October 31, 2017, to provide ratemaking forecasts for 2018 and 2019. On July 17, 2018, Energy Division instructed PG&E, SoCalGas, SDG&E, and Southwest Gas to submit a supplemental Tier 3 AL by July 31, 2018, to address a possible funding gap for 2020. SoCalGas submitted supplemental AL 5211-B on July 31, 2018 containing ratemaking forecasts for NGLAPMA, NGLAPBA, and NGLAP in the NERBA for 2018, 2019, and 2020. In loaded dollars, the forecasted maximum spend for NGLAPMA for 2018, 2019, and 2020 is $3.652 million. On October 11, 2018, the CPUC approved SoCalGas's AL 5211-B and Compliance Plan through Resolution G-3538. SoCalGas spent within the established NGLAPMA cap and booked $3.407 million to the NGLAPMA for 2018, 2019, and 2020, respectively.

On March 12, 2020, SoCalGas submitted AL 5603 to provide forecasted costs for its 2020 Compliance Plan, which included costs and emissions reductions for years 2021 and 2022. Pursuant to Energy Division's April 16, 2020 request, on June 12, 2020, SoCalGas submitted AL 5603-A which replaced AL 5603 in its entirety and provided updated cost forecasts and a discussion about the emission reduction forecast. On June 25, 2020, Energy Division directed SoCalGas to supplement AL 5603-A. SoCalGas submitted AL 5603-B on June 29, 2020, to replace AL 5603-A in its entirety. On October 2, 2020, SoCalGas submitted AL 5603-C to replace AL 5603-B in its entirety and correct rate impact figures. In loaded dollars, the forecasted maximum spend for the NGLAPMA for 2021 and 2022 was $4.529 million. On December 17, 2020, the CPUC approved SoCalGas's AL 5603-C and 2020 Compliance Plan through Resolution G-3576. SoCalGas spent within the established cap for NGLAPMA and booked $1.691 million to the NGLAPMA during 2021 and 2022.

On March 15, 2022, SoCalGas submitted AL 5950 to provide forecasted costs for its 2022 Compliance Plan, and on February 16, 2023, and February 21, 2023, SoCalGas submitted revisions and corrections in AL 5950-A and in AL 5950-B, respectively. In loaded dollars, the

forecasted maximum spend for the NGLAPMA for 2023 and 2024 was $4.186 million. On June 29, 2023, the CPUC approved SoCalGas's AL 5950-B and 2022 Compliance Plan through Resolution G-3595. SoCalGas spent within the established cap for the NGLAPMA and booked $2.936 million to the NGLAPMA during 2023 and 2024.

On March 15, 2024, SoCalGas submitted its 2024 Compliance Plan and AL 6277-G to provide forecasted costs for 2025 and 2026, and on October 21, 2024, and November 5, 2024, SoCalGas submitted revisions and corrections in AL 6277-G-A and in AL 6277-G-B, respectively. In loaded dollars, the forecasted maximum spend for the NGLAPMA for 2025 and 2026 was $4.186 million. On September 18, 2025, the CPUC approved SoCalGas's AL 6277-G-B and 2024 Compliance Plan through Resolution G-3605. SoCalGas has spent within the established cap and booked $1.711 million in the NGLAPMA during 2025.

As directed by D.17-06-015, SoCalGas has been tracking NGLAP administrative costs in the NGLAPMA since 2017. During each Compliance Plan cycle, SoCalGas has requested authorization for NGLAPMA costs and provided a spending cap in its Advice Letters. The CPUC has authorized the spending during each Compliance Plan cycle, and SoCalGas has kept expenditures within the authorized caps. SoCalGas requested to recover NGLAPMA costs recorded from July 17, 2017, through December 31, 2021, in the test year (TY) 2024 GRC, and this request was denied without prejudice. The CPUC explained that the request was denied because it was not demonstrated how these costs were not already included in other administrative costs requested.[177] The CPUC instructed SoCalGas to continue to record costs in the NGLAPMA until they can be included in the next GRC. Therefore, SoCalGas is requesting recovery for these costs again in the TY 2028 GRC application.

2. NGLAPMA Administrative Costs

The administrative costs recorded in the NGLAPMA are for activities mandated by D.17-06-015 and D.19-08-020. These activities include regulatory and reporting requirements, coordination and collaboration with the CPUC during program implementation, program-level financial management, program-level tracking and planning, ESP employee training and development, and office supplies.

[177] D.24-12-074.

The regulatory and reporting requirements include developing the Annual Emissions Reports, creating Biennial Compliance Plans, preparing Advice Letters, and responding to any data requests associated with these submittals. The costs associated with coordination and collaboration with the CPUC are recorded in the NGLAPMA. These costs include participation in workshops hosted by the CPUC and CARB, including the annual Winter Workshop hosted near the start of each year. The costs also include time spent developing and submitting proposals to improve emission calculation methodologies or revising baseline emissions to be more accurate, and the costs include time spent helping to review and provide comments on the CPUC and CARB Annual Joint Report. Following workshops, proposal presentations, or comment submittals, the CPUC and CARB have often requested additional meetings and/or provided data requests. The costs recorded in the NGLAPMA also include time spent participating in these additional meetings and responding to associated data requests.

Moreover, costs associated with program-level financial management and program-level tracking and planning are recorded in the NGLAPMA. Managing program finance requires detailed and continuous oversight, and program-level tracking and planning involves collaborating with RD&D to identify emission reduction opportunities, forecasting the emission impact of current and proposed projects, and confirming the program's ability to meet the emission reduction targets and maintain compliance with D.17-06-015 and D.19-08-020.

Finally, costs associated with training and employee development are recorded in the NGLAPMA. These costs include time spent by the ESP team to complete required training, time spent by ESP developing, reviewing, and updating job-specific training documents, and time spent by ESP members at industry conferences and workshops.

Costs incurred for these activities, including both labor and non-labor, are allocated and tracked through a designated program-specific NGLAPMA internal order, which provides a clear well-documented and traceable mechanism for cost attribution. This internal order structure supports accurate cost capture and segregation from other Company activities.

The costs recorded in the NGLAPMA are not incurred or recorded in other departments or administrative accounts, as there are no other programs within SoCalGas that perform NGLAP program administrative specific activities and there are not any other administrative accounts for SoCalGas's NGLAP work.

As a result, the NGLAPMA serves as the sole and centralized mechanism for tracking all administrative costs associated with NGLAP activities, supporting transparency, preventing duplication, and consistent cost reporting in accordance with CPUC requirements. SoCalGas requests to recover the NGLAP administration costs recorded in the NGLAPMA between 2017 and 2025. The costs are included in Table AK-84.

TABLE AK-85
Emissions Strategy Program

Unrecovered Memo Account Funding	
Year	Amount
2018	$631,970
2019	$2,136,696
2020	$638,137
2021	$761,643
2022	$929,027
2023	$1,044,192
2024	$1,892,258
2025	$1,710,842

C. MROWMA - Morongo Rights Of Way

Historically, SoCalGas operated three gas transmission pipelines (Lines 2000, 2001, and 5000) across federal land held in trust for the Morongo Band of Mission Indians near Cabazon, California (the Reservation). The three gas transmission pipelines are part of the Southern System and transport gas received from interstate pipelines at the Ehrenberg and Blythe receipt points, representing over 20% of the total system receipt point capacity. These three transmission pipelines have been crucial to serving SoCalGas's customers, including Morongo and the SDG&E gas delivery system. The three gas transmission pipelines provide a high level of service reliability on the Southern System. They are required to serve the needs of SoCalGas's core and noncore customers pursuant to four existing rights-of-way granted by the Department of the Interior (DOI) through the Bureau of Indian Affairs (BIA).

SoCalGas renewed the right-of-way agreements for two of the three gas transmission pipelines (Lines 2001 and 5000) after extensive negotiation with Morongo. The right-of-way agreement for Line 2000 was allowed to expire in 2020, and the portion of Line 2000 within the Reservation was subsequently abandoned. As a result, SoCalGas now operates only Lines 2001 and 5000 within the Reservation, while portions of Line 2000 outside the Reservation remain in active service. SoCalGas also operates a gas distribution system located on the Reservation serving the residential and commercial needs of Morongo.

In 2023, after Morongo obtained the necessary individual tribal members' consents, the BIA issued the new right-of-way agreement for the gas distribution system. The status of the four rights-of-way is as follows:

TABLE AK-86
ROW Status

Pipeline Facilities	Status
Line 2000	Expired and pipeline abandoned
Line 2001	Renewed in 2020 with a new expiration date of 04/03/2060
Line 5000	Renewed in 2020 with a new expiration date of 04/03/2060
Gas Distribution System	Renewed in 2023 with a new expiration date of 05/19/2063

SoCalGas uses the Morongo Rights of Way Memorandum Account (MROWMA) to record costs associated with the renewal of expiring rights-of-way within the Morongo Reservation, as directed in the GRC Decision.[178] For the TY2024 GRC, SoCalGas sought and received recovery of expenses related to the renewal efforts of the three transmission pipelines as they were completed before December 31, 2021. The renewal of the Gas Distribution System Right-of-Way remained active until June 2023 and expenses related to the renewal efforts of the Distribution System continued to be captured in the memorandum account, which included labor and non-labor survey contractor costs to complete the documentation of the right of way grant, the necessary survey maps and exhibits. The cost associated with the efforts to renew the Gas Distribution System Right-of-Way is $351,000. SoCalGas requests authorization to amortize the remaining balance of the MROWMA and then close the regulatory account when amortization is complete. (*See* Regulatory Accounts testimony, Ex. SCG-21.)

XVI. CONCLUSION

The GESI programs sponsored in this testimony are essential to maintaining the safety, reliability, and resilience of SoCalGas's natural gas system, while maintaining affordability for customers. These activities are also essential to maintain compliance with state and federal safety and reliability requirements, manage system risk through risk-informed and data-driven decision-making, support operational readiness and emergency response, and enable efficient planning and long-term system stewardship, consistent with the CPUC's direction and customer affordability considerations.

[178] D.19-09.051 at 141.

The forecasts presented for TY 2028 reflect prudent planning and compliance with state and federal regulations, including requirements under the CPUC's Risk-Based Decision-Making framework and directives related to integrity management and system safety. These requests also incorporate incremental activities identified in SoCalGas's 2025 RAMP filing, enabling alignment between risk mitigation strategies and resource allocation.

Through risk-based prioritization, integrated infrastructure planning, and workforce development, SoCalGas strives to deliver safe and reliable service in the most effective manner possible while managing affordability for customers. The capital investments and O&M activities outlined in this testimony are necessary to address evolving regulatory requirements, mitigate system risks, and maintain operational readiness in a changing environment.

For these reasons, SoCalGas respectfully requests that the California Public Utilities Commission approve the TY 2028 forecasts and associated activities described in this testimony as reasonable and necessary to fulfill SoCalGas's obligations to customers and the communities it serves.

This concludes my prepared direct testimony.

XVII. WITNESS QUALIFICATIONS

My name is Amy Kitson. I am employed by SoCalGas as the Vice President of Gas Engineering & System Integrity for SoCalGas. My business address is 555 West Fifth Street, Los Angeles, California 90013-1011. I graduated from Michigan State University in 2003 with a Bachelor of Science degree in Mechanical Engineering and California State University Northridge in 2009 with a Master of Science degree in Engineering Management. I joined SoCalGas in 2005 as an engineer in the Gas Operations organization supporting the Transmission Integrity Management Program. Since that time, I have held numerous positions with increasing levels of responsibility including Project Manager, Technical Services Manager, Storage Engineering Manager, Risk Assessment & Controls Manager, Director of Storage Risk Management, Director of Integrity Management and Strategic Planning and Director of Angeles Link Engineering and Technology. In my current position, my responsibilities include overseeing the Gas Engineering, Integrity Management, and Infrastructure Support Program activities. Prior to joining SoCalGas, I worked at Consumers Energy in Michigan. I have previously testified before the Commission.

APPENDIX A

GLOSSARY OF TERMS

APPENDIX A

Glossary of Terms

ACRONYM	DEFINITION
3D	Three-Dimensional
AB	Assembly Bill
AI	Artificial Intelligence
AIP	Asset Investment Planning
AMP	Asset Management Program
API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
ASV	Automatic Shutoff Valve
BIA	Bureau of Indian Affairs
BTU	British Thermal Unit
BY	Base Year
CA	Compliance Assurance
CalGEM	California Geologic Energy Management
CARB	California Air Resources Board
CAGMP	Climate Adaptation and Geohazards Management Program
CAVA	Climate Adaptation Vulnerability Assessment
CBO	Community Based Organization
CDFA	California Department of Food and Agriculture
CEC	California Energy Commission
CEP	Community Engagement Plan
CFR	Code of Federal Regulations
Chem/Envtl	Chemical/Environmental
CNG	Compressed Natural Gas
COC	Certificate of Conformity
CPUC	California Public Utilities Commission
CSF	Customer Service Field
CSUMB	California State University Monterey Bay
DACAG	Disadvantaged Communities Advisory Group
DIMP	Distribution Integrity Management Program
DOI	Department of Interior
DOT	Department of Transportation
DVC	Disadvantaged Vulnerable Communities
EAC	Engineering Analysis Center
EAM	Enterprise Asset Management
EIT	Engineering Information Technology
EM	Emergency Management
EPM	Electronic Pressure Monitors
ESJ	Environmental and Social Justice
ESP	Emission Strategy Program

FTE	Full-Time Equivalent
GA&S	Geographic Analysis & Survey
GenAI	Generative AI
GESI	Gas Engineering and System Integrity
GHG	Greenhouse Gas
GIS	Geographic Information Systems
GMP	Geohazard Management Program
GO	General Order
GRC	General Rate Case
GTSR	Gas Transmission Safety Rule
HCAs	High Consequence Areas
I&C	Instrumentation & Control
IIP	Integrated Infrastructure Planning
ILI	Inline Inspection
IPD	Infrastructure Project Delivery
ISO	International Standards Organization or International Organization for Standardization
KPIs	Key Performance Indicators
KRIs	Key Risk Indicators
LCFS	Low Carbon Fuels Standard
LEV	Low Emission Vehicle
LRoW	Land & Right of Way
LUAF	Lost and Unaccounted For (Gas)
MCAs	Moderate Consequence Areas
ML	Machine Learning
MMT	million metric tons
MRC	Measurement, Regulation and Control
MROWMA	Morongo Rights of Way Memorandum Account
NACE	National Association of Corrosion Engineers
NGV	Natural Gas Vehicle
Nox	Nitrogen Oxide
NSR	New Source Review
NTSB	National Transportation Safety Board
O&M	Operations and Maintenance
OIR	Order Instituting Rulemaking
OEM	Original Equipment Manufacturer
OP	Operator Qualification
OPM	Optical Pipeline Monitoring
PDCA	Plan, Do, Check, Act
PHMSA	Pipeline and Hazardous Materials Safety Administration
PI	Pipeline Integrity
PID	Piping & Instrumentation Diagram
PLC	Programmable Logic Controller

PSMS	Pipeline Safety Management Systems
QA/QC	Quality Assurance/Quality Control
RAMP	Risk Assessment and Mitigation Phase
RCPPP	Reliable and Clean Power Procurement Program
RNG	Renewable Natural Gas
ROW	Right of Way
RSAR	Risk Spending Accountability Reports
RTU	Remote Terminal Unit
SAP HANA	SAP's High-performance Analytic Appliance
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition
SCG	SoCalGas
SDG&E	San Diego Gas & Electric
SIMP	Storage Integrity Management Program
SLCP	Short-Lived Climate Pollutant
SME	Subject Matter Expert
SMS	Safety Management System
SOx	Sulfur Oxide
TVC	Traceable, Verifiable, and Complete
TY	Test Year
WMFT	Work Management and Field Technology

APPENDIX B

CONTROLS AND MITIGATION COMPLIANCE ROADMAP

APPENDIX B

CONTROLS AND MITIGATIONS COMPLIANCE DRIVER ROADMAP

The table below identifies the compliance drivers that support the Risk Controls/ Mitigations identified in testimony. This appendix is intended to demonstrate traceability between proposed controls/mitigations and applicable federal and state regulatory requirements.

Control/ Mitigation ID	Control/Mitigation Name	Compliance Driver
C001	Damage Prevention Strategies MP & HP	49 CFR § 192.624, GO112F, and CA GOV Code 4216
C002	Damage Prevention Activities MP & HP	49 CFR § 192.624, GO112F, and CA GOV Code 4216
C003	Damage Prevention Public Awareness MP & HP	49 CFR § 192.614 & 192.616
C401	Storage Integrity Management Program (SIMP)	CPUC, CalGEM (14 CCR §1726), and PHMSA (49 CFR §192.12)
C013	Gas Transmission Safety Rule – MAOP Reconfirmation	49 CFR § 192.624
C120	Distribution Riser Inspection Program (DRIP)	49 CFR § 192, Subpart P
C121	Gas Infrastructure Protection Program (GIPP)	49 CFR § 192, Subpart P
C122	Sewer Lateral Inspection Project (SLIP)	49 CFR § 192, Subpart P
C129	Cathodic Protection System Improvement (CP SIP)	49 CFR § 192, Subpart P
C171	Integrity Assessments & Remediation: Transmission Integrity Management Program (TIMP)	49 CFR § 192, Subpart O 49 CFR §§ 192.710, 192.714
C182	Distribution Risk Evaluation & Monitoring System (DREAMS)	49 CFR § 192, Subpart P

APPENDIX C

CAPITAL EXPENDITURES

Southern California Gas Company
Capital Expenditures
(In Thousands of 2025 $)

Gas Engineering & System Integrity	2026	2027	2028	2029	2030	2031
Total Capital	**56,897**	**58,322**	**63,850**	**66,295**	**68,054**	**61,821**
2026 - 2028 Capital Request	56,897	58,322	63,850	-	-	-
Post-Test Year Capital Forecast	-	-	-	66,295	68,054	61,821

Southern California Gas Company
Capital Expenditures
(In Thousands of 2025 $)

Gas Engineering & System Integrity
2026 - 2028 Capital Request

Category	Workpaper Sub	Workpaper Description	In-Service Date	2026	2027	2028
LABORATORY EQUIPMENT	007300.001	LABORATORY EQUIPMENT	Routine	1,149	1,149	1,149
LABORATORY EQUIPMENT Total				**1,149**	**1,149**	**1,149**
LAND RIGHTS	006170.001	LAND RIGHTS	Routine	1,084	1,084	220
LAND RIGHTS Total				**1,084**	**1,084**	**220**
SUPERVISION AND ENGINEERING OVERHEAD POOL	009080.001	SUPERVISION AND ENGINEERING OVERHEAD POOL	Routine	30,389	30,396	30,385
SUPERVISION AND ENGINEERING OVERHEAD POOL Total				**30,389**	**30,396**	**30,385**
ASSET MANAGEMENT PROGRAM	EN756A.001	ASSET MANAGEMENT PROGRAM	Routine	2,590	6,091	7,158
ASSET MANAGEMENT PROGRAM Total				**2,590**	**6,091**	**7,158**
CLIMATE ADAPTATION	A0302A.001	CLIMATE ADAPTATION	Routine	-	-	2,750
CLIMATE ADAPTATION Total				**-**	**-**	**2,750**
AVIATION SERVICES	003430.001	AVIATION SERVICES	Routine	500	500	1,339
AVIATION SERVICES Total				**500**	**500**	**1,339**
TIMP - PROGRAM MANAGEMENT	P07560.001	TIMP - PROGRAM MANAGEMENT	Routine	13,096	13,097	13,096
TIMP - PROGRAM MANAGEMENT Total				**13,096**	**13,097**	**13,096**
DIMP - PROGRAM MANAGEMENT	D07560.001	DIMP - PROGRAM MANAGEMENT	Routine	7,169	6,005	4,040
DIMP - PROGRAM MANAGEMENT Total				**7,169**	**6,005**	**4,040**
SIMP - PROGRAM MANAGEMENT	S04410.001	SIMP - PROGRAM MANAGEMENT	Routine	920	-	3,713
SIMP - PROGRAM MANAGEMENT Total				**920**	**-**	**3,713**
Grand Total				**56,897**	**58,322**	**63,850**

Southern California Gas Company
Capital Expenditures
(In Thousands of 2025 $)

Gas Engineering & System Integrity
Post-Test Year Capital Forecast

Category	Workpaper Sub	Workpaper Description	In-Service Date	2026	2027	2028	2029	2030	2031
LABORATORY EQUIPMENT	007300.001	LABORATORY EQUIPMENT	Routine	-	-	-	1,149	1,149	1,149
LABORATORY EQUIPMENT Total				**-**	**-**	**-**	**1,149**	**1,149**	**1,149**
LAND RIGHTS	006170.001	LAND RIGHTS	Routine	-	-	-	220	5,184	751
LAND RIGHTS Total				**-**	**-**	**-**	**220**	**5,184**	**751**
SUPERVISION AND ENGINEERING OVERHEAD POOL	009080.001	SUPERVISION AND ENGINEERING OVERHEAD POOL	Routine	-	-	-	30,391	30,391	30,391
SUPERVISION AND ENGINEERING OVERHEAD POOL Total				**-**	**-**	**-**	**30,391**	**30,391**	**30,391**
ASSET MANAGEMENT PROGRAM	EN756A.001	ASSET MANAGEMENT PROGRAM	Routine	-	-	-	11,659	7,159	7,159
ASSET MANAGEMENT PROGRAM Total				**-**	**-**	**-**	**11,659**	**7,159**	**7,159**
CLIMATE ADAPTATION	A0302A.001	CLIMATE ADAPTATION	Routine	-	-	-	4,280	4,355	3,775
CLIMATE ADAPTATION Total				**-**	**-**	**-**	**4,280**	**4,355**	**3,775**
AVIATION SERVICES	003430.001	AVIATION SERVICES	Routine	-	-	-	500	500	500
AVIATION SERVICES Total				**-**	**-**	**-**	**500**	**500**	**500**
TIMP - PROGRAM MANAGEMENT	P07560.001	TIMP - PROGRAM MANAGEMENT	Routine	-	-	-	13,096	13,096	13,096
TIMP - PROGRAM MANAGEMENT Total				**-**	**-**	**-**	**13,096**	**13,096**	**13,096**
DIMP - PROGRAM MANAGEMENT	D07560.001	DIMP - PROGRAM MANAGEMENT	Routine	-	-	-	4,040	4,040	4,040
DIMP - PROGRAM MANAGEMENT Total				**-**	**-**	**-**	**4,040**	**4,040**	**4,040**
SIMP - PROGRAM MANAGEMENT	S04410.001	SIMP - PROGRAM MANAGEMENT	Routine	-	-	-	960	2,180	960
SIMP - PROGRAM MANAGEMENT Total				**-**	**-**	**-**	**960**	**2,180**	**960**
Grand Total				**-**	**-**	**-**	**66,295**	**68,054**	**61,821**

APPENDIX D

TRANSMISSION INTEGRITY MANAGEMENT PROGRAM (TIMP) SUPPLEMENTAL DESCRIPTION

APPENDIX D

Transmission Integrity Management Program (TIMP)
Supplemental Description

This appendix provides a supplemental description of SoCalGas's TIMP, including the regulatory background under which the program operates, the structure and key components of the program and the primary activities associated with implementation.
Specifically, this appendix is intended to:

- Describe the regulatory requirements (49 CFR Part 192, Subpart O and related rulemakings) that govern the TIMP,
- Summarize the program framework and cyclical processes used to identify threats, assess risk, and plan integrity activities,
- Explain the key functional components of the program, including Data & GIS, Threat & Risk, Preventive & Mitigative (P&M) Measures, and Program Management Support, and
- Provide context regarding the drivers of TIMP-related activities and costs, including regulatory changes, program enhancements, and evolving risk considerations.

This appendix is intended to complement the testimony by providing additional detail on the design, operation, and regulatory basis of the TIMP, and to support understanding of how program activities align with applicable compliance requirements and ongoing integrity management objectives.

I. Regulatory Background

SoCalGas's Transmission Integrity Management Program (TIMP) was established pursuant to 49 Code of Federal Regulations (CFR) § 192, Subpart O, which mandates operators, such as SoCalGas, to identify threats to transmission pipelines in High Consequence Areas (HCAs)[1] (including internal and external corrosion, stress corrosion cracking, manufacturing defects, construction and fabrication issues, weather-related and outside forces, incorrect

[1] The introduction of 49 CFR § 192.710 through the *Pipeline Safety: Safety of Gas Transmission Pipelines: Maximum Allowable Operating Pressure (MAOP) Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments* final rule (GTSR Part 1, also known as RIN 1) expanded assessment and remediation requirements outside of HCAs.

operations, equipment failure, and third-party damages), determine the risk posed by these threats, schedule prescribed assessments to evaluate these threats, collect information about the condition of the pipelines, take actions to minimize applicable threat and integrity concerns to reduce the risk of a pipeline failure, and report findings to regulators.

The TIMP federal pipeline regulations were first adopted effective February 14, 2004, following the passage of the Pipeline Safety Improvement Act of 2002, to promote the continued safe and reliable operation of the country's natural gas infrastructure. In recent years, the Pipeline and Hazardous Materials Safety Administration (PHMSA) published the following rules that have enhanced requirements for the TIMP, including the expansion of assessment and remediation activities to areas outside of HCAs[2]:

- October 2019: *Pipeline Safety: Safety of Gas Transmission Pipelines: Maximum Allowable Operating Pressure (MAOP) Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendment* final rule (GTSR Part 1, also known as RIN 1).
- August 2022: *Pipeline Safety: Safety of Gas Transmission Pipelines: Repair Criteria, Integrity Management Improvements, Cathodic Protection, Management of Change, and Other Related Amendments* final rule (GTSR Part 2, also known as RIN 2).
- April 2024: *Pipeline Safety: Periodic Updates of Regulatory References to Technical Standards and Miscellaneous Amendments* final rule (Technical Standards Update I).
- July 2025: *Pipeline Safety: Periodic Updates of Regulatory References to Technical Standards and Miscellaneous Amendments; Additional Technical Amendments; Response to Petition for Reconsideration* final rule (Technical Standards Update II).

Other regulatory actions that have impacted or are currently expected to impact the TIMP include, but are not limited to:

[2] 49 CFR § 192.710

- PHMSA Advisory Bulletin on Pipeline Safety: Deactivation of Threats – Requires operators to consider stress corrosion cracking threat as 'active' on all covered segments.[3]
- PHMSA Advisory Bulletin on Pipeline Safety: Identification and Evaluation of Potential Hard Spots-In-Line Inspection Tools and Analysis -- Requires operators to evaluate their pipeline facilities for the existence and potential threat of hard spots on the pipeline body.[4]
- PHMSA Advisory Bulletin on Pipeline Safety: Advisory Bulletin on Protecting Pipeline Integrity During Extreme Winter Weather, Rapid Thaw, and Geohazard Events -- Requires operators to highlight safety risks associated with extreme winter weather.[5]

Background Summary

SoCalGas's TIMP framework is structured in alignment with the requirements of 49 CFR § 192.911 and follows a cyclical set of processes as visualized in the Figure AK-1 below.

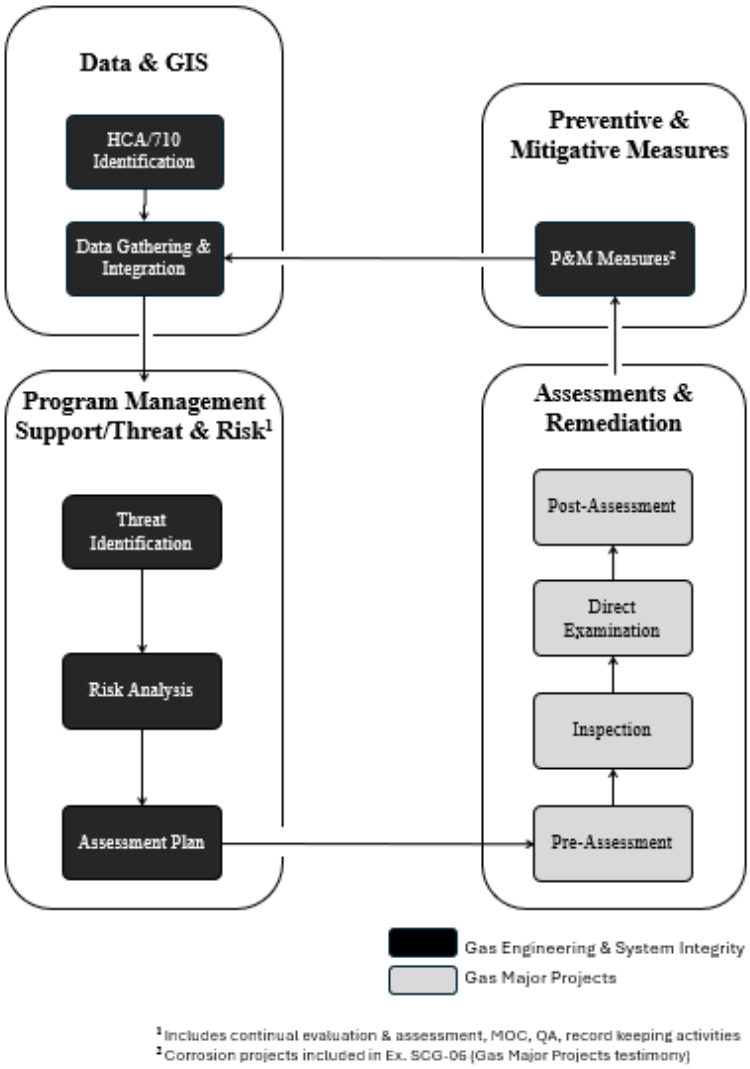
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[3] 82 Fed. Reg. No. 50,14106 (March 16, 2017), *available at*: https://www.govinfo.gov/content/pkg/FR-2017-03-16/pdf/2017-05262.pdf.

[4] 89 Fed. Reg. No. 222,90827 (November 18, 2024), *available at*: https://www.govinfo.gov/content/pkg/FR-2024-11-18/pdf/2024-26725.pdf.

[5] 91 Fed. Reg. No. 28,6287 (February 11, 2026), *available at*: https://www.govinfo.gov/content/pkg/FR-2026-02-11/pdf/2026-02666.pdf.

Figure AK-1
SoCalGas TIMP Cycle



[1] Includes continual evaluation & assessment, MOC, QA, record keeping activities
[2] Corrosion projects included in Ex. SCG-06 (Gas Major Projects testimony)

Cost Categories

The activities prescribed by PHMSA for the TIMP are primarily managed by employees in the Integrity Management (IM) department of the GESI organization, which comprises engineers, project managers, technical advisors, project specialists, and other employees with varying degrees of responsibility. SoCalGas currently organizes its TIMP activities and costs into four distinct categories: 1) Assessments & Remediation; 2) Preventive & Mitigative (P&M)

Measures; 3) Data and GIS; and 4) Program Management Support/Threat & Risk. As described in Ex. SCG-06, Gas Major Projects testimony, SoCalGas executes its TIMP assessment and remediation projects and corrosion-related P&M Measures activities (a subset of the P&M Measures category) primarily through the Gas Major Projects organization to leverage its centralized expertise and portfolio. Similarly, SoCalGas manages the foundational and programmatic TIMP activities primarily through the GESI organization to leverage the centralized expertise of its integrity management professionals across its portfolio of Integrity Management Programs: TIMP, DIMP and SIMP.[6]

Data & GIS

The Data & GIS category encompasses the first two steps of the TIMP in the Figure AK-1 above, GESI uses the Geographic Information System (GIS) platform to spatially manage, analyze, and visualize transmission assets and associated operational data. The system and its function are critical for meeting regulatory compliance requirements as it informs the foundational activity of identifying pipeline segments that must be included in the TIMP (e.g., HCAs, moderate consequence areas (MCAs)). GIS offers system-wide visibility with geographic context, enabling a better understanding of where risks are located and how assets interact with their surrounding environment. It also facilitates the integration and Quality Assurance/Quality Control (QA/QC) of diverse data elements to support threat identification and risk assessment, assessment planning, and the linking of assets to traceable, verifiable, and complete (TVC) records.

SoCalGas's GIS database serves as the Company's centralized spatial reference system, maintaining a common pipeline stationing framework that is fundamental for locating transmission assets and their attributes. It also houses the data collected during TIMP assessment and remediation processes. The database enables data integration across operational and integrity management activities. GESI continuously updates the database to reflect changes in the pipeline system based on new construction, replacements, abandonments, or

---

[6] Structural Integrity Associates, Inc. (SI Associates) pointed out that the "strong leadership and expertise of the IM teams contribute to execution efficiency by directing the projects towards success using expertise and proven best practices." *See* Appendix F (SI Associates Report: Aligning Safety, Compliance, and Cost-Effectiveness: A Comprehensive Review of SoCalGas's TIMP and DIMP Programs, January 2026) at Section 5.9 (Resource Allocation).

reconditioning of pipelines on the transmission pipeline system. Various tool sets (applications) within the database allow for the analysis and identification of HCAs, risk evaluation of the transmission system, and the creation of Assessment Plans. As data gathering and integration needs evolve in response to changing regulations, GESI maintains and enhances the database and its related systems and databases accordingly. Costs incurred to manage these programs, including employee labor costs, are allocated to designated program-specific accounts based on scoped activity (e.g., TIMP Balancing Account (TIMPBA) internal orders).

In 2021, SoCalGas created its asset management data lake and has continued to scale its development. This activity and the non-TIMP costs are described in more detail in my testimony (2EN014.000 - Asset Management Program). In their study of the TIMP and DIMP, SI Associates highlighted this work in its discussion about SoCalGas's program modernization and efficiency improvements (Section 8.0), stating "This technological improvement will streamline data integration for risk assessments supporting DIMP and TIMP thus resulting in continued effectiveness and efficiency gains for both Programs."[7] This effort consolidates data from multiple systems, along with structured and unstructured data sources, to enable comprehensive aggregation, integration, and cross-referencing of data for improved analytics. Specifically, for the TIMP, this data consolidation and integration will also support the development of an enterprise portal designed to enhance threat identification and risk assessment by integrating spatial and non-spatial data. In their study, SI Associates stated that "Data integration is crucial to evaluating the success of integrity management program strategies, processes, and methods as well as ensuring that threat and risk analyses are both determined with and validated using relevant data."[8] This initiative is intended to enhance the database and its applications to allow for a singular source of asset data to more efficiently and effectively assess pipeline conditions and risk.

Program Management Support/Threat & Risk

The majority of the GESI IM department perform functions related to the general oversight and management of the Integrity Management programs, with employees dividing

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7 *Id.* at Section 8.3 (Data Lake Project).

8 *Id.* at Section 6.19 (Other PAAR Initiatives).

their time between programs and tracking their hours and costs to designated program-specific accounts as needed (e.g., TIMPBA internal orders). Employees supporting the TIMP Program Management Support/Threat & Risk activities and cost category manage activities that include records management and validation, data management and integration, financial reconciliation, threat identification and risk assessment, regulatory reporting, integrity engineering analysis, auditing, quality assurance, Management of Change (MOC), compliance reporting and continual program evaluation and enhancements. These program management activities are critical to support overall compliance with federal requirements.[9]

Following the data & GIS group of activities in the Figure AK-1 above, the Threat & Risk team under GESI identifies threats, assesses risk, and establishes the TIMP Assessment Plan, which informs the Assessment & Remediation activities that are discussed in detail in the Ex. SCG-06, Gas Major Projects testimony.

Under TIMP regulations, operators are required to perform threat identification and risk assessment of transmission pipelines. SoCalGas follows a prescriptive approach for threat identification, which includes the nine categories of threats described in American Society of Mechanical Engineers (ASME) Standard B31.8S: External Corrosion; Internal Corrosion; Stress Corrosion Cracking; Manufacturing; Construction; Equipment; Third Party; Incorrect Operations; and Weather Related and Outside Force (WROF).[10] On an annual basis, all pipelines operated in HCAs and in-scope non-HCAs[11] are evaluated for each of the nine threat categories to identify threats. A relative risk assessment of the HCA and non-HCA pipeline segments is performed, and results inform the development of an Assessment Plan for both baseline assessments and continual reassessments. The Assessment Plan is then provided to the teams that perform project execution to inform future TIMP assessment projects; these activities and costs are discussed in Ex. SCG-06, Gas Major Projects testimony.

The forecasted Threat & Risk activities include projects initiated to meet new requirements that were introduced to the TIMP in Parts 1 and 2 of the GTSR, enacted in 2019

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9 49 CFR § 192.911.

10 Weather Related and Outside Force threat identification and risk assessment under SoCalGas's TIMP includes geohazards. *See also* Section VI.A.1.d. "Long Term Goals for Adapting to Climate Risk and Associated Geohazard Threats."

11 As defined in 49 CFR § 192.710(a).

and 2022, respectively. Threat & Risk projects related to geohazard, cracking, and cyclic fatigue threats are direct responses to these enhanced requirements to the TIMP program. In addition to these new requirements, PHMSA Advisory Bulletin *PHMSA-2024-0176* notifies pipeline operators "of the importance of evaluating their pipeline facilities for the existence and potential threat of hard spots in the pipe body."[12] The Threat & Risk team is developing an approach to evaluate the potential threat of hard spots in the system, but GESI has not forecasted the impact on projects and efforts that would be required to respond to the issues identified in the Advisory Bulletin during the TY 2028 GRC cycle at this early stage in the process.

Preventative & Mitigation (P&M) Measures

In accordance with 49 CFR § 192.935(a)(1), SoCalGas identifies and performs P&M measures to prevent a pipeline failure and to mitigate the consequences of a pipeline failure in a high consequence area.[13] After an assessment has been completed by Gas Major Projects, GESI analyzes assessment data to establish the reassessment interval for a pipeline and determine the need for P&M measures, if any. When appropriate, the consideration of additional measures (i.e., P&M measures) for pipeline segments with similar operating conditions is undertaken for both HCA and non-HCA pipelines. Currently, SoCalGas takes measures to enhance cathodic protection of pipelines beyond established requirements based on assessment findings, and these activities are forecasted and described in Ex. SCG-06, Gas Major Projects testimony.

GESI also collects and analyzes additional pipeline data through surveys when needed to support and inform the threat identification and risk assessment processes, which drive assessment and remediation activities, as well as additional P&M activities. This enables SoCalGas to blend elements of 49 CFR § 192.935 and § 192.917 into a comprehensive and cyclical set of activities within the overall TIMP framework (visualized by Figure AK-1 above) and efficiently respond to enhancements in federal regulations. Through the publication of GTSR Part 2, PHMSA has explicitly prescribed dozens of data points in 49 CFR § 192.917(b) that operators must gather and integrate, including depth-of-cover (DOC), crossings, soil,

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[12] Pipeline Safety: Identification and Evaluation of Potential Hard Spots—In- Line Inspection Tools and Analysis, 89 Fed. Reg. No. 222,90827 (November 18, 2024), *available at*: https://www.govinfo.gov/content/pkg/FR-2024-11-18/pdf/2024-26725.pdf.

[13] 49 CFR § 192.935(a)(1) requires operators to implement P&M measures beyond what is required in 49 CFR Part 192.

backfill, coating type, and coating condition. GTSR Part 2 similarly enhanced the requirements of 49 CFR § 192.935(a), which newly prescribes activities that operators "should consider to prevent or mitigate the consequences of a pipeline failure." Two of these options an operator must consider include performing additional DOC surveys at roads, streams, and rivers, and remediating inadequate depth-of-cover.

As part of continuous improvement, SoCalGas continues to enhance its threat identification capabilities where practicable.[14] Specifically for the TIMP, GESI will conduct DOC data collection surveys in HCA sites that are impacted by the WROF threat. This will support both the ongoing improvements in data gathering and enable enhanced threat identification and risk assessment for future remediation activities.

[14] *See* Appendix G ("CAVA Investment Proposals" for information about SoCalGas's LiDAR).

APPENDIX E

PHMSA ADVISORY BULLETINS: ALDYL-A PIPELINES

Appendix E

PHMSA Advisory Bulletins: Aldyl-A Pipelines

The table below identifies the PHMSA Advisory Bulletins referenced throughout this testimony that are relevant to SoCalGas's Distribution Integrity Management Program (DIMP) and Aldyl-A polyethylene pipe (Aldyl-A). PHMSA Advisory Bulletins provide important safety guidance and highlight emerging risks, material performance considerations, and operational expectations that inform SoCalGas's threat identification, risk evaluation, and mitigation activities. These Aldyl-A related bulletins are an example of evolving regulatory expectations and are considered when assessing operator performance and program effectiveness. This appendix provides a consolidated reference to support traceability between federal guidance and the DIMP activities described in this testimony.

PHMSA ADVISORY BULLETINS

Bulletin	Date	Description
ADB-99-01[1]	March 11, 1999	Potential Failure Due to Brittle-Like Cracking Certain Polyethylene Plastic Pipe Manufactured by Century Utility Products Inc
ADB-99-02[2]	March 11, 1999	Potential Failures Due to Brittle-Like Cracking of Older Plastic Pipe in Natural Gas Distribution Systems
ADB-02-07[3]	November 26, 2002	Notification of the Susceptibility to Premature Brittle-Like Cracking of Older Plastic Pipe
ADB-07-01[4]	September 6, 2007	Updated Notification of the Susceptibility of Older Plastic Pipes to Premature Brittle-Like Cracking
ADB-26-01[5]	January 23, 2026	Distribution Integrity Management Program Considerations for Plastic Piping and Components

[1] 64 Fed. Reg. 47,12211 (Mar. 11, 1999), *available at:* https://www.govinfo.gov/content/pkg/FR-1999-03-11/pdf/99-6013.pdf.

[2] 64 Fed. Reg. 47,12212 (Mar. 11, 1999), *available at:* https://www.govinfo.gov/content/pkg/FR-1999-03-11/pdf/99-6051.pdf.

[3] 67 Fed. Reg. 228,70806 (Nov. 26, 2002), *available at:* https://www.govinfo.gov/content/pkg/FR-2002-11-26/pdf/02-30055.pdf.

[4] 72 Fed. Reg. 172,51302 (Sept. 6, 2007), *available at:* https://www.govinfo.gov/content/pkg/FR-2007-09-06/pdf/07-4309.pdf.

[5] 91 Fed. Reg. 15,2995 (Jan. 23, 2026), *available at:* https://www.govinfo.gov/content/pkg/FR-2026-01-23/pdf/2026-01321.pdf.

APPENDIX F

INDEPENDENT STUDY ASSESSING THE EFFICIENCY OF SOCALGAS'S TIMP AND DIMP

APPENDIX F
Independent Study Assessing the Efficiency of SoCalGas's TIMP and DIMP

This appendix provides the independent third-party study conducted by Structural Integrity Associates, Inc., which evaluated SoCalGas's TIMP and DIMP. The study is referenced throughout this testimony to provide additional context regarding industry practices and program effectiveness.

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Aligning Safety, Compliance, and Cost-Effectiveness: A Comprehensive Review of SoCalGas's TIMP and DIMP Programs

Prepared For: Southern California Gas

SoCalGas

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TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 1
2.0 BACKGROUND 3
2.1 SoCalGas Overview 4
2.2 SoCalGas IM Organization Structure 5
3.0 METHODOLOGY 6
4.0 INTEGRITY MANAGEMENT PROGRAM REGULATORY CONTEXT 7
4.1 Pipeline Safety Regulations 7
4.1.1 Transmission Integrity Management Program 8
4.1.2 Distribution Integrity Management Program 9
4.2 Recent Regulatory Changes 9
4.2.1 New Legislation and Regulatory Requirements Impacting SoCalGas's DIMP 12
4.2.2 Addressing PIPES Act of 2020 Mandates: Low-Pressure System Over-Pressurization 12
4.2.3 Gas Pipeline Regulatory Reform Final Rule 13
4.2.4 California General Order 112-F 14
4.3 Advisory Bulletins and Frequently Asked Questions 15
4.4 DIMP - CPUC Compliance and Integrity Enhancement Initiatives 16
5.0 TIMP – PROGRAM EVALUATION FOR EFFECTIVENESS, EFFICIENCY AND COST-EFFECTIVENESS 18
5.1 TIMP Procedural Review 19
5.2 TIMP Process Data Map 22
5.3 Recent Audit Performance 23
5.3.1 TIMP External Audits 23
5.3.2 TIMP Internal Audits 24
5.4 Pipeline System Capable of Accommodating ILI 26
5.5 Assessments 28
5.6 Repairs 32
5.7 Leaks and Incidents 37
5.8 SCC and Manufacturing & Construction Threats 44
5.8.1 Manufacturing & Construction Threat 44
5.8.2 SCC Threat 45
5.9 Resource Allocation 47
5.10 Program Costs 49
6.0 DIMP - PROGRAM EVALUATION FOR EFFECTIVENESS, EFFICIENCY AND COST-EFFECTIVENESS 53
6.1 DIMP Procedural Review 54
6.2 DIMP Process Data Map 56

6.3 DIMP – Efficiency of Programs 58
6.4 Recent Audit Performance 60
6.4.1 DIMP External Audits 60
6.4.2 DIMP Internal Audit Results 62
6.5 Leak Management Program 62
6.6 Damage Prevention Analysis Program 62
6.7 Vintage Plastic Pipe and Bare Steel Replacement Program 65
6.8 Sewer Lateral Inspection Program (Cross Bore) 65
6.9 Public Awareness 66
6.10 Operator Qualification 66
6.11 Performance Evaluation of Effectiveness, Efficiency and Cost-Effectiveness 66
6.12 Gas Distribution Annual Report DIMP Performance Measures 67
6.12.1 Number of Hazardous Leaks either Eliminated or Repaired, per §192.703(c), Categorized by Cause 67
6.12.2 Number of Excavation Damages 69
6.12.3 Number of Excavation Tickets (received from Notification Center) 70
6.12.4 Total Number of Leaks either Eliminated or Repaired, Categorized by Material 71
6.12.5 Additional Performance Measures Selected by SoCalGas 72
6.13 Programs and Activities to Address Risk 72
6.14 VIPP and BSRP 72
6.14.1 Vintage Integrity Plastic Program 73
6.14.2 Bare Steel Replacement Program 80
6.15 Sewer Lateral Inspection Program 82
6.16 Gas Infrastructure Protection Program 87
6.17 Distribution Riser Inspection Program 90
6.18 Damage Prevention Analyst Program 94
6.19 Other PAAR Initiatives 98
6.20 Proactive Alignment with Current and Notice of Proposed Rulemakings 100
6.21 DIMP Program Effectiveness Enhancements 101
7.0 BENCHMARKING – DIMP 102
7.1.1 SoCalGas and Peer Company Distribution Incidents 102
7.1.2 SoCalGas and Peer Company Number of Excavation Damages per 1000 Excavation Tickets 105
7.1.3 Benchmarking Table: SoCalGas Aldyl-A Replacement and Peer Operator 106
8.0 PROGRAM MODERNIZATION AND EFFICIENCY IMPROVEMENTS 107
8.1 Enhancing DIMP Data and Analytics 107
8.2 GIS Enhancements 108
8.3 Data Lake Project 108
8.4 IM Task Management Solution Replacement 108

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8.5 Risk Modeling....108
9.0 OBSERVATIONS FOR ENHANCEMENT OF PROGRAM OBJECTIVES 109
9.1 TIMP Recommendations....109
9.1.1 SCC Threat Evaluation....109
9.1.2 Validation Spools....110
9.1.3 Composite Sleeves....110
9.1.4 Compressive Steel Sleeves....111
9.1.5 Annual Program Review Process....111
9.2 DIMP Recommendations....111
9.2.1 Program Structure and Governance....111
9.2.2 Metrics and Performance Monitoring....112
9.2.3 System Knowledge and Data Management....112
9.2.4 Threat Identification....113
9.2.5 Reporting and Documentation....114
9.2.6 Program Scope and Integration....115
9.2.7 Annual Review Requirement....115
10.0 CONCLUSION....116
11.0 REFERENCES....117

LIST OF TABLES

Table 5-1: TIMP Program Elements....20
Table 5-2: SoCalGas Transmission Incidents [11]....41
Table 6-1: DIMP Program Elements....56
Table 7-1: Benchmarking Aldyl-A Replacement Programs – SoCalGas and Peer Operator....107

TABLE OF FIGURES

Figure 2-1: SoCalGas Operational Service Territory....5
Figure 4-1: Regulatory Timeline....10
Figure 4-3: SoCalGas DIMP Total Program Spend (O&M and Capital, $ in millions) [7]....18
Figure 5-1: TIMP Process and Data Source Map....23
Figure 5-2: Recent External Audit Performance....24
Figure 5-3: Benchmarked Percentage of Transmission System Piping in HCAs Able to Accommodate ILI [1]....26
Figure 5-4: Benchmarked Percentage of Total Transmission System Piping Able to Accommodate ILI [1]....27
Figure 5-5: SoCalGas Total Reportable Mileage Assessed by Pressure Test, and DA [1]....28
Figure 5-6: SoCalGas Total ILI Assessments Mileage and Number of Segments [1], [8]....29
Figure 5-7: SoCalGas ILI Mileage by Technology [8]....30
Figure 5-8: Transmission Industry Integrity Assessment Methods Mileage [1]....31
Figure 5-9: SoCalGas Total PHMSA-defined ILI Repair Conditions in HCAs [1]....32
Figure 5-10: SoCalGas Total PHMSA-defined ILI Repair Conditions Outside of HCAs [1]....33
Figure 5-11: SoCalGas Total Individual Defect Repairs by Threat [9]....34
Figure 5-12: SoCalGas Total Repairs by Method [10]....36
Figure 5-13: SoCalGas PHMSA Repair Conditions from DA Projects (both inside and outside of HCAs) [1]....36
Figure 5-14: SoCalGas HCA leaks by Cause [1]....38
Figure 5-15: All SoCalGas Leaks by Cause [1]....39
Figure 5-16: Normalized Peer and Industry Leak Rates (including Equipment Failure) [1]....40
Figure 5-17: Normalized Incident Rates per 1000 Transmission Miles (SoCalGas, Peers and Industry) [11]....42
Figure 5-18: SoCalGas Total Property Damage Costs of Incidents [11]....43
Figure 5-19: SoCalGas HCA Mileage by Manufacturing Threat Susceptibility [13]....45
Figure 5-20: SoCalGas Manufacturing Sub-Threat Susceptibility for HCAs [14]....45
Figure 5-21: SoCalGas SCC Threat Susceptibility HCA Mileage [13]....46
Figure 5-22: SoCalGas Circumferential SCC Threat Susceptibility HCA Mileage [13]....47
Figure 5-23: SoCalGas ILI and DA Program Resource Allocation and Program Magnitude [10]48
Figure 5-24: SoCalGas TIMP Total Program Spend (O&M and Capital, $ in millions [10])....50

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Figure 5-25: SoCalGas Costs per Dig Site [10] 51
Figure 5-26: SoCalGas Number of Individual Defects Repaired and Costs per Defect Repaired [9] 52
Figure 6-1: DIMP Process & Data Map 58
Figure 6-2: DIMP Program Efficiency 60
Figure 6-3: Recent External Audit Performance 61
Figure 6-4: SoCalGas Number of Excavation Damages per 1000 Excavation Tickets [2] 64
Figure 6-5: SoCalGas Number of Excavation Damages per 1000 Excavation Tickets vs Cost per Damage [2] 65
Figure 6-6: SoCalGas Hazardous Leaks Repaired on Mains, Categorized by Cause [2] 68
Figure 6-7: SoCalGas Hazardous Leaks Repaired on Services, Categorized by Cause [2] 69
Figure 6-8: SoCalGas Total Number of Excavation Damages [2] 70
Figure 6-9: SoCalGas Total Number of Excavation Tickets [2] 71
Figure 6-10: SoCalGas Total Number of Hazardous Leaks Repaired, Categorized by Material [17] 72
Figure 6-11: SoCalGas DREAMS Miles Replaced vs. Cost per Mile [18] 73
Figure 6-12: SoCalGas Number of Hazardous Leaks Repaired NSOTA vs SOTA Plastic [17] ..75
Figure 6-13: SoCalGas Number of Hazardous Leaks Repaired (Pipe/Weld/Joint Failure only) NSOTA vs SOTA Plastic with Leak Repair Rates [17] 76
Figure 6-14: SoCalGas VIPP Mains: Hazardous Leak Repair Rate vs Miles Replaced [23], [24], [18] 77
Figure 6-15: SoCalGas VIPP Services: Hazardous Leak Repair Rate vs Miles Replaced [23], [24], [18] 77
Figure 6-16: SoCalGas VIPP: "Pre-1973" and "1973 to 1985" Hazardous Leaks Repaired vs Miles Replaced on Mains [23], [24], [18] 78
Figure 6-17: SoCalGas VIPP: "Pre-1973" and "1973 to 1985" Hazardous Leaks Repaired vs Miles Replaced on Services [23], [24], [18] 79
Figure 6-18: SoCalGas Percent of Leaks on NSOTA and SOTA Plastic Compared to Percent Length of System [23], [24] 80
Figure 6-19: SoCalGas BSRP (Mains AND Services): Hazardous Leak Repair Rate vs Miles Replaced [24], [23], [18] 81
Figure 6-20: SoCalGas BSRP (Mains AND Services): Hazardous Leak Repair Rate and Total Number of Leaks Repaired vs Miles Replaced [24], [23], [18] 81
Figure 6-21: SoCalGas BSRP (Mains AND Services): Hazardous Leak Repair Rate vs Cost per Mile Replaced [24], [23], [18] 82
Figure 6-22: SoCalGas: Legacy Cross-bores Found per 1,000 Inspections [27] 84
Figure 6-23: SoCalGas SLIP Inspections - Forecast vs. Actual [28] 85
Figure 6-24: SoCalGas Legacy Cross-bores Found vs Cost per Cross-bore Found [29] 86
Figure 6-25: SLIP Dashboard [30] 86
Figure 6-26: GIPP Mitigations by Year 88
Figure 6-27: SoCalGas GIPP Metrics vs Total Cost per Year [33] 89
Figure 6-28: GIPP Dashboard [30] 90
Figure 6-29: SoCalGas Distribution Riser Actual Inspections 91
Figure 6-30: SoCalGas Leaks Repaired on Distribution Service Risers vs DRIP Total Spend [35] 92
Figure 6-31: SoCalGas Leaks Repaired on Distribution Service Risers 93
Figure 6-32: SoCal DPAP Analysis 95

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Figure 6-33: Damage Prevention Analyst versus Media Campaign Costs [36] 96
Figure 6-34: Jobs Halted/ Dig-Ins Prevented [37] 96
Figure 6-35: SoCalGas Dig-in Prevented & Damage Prevention Costs per Year [37] 97
Figure 6-36: DREAMS Program Summary 101
Figure 7-1: SoCalGas vs. Peer Company Incidents [2] 104
Figure 7-2: SoCalGas vs Peer Company Cross-bores Found per 1,000 Inspections [27] 105
Figure 7-3: SoCalGas vs Peer Company: Number of Excavation Damages per 1000 Excavation Tickets [2] 106

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1.0 EXECUTIVE SUMMARY

Structural Integrity Associates, Inc. (SI) performed an Independent Review of Southern California Gas' (SoCalGas) Transmission Integrity Management Program (TIMP) and the Distribution Integrity Management Program (DIMP). For reference, the TIMP applies to transmission pipelines as defined in 49 CFR §192.3, while the DIMP applies to distribution lines as defined in the same section. These definitions establish the scope of each program, so that integrity management requirements address the distinct risks of transmission and distribution systems. This report provides an in-depth evaluation of the effectiveness, cost-efficiency, operational efficiency, and overall performance of these programs. It assesses how well SoCalGas achieves critical safety objectives while leveraging resources strategically to enhance reliability, reduce risk, and drive continuous improvement across integrity management practice.

During the review, SoCalGas personnel demonstrated the Company's commitment to the effective, safe and reliable delivery of natural gas to the Company's customers, maintaining alignment with public safety objectives and meeting the requirements for applicable pipeline safety regulations. The Company has well-managed TIMP and DIMP programs, well-written Integrity Management (IM) Plans and competent personnel that are dedicated to enhancing safety and integrity of the Company's IM Programs. SoCalGas' TIMP and DIMP are effective, efficient, and cost-effective, reflecting industry best practices and a proactive approach to safety and compliance.

From a qualitative perspective, TIMP and DIMP programs approach effectiveness, efficiency, and cost-effectiveness differently, in part due to the differences in regulatory requirements for the respective sections of code. For the context of this review, SI defines the effectiveness, efficiency, and cost-effectiveness as follows:

- Effectiveness refers to the company's ability to manage its compliance programs in a way that meets regulatory requirements, minimizes risk, and prevents incidents.
- Efficiency evaluates how well the company achieves its compliance and risk reduction objectives while minimizing the use of time, effort, and resources without compromising safety.
- Cost-effectiveness considers whether the company is meeting regulatory requirements in a financially responsible manner, using an appropriate number of financial resources to maintain risk reduction, compliance and safety objectives.

In addressing effectiveness, TIMP is focused on preventing large-scale transmission failures, which typically are lower likelihood, higher consequence events, through proactive risk modeling, integrity assessments, repairs and preventative and mitigative measures. The program's effectiveness lies in long-term reliability and compliance with prescriptive requirements. DIMP, conversely, emphasizes localized risk mitigation by monitoring leak trends, performing inspections and replacing targeted, higher risk sections of the gas distribution systems. Its effectiveness is measured by its ability to prevent leaks and incidents and employ additional and accelerated actions.

TIMP's efficiency depends on following a rigorous project evaluation and management process to ensure consistent execution. While this approach establishes stability and supports regulatory compliance, it can be resource-intensive and slower to implement. DIMP is more operationally agile,

with less prescriptive regulations that allow for responsiveness of the program based on the evaluation of data.

In addressing cost-effectiveness, TIMP requires high upfront costs and long-term strategic planning for investments in retrofitting the system to accommodate In-Line Inspection (ILI) and engineering solutions. These investments are justified by their role in preventing catastrophic failures and extending the life of the transmission system. DIMP is historically associated with lower initial costs and recurring monitoring expenses but involves significant capital investment for main replacements as part of risk mitigation strategies. Rather than SoCalGas's DIMP Program being purely operational focused, it represents a blend of ongoing mitigations and risk-based capital projects aimed at reducing the potential for leaks and improving system reliability. These investments are critical for addressing regulatory compliance and strategic alignment with safety objectives.

Both programs are essential and compliance-driven but serve different purposes; TIMP is prescriptive and preventive, focusing on long-term system integrity while DIMP is more procedural and responsive, prioritizing immediate safety and operational continuity.

SI performed a thorough review of SoCalGas's IMPs, associated gas standards, performance metrics, and supporting processes. The evaluation is documented in this report, but to conclude, both the TIMP and DIMP are effective in meeting the integrity management requirements and objectives set forth by PHMSA, the CPUC, and SoCalGas leadership. There is substantive evidence throughout this report to support this conclusion; however, at a high level, the specific items outlined below reinforce this conclusion and demonstrate effective performance.

- Recent audit findings confirm that both programs are operating in a compliant and effective manner, reflecting strong governance and adherence to regulatory (Federal and State) requirements. The minimal concerns identified during audits underscore the comprehensive integrity-related processes and the effectiveness of program implementation.
- The number of assessments performed annually demonstrates a proactive approach to monitoring and maintaining pipeline integrity. Timely repairs following these assessments highlight the responsiveness of maintenance teams and the effectiveness of planning strategies. Year-over-year increases in the mileage able to accommodate ILI further indicates a commitment to continuous improvement, risk mitigation, and public safety.
- Replacement activities have been strategically executed to respond to high-risk segments and enhance system reliability and safety. These efforts follow risk-based decision making principles, reducing the likelihood of unplanned outages and supporting long-term operational sustainability.
- Leak trends continue to show improvement, with a downward trend that reflects the success of preventive measures through replacement programs or robust inspection programs (i.e. cross-bore). Early detection and rapid response have minimized safety and environmental risk. Review of the data shows that 2021–2024 were strong years for pipeline replacement, with consistent mileage and capital investment supporting risk reduction goals. Efficiency and cost-effectiveness continue to progress in mid-2025, as higher mileage is achieved with lower expenditures. Overall, the data trend demonstrates effective execution of the Vintage

Integrity Plastic Plan (VIPP) and Bare Steel Replacement Plan (BSRP) replacement programs, strong alignment with risk-based priorities, and cost-effectiveness gains through more strategic risk-based prioritization and resource utilization.

While the SoCalGas TIMP and DIMP Programs are mature and demonstrate a strong foundation in integrity management, there remain opportunities to enhance their effectiveness, cost-efficiency, and efficiencies associated with executing both programs. Additional recommendations for enhancement are provided in this report to support ongoing program optimization and continuous improvement. Future strategies may include leveraging advanced analytics, digital tools, and industry best practices to further enhance documentation and streamline processes; initiatives SoCalGas is already pursuing. These forward-looking initiatives will help provide confidence in sustained compliance, enhanced risk management decisions, and position the programs for continued leadership in safety and reliability.

2.0 BACKGROUND

The purpose of this review is to evaluate SoCalGas's TIMP and DIMP through a comprehensive analysis including operational effectiveness in meeting safety objectives, cost-efficiency in resource or program utilization, and process efficiency in executing IM activities. The assessment also considers organizational practices that support timely decision-making, data management, and risk prioritization. Where applicable, benchmarking against peer utilities is incorporated to provide context on industry alignment and identify opportunities for adopting best practices.

This report was prepared in response to the California Public Utilities Commission's (CPUC) request for a comprehensive evaluation of program effectiveness. The CPUC's objective was to verify that SoCalGas' integrity management programs (TIMP and DIMP) are not only effective but also demonstrate measurable efficiency and cost-effective performance.

To meet this expectation, the review was conducted by a team of highly qualified Structural Integrity Associate (SI) professionals, all of whom are former utility operators with extensive engineering and operational experience. Their backgrounds include direct responsibility for pipeline integrity programs, operational and maintenance planning, and compliance oversight within regulated environments. This practical expertise provided a perspective to affirm that the review reflected real-world operational practices rather than theoretical assumptions.

The reviewers applied industry best practices and leveraged their firsthand knowledge of utility operations to assess program performance, identify strengths, and validate that corrective actions and preventive measures are effectively reducing risk. Their qualifications and experience lend credibility to the review and reinforce confidence in the TIMP and DIMP evaluation presented in this report.

The SI review was informed by discussions with integrity management and subject matter experts and included a review of SoCalGas's TIMP, DIMP, Integrity Management Risk Models, and related Operations and Maintenance (O&M) procedures (Gas Standards). The objective was to provide a comprehensive view of program maturity, operational efficiency, effectiveness in maintaining compliance, and opportunities for continuous improvement.

This review focuses solely on SoCalGas's TIMP and DIMP programs; San Diego Gas and Electric (SDG&E) programs were not included as part of this review.

2.1 SoCalGas Overview

SoCalGas is a regulated natural gas distribution utility serving central and southern California through more than five million meters. It is the nation's largest natural gas distribution company, providing service to residential, commercial, and industrial customers, as well as electric generation and wholesale customers, across a 20,000-square-mile territory. The natural gas delivery system includes distribution and transmission pipelines.

SoCalGas faces operational challenges in executing its TIMP and DIMP programs beyond that which most distribution companies experience including:

- As the nation's largest distribution company, the sheer size and complexity of the organization and related human and financial resources required to coordinate the associated volume of activity each day, capture and integrate the volume of data related with that activity, and integrate that information into its TIMP and DIMP programs.
- The geography of the SoCalGas service territory including coastal to mountainous regions and associated significant, large-scale threats from coastal storms to wildfires and geohazards in the mountains.
- The highly developed and associated high population densities are characteristic of SoCalGas' service area which both leads to increased potential consequences of gas releases as well as the complexity and costs associated with safely maintaining the pipeline system.

In addition, California has long set the benchmark for pipeline safety and environmental stewardship, and it continues to lead the industry through proactive regulatory requirements and actions. This leadership creates unique challenges for California-based natural gas pipeline operators, as few peers nationwide operate under comparable expectations or scale.

Within this jurisdictional landscape, SoCalGas has consistently distinguished itself as a leader in innovation in the natural gas pipeline industry. Managing safety across the nation's largest natural gas distribution system requires different strategies, methods, and technologies tailored to its size and complexity. To meet these expectations, SoCalGas invests in innovative solutions that enhance the effectiveness and efficiency of its TIMP and DIMP programs to the benefit of industry. These efforts include but are not limited to predictive modeling utilizing machine learning and/or artificial intelligence (AI) for risk and threat analyses.

Pipelines within the scope of the TIMP and DIMP plans are managed by either Transmission or Distribution Operations within SoCalGas. SoCalGas operates 3,357 miles of gas transmission pipelines, which includes 1,123 miles of pipe within High Consequence Areas (HCA) [1] as of December 31, 2024. Transmission Operations (and pipelines managed by this team) are divided into 10 geographic districts.

SoCalGas operates 52,362 miles of distribution mains, with 4,587,642 services providing natural gas to customers [2]. Distribution Operations in the SoCalGas territory are organized into two large Regions, further subdivided into 54 Districts.

The SoCalGas transmission system and distribution service territory is depicted in Figure 2-1 below:

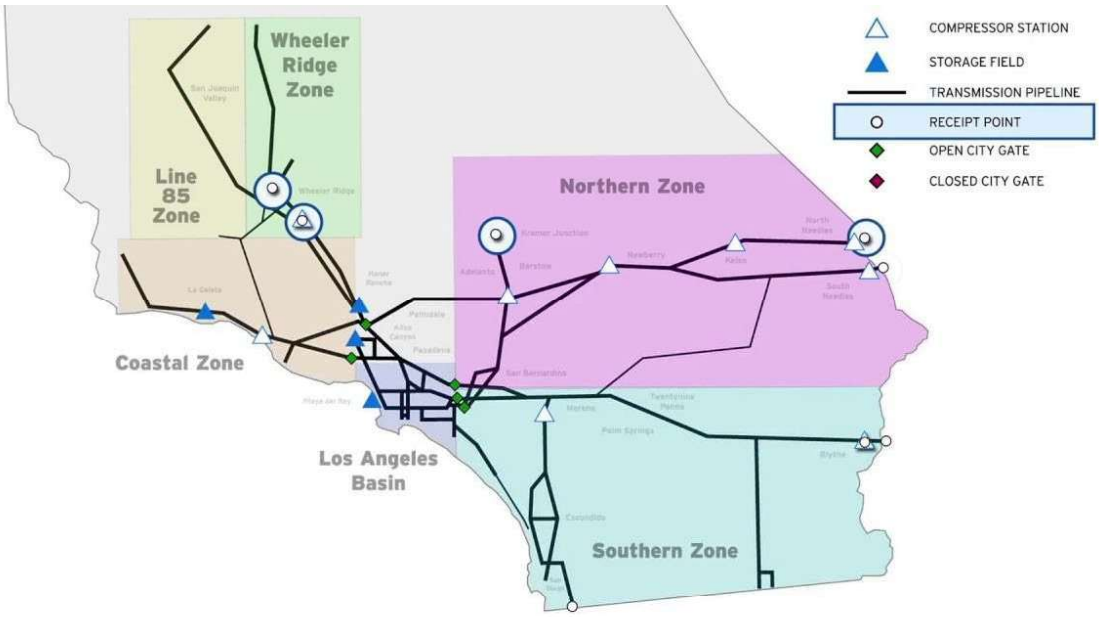


Figure 2-1: SoCalGas Operational Service Territory

2.2 SoCalGas IM Organization Structure

Both SoCalGas's TIMP and DIMP follow the same general, centralized organization structure. They are managed under the stewardship of the Vice President of Gas Engineering and System Integrity with two Directors: one for Integrity Management and the other for Integrity Management Strategic Planning. The Director of Integrity Management is responsible for general oversight for TIMP and DIMP supporting the Program Managers in coordinating with engineering and operations departments on relevant integrity-related activities. The Director also supports processes related to the design, construction, operation, maintenance, and compliance for the transmission and distribution systems and directs the efforts of company and contract employees engaged to fulfill integrity-related activities. The Director of Integrity Management's team includes the two program managers for TIMP and DIMP, with supporting staff rolling up to them. The Director of Integrity Management Strategic Planning's team includes personnel focused on threat identification and risk evaluations and Geographic Information System (GIS) data maintenance. Ownership of the TIMP and DIMP plans, as well as applicable Gas Standards, is all contained within the centralized teams. The Plans and Gas Standards documents serve as the primary resource for policy and the decision-making guide for SoCalGas personnel responsible for the administration and effective implementation of the Program's requirements.

A fundamental difference between the TIMP and DIMP plans is where the corresponding execution resides. The project execution work for TIMP is managed by the Integrity Management team with all departments reporting to the Vice President of Infrastructure Project Delivery, with three managers focused on integrity assessment and remediation projects. The DIMP execution team is embedded within the Operations organization, all reporting up to the Vice President of Gas Distribution, with key program and project managers focused on the Project and Activities to Address Risk (PAAR). Despite residing in different organizations, the key personnel executing the TIMP and DIMP projects are included in the IM training program and are closely integrated with the centralized staff.

3.0 METHODOLOGY

To complete the Review, SI conducted numerous teleconferences with SoCalGas personnel responsible for the TIMP Program and DIMP Program during the months of September through November 2025. The following organizations/departments represented the Company during the teleconference meetings:

The following teams/personnel represented the TIMP Program review:

- TIMP Management (all team leads reporting to Director, Integrity Management)
- Integrity Management Strategic Planning
- Pipeline Integrity Execution

The following teams/personnel represented the DIMP Program review:

- DIMP Management (all team leads reporting to Director, Integrity Management)
- Integrity Management Strategic Planning
- Distribution Project Management Office PMO and Resource Management (Projects and Activities to Address Risk (PAARs) and Distribution Risk Evaluation and Monitoring system (DREAMS)

The initial teleconferences focused on gaining a comprehensive understanding of SoCalGas's IM programs and how supporting processes integrate to achieve program objectives. These discussions provided insight into the overall program structure and qualitative observations regarding organizational alignment and unique company practices. A summary of these stakeholder engagements is provided in Appendix A – Stakeholder Engagement Summary.

Through a combination of stakeholder meetings and review of SoCalGas's procedures, SI developed a clear view of how data flows through the IM programs to support each program element. Based on this understanding, SI created process flow diagrams illustrating these data flows, which are presented in Section 5.0 and Section 6.0, for the TIMP and DIMP respectively.

The review also included an examination of selected portions of SoCalGas TIMP Plan, DIMP Plan, IM Risk Models and relevant Company's policies and procedures (Gas Standards) to review program

integration and performance. The review incorporated an extensive examination of materials provided by SoCalGas, including:

- Publicly available reports and regulatory filings
- Internal performance metrics and dashboards
- Company testimony and supporting documentation
- Company TIMP Plan and DIMP Plans
- Integrity Management Risk Model Overview Presentation
- Relevant Company Gas Standard procedures

This documentation provided core context for evaluating program performance across three main areas of focus:

- Effectiveness of IM practices,
- Cost-effectiveness in resource allocation and program execution, and
- Operational efficiency in managing processes and workflows.

In addition, SI performed a review, where applicable, against peer utilities to benchmark performance and identify best practices and improvement opportunities.

To capture the comprehensive review of SoCalGas's entire programs, SI created a matrix view to correlate each required IMP element with the corresponding SoCalGas procedures, personnel, supporting programs and resources. These matrices are presented at the start of the evaluation sections for TIMP and DIMP, respectively in Sections 5.1 and 6.1.

4.0 INTEGRITY MANAGEMENT PROGRAM REGULATORY CONTEXT

SoCalGas's Transmission Integrity Management Program (TIMP) and Distribution Integrity Management Program (DIMP) are mandated under federal regulations with more stringent requirements stipulated under the California Public Utilities Commission (CPUC) to further enhance pipeline safety and system integrity. These programs are essential for identifying, assessing, and mitigating risks across the gas transmission and gas distribution pipeline systems.

4.1 Pipeline Safety Regulations

As an intrastate natural gas utility (Local Distribution Company or LDC) with both gas transmission and gas distribution pipelines, SoCalGas is subject to pipeline safety regulatory requirements promulgated by the U.S. Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration (PHMSA), specifically the Code of Federal Regulations (CFR): Title 49 CFR Part 191 and Part 192. Additional state-specific requirements have been stipulated by the CPUC. The Safety and Enforcement Division (SED) of CPUC has been entrusted with enforcement of the regulations by PHMSA.

4.1.1 Transmission Integrity Management Program

The TIMP is a regulatory-driven framework established under PHMSA guidelines to establish the long-term safety and reliability of gas transmission pipelines. The Gas Transmission Integrity Management Rule (49 CFR Part 192, Subpart O) mandates how pipeline operators such as SoCalGas must manage the integrity of gas transmission pipelines in high consequence areas (HCAs). Its core requirements are as follows:

- Identify High Consequence Areas (HCAs)
    - Operators must determine which pipeline segments could affect HCAs
- Risk Assessment
    - Evaluate threats such as corrosion, material defects, third-party damage, and operational and other issues that may impact the integrity of gas transmission pipeline segments.
    - Integrate relevant data into risk analysis models.
- Baseline Assessment (and Periodic Re-Assessments)
    - Perform integrity assessments on all HCA segments using approved methods (e.g. In-Line Inspection (ILI), Pressure Testing and Direct Assessment (DA))
- Remediation
    - Immediate repair for critical defects
    - Classify and prioritize other conditions for repair within defined timeframes.
- Preventive and Mitigative Measures
    - Implement measures to reduce risk (e.g., pressure reduction, enhanced monitoring, corrosion control).
    - Document rationale for measures taken.
- Data Integration and Recordkeeping
    - Maintain traceable, verifiable, and complete records.
    - Integrate data from inspections, operations, and maintenance into risk models.
- Program Evaluation and Continuous Improvement
    - Regularly review and update the integrity management program.
    - Measure whether the program is effective in assessing and evaluating the integrity of each covered pipeline segment and HCAs.
    - Validate risk models and meet compliance with evolving PHMSA requirements.

To achieve the objectives above, the SoCalGas TIMP Plan describes the prescriptive approach SoCalGas uses to improve the safety of the Company's transmission pipeline system in HCAs, including processes, policies, and procedures used to direct and control pipeline integrity activities.

4.1.2 Distribution Integrity Management Program

The Distribution Integrity Management Program (DIMP) is a federally mandated program under 49 CFR Part 192, Subpart P, designed to establish the continued safety and reliability of natural gas distribution systems. The program requires SoCalGas to develop, implement, and maintain a written integrity management plan that addresses the unique risks associated with distribution pipelines. The primary objectives of DIMP include these seven elements of an effective Program [3]:

- Knowledge of System – understand system design and material characteristics, operating conditions and environment, and maintenance and operating history
- Threat Identification – identify existing and potential threats
- Evaluation and Ranking of Risk
- Identification and Implementation of Measures to Address Risk
- Measurement of Performance, Monitoring Results, and Evaluating Effectiveness
- Periodic Evaluation and Improvement – periodically assess and improve the IM program
- Reporting Results – report performance results to PHMSA and applicable state(s)

To achieve the objectives above, the SoCalGas DIMP Plan establishes the requirements to comply with 49 CFR, §§ 192.1001, 192.1003, 192.1005, 192.1007, 192.1011 and General Order No. 112-F, pertaining to integrity management for gas distribution pipelines.

Key SoCalGas DIMP initiatives include the Vintage Integrity Plastic Plan (VIPP), targeting replacement of Aldyl-A plastic pipe installed between 1969 and 1985, and the Bare Steel Replacement Plan (BSRP), which addresses replacement of unprotected steel pipelines. Additional programs include the Distribution Riser Inspection Project (DRIP) which is targeted to the replacement of anodeless steel risers, the Gas Infrastructure Inspection Program (GIPP) aimed at infrastructure protection, and the Sewer Lateral Inspection Program (SLIP) focused on cross-bore risk mitigation.

Additionally, design, construction, operations and maintenance activities are performed in compliance with 49 CFR, Part 192 requirements as well as applicable state regulations that enhance 49 CFR, Part 192, Subpart P requirements.

4.2 Recent Regulatory Changes

The regulatory landscape for gas transmission and distribution systems has undergone significant transformation in recent years, driven by lessons learned from major incidents (i.e. San Bruno in 2010 and Merrimack Valley in 2018) resulting in Congressional mandates under the Protecting Our Infrastructure of Pipelines and Enhancing Safety (PIPES) Act of 2006, 2011, 2016 and 2020 and the publication of new rulemakings by PHMSA. Refer to Figure 4-1 for a visual timeline of major gas pipeline regulatory changes.

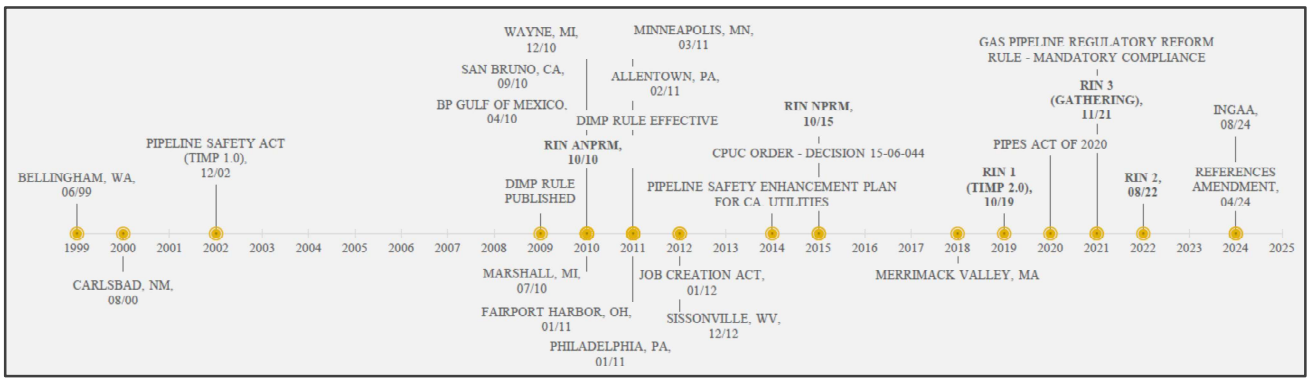


Figure 4-1: Regulatory Timeline

With each major regulatory change, there is significant time and investment required to update all relevant company procedures and processes to comply. Over the past six years, pipeline safety regulations have undergone an unprecedented number of significant changes. Many operators have only recently completed comprehensive revisions to their procedures and are now implementing enhanced processes to reflect these updated requirements.

The original Gas Transmission Pipeline Integrity Management Rule (Title 49 CFR, Part 192, Subpart O) was issued on December 15, 2003. The integrity management regulations remained largely unchanged, aside from small incremental improvements, for nearly two decades. On October 1, 2019, the Pipeline and Hazardous Materials Safety Administration (PHMSA) issued the "Pipeline Safety: Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment requirements, and Other Related Amendments" ("Gas Transmission Safety Rule Regulatory Identifier Number (RIN) 1" or "RIN-1") regulation.[1] RIN-1 marked the most significant rulemaking for pipeline safety specific regulations since the original federal standards were established in the 1970s. Its purpose is to strengthen integrity management and improve the safety of onshore gas transmission pipelines by addressing gaps in historical practices and recordkeeping. RIN-1 requires more rigorous data integrity and validation, advanced engineering analysis, and expansion of assessments and integrity management principles beyond segments in HCAs.

Specific implications to TIMP for SoCalGas include:

- RIN-1 brought upon changes to the Manufacturing and Construction (M&C) threat evaluation in 192.917(e)(3). Previously, M&C defects could be considered "stable" and not require assessments if the pressure had not exceeded the 5-year high preceding the identification of the HCA, or if cyclic stresses had not increased. The RIN-1 change only allows operators to consider M&C defects stable with a 1.25xMAOP pressure test. This activated the M&C threat for much of SoCalGas's system and resulted in a requirement to use more ILI tools capable of assessing for the Manufacturing defects in susceptible long seams, primarily pre-1970 Electric Resistance Welded (ERW) pipe.

[1] RIN-1 effective data July 1, 2020, with enforcement discretion extended until December 31, 2020. Per Federal Register / Vol. 84, No. 190 / Tuesday, October 1, 2019 / Rules and Regulations, PHMSA FAQs, September 15, 2020, FAQ-1

- RIN-1 also brought more prescriptive wording to 192.921 and 192.937 regarding how to select assessment methods based on the segment's susceptible threats. This change also resulted in increased use of advanced technologies to assess threats that were not specifically identified previously. Using new technologies, especially ILI tools, results in increased work to validate that the new technology can detect and size the defects of concern. The direct impact results in more data evaluation by integrity engineers, additional validation digs and increased capital costs to retrofit lines to accommodate the generally longer, advanced ILI tools.

- RIN-1 introduced requirements for integrity assessments outside of HCAs. New pipeline segments that were not in the assessment plan previously were now required and are being managed under the TIMP due to the similar nature of required activities.

On April 8, 2022, PHMSA issued the "Pipeline Safety: Requirement of Valve Installation and Minimum Rupture Detection Standards" ("PHMSA Valve Installation and Rupture Detection Rule" or "Valve Rule") regulation. The Valve Rule provides additional regulatory requirements associated with Subpart O and throughout Part 192 and had an effective date of October 5, 2022. The Valve Rule complements the broader objectives of RIN-1 and RIN-2 by addressing a critical gap in pipeline safety for the rapid isolation and mitigation of rupture consequences.

On August 24, 2022, PHMSA issued a pipeline safety regulation "Pipeline Safety: Safety of Gas Transmission Pipelines: Repair Criteria, Integrity Management Improvements, Cathodic Protection, Management of Change, and other Related Amendments" ("Gas Transmission Safety Rule RIN-2" or "RIN-2"). While RIN-2 had an effective date of May 24, 2023, PHMSA issued notices on December 6, 2022, and April 17, 2023, granting limited enforcement discretion until February 24, 2024, with most provisions. RIN-2 tightened existing HCA repair criteria, established new repair criteria outside of HCAs, codified Management of Change processes, and strengthened corrosion control requirements. It also introduced mandates for inspections following extreme weather events and required operators to integrate a wide range of data elements into their risk models. These changes reflect PHMSA's intent to move the industry toward a more predictive, data-driven approach to integrity management, reducing both the likelihood and impact of failures.

Specific implications to TIMP for SoCalGas include:

- RIN-2 prescribed an extensive list of newly required data elements that an operator must integrate into their risk assessment. This change required many subsequent updates to processes and data systems to ensure collection and availability of these data items.
- RIN-2 established requirements for repairs outside of HCAs that largely mirror those in Subpart O. The new repair requirements increased the number of mandatory digs and repairs outside of HCAs, increasing overall remediation costs.
- Dent defects identified by ILI are one of the most impactful part of this change, as many anomalies that operators could previously monitor or repair according to internal criteria now have prescriptive requirements for repair, including Immediate timelines for response.

At the same time, attention was given to distribution systems through updates to the Distribution Integrity Management Program (DIMP). Proposed revisions under the PIPES Act of 2020 and Leonel Rondon Pipeline Safety Act, aimed to address vulnerabilities highlighted by incidents such as the Merrimack Valley over-pressurization event [4]. Key measures include improved emergency response planning, enhanced regulator station design with secondary pressure relief devices, and expanded monitoring capabilities. These initiatives underscore a growing emphasis on safety in densely populated areas and the need for operators to adopt preventive strategies that go beyond compliance. A Notice of Proposed Rulemaking (NPRM) published in September 2023 proposes updates to DIMP, emergency response plans, and O&M manuals to codify these requirements.

4.2.1 New Legislation and Regulatory Requirements Impacting SoCalGas's DIMP

On December 27, 2020, the President signed into law pipeline safety reauthorization legislation, "Protecting Our Infrastructure of Pipelines and Enhancing Safety" (PIPES Act) of 2020. In the 2020 PIPES Act, Congress directed PHMSA to evaluate specific areas where additional pipeline safety oversight, research or regulations may be needed. Several provisions outlined in the PIPES Act of 2020 are directly related to the 2018 Merrimack Valley Incident.

Additionally, on January 11, 2021, PHMSA issued the "Gas Pipeline Regulatory Reform" (Regulatory Reform) Final Rule. The Regulatory Reform Final Rule includes provisions which provide operators with new alternatives for compliance with existing requirements and also adds new regulatory requirements and clarifications. The effective date of the Rule was March 12, 2021. SoCalGas was required to comply with the new provisions of the rule starting October 1, 2021.

In response to the PIPES Act of 2020 and Regulatory Reform Rule, SoCalGas has developed compliance strategies and procedures intended to improve pipeline safety, detailed in the following sections.

4.2.2 Addressing PIPES Act of 2020 Mandates: Low-Pressure System Over-Pressurization

The PIPES Act of 2020 directs PHMSA to promulgate regulations addressing a variety of pipeline safety issues, including strengthening and expanding requirements for gas distribution systems. Several of the requirements address the investigation and findings following the 2018 Merrimack Valley pipeline over-pressurization incident. SoCalGas has evaluated the primary lessons learned from this incident. Of those, SoCalGas notes National Transportation Safety Board's (NTSB conclusion that the probable cause was "weak engineering management that did not adequately plan, review, sequence, and oversee" [4][2] the project, the purpose of which was to abandon a cast iron low pressure main and commission a new medium pressure plastic main in its place. SoCalGas confirmed that cast iron main does not exist in their distribution system nor do they operate their gas distribution mains at low pressure, however SoCalGas performed a review of their project planning and procedures as follows:

- Project planning included identification of SoCalGas stakeholders with responsibilities for the different assets and functions involved in the project (e.g., construction, inspection,

[2] Executive Summary, page vii.

operations, engineering, measurement & regulation, tapping & stopping, contractors, etc.); and

- Developed and reviewed field project procedures to include Subject Matter Experts (SMEs) from the identified stakeholder groups above who have the knowledge, skill, and experience to verify plans and procedures are accurate, complete, and documented.

The Protecting Our Infrastructure of Pipelines and Enhancing Safety Act of 2020 also contains directives aimed at improving pipeline safety while simultaneously improving protections for the environment through the minimization of methane releases from natural gas pipeline facilities. SoCalGas has developed a new gas standard for pipeline safety and methane releases. The new procedure outlines the requirements for compliance with the PIPES Act of 2020 and the methods that SoCalGas employs to minimize fugitive emissions from SoCalGas's pipeline system, components, and other equipment as well as minimizing vented natural gas emissions during normal operations and maintenance activities.

4.2.3 Gas Pipeline Regulatory Reform Final Rule

PHMSA's Regulatory Reform final rule provides new provisions for SoCalGas to comply with regulatory requirements for inspection and maintenance of farm taps as well as inspections of above ground metallic pipeline facilities for atmospheric corrosion. These provisions allow SoCalGas to implement risk strategies and procedures commensurate with the level of risk to its particular distribution system. This allows SoCalGas to allocate its resources to higher risk priorities to effectively reduce overall pipeline safety risk. One new provision in the Regulatory Reform Final Rule would allow SoCalGas to extend an inspection interval related to service lines as follows:

Farm Tap Inspections

The Regulatory Reform Final Rule allows SoCalGas to conduct pressure regulator (farm tap) inspections and maintenance under their DIMP (§192.1003) or new 49 CFR §192.740 (Pressure regulating, limiting, and overpressure protection- Individual service lines directly connected to regulated gathering or transmission lines) requirements. Under §192.740(b), inspections and testing of farm tap regulators and associated overpressure protection equipment are required at least once every three calendar years, not exceeding 39 months.

Given the time period of this review, this topic was not addressed.

Atmospheric Corrosion Surveys

The Final Rule created a new provision in §192.481 allowing SoCalGas to perform atmospheric corrosion inspections of service lines on a 5-year interval, not to exceed 63 months. This new inspection interval revises the historical requirement to perform these atmospheric corrosion inspections on a 3-year interval, not to exceed 39 months, as previously described in §192.481. However, in accordance with §192.481 (d), if SoCalGas identifies atmospheric corrosion on a service line during the most recent inspection, then the next inspection of that pipeline or portion of pipeline must be within three calendar years, but with interval not exceeding 39 months. The Atmospheric

Corrosion Survey will be performed at the three-year interval, not to exceed 39 months until no atmospheric corrosion is identified.

Given the time period of this review, this topic was not addressed.

4.2.4 California General Order 112-F

California's General Order 112-F (GO 112-F) plays a pivotal role in pipeline safety by establishing state-specific requirements that supplement federal regulations under 49 CFR Parts 191, 192, 193, and 199. Adopted by the CPUC, GO 112-F governs the design, construction, testing, operation, and maintenance of gas gathering, transmission, and distribution piping systems. While it does not supersede federal standards, it introduces additional measures tailored to California's unique risk profile, including stricter leak survey schedules, enhanced operational and reporting metrics, and requirements for operator qualification on covered tasks such as backfilling and compaction. GO 112-F imposes standards that are more stringent than federal rules, reflecting California's proactive approach to pipeline safety.

In the wake of San Bruno, the CPUC performed a comprehensive review of its regulatory requirements, and in 2015, there was a revision and adoption of GO 112-F [5]. The revised GO 112-F introduced modernized safety and reliability regulations for natural gas transmission and distribution systems, aligning state requirements more closely with federal standards under 49 CFR Parts 191, 192, 193, and 199, while adding California-specific provisions that are often more stringent. California natural gas operators were required to comply with GO 112-F as soon as feasible but no later than January 1, 2017, unless good cause could be shown requiring an extension to comply with a particular section. Key new requirements included:

- **Accelerated Leak Survey Schedules**: Utilities were required to perform leak surveys more frequently, particularly in high-risk areas, to detect and mitigate hazards before they escalate.
- **Enhanced Operational and Reporting Metrics**: GO 112-F mandated detailed reporting on pipeline conditions, maintenance activities, and risk assessments, improving transparency and regulatory oversight.
- **Operator Qualification Requirements**: Tasks such as new pipeline installation, backfilling, and compaction were designated as "covered tasks", requiring personnel to be formally qualified under operator qualification programs (e.g., Veriforce). This applied to both utility employees and contractors, ensuring competency in critical safety functions.
- **Integration of Risk-Based Management**: The rule emphasized risk assessment and mitigation strategies, moving away from a purely compliance-based model toward proactive safety management. This included requirements for utilities to maintain traceable, verifiable, and complete records for pipeline assets, echoing federal integrity management principles.
- **Alignment with Federal Integrity Management Standards**: GO 112-F incorporated elements of PHMSA's integrity management framework and ASME B31.8S incorporated by reference, including threat identification, corrosion control, and emergency response planning, while maintaining flexibility for California-specific conditions.

- **Pipeline Safety Enhancement Plan:** The Pipeline Safety Enhancement Plan (PSEP) was initiated in 2011 by California utilities under CPUC direction [6] following the San Bruno pipeline incident. Its primary objective was to test or replace all natural gas transmission pipelines that had not been pressure-tested or lacked sufficient records to confirm Maximum Allowable Operating Pressure (MAOP). These principles later became codified at the federal level through 49 CFR §192.624, introduced in PHMSA's Gas Transmission Final Rule (effective July 2020) for MAOP Reconfirmation.
- **HCA Identification:** GO 112-F restricted the use of Method 2 (sole use of potential impact radius method) for determining HCAs to only pipelines with an outer diameter of 12" or less. Larger pipelines must use Method 1, which is inherently more conservative.

Collectively RIN-1, the Valve Rule, RIN-2, GO-112-F, and evolving Subpart P DIMP requirements represent a comprehensive shift in pipeline safety regulations from prescriptive compliance approaches toward integrated, risk-informed management. SoCalGas strives to demonstrate not only adherence to these regulatory standards but also a commitment to continually improving their pipeline safety programs while leveraging data, technology, and developing robust processes to safeguard public safety and system reliability.

4.3 Advisory Bulletins and Frequently Asked Questions

PHMSA Advisory Bulletins serve as critical regulatory guidance that operators must review and incorporate into their integrity management programs. These bulletins establish expectations for addressing emerging risks and implementing best practices to maintain compliance with federal pipeline safety regulations. Advisory Bulletins often highlight lessons learned from major incidents, recommend proactive measures, and sometimes request operators to review or update procedures, collect data, or adopt new practices.

SoCalGas gives Advisory Bulletins significant attention because they reflect PHMSA's expectations and enforcement approach. Failure to address these recommendations can lead to heightened audit scrutiny, corrective action plans, or findings under broader regulatory requirements such as integrity management or risk mitigation activities. SoCalGas addresses Advisory Bulletins by incorporating the findings of each bulletin into their risk prioritization, operating procedures, training programs, and compliance frameworks to demonstrate alignment with industry best practices and regulatory intent.

PHMSA's Frequently Asked Questions (FAQs) serve as a practical resource for regulated natural gas operators, industry professionals, and the public to better understand Part 192 safety regulations. FAQs interpret regulatory requirements and clarify common compliance-related scenarios, making them a valuable resource for natural gas operators. In practice, auditors frequently reference these FAQs during inspections, and failure to align with their guidance can lead to findings or corrective actions. For this reason, SoCalGas views FAQs as essential compliance resources, ensuring their procedures and documentation reflect PHMSA's interpretations to maintain regulatory compliance and operational safety.

4.4 DIMP - CPUC Compliance and Integrity Enhancement Initiatives

SoCalGas's DIMP has demonstrated strong effectiveness and cost-efficiency by delivering measurable safety improvements while aligning with regulatory mandates and long-term risk reduction goals. Investments under DIMP have targeted high-risk assets, reduced leak rates, and enhanced system reliability, outcomes that not only improve public safety but also prevent costly emergency repairs and regulatory penalties. These proactive measures reflect a strategic approach to compliance and risk management and affirm that expenditures translate into proven enhancements in safety and reliability for customers and stakeholders.

From 2019 to 2021, DIMP program spending increased significantly, rising from approximately $160 million to a peak of nearly $260 million before tapering to around $210 million in 2023. This growth was driven primarily by capital investments, which surged during the early years of DIMP and then stabilized, while O&M spending remained relatively flat at $40–50 million throughout the period. In contrast, authorized spending declined sharply from over $200 million in 2019 to about $120 million in 2020 and remained flat thereafter.

While DIMP expenditures exceeded authorized levels during peak years, the program delivered significant risk reduction and reliability improvements. The spike in spending from 2019–2021 reflects:

- Regulatory tightening (PHMSA and CPUC mandates)
- Accelerated risk programs approved in General Rate Case (GRC)

These investments were not only responsive to external mandates but strategically targeted high-risk assets, delivering measurable improvements in system reliability and public safety. The accelerated programs reduced leak rates and enhanced integrity management, aligning with CPUC's risk-based framework and California's climate goals. Below is a timeline representative of some of SoCalGas's activities in response to external mandates:

- **2019 - CPUC General Rate Case (GRC) Approvals**: SoCalGas received authorization for expanded integrity management work under their GRC filings. This included accelerated risk mitigation programs such as Vintage Integrity Plastic Pipe Program (VIPP) and Bare Steel Replacement Program (BSRP), which were introduced in the 2019 test year [7]. These initiatives were explicitly tied to safety model assessments (S-MAP) and risk assessment mitigation phases (RAMP), which drove large capital expenditures during 2019–2021. This approach improved program effectiveness by reducing leak rates and enhancing system reliability, delivered efficiency by prioritizing work based on risk rather than age alone, and supported cost-effectiveness by preventing high-cost emergency repairs and regulatory penalties.
- **Leak Abatement Compliance Plan:** California began enforcing Senate Bill 1371 requirements for methane leak reduction, requiring utilities to implement best practices and new standards for emissions control. This drove investment in data systems and field best practices for advanced leak detection. The actions taken by SoCalGas improved effectiveness by significantly reducing methane emissions and enhancing compliance with state climate goals. Their actions also increased efficiency by enabling faster, more accurate leak

identification and repair which minimized operational disruptions. SoCalGas leveraged leak technology to optimize field resources and reduced long-term costs associated with emergency repairs and methane loss which speaks to the cost-effectiveness of this activity.

- **California Gas Safety Plan Updates**: Utilities updated their Gas Safety Plans to align with CPUC and PHMSA requirements, including expanded DIMP sections and new risk management protocols. These updates improved effectiveness by strengthening compliance and ensuring that integrity management practices addressed emerging risks and supported cost-effectiveness by focusing resources on the highest-risk assets. SoCalGas enhanced efficiency by standardizing processes and integrating risk-based prioritization, streamlining decision-making focused on higher risk pipe.
- **COVID-19 Adaptations**: Utilities incurred additional costs for workforce safety and remote monitoring technologies to maintain compliance during pandemic restrictions.
- **Expanded Risk Mitigation**: SoCalGas accelerated pipeline replacement and riser inspection programs under CPUC oversight, targeting aging infrastructure and high-risk assets. This approach enhanced program effectiveness by reducing leak rates and improving system reliability, increased efficiency by prioritizing work based on risk rather than manufacturer date and ensured cost-effectiveness by avoiding expensive emergency repairs.

SI's review determined that these costs are justified because they prevent high-cost emergency repairs, regulatory penalties, and service disruptions. The downward trend in total spending after 2021 demonstrates improved efficiency and alignment with long-term cost control.

Although DIMP capital expenditures exceeded authorized levels during the 2019–2023 period, justification is driven by accelerated risk mitigation programs and compliance mandates.

This variance reflects the need to address aging infrastructure and implement enhanced safety measures recommended by CPUC and PHMSA. The revenue requirement under collection grew from $4 million in 2019 to $155 million in 2023, underscoring the financial impact of these critical safety investments. Despite exceeding the authorized spend, these costs are justified because they prevent catastrophic failures, reduce emergency repair costs, and align with CPUC's safety directives. Additional information related specifically to DIMP's Program effectiveness, efficiency and cost-effectiveness can be found in Section 6.0 of this Report.

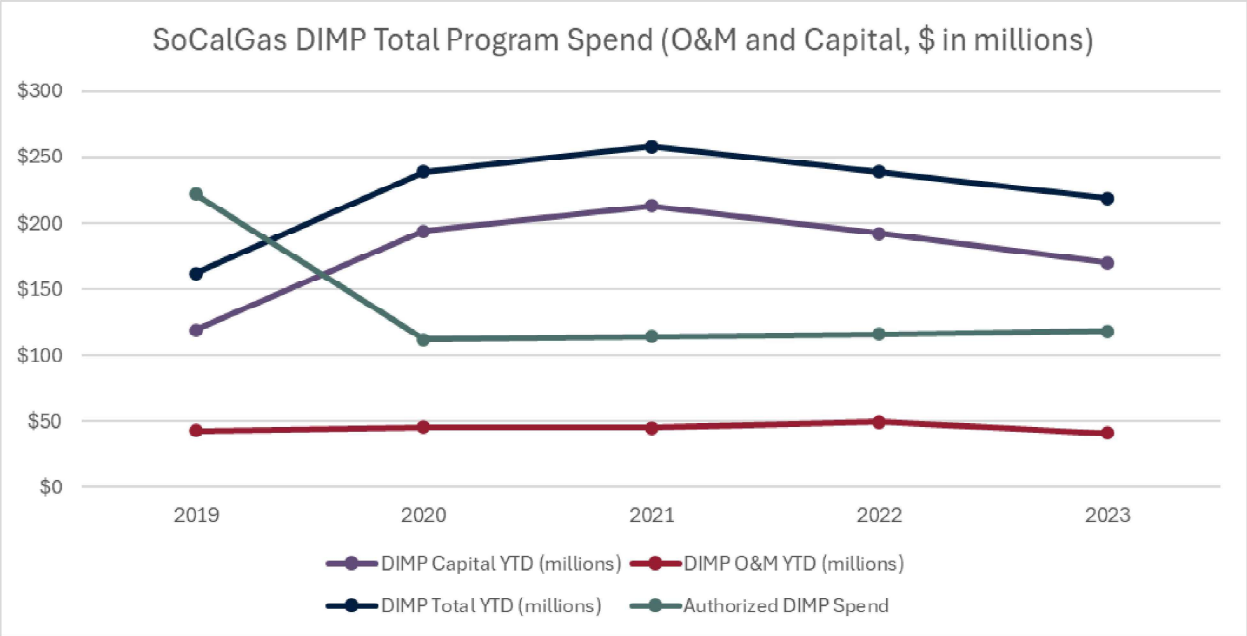


Figure 4-2: SoCalGas DIMP Total Program Spend (O&M and Capital, $ in millions) [7][3]

5.0 TIMP – PROGRAM EVALUATION FOR EFFECTIVENESS, EFFICIENCY AND COST-EFFECTIVENESS

The effectiveness of TIMP is determined by its ability to proactively identify, assess, and mitigate risks to pipeline integrity, providing confidence in the safe and reliable delivery of natural gas. An effective TIMP will meet and exceed compliance with regulatory requirements and be proactive in performing data-driven risk analysis and risk reduction activities, implement robust preventive measures, and seek continuous improvements.

The primary means to evaluate effectiveness begins with a review of performance measures, including metrics required for PHMSA annual reporting, as well as metrics tracked internally. The trending of the performance metrics is used to analyze the performance of the TIMP as compared to the peers and industry. Four peer operators were chosen to benchmark against, based on several primary factors: similar size operators with both large transmission and distribution pipeline systems relative to industry, a large amount of HCA mileage, and other operators in California governed by the same regulatory bodies. Refer to Sections 5.4 through 5.7 for detailed performance metrics and accompanying narrative in support of SoCalGas's TIMP program effectiveness.

Beyond meeting regulatory requirements, SoCalGas demonstrates TIMP effectiveness in other ways by focusing on proactive and innovative practices to reduce pipeline safety risk as follows:

- Being an early adopter of new ILI technologies and cooperation with ILI vendors developing technologies to meet project specific needs (e.g. new robotic ILI tool technologies) that leads

[3] Page TTS-9

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to better inspection, identification, and remediation of potential defects that could lead to a potential pipeline failure.

- Implementing advanced threat evaluation practices, which provide more accurate risk analysis. (Section 5.8)
- Integrity tasks are managed using a customized software solution that monitors the completion of all required tasks, with visibility to leadership on overdue items. While this system is slated for replacement to improve efficiency, it has provided SoCalGas with an effective means to manage and track the various tasks that support a large integrity program.
- SoCalGas maintains a strong safety culture supported by comprehensive workforce training programs that emphasize risk awareness and operational excellence.
- Public awareness initiatives and partnerships with emergency responders demonstrate the operator's commitment to community safety and stakeholder engagement.
- Continuous improvement is embedded in the program through SoCalGas operating experience, industry lessons learned, and conclusions drawn from the distribution integrity management process, as well as new tools and techniques as they become available. The program applies risk evaluation and leak cause analysis to assess performance measures and identify opportunities for improvement when necessary.

These measures collectively position SoCalGas as a leader in pipeline integrity, demonstrating a commitment to safety, reliability, and environmental stewardship.

The efficiency and cost-effectiveness of SoCalGas's TIMP was evaluated using a blended approach of qualitative observations and quantitative methods. Qualitatively, stakeholder interviews provided insights into perceived strengths and opportunities for improvement, while procedure reviews assessed alignment with regulatory standards and operational objectives. Quantitatively, labor cost analysis measured resource allocation and spending efficiency, and remediation costs were compared to required repairs to highlight positive outcomes resulting from program spending. This combined assessment offered a comprehensive view of the TIMP's efficiency from both a process and performance perspective.

5.1 TIMP Procedural Review

SI performed a comprehensive review of SoCalGas's TIMP Plan. Core IM program elements were reviewed through a detailed assessment of each TIMP chapter and the associated Gas Standards (GS). The TIMP chapters are designed as high-level plans, outlining the overall process and providing general guidance for task execution. In contrast, the GSs are procedural documents, specifying step-by-step requirements with clearly defined roles and responsibilities for consistent implementation of TIMP-related activities. Table 5-1 below outlines the core components of SoCalGas's TIMP, linking each program element to its governing standards and responsible personnel. The structure outlines how regulatory requirements and internal SoCalGas procedures are integrated to demonstrate an effective TIMP Program.

From this procedural review, it is evident that SoCalGas has the requisite procedures and standards implemented as well as organizational alignment, with assigned owners of the corresponding program activities, to maintain regulatory compliance and implement an effective TIMP program.

Table 5-1: TIMP Program Elements

Regulatory Required TIMP Element	SoCalGas TIMP Chapter	Associated SoCalGas Standards	Organizational Owner (Primary Role & Responsibility)
Consequence Area Identification	3	GS 192.02 *Procedure for High and Moderate Consequence Area Identification*	GIS Management and Data Collection
Threat Identification and Risk Analysis	4, 5	GS 167.0200 *Data Gathering and Integration*	Integrity Risk Strategy, GIS Management and Data Collection
		GS 167.0203 *Threat Identification and Evaluation*	
		GS 162.0204 *Risk Assessment of High Consequence Areas*	
		GS 167.0207 *Timp Risk Algorithm*	
		GS 167.0221 *Risk Data Governance*	
		GS 182.0053 *PFP Analysis of Cracks & Crack like Defects*	
Baseline Assessment Plan	8	GS 167.0208 *Transmission Pipeline Assessment Plan*	Assessment Records, High Pressure Integrity Assessments, TIMP Risk Assessment
Integrity Assessments	9	GS 167.0209 *External Corrosion Direct Assessment Procedure*	High Pressure Integrity Assessments, Pipeline Integrity Execution
		GS 167.0210 *In-line Inspection Procedure*	
		GS 167.0211 *Bellhole Inspection Requirements*	
		GS 167.0216 *Stress Corrosion Cracking Direct Assessment Procedure*	
		GS 167.0220 *In-line Inspection Surveys Standard*	
		GS 167.0224 *Dry Gas - Internal Corrosion Direct Assessment*	
		GS 167.0240 *Assessment of Pipeline Integrity Using Guided Wave UT*	
		GS 182.0170 *Strength Testing - High Pressure Pipelines and Facilities*	

Regulatory Required TIMP Element	SoCalGas TIMP Chapter	Associated SoCalGas Standards	Organizational Owner (Primary Role & Responsibility)
Remediation	10, 11	GS 167.0235 *Response to Assessment Findings*	Pipeline Integrity Execution
		GS 182.0050 *Predicted Failure Pressure Analysis for Corrosion Metal Loss*	
		GS 182.0053 *PFP Analysis of Cracks & Crack like Defects*	
Preventative and Mitigative (P&M) Measures	12	GS 167.0100 *Operator Qualification Program*	IM P&M, IM Corrosion
		GS 167.0214 *Preventative and Mitigative Measures*	
		GS 184.0200 *Underground Service Alert and Temporary Marking*	
		GS 184.09 *Prevention of Damage to Company Facilities*	
		GS 223.0223 *Valve Automation*	
Continual Evaluation	13	GS 167.0208 *Transmission Pipeline Assessment Plan*	Assessment Records, High Pressure Integrity Assessments, TIMP Risk Assessment, Pipeline Integrity Execution
		GS 167.0215 *Continual Evaluation*	
Management of Change (MOC)	14	F2111 *Management of Change - Request & Approval*	MOC Manager
Quality Assurance	15	GS 167.0125 *Self-Audit Guidelines – Pipeline Integrity Programs*	IM Compliance, TIMP Program Manager, IM Director
		GS 167.0126 *IMP Contractor Audit Program*	
Recordkeeping	16	Recordkeeping section contained within each IM-related GS	Assessment Records, IM Compliance
Performance Plan	17	N/A	IM Compliance
Regulatory Notifications	19, 20	GS 183.08 *Pipeline Safety Reports and Notifications to CPUC and PHMSA*	IM Compliance
		PA-1 *Public Awareness Plan*	

5.2 TIMP Process Data Map

The SoCalGas TIMP process integrates multiple data streams into a centralized risk management workflow that works to identify, assess, and mitigate risks in their gas transmission system.

The image below shows SoCalGas's TIMP Process Data Map, which visually shows the integrity management process and how data flows through it to support the key steps.

Key steps include:

- Data Collection and Validation: Data inputs are extracted from various SoCalGas database systems and software applications like the High-Pressure Pipeline Database, (HPPD), eGIS, Korterra, Maximo, Pipeline Condition Monitoring Reports (PCMR), and external sources. The extracted data is integrated into a common referencing system and reviewed to confirm accuracy. Field personnel knowledge is also utilized at this stage to fill any data gaps and confirm data accuracy.
- Threat Identification: The integrated and aligned data is fed into a comprehensive threat identification process.
- Risk Analysis: Based on the results of the threat identification, probability and consequences of failure are calculated for each pipe segment to quantify risk.
- Assessment Plan: The threat and risk data are then used to schedule integrity assessments using appropriate methods. Assessment results are integrated with other datasets to determine actionable anomalies for remediation.
- Remediation: The examination and repairs of defects generate extremely large amounts of data that is captured in both the PCMR and Bell-Hole Inspection databases.
- Performance Metrics and Quality Assurance: Metrics are generated based on the various TIMP activities, which are shown in dashboards to provide transparency to decision-makers.

This workflow demonstrates that SoCalGas has the appropriate data systems in place to further maintain the effective execution of the TIMP. Automation of manual processes contained within this workflow improves the efficiency of the program and provides consistent execution of the process. SoCalGas has automated several time-consuming steps in this process, with additional items targeted for future automation.

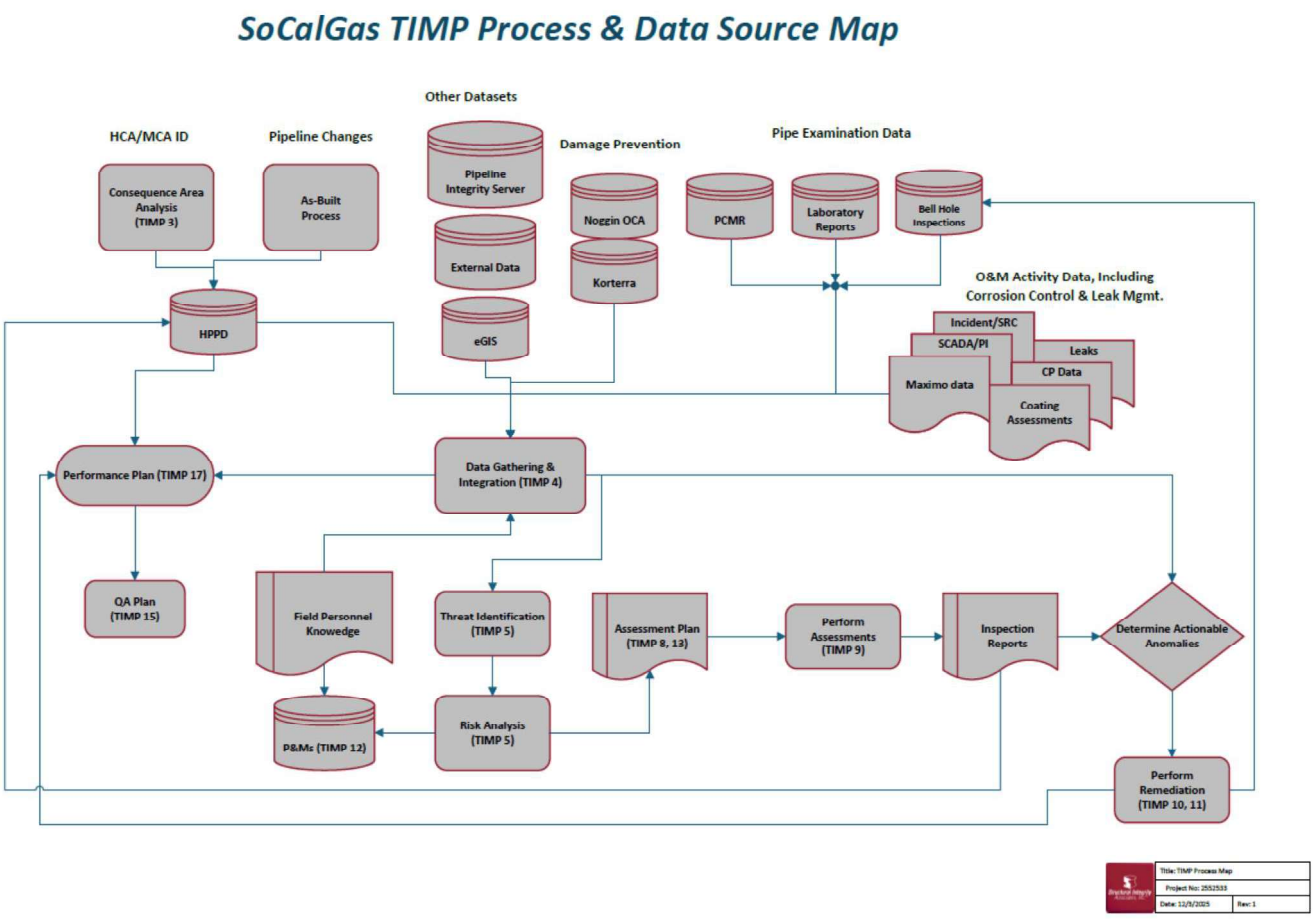


Figure 5-1: TIMP Process and Data Source Map

5.3 Recent Audit Performance

SoCalGas has demonstrated consistent compliance and process discipline, as evidenced by minimal findings during recent external and internal regulatory audits. Observations have been limited to low-severity concerns, with no violations reported. This track record reflects a proactive approach to meeting regulatory requirements with comprehensive procedures and processes, and effective internal controls. Collectively, this performance underscores their commitment to safety, reliability, and adherence to industry and internal standards, and further demonstrates an effective TIMP.

5.3.1 TIMP External Audits

SI reviewed the results of CPUC audits from 2020 to 2024. The CPUC performs an audit of SoCalGas's TIMP every year. Their findings range from Concern (least severe) to Violation (most severe). Unsatisfactory findings may become Violations if SoCalGas's response is not sufficient to resolve the issue. See Figure 5-2 for a summary table of the results, with further discussion of each year's findings.

Audit Year	Violations	Unsatisfactory Findings	Concerns
2020	0	4	0
2021	0	1	0
2022	0	0	4
2023	0	0	0
2024	0	0	8

Figure 5-2: Recent External Audit Performance

The 2024 integrity audit by the CPUC resulted in a total of 8 concerns, but no probable violations. Two concerns were related to SoCalGas's similar segment analysis process for corrosion and cracking. SI discussed this process with SoCalGas and learned it is implemented as needed to address specific conditions are discovered, and it meets the requirements of the regulation. The other concerns were all procedural in nature and were addressed with procedural revisions.

In late 2023 the CPUC conducted an inspection for compliance with the newest integrity regulations (RIN2) and no violations or concerns were noted.

The 2022 CPUC inspection resulted in 4 items of concern, with no unsatisfactory results or violations. As a result, SoCalGas updated their procedures for off-cycle threat activation. The other items were addressed by providing more detailed information to the CPUC.

The 2021 CPUC inspection resulted in one unsatisfactory result around use of Electro-Magnetic Acoustic Transducer (EMAT) ILI to assess for the threat of stress corrosion cracking. As a result, SoCalGas updated their procedures with content previously contained in a white paper and provided further justification to support their use of EMAT. These updates satisfied the CPUC and the item was closed.

The 2020 CPUC inspection resulted in four unsatisfactory results, all of which were addressed by SoCalGas and ultimately closed by the CPUC. A finding regarding degraded or missed data during ILIs resulted in SoCalGas adding a detailed process to their ILI procedure that established a process for evaluating the impact of missing data elements and determining if additional action is required. Another finding about performance measures led SoCalGas to expand their use of program metrics to evaluate their effectiveness. The other two findings were minor procedural items that were easily updated.

5.3.2 TIMP Internal Audits

SoCalGas performs an internal audit of their TIMP every 3 years. The following items were findings of the recent audits, with their corresponding resolutions.

- Finding: The IM task management system is not effectively used to manage in-line inspection (ILI) project tasks.
    - Resolution: replace the current IM task management tool with new solution (Note: this replacement project is in progress, see section 8.4)

- Finding: A subset of TIMP plan chapters and related Company Operation Standards (COS) were not self-audited as required by policy
    - Resolution: correctly labeled procedures in management system to ensure they get covered in the procedure audits.

SoCalGas performs an annual Director-level review of their TIMP that summarizes key program activities for that year including external data requests, overdue IM tasks, CPUC audit results, regulatory updates, review of PHMSA annual report data, and a 3rd party contractor audit summary. While SoCalGas may perform detailed review of performance metrics by other informal means, SI believes that better documenting and including more discussion and evaluation of IM activities in this annual report would significantly improve the report's value and enable a more holistic view of the program's effectiveness for all stakeholders. This recommendation is included in Section 9.1.5 as an opportunity for enhancement.

5.4 Pipeline System Capable of Accommodating ILI

PHMSA's RIN-1 explicitly promotes in-line inspection (ILI) as the preferred assessment method for pipeline integrity because it delivers superior data for risk evaluation compared to hydrostatic testing or direct assessment. ILI enables operators to inspect pipelines without service interruptions, reducing costs, avoiding methane emissions, and preventing potential pipe damage associated with pressure testing. It also provides comprehensive, continuous data along the pipeline, allowing detection of multiple threats that other methods might miss. This regulatory emphasis aligns with SoCalGas's ongoing strategy to make its system more ILI-capable, reinforcing a proactive approach to safety, reliability, and regulatory compliance. SoCalGas's leadership amongst peers is seen in Figure 5-3 below.

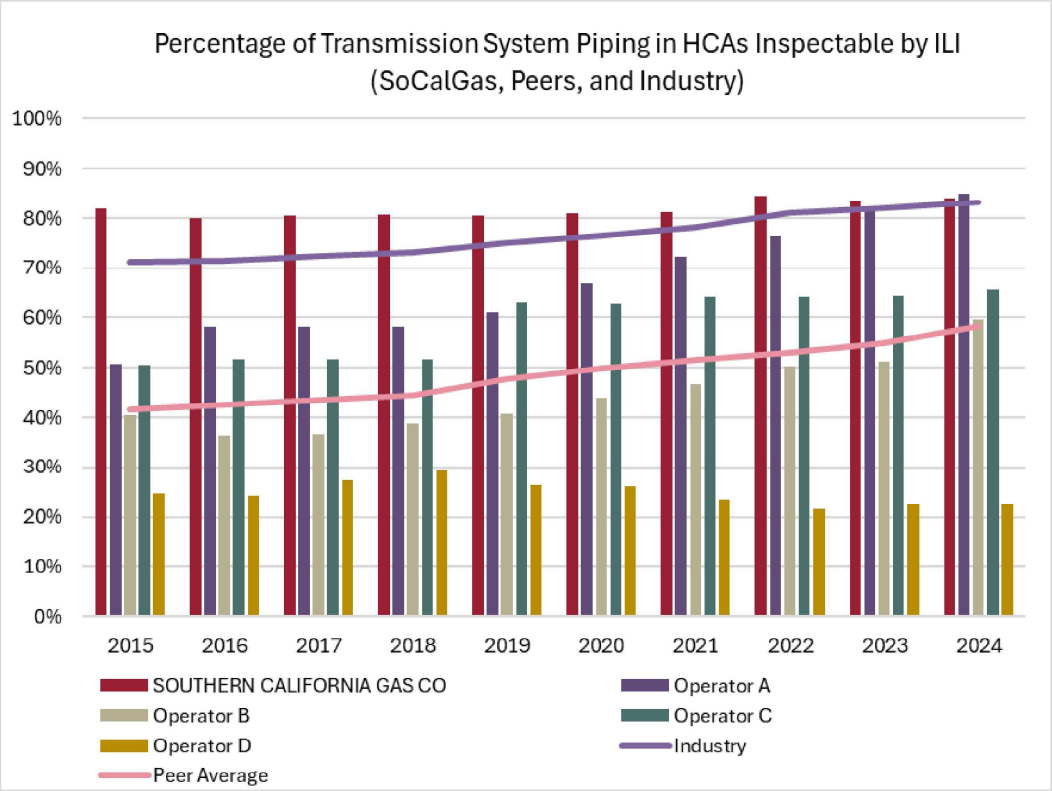


Figure 5-3: Benchmarked Percentage of Transmission System Piping in HCAs Able to Accommodate ILI [1]

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When looking at the total transmission system, and not just HCAs, SoCalGas continues to lead their peer operators in percentage of their system that can accommodate ILI, as seen in Figure 5-4 below. The overall transmission industry has a slightly higher percentage than SoCalGas, but this includes the long-haul operators whose systems are much simpler than SoCalGas's to retrofit (ex. Mostly pipe on dedicated right of way in Class 1 areas). SoCalGas's system is interconnected with its own distribution system in congested locations that makes most ILI retrofit projects difficult.

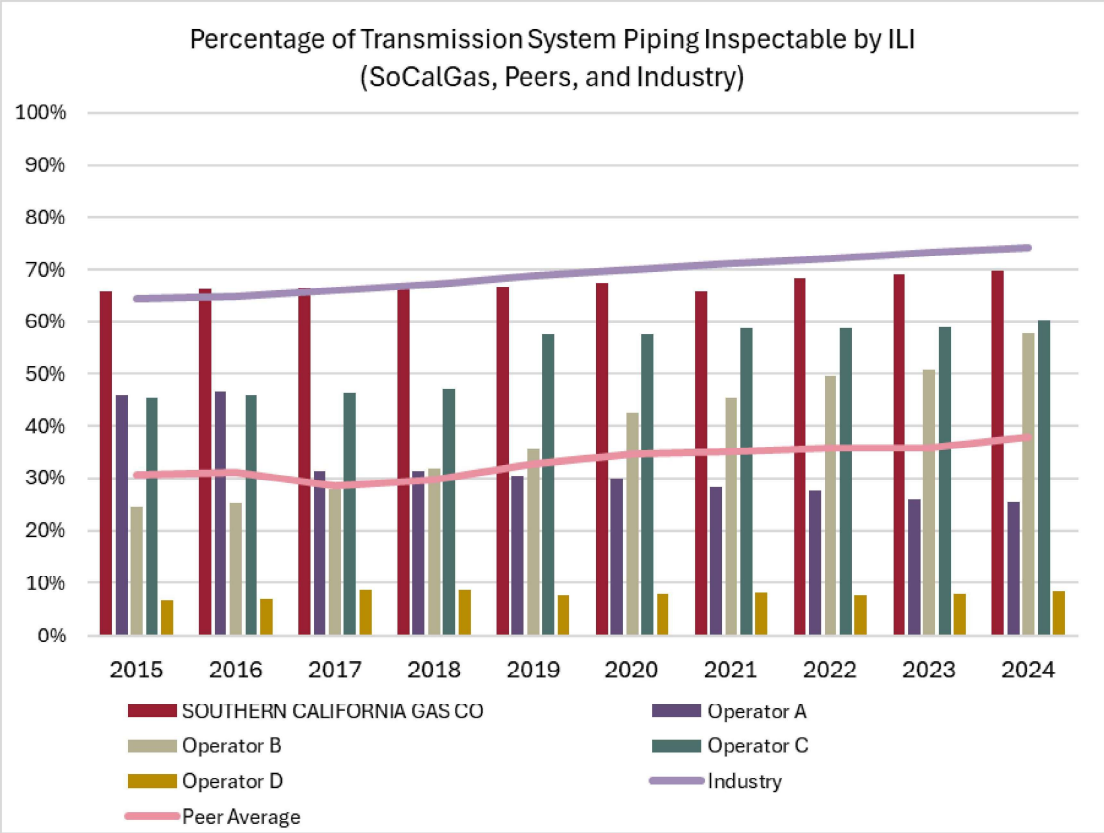


Figure 5-4: Benchmarked Percentage of Total Transmission System Piping Able to Accommodate ILI [1]

SoCalGas continues to allocate significant capital toward retrofitting their pipeline system, enabling the use of advanced inline inspection (ILI) technologies. This strategic investment directly supports regulatory compliance by meeting integrity management requirements and reducing reliance on less precise and more costly methods such as Direct Assessment. This proactive approach not only enhances safety and environmental protection but also delivers long-term cost benefits by enhancing overall knowledge about the system's integrity, minimizing future unplanned outages from failures due to undetected defects. These efforts reflect a strong commitment to operational excellence, risk reduction, and overall program effectiveness and cost-effectiveness.

5.5 Assessments

SoCalGas's TIMP assessment activities are driven by federal and state regulations, including 49 CFR Part 192 Subpart O, General Order No. 112-F and CPUC directives. The following performance metrics are compiled from SoCalGas's Annual Reporting to PHMSA and are benchmarked against similar peer operators.

Figure 5-5 shows SoCalGas's annual assessment mileage using Direct Assessments and pressure tests. These are shown separate from ILI due to the much smaller scale in terms of mileage assessed. Pressure tests have not been used as an integrity assessment method since 2016, as pressure tests have more commonly been used for MAOP Reconfirmation or PSEP activities in recent years.

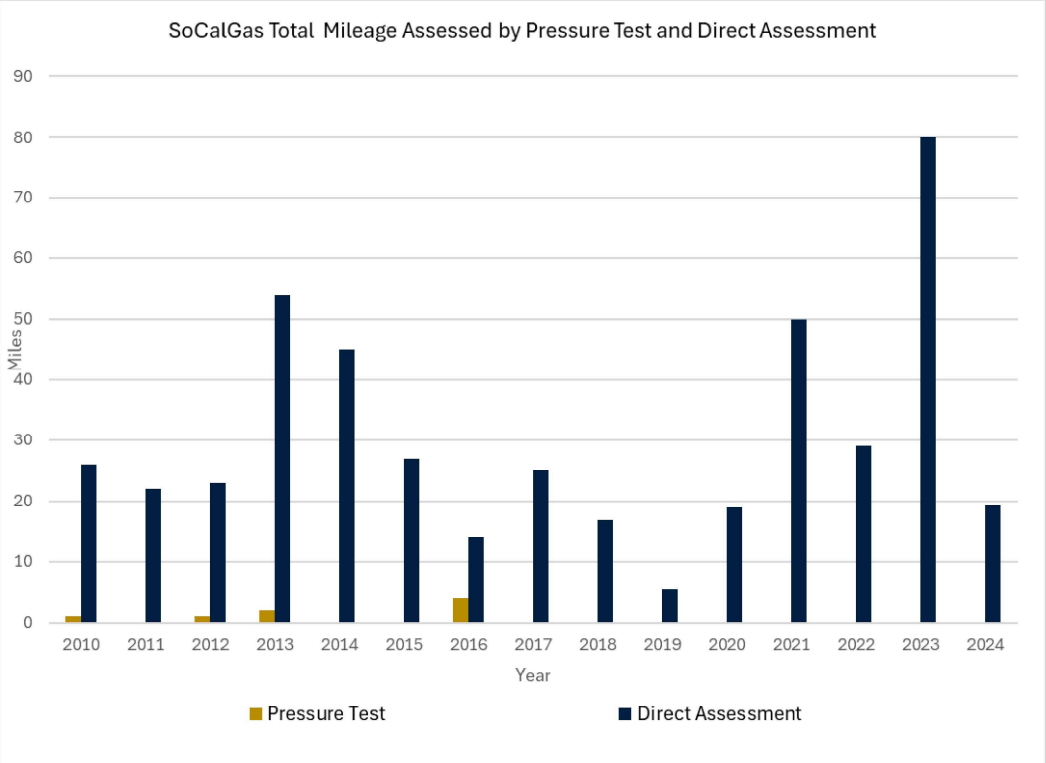


Figure 5-5: SoCalGas Total Reportable Mileage Assessed by Pressure Test, and DA [1]

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Figure 5-6 presents both the mileage and number of ILI segments per year. Since the mileage of the individual ILI projects can vary greatly, both metrics are important to consider for an understanding of overall scope. The number of segments shows a stable trend averaging just under 23 ILI segments per year, with overall mileage generally increasing since 2019.

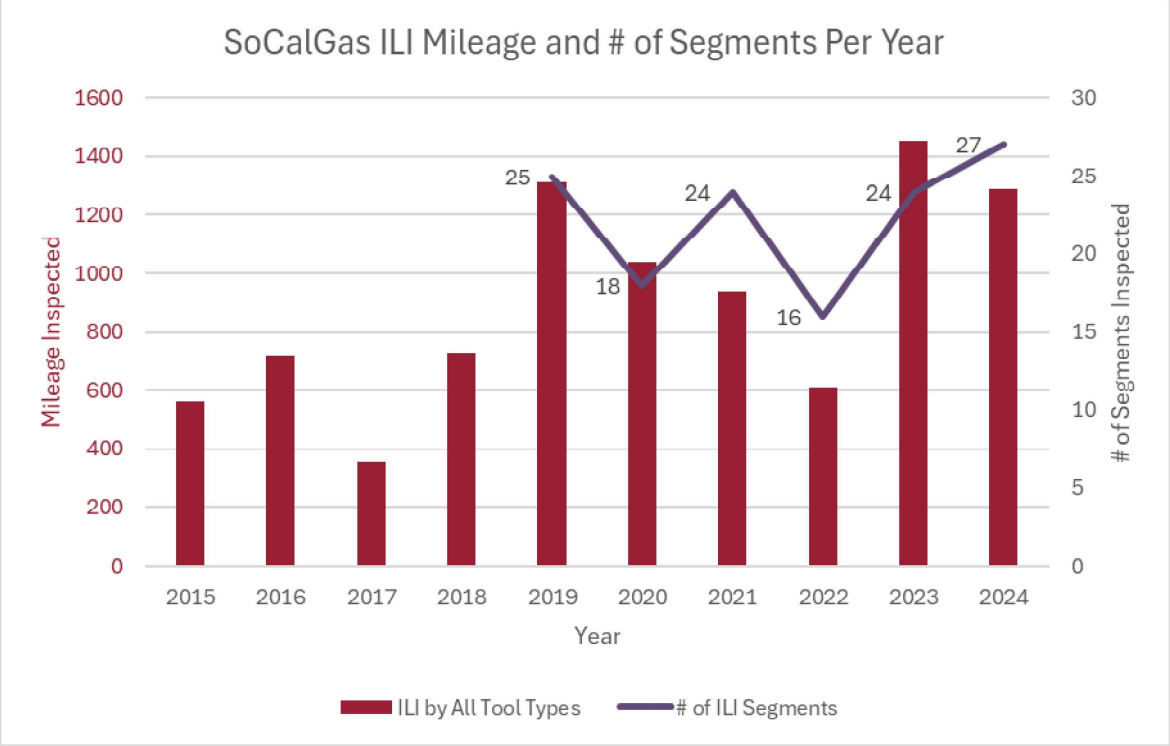


Figure 5-6: SoCalGas Total ILI Assessments Mileage and Number of Segments [1], [8]

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Figure 5-7 shows the categories of ILI technology used per year, offering a view of the different threats SoCalGas is assessing. SoCalGas has been utilizing EMAT since the late 2010's to assess for the Stress Corrosion Cracking (SCC) threat, at an increasing rate following changes to their threat identification process in 2022. The use of Circumferential MFL (MFL-C) technology has also dramatically increased since 2022. These tools can assess the Manufacturing Long Seam threat (crack-like defects in the seam) and assist EMAT tools in the detection and identification of crack-like defects in both the pipe body and long seam.

Through stakeholder engagements, SI learned that SoCalGas prioritizes utilizing combination Geometry and MFL tools wherever possible to reduce the overall number of tool runs and improve efficiency. However, pipeline configurations and operating conditions often do not allow for these longer tools, as noted by a dip in their use from 2022 to 2024.

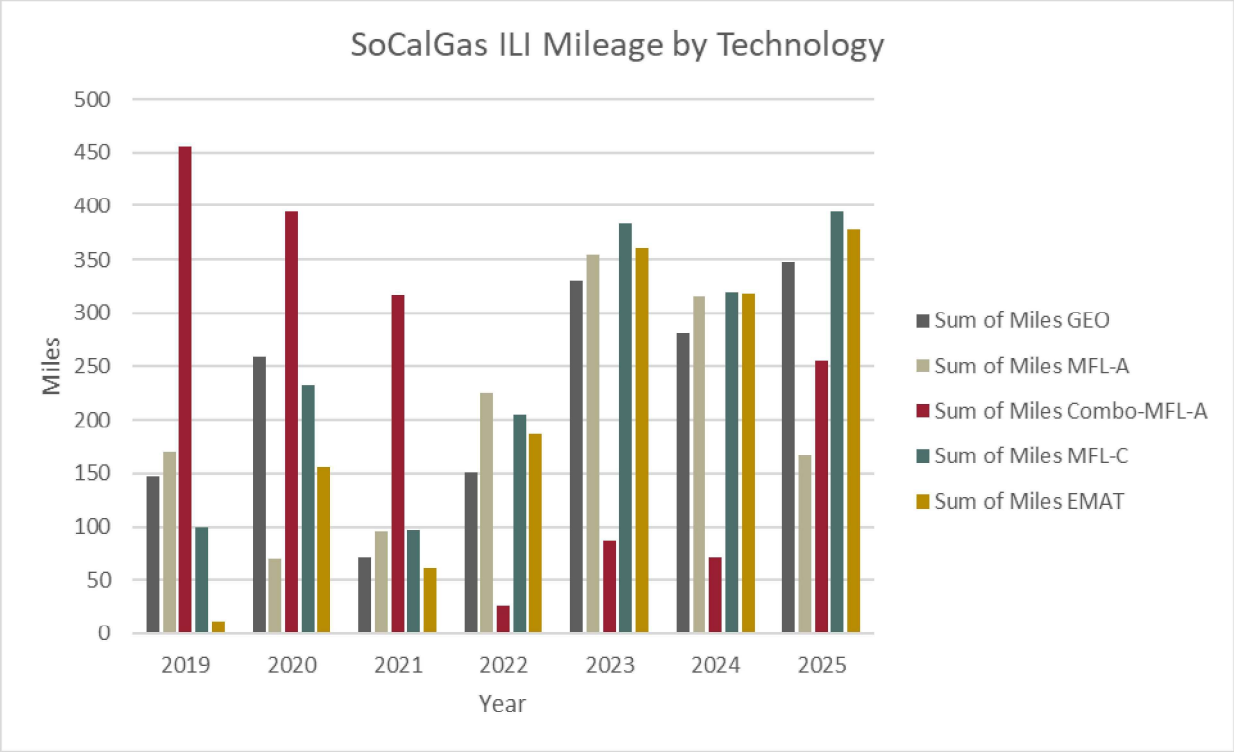


Figure 5-7: SoCalGas ILI Mileage by Technology [8]

Figure 5-8 shows the industry breakdown of integrity assessment methods. Corrosion and dent tools continue to be the largest share of ILI usage, but the industry is also showing a trend of increased crack/long seam tool use (MFL-C and EMAT collectively). The usage of MFL-C and EMAT by SoCalGas is higher than the average industry make-up, as seen by the 3-year moving average trend-lines below. This shows that SoCalGas is leading peers and industry in terms of MFL-C and EMAT tool adoption. Further explanation of the drivers behind this trend at SoCalGas is provided in Section 5.8.

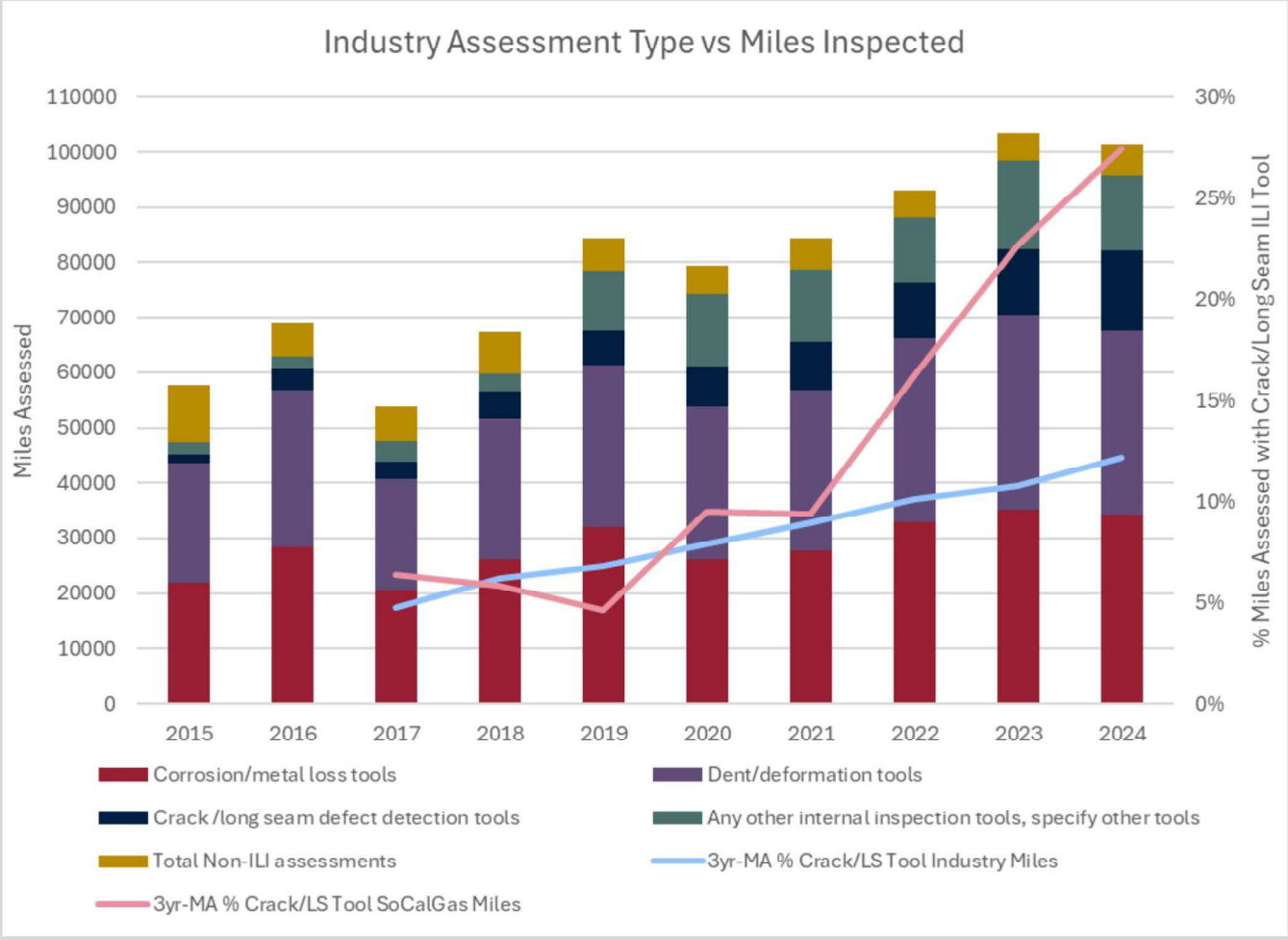


Figure 5-8: Transmission Industry Integrity Assessment Methods Mileage [1]

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5.6 Repairs

The repairs resulting from an integrity management program are the ultimate measure of its effectiveness. Defects are found using integrity assessments and repaired before they can grow to failure and affect people and property around the pipeline. SoCalGas classifies the defects found according to the PHMSA designations, which were significantly expanded with RIN-2 regulations issued in August 2022 (more detail in Section 4.0).

Repairs from ILI projects are presented first since these projects represent the majority of features identified and repaired from SoCalGas's integrity assessments. Figure 5-9 shows the ILI conditions repaired in HCAs only. The number of Immediate and One-Year Repair Conditions has dramatically increased since the RIN-2 regulations came into effect in 2023, as many more defects now require remediation. The higher number of required repairs is expected to continue until reassessments occur that use the RIN-2 criteria for a second time, roughly in 2030 based on the maximum allowable 7-year reassessment interval. Any Immediate condition that is found and repaired demonstrates a large risk reduction for the overall pipeline segment. Immediate conditions are the types of features (ex. Severe corrosion, dents with gouges) with a high probability of future failure and potential impact on the people and property around the pipeline.

By detecting and repairing a significant number of Immediate conditions, SoCalGas is demonstrating a high degree of effectiveness of its TIMP, as this is the ultimate objective of the program - to find and remove severe threats to pipeline integrity prior to failure, improving reliability and keeping pipelines safe.

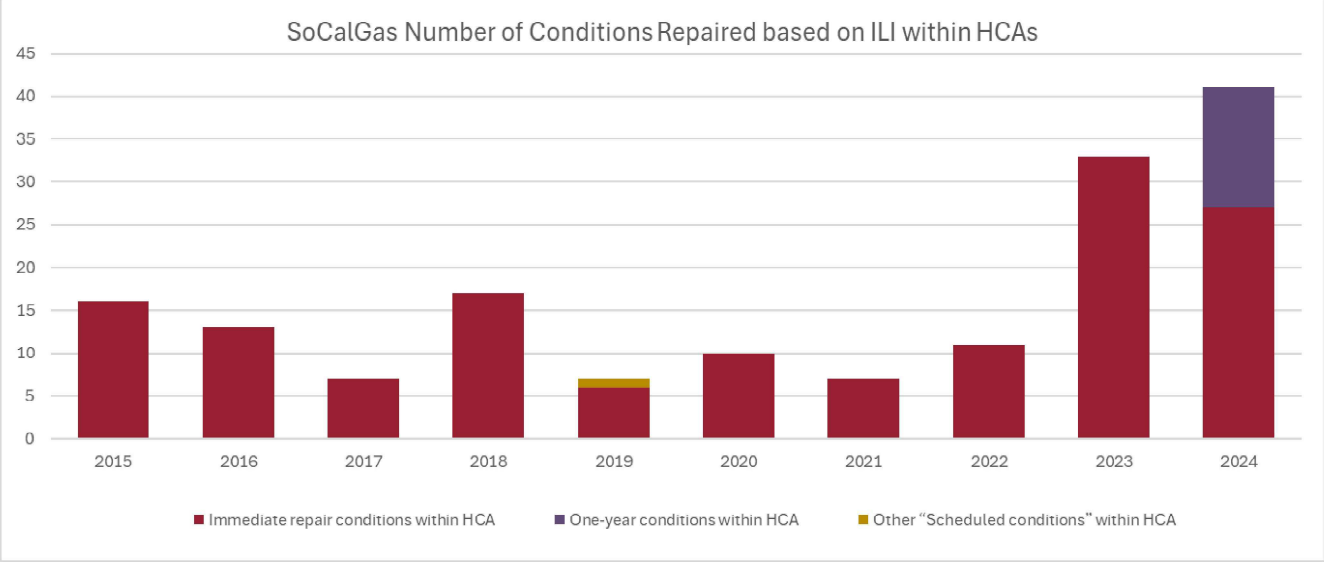


Figure 5-9: SoCalGas Total PHMSA-defined ILI Repair Conditions in HCAs [1]

Although HCAs represent about a third of SoCalGas's total mileage, many repair activities are still performed outside of HCAs to maintain pipeline safety outside of HCAs. There were no prescriptive regulations mandating these repairs or requiring the repairs within a schedule until RIN-2 (2022), which is seen in Figure 5-10 by the number of repairs increasing dramatically outside of HCAs starting in 2023.

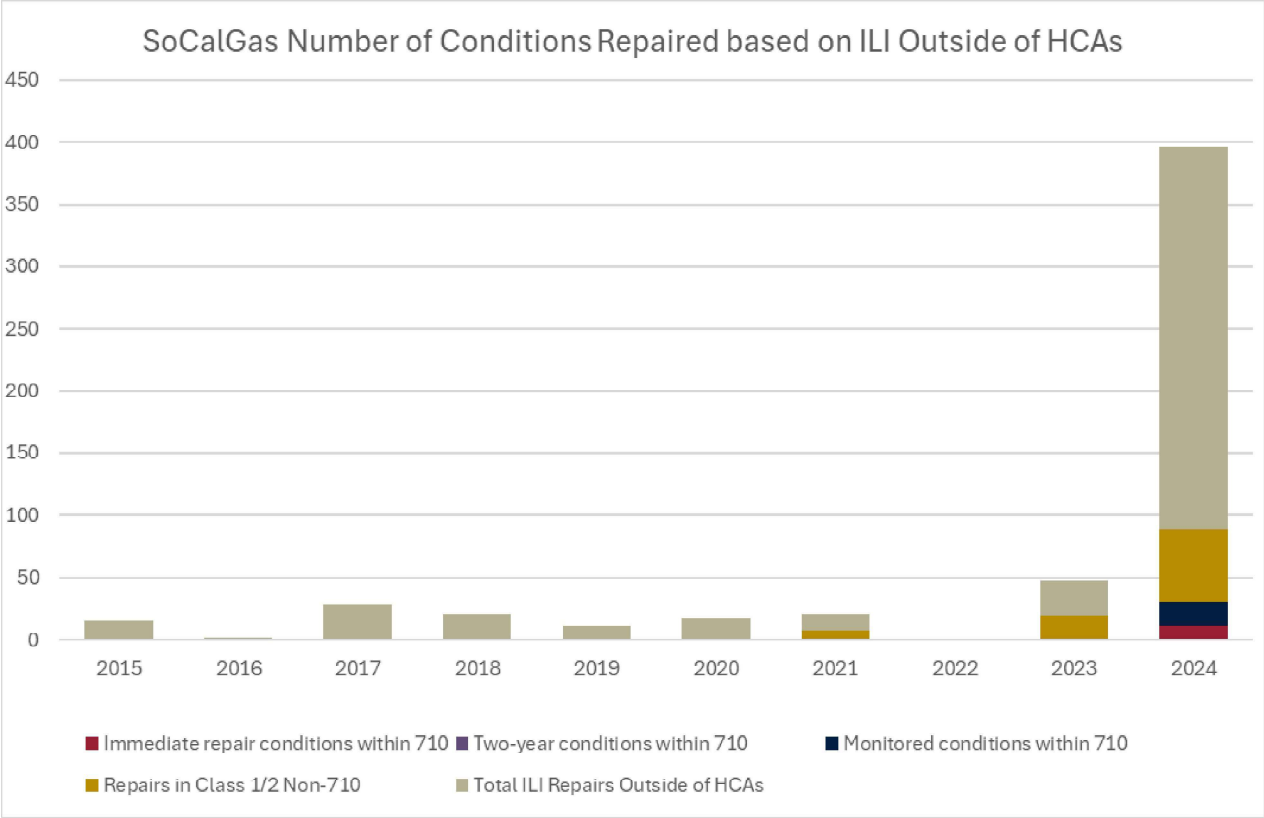


Figure 5-10: SoCalGas Total PHMSA-defined ILI Repair Conditions Outside of HCAs [1]

Figure 5-11 shows the total individual defects (not by aggregated dig like the metric above) repaired by cause. The leading causes of defects that require repair for SoCalGas are Third Party Damage, Manufacturing and Construction. External Corrosion has historically required many repairs, but the recent decrease in corrosion repairs shows effective management of the cathodic protection systems, which have slowed corrosion growth rates. The increase in Construction and Third-Party Damage repairs can be directly attributed to the recent RIN-2 changes that require more digs for dent features, both inside and outside of HCAs.

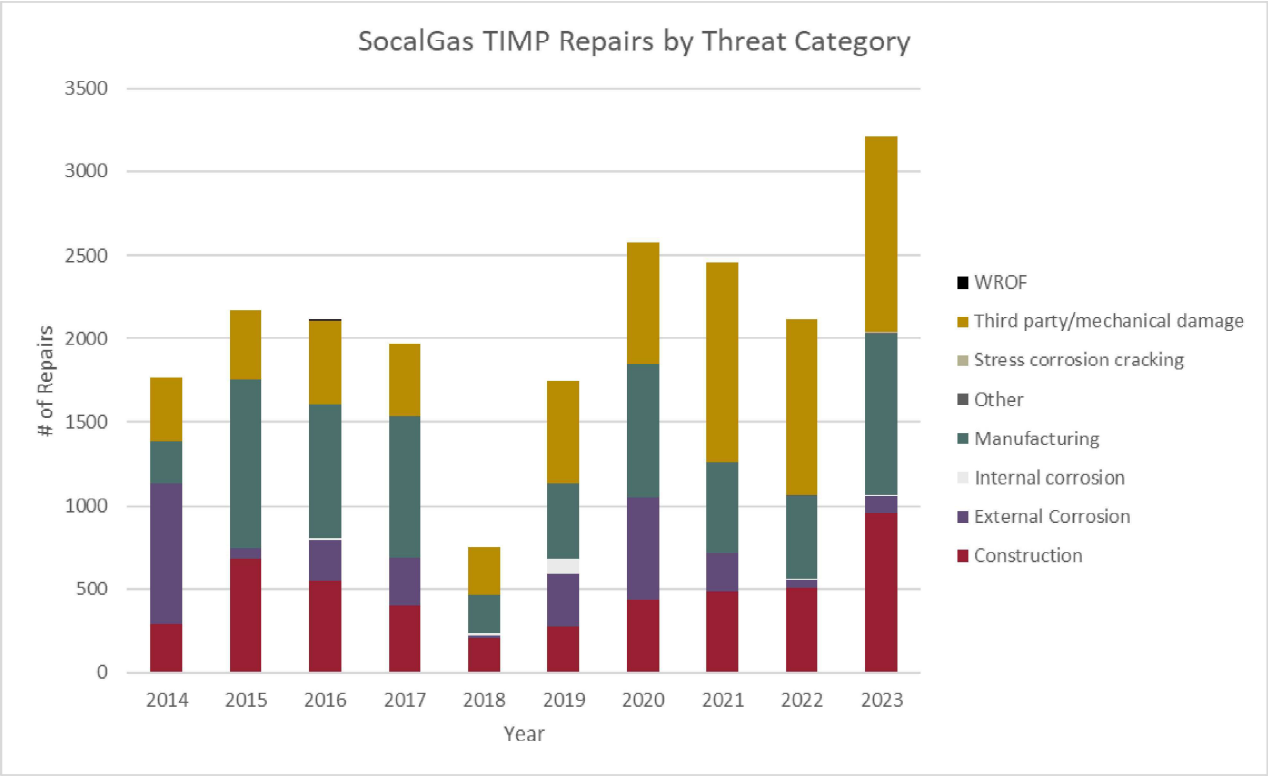


Figure 5-11: SoCalGas Total Individual Defect Repairs by Threat [9]

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SoCalGas employs three primary methods of pipeline repair: pipe replacement, Type-B metallic sleeves, and "soft pad" grinding.

- Grinding repairs are an accepted method to remove surface defects without the need for a sleeve or pipe replacement. An abrasive flap disc (what SoCalGas calls a "soft pad") is used to remove a small amount of steel that contains the defect, without affecting the serviceability of the pipe. However, they are very limited to certain defects and severities.
- Type-B sleeves are comprised of two steel half shells that fit around the damaged pipe. The shells are welded together and then welded to the pipeline at both ends, creating a strong, sealed enclosure that restores full strength to the damaged section. This is an accepted method for permanent pipeline repair of a large variety of defects. An installation of a Type-B sleeve involves using either a company or contract welding crew, with careful consideration of operating conditions to establish proper cooling time during the sleeve-to-pipeline welds. While Type-B sleeves are an effective repair option, they are often not the most cost-effective solution due to those reasons.
- Pipe replacements remove the damaged segment of pipe, and a new segment is welded in place. This method can repair any type of defect but involves many more operational and environmental considerations to execute. Due to the environmental regulations and sensitivity in California, pipeline replacements require all the gas in the segment to be recompressed to another pipeline or isolated valve segment, instead of blowing down the gas to atmosphere. The recompression process is both time-consuming and costly. Some segments cannot be taken out of service for pipeline replacements, and a costly double-stopple-bypass system must be utilized to complete the repair.

The frequency that SoCalGas uses these repair types is shown in Figure 5-12 below. The numbers in this figure are shown as the number of repairs applied, not aggregated to either the dig or defect level, so they do not directly correlate to the repair figures above. This shows that grinding and pipe replacements are the most utilized methods of repair for SoCalGas. There is a trend of decreased use of pipe replacements, which shows that SoCalGas is already focused on performing more cost-effective remediations.

There are several other proven repair methods that SoCalGas could utilize that would enhance efficiency and cost-effectiveness of remediation activities. These methods are discussed in Section 9.1.

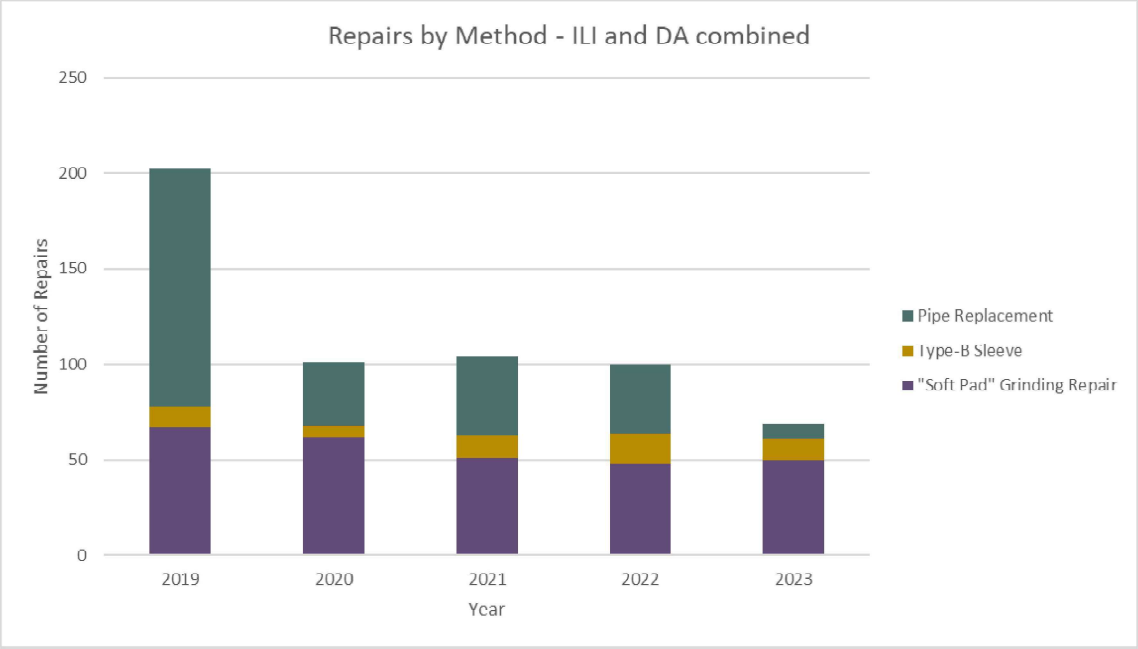


Figure 5-12: SoCalGas Total Repairs by Method [10]

Repair data for Direct Assessment projects is presented below in Figure 5-13. Even though DA is not as comprehensive of an assessment method as ILI, SoCalGas does find defects that require repair, including injurious defects classified as Immediate conditions. For segments that cannot accommodate ILI, DA remains a valid assessment option that removes risk from the segment.

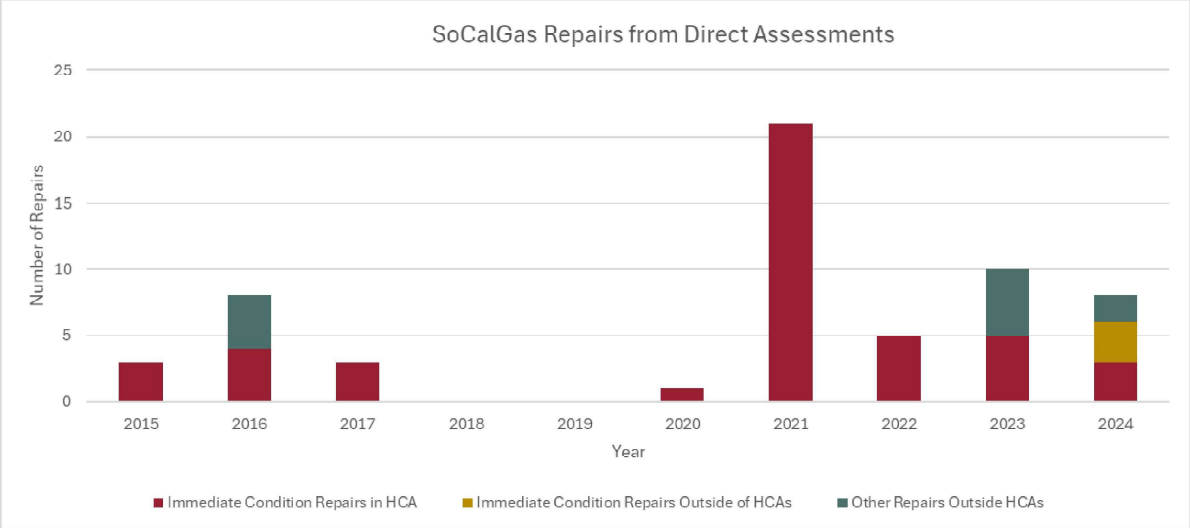


Figure 5-13: SoCalGas PHMSA Repair Conditions from DA Projects (both inside and outside of HCAs) [1]

SoCalGas has demonstrated a high level of effectiveness and efficiency in managing pipeline integrity by completing a high volume of repairs driven by its integrity management program. These repairs

include addressing severe anomalies classified as Immediate Repair Conditions that drive remediation of high-risk defects. Increased adoption of advanced ILI technologies has further enhanced their ability to identify a broader range of threats with greater precision, enabling targeted interventions that reduce risk and improve system reliability. This proactive approach not only strengthens safety and environmental protection but also delivers cost benefits by preventing failures and minimizing emergency response costs.

5.7 Leaks and Incidents

The Transmission Integrity Management Program (TIMP) covers transmission pipelines in High Consequence Areas (HCAs) by prescribing integrity assessments and remediation to reduce the risk and frequency of failures. While assessment and repair metrics are leading indicators about the activities that SoCalGas performed under the TIMP, this section focuses on the lagging indicators, leaks and failures on their transmission system. The goal for every TIMP is to prevent all leaks and failures. This is a challenge for large, complex gas transmission systems, which are constantly under attack by a variety of threats.

The performance metrics presented below evaluate the leaks and incidents experienced from 2015 through 2024 on the SoCalGas gas transmission pipeline system by cause. The results demonstrate that SoCalGas is proactively working to reduce these negative events, learn from them and adjust their TIMP practices accordingly to prevent future occurrences. The actions performed as a result of these failures are a major indicator in the effectiveness of an operator's overall TIMP.

Figure 5-14 presents leaks found in HCAs for just SoCalGas. HCA-specific data is presented first since that is the regulatory jurisdiction and focus of TIMP. Equipment failure is the primary leak cause almost every year for the period evaluated. The same trend holds true when looking at leak data from other transmission operators across the country. Equipment leaks are typically failures from regulating, metering or connection components, often by failure of consumable parts like seals. While the Equipment threat is not a threat that can be assessed within integrity management (i.e. integrity assessments cannot find and fix Equipment problems), it is still important to consider in the high-level picture of the program as the operator seeks to reduce these events. For the purposes of this review, the focus is on threats that are more able to be directly impacted by integrity assessments, and the Equipment threat is removed from the following figures to provide a clearer picture.

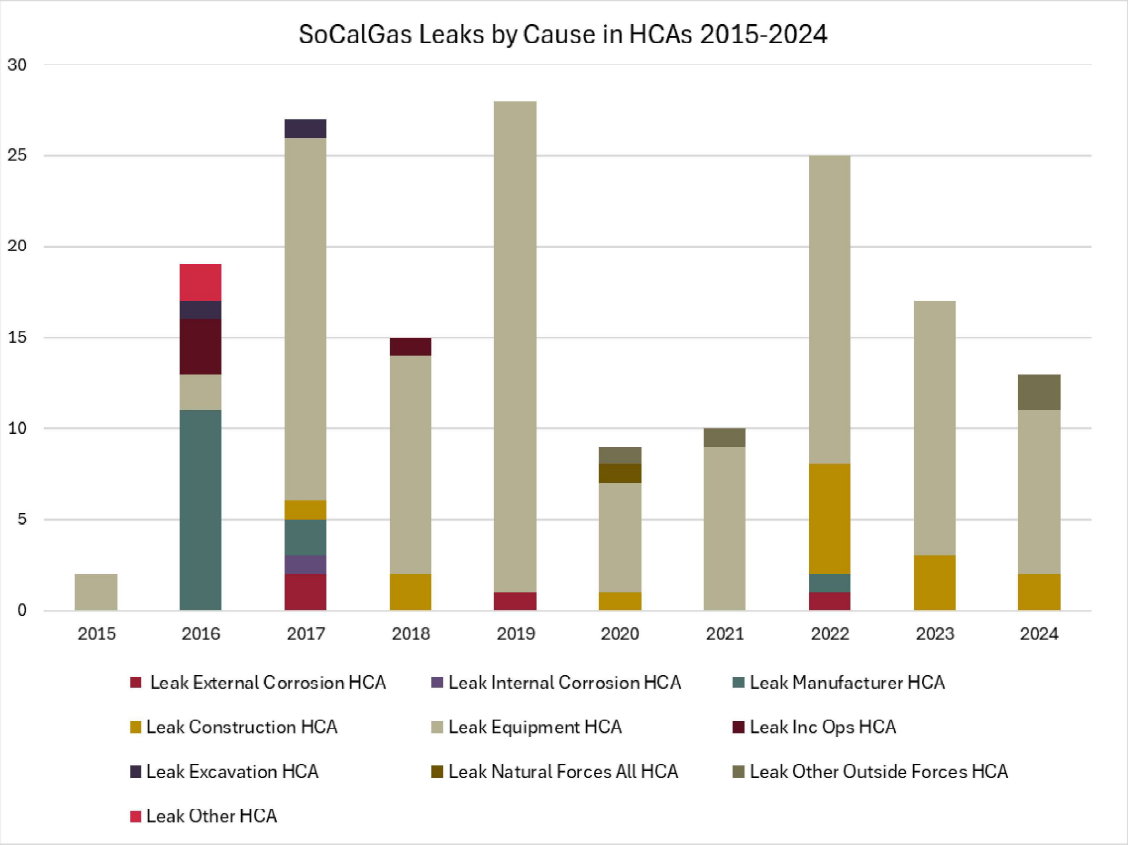


Figure 5-14: SoCalGas HCA leaks by Cause [1]

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Figure 5-15 below shows leaks on the whole SoCalGas transmission system, excluding Equipment leaks to see the other causes in more detail. There is a general trend of increasing Construction leaks experienced in the past 3 years, likely attributed to the recent RIN-2 changes that require more digs of dent and girth weld anomalies. The fact that SoCalGas has seen a significant decrease in External Corrosion leaks since 2020, with very few in the past several years, speaks to the effectiveness of their TIMP in managing this threat.

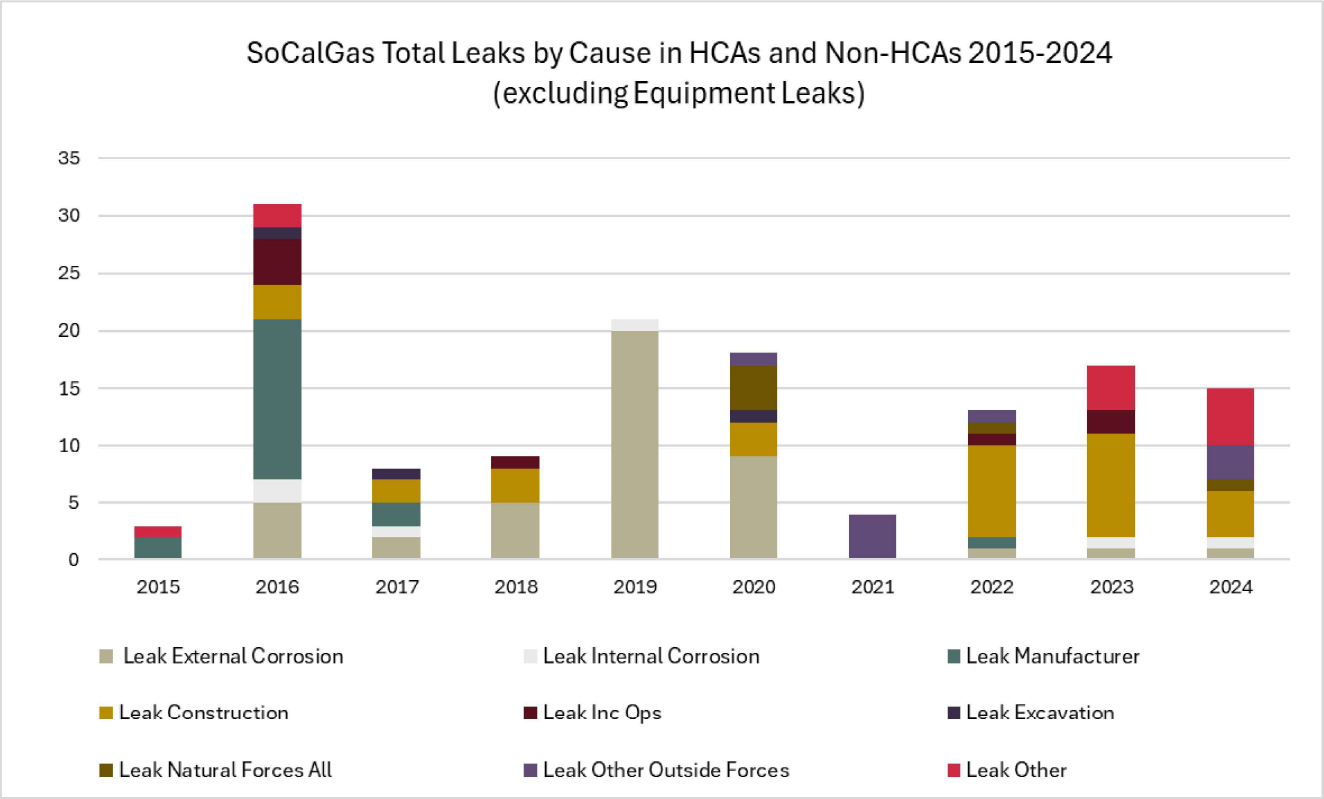


Figure 5-15: All SoCalGas Leaks by Cause [1]

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Figure 5-16 below presents a normalized view of leaks (rate per 1000 miles of pipe) from the selected peers and industry, excluding Equipment leaks. SoCalGas, their peers and the entire industry have all experienced a general downward trend in their leakage rate over the past ten years.

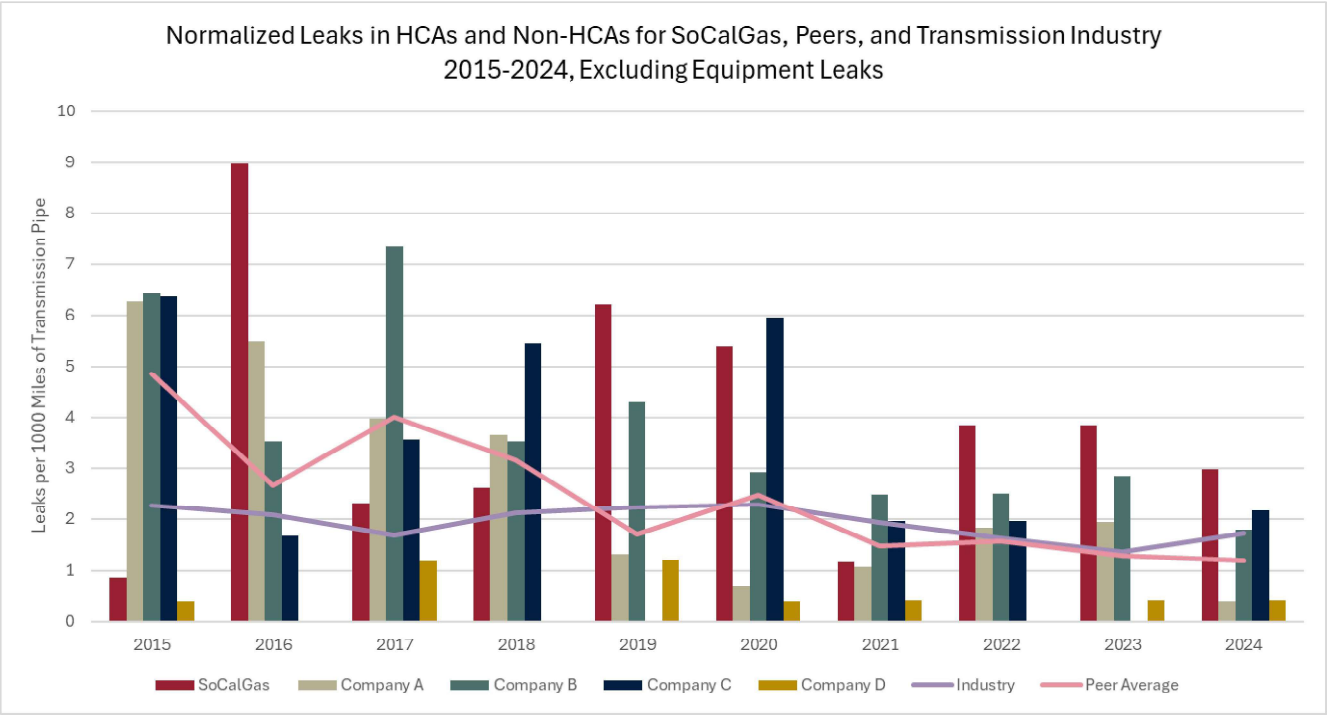


Figure 5-16: Normalized Peer and Industry Leak Rates (including Equipment Failure) [1]

Incidents are a subset of leaks that exceed certain thresholds; either by the amount of gas released, cost to repair, media exposure, or by causing injuries/fatalities. Table 5-2 shows SoCalGas' incident counts for the transmission system. There are several years without any incidents and three years with a maximum of two. None of SoCalGas's recent incidents have resulted in injuries or fatalities.

Table 5-2: SoCalGas Transmission Incidents [11]

Year	HCA	Non-HCA	Total
2013	1	1	2
2014	1	2	3
2015	0	0	0
2016	0	0	0
2017	0	2	2
2018	1	0	1
2019	0	0	0
2020	0	1	1
2021	0	0	0
2022	0	1	1
2023	0	2	2
2024	0	2	2

Figure 5-17 shows the normalized (rate per 1000 miles of pipe) incidents for SoCalGas compared to the benchmarked peers and industry. SoCalGas seems to follow the overall industry trend, with many years below it and only slightly above it in 2017, 2023 and 2024. Their performance is generally aligned with their peers and industry. There is increasing volatility in the trends for SoCalGas and the larger peers, Operators A and B, which may speak about the complexity and challenges that large, combined utilities face compared to transmission-only operators.

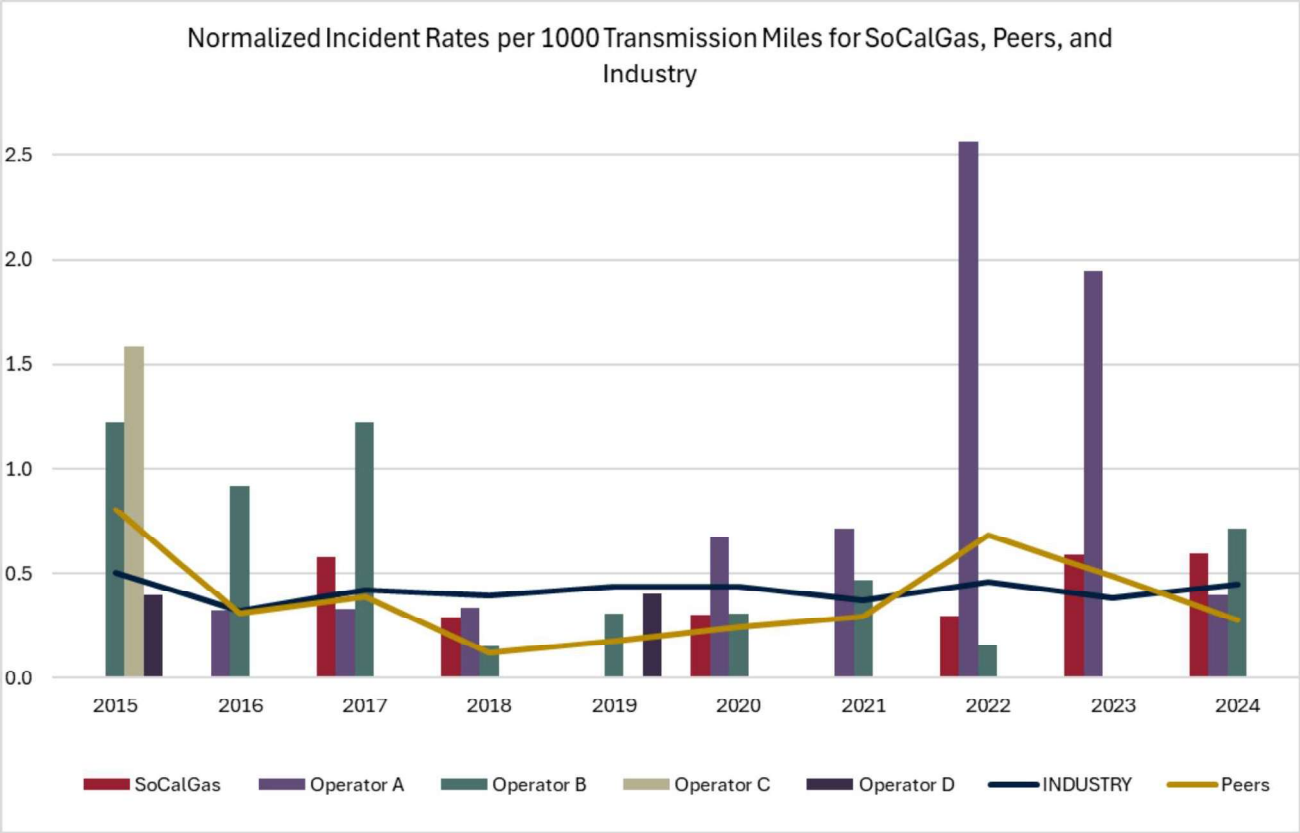


Figure 5-17: Normalized Incident Rates per 1000 Transmission Miles (SoCalGas, Peers and Industry) [11]

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Figure 5-18 shows the total property damage caused by SoCalGas incidents, by incident cause. The Natural Force damage incidents are by far the costliest events, and they are also difficult to prevent with integrity assessments. During the stakeholder engagements, SI observed a focus on improving the risk evaluation and subsequent P&Ms for the Outside Forces threat, which is a data-driven decision based on their recent incidents.

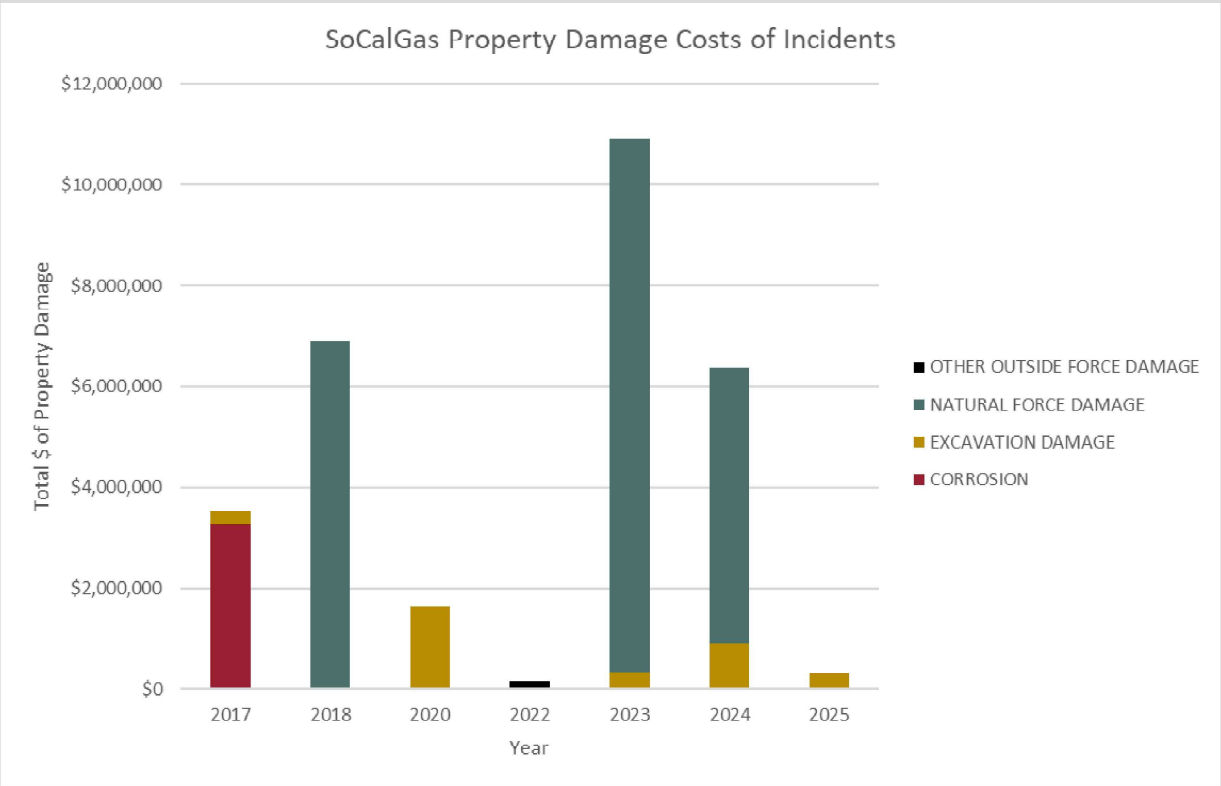


Figure 5-18: SoCalGas Total Property Damage Costs of Incidents [11]

Thankfully, incidents are a low-frequency event, so it is hard to draw firm conclusions based on the limited data. However, SoCalGas is consistently below or near the normalized trend for industry incident rates. It is also important to note that none of the transmission incidents experienced by SoCalGas in the past 10 years have resulted in an injury or a fatality.

SoCalGas has demonstrated strong performance in managing pipeline leaks and incidents. Over the past several years, the overall leak and incident rates have remained steady with a slight downward trend, indicating consistent improvement in system integrity and maintenance practices. Compared to several key peers, the operator is outperforming industry benchmarks, reflecting effective risk management and proactive maintenance strategies. This performance underscores a commitment to safety, reliability, and operational excellence, while demonstrating an effective TIMP. Based on this data, it is concluded that SoCalGas's TIMP is effective at protecting public safety through maintaining pipeline integrity and minimizing pipeline failures.

5.8 SCC and Manufacturing & Construction Threats

Regulatory changes had a large impact on how SoCalGas evaluates the threats of SCC and Manufacturing and Construction (M&C) defects, which collectively were a large driver for the recent increase in program costs. This section provides additional background and explanation for the program management changes for these specific threats.

5.8.1 Manufacturing & Construction Threat

Changes from RIN-1 to 192.917, outlined in Section 4.1 above, affected the threat identification and assessment method selection for M&C defects. Previous threat identifications, in compliance with the regulations, determined that these threats did not warrant assessment (i.e. "stable" threat). The RIN-1 change activated the M&C threat for many segments and is now required to be included in the assessment plan. The major impact to SoCalGas's assessment plan was the requirement to now include ILI tools capable of assessing potential crack-like Manufacturing defects in the long seam weld using either MFL-C or EMAT technology, which can be seen in the breakdown of ILI mileage by tool type illustrated in Figure 5-7 above.

The RIN-1 change became apparent in SoCalGas's threat identification and risk results starting in 2022, as seen in Figure 5-19 below, as the susceptible mileage increased by over 100 miles. At this time, SoCalGas also began evaluating the threat severity using High, Moderate, Low and Not a Threat categories. In 2025, the granularity of this evaluation was further increased by splitting apart the pipe body, long seam and hard spot cracking Manufacturing threats, seen in Figure 5-20 below. Note that for 2025, the mileage presented in Figure 5-19 is the aggregate of all the Manufacturing sub-threats. A 2024 PHMSA Advisory Bulletin [12] directed operators to evaluate their systems for pipe susceptible hard spot cracking, which SoCalGas accomplished by adding a new sub-threat to their threat identification process. The figure also shows that most of the High and Moderate Manufacturing threat susceptibility is in the long seam and not the pipe body. As stated above, this sub-threat can only be assessed using specialized ILI tools when assessed by ILI, either using MFL-C or EMAT ILI technologies. The increased use of MFL-C has paid dividends, as SoCalGas has found and repaired over 3,000 individual seam weld defects as a result, seen above in Figure 5-11. This fact speaks to a high level of effectiveness for finding and repairing the targeted threat of concern.

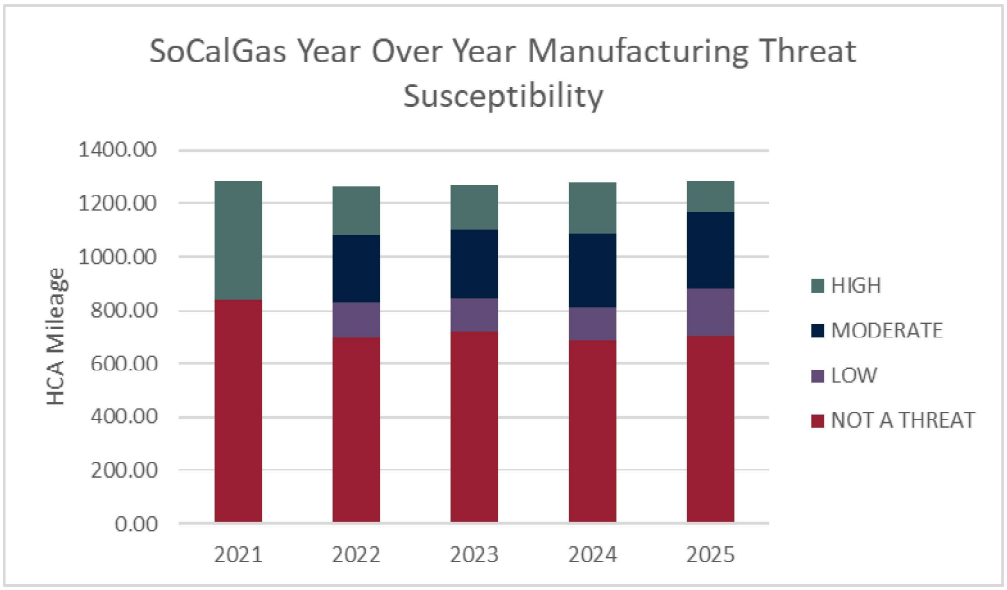


Figure 5-19: SoCalGas HCA Mileage by Manufacturing Threat Susceptibility [13]

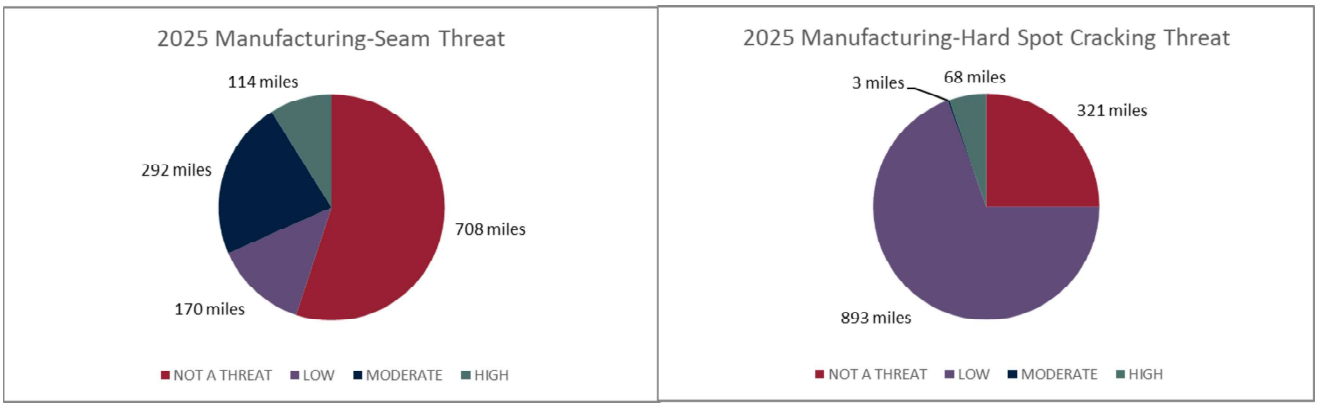


Figure 5-20: SoCalGas Manufacturing Sub-Threat Susceptibility for HCAs [14]

5.8.2 SCC Threat

SoCalGas employs a sophisticated evaluation process for SCC susceptibility. This was driven by the more prescriptive threat identification and assessment regulations from RIN-1 and ADB-2017-01, described in Section 4.2, as well as recent SCC findings on the SoCalGas system. The resulting susceptibility changes were first implemented in SoCalGas's 2022 threat/risk analysis, as seen in Figure 5-21 below. The SCC threat identification was refined to include high pH and near-neutral pH SCC in both axial and circumferential directions and classify the threat intensity level (strong, moderate, weak, not susceptible). This more granular evaluation of the threat susceptibility levels has resulted in higher utilization of MFL-C, EMAT, and Stress Corrosion Cracking Direct Assessment (SCCDA) to assess for the threat. It is important to note that this change occurred during the middle of the GRC cycle and was a driver for the increased costs incurred.

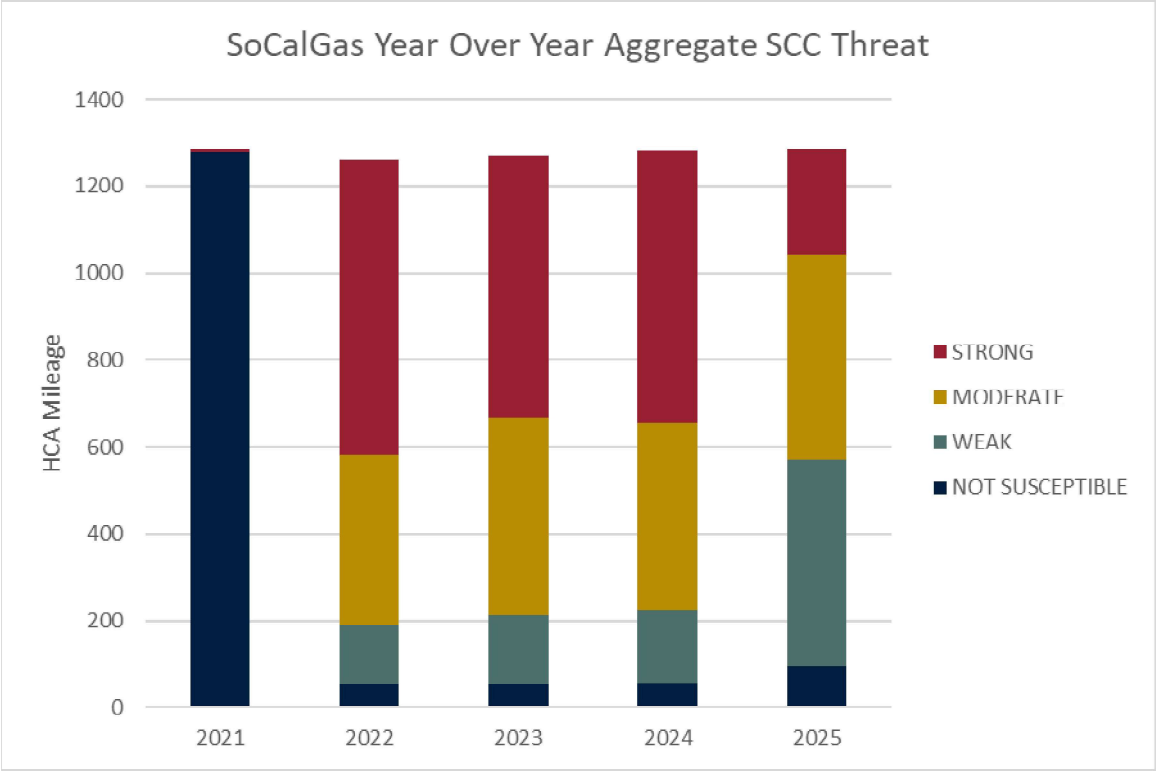


Figure 5-21: SoCalGas SCC Threat Susceptibility HCA Mileage [13]

SoCalGas's detailed evaluation of the Circumferential SCC (CSCC) threat, summarized in [13]Figure 5-22 below, is an industry-leading approach for the threat, as few operators have gone into that level of detail in this analysis. This deeper evaluation is appropriate for the SoCalGas system, because the pipeline system traverses varying topography which may subject the pipelines to external stresses conducive to formation of CSCC. There are very few ILI tools currently available that can assess this threat and SoCalGas has been an early adopter of utilizing them. SoCalGas has also been assessing for the CSCC threat using an SCCDA approach that integrates many data sources to target the most likely locations for CSCC to form. Bending strain data from ILI tools is often used in this process also, as higher strain locations are more likely to experience CSCC. SoCalGas also has a tight integration between CSCC and Weather and Outside Forces in their risk analysis to leverage the risk model's consideration of multiple datasets to highlight potential areas of higher strain and CSCC. SoCalGas has made refinements every year to their SCC threat identification process, as seen in both Figure 5-21 and Figure 5-22 with less mileage now falling into the "Strong" and "Moderate" categories. Now that SoCalGas has completed several years of SCC assessments and digs, SI recommends that SoCalGas continue this refinement and perform a deeper dive into their SCC threat processes. This recommendation is described in more detail in Section 9.1.1.

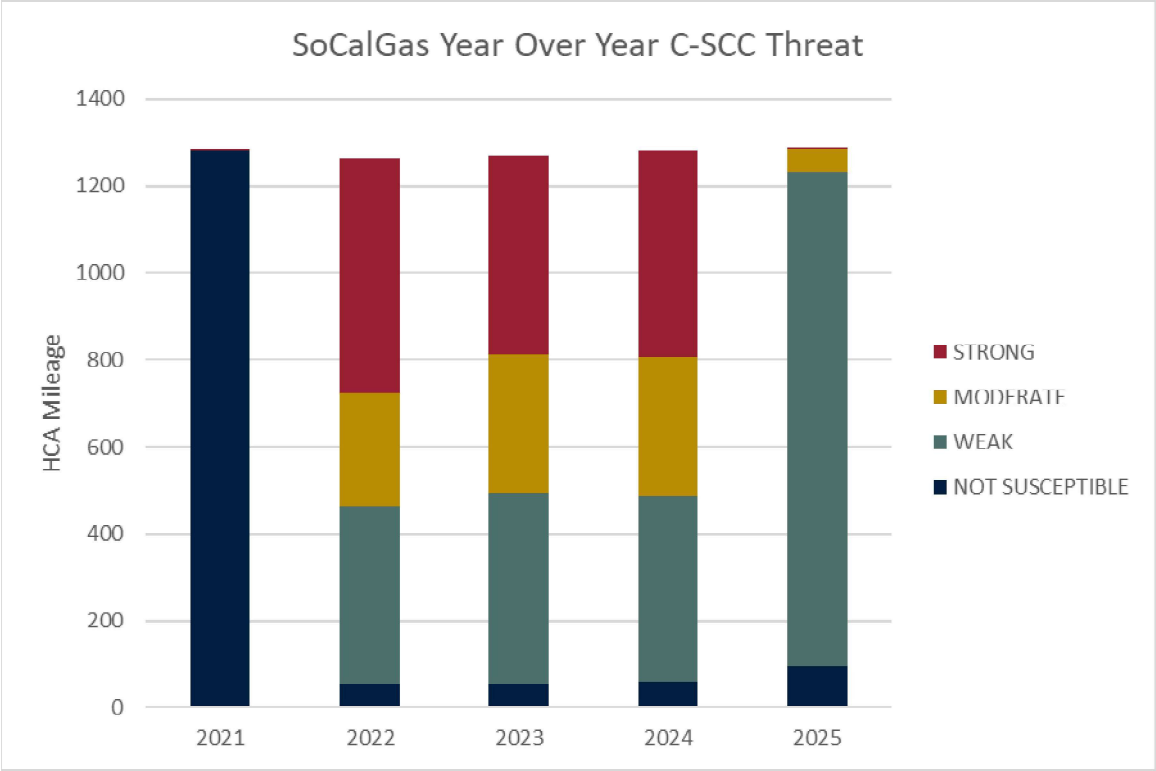


Figure 5-22: SoCalGas Circumferential SCC Threat Susceptibility HCA Mileage [13]

5.9 Resource Allocation

Resources allocated to the Assessment and Remediation program are shown in Figure 5-23, which was generated from data provided in the 2024 TIMP Cost Recovery application. The ILI mileage shown includes only projects presented where tools were run successfully and excludes ILI mileage where tools did not provide adequate data, as well as projects only partially executed during the GRC cycle. The DA projects shown include projects where only External Corrosion Direct Assessment (ECDA) or Stress Corrosion Cracking Direct Assessment (SCCDA) were performed and excludes projects where 100% direct examination or supplemental ILI was used to augment the Direct Assessment project. The quantity of the DA projects is small and not representative of the general program. Years 2018 and 2024 are omitted since they are incomplete in the cost recovery application data.

Considering the cost of company labor per successful ILI mile inspected, the trendline indicates generally increasing efficiency of company labor utilization for the latter half of the GRC cycle. For Direct Assessments, the trendline shows a general increase in costs per mile. Direct comparison of ILI vs. DA costs per mile trends show that ILI is a much more cost-effective integrity assessment. The scale of ILI costs versus DA is seen in the lower portion of the figure, which presents total project costs split between the assessment methods. Overall, this analysis indicates increasing efficiency in resource allocation for the execution of integrity assessments. Since remediation work is generally

comprised of a higher contribution from contractor costs, it is excluded from the costs in Figure 5-23 and evaluated separately in the Program Costs section below.

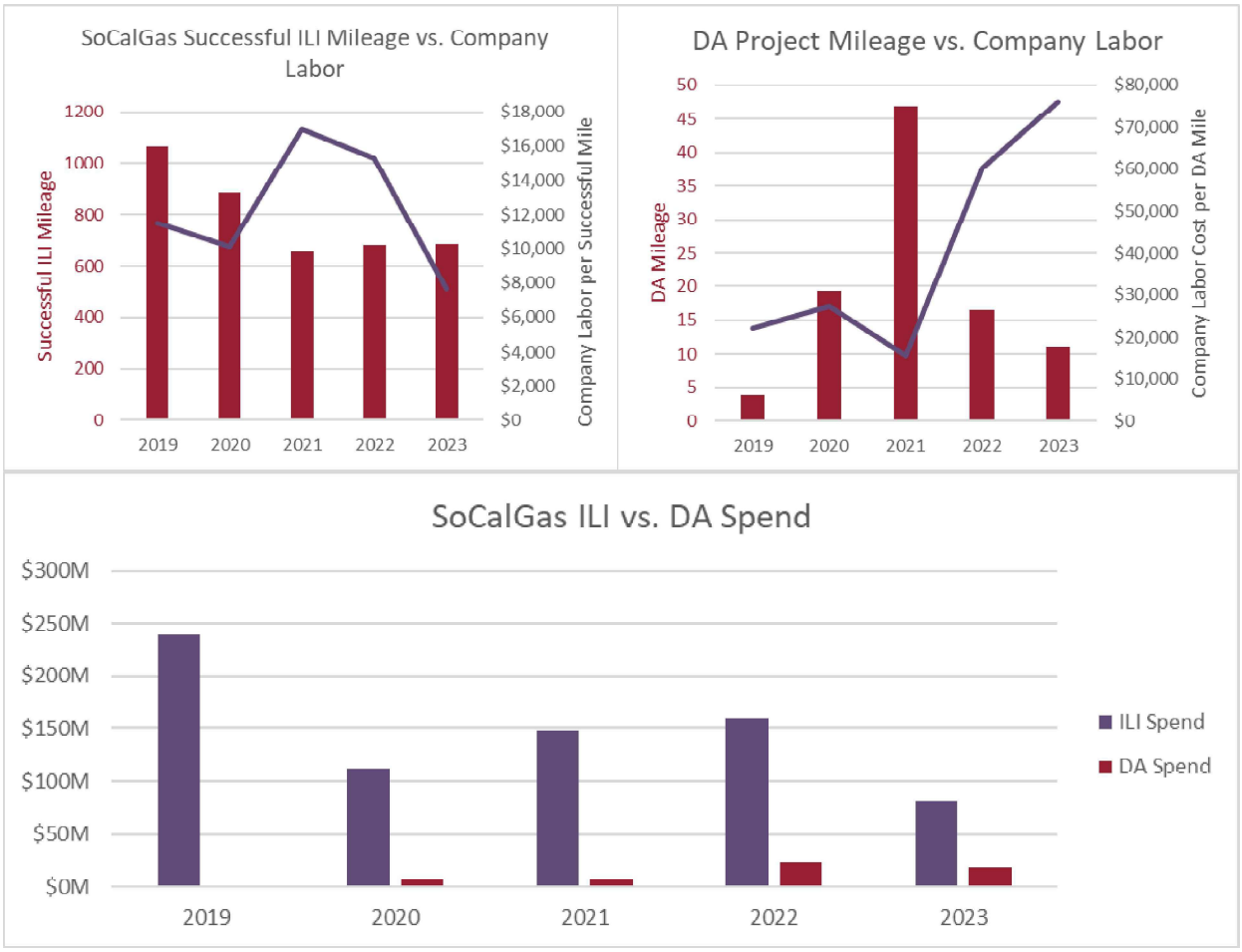


Figure 5-23: SoCalGas ILI and DA Program Resource Allocation and Program Magnitude [10]

During SI's review of SoCalGas's program, several qualitative elements were noted that have collectively improved the overall efficiency of the TIMP. These are items which are hard to quantify with metrics but nevertheless help SoCalGas operate their program in an efficient way.

- SoCalGas has set up all their integrity assessments to mirror the four-step approach prescribed by Direct Assessments. While this is not required by regulations for ILI assessments, a thorough review results in a positive confirmation of the required scope and helps to maximize project efficiencies.
- There is a high level of collaboration during the project planning phase with the centralized integrity team, the execution team, and the many other stakeholders (Pipeline Control, Pipeline Safety, Environmental, Operations, etc.). This collaboration helps identify efficiencies with work that may overlap and be able to share resources or leverage shared outages to reduce customer impacts. The strong leadership and expertise of the IM teams

contribute to execution efficiency by directing the projects towards success using experience and proven best practices.

- SoCalGas has established a dedicated Program Management Office with a rigorous staged review process applicable to all integrity projects. This level of governance promotes efficiency and cost-effectiveness to standardize the execution approach and facilitate a high level of collaboration during all project phases.

5.10 Program Costs

The nature of compliance work often evolves based on updated risk assessments, pipeline age, and inspection results. Regulatory compliance work is not static and cannot always be forecasted with precise unit costs. Due to the cyclical nature of reassessments, the workload fluctuates as various segments become due at different intervals and additional first-time assessments are required for segments due to expansion of consequence areas along the pipelines. Forecasting integrity program costs is also inherently difficult due to the segment and site-specific challenges for each assessment project or required dig. The quantity or location of required digs is not known until after the assessment reports are received, and they are often in challenging locations to access and permit.

SoCalGas has shown that the volume of work has also increased in recent years, primarily due to regulatory changes that require the use of more advanced ILI technologies (MFL-C and EMAT), as described in the above sections. These tools are finding more anomalies that require excavations and repair, which results in a significant risk reduction to the pipeline system.

From 2019 to 2021, TIMP program spending increased from approximately $182 million in 2019 to a peak of $258 million in 2023, as shown in Figure 5-24. This growth was driven primarily by both increased capital and O&M spending. Authorized spending per the last CPUC rate case was between $104-110 million over the same period. While TIMP expenditures exceeded CPUC authorized levels, the program was following new prescriptive regulatory requirements that delivered significant risk reduction and reliability improvements. The increased spending from 2019–2021 is primarily a result of several key regulatory changes:

- An update to 192.917(e)(3) that changed how operators are required to evaluate and assess for the Manufacturing and Construction threats. This change resulted in increased usage of advanced ILI technologies to assess for crack-like Manufacturing defects in the long seam. This topic is described in detail in Section 5.8.1.
- Updates to 192.921 and 192.937 added more prescriptive language about the assessment methods required to assess for identified threats. These updates build upon a prior PHMSA Advisory Bulletin providing guidance on how operators must treat active vs. inactive threats. Collectively, these changes required SoCalGas to increase their use of assessment methods for the SCC threat, using both EMAT and SCCDA. This topic is described in detail in Section 5.8.2.
- Updates to 192.939 provided prescriptive requirements for how operators must handle assessments for newly identified threats. If new threats are identified between reassessments (primarily from the two other updates above), they must all be addressed on the next

scheduled reassessment, regardless of when the new threats were identified. This change forced SoCalGas to add additional unplanned assessment methods to their scheduled projects during the rate case period.

- New regulations, 192.710 (RIN-1) and 192.714 (RIN-2), prescribed assessments and repairs for pipelines outside of HCAs. While these changes did not add new unplanned assessments for SoCalGas during the rate case period, it did require substantial increases in the amount of required remediation.

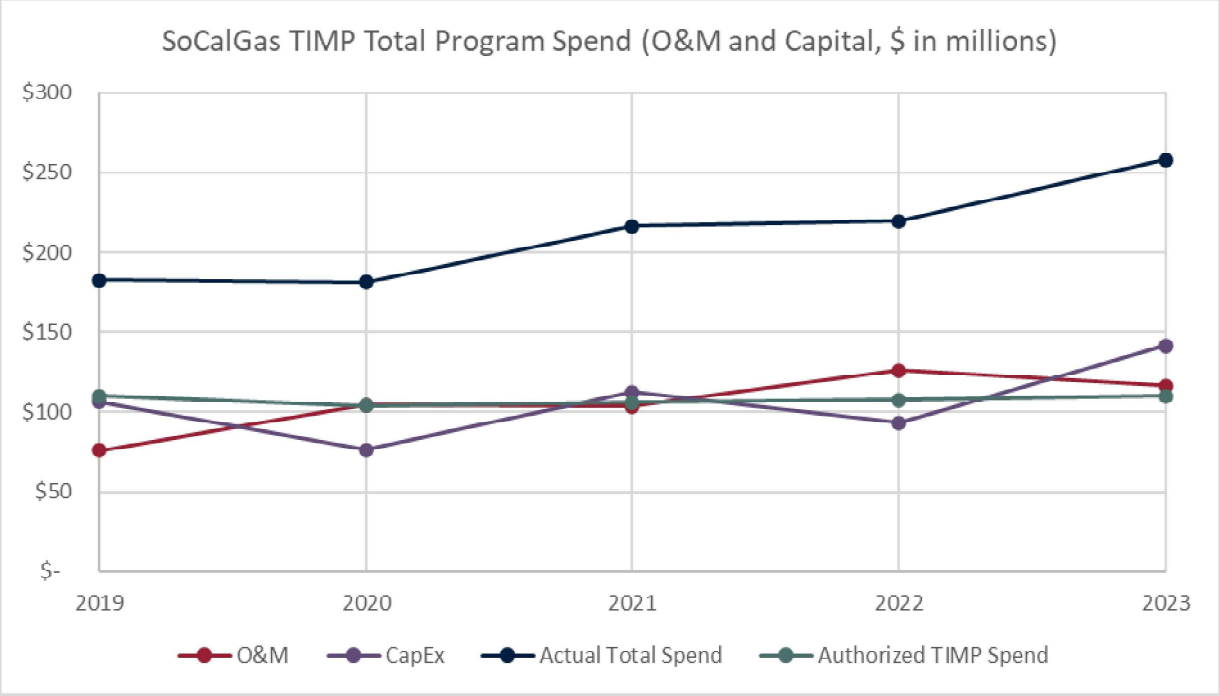


Figure 5-24: SoCalGas TIMP Total Program Spend (O&M and Capital, $ in millions [10])

SoCalGas has recently submitted a Cost Recovery application to the CPUC, attempting to recoup their spending beyond what was previously authorized. The supporting workpapers for that application were a key source of data in evaluating the specific projects and costs during this review.

Figure 5-25 presents a histogram of the cost of pipeline remediations per site for SoCalGas during the rate case period. While the average cost per dig site is approximately $700,000, many digs are significantly more expensive to access and remediate the pipeline. Pipeline anomaly excavations in California are typically more expensive than in other states due to a combination of regulatory and logistical factors. Stringent permitting requirements often involve multiple agencies and extended approval timelines, adding administrative burden and cost. Excavations in densely populated areas require comprehensive traffic control plans, which increase labor and equipment expenses. Additionally, California's strong environmental and cultural resource protections necessitate specialized compliance measures, while high labor rates and contractor costs further drive increased expenditures. Recent requirements to minimize methane emissions add another layer of complexity, as operators must recompress gas into adjacent pipelines before taking a segment out of service for

replacement repairs, increasing both time and cost. These factors collectively make anomaly remediation in California significantly more costly compared to many other states.



Figure 5-25: SoCalGas Costs per Dig Site [10]

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Figure 5-26 presents a different way to consider the cost-effectiveness of SoCalGas's TIMP. While we know that the overall cost of the integrity program has increased over recent years, there has also been an increase in the number of defects repaired, (shown by the red bars in the figure below) due to the expanded repair criteria and timelines of RIN-2. With the use of more advanced ILI technologies, SoCalGas is finding more anomalies to investigate, with multiple features often contained within one excavation. When the individual defect repair numbers are considered in conjunction with total projects costs (O&M and Capital combined), the total cost per defect repaired shows a decreasing trend (purple line in figure below). This indicates that cost-effectiveness of the program is improving, despite the increasing costs associated with the use of advanced ILI technologies and the labor, environmental, and regulatory burdens specific to California that were previously discussed. Repairing more features is also a testament to the program's overall effectiveness.

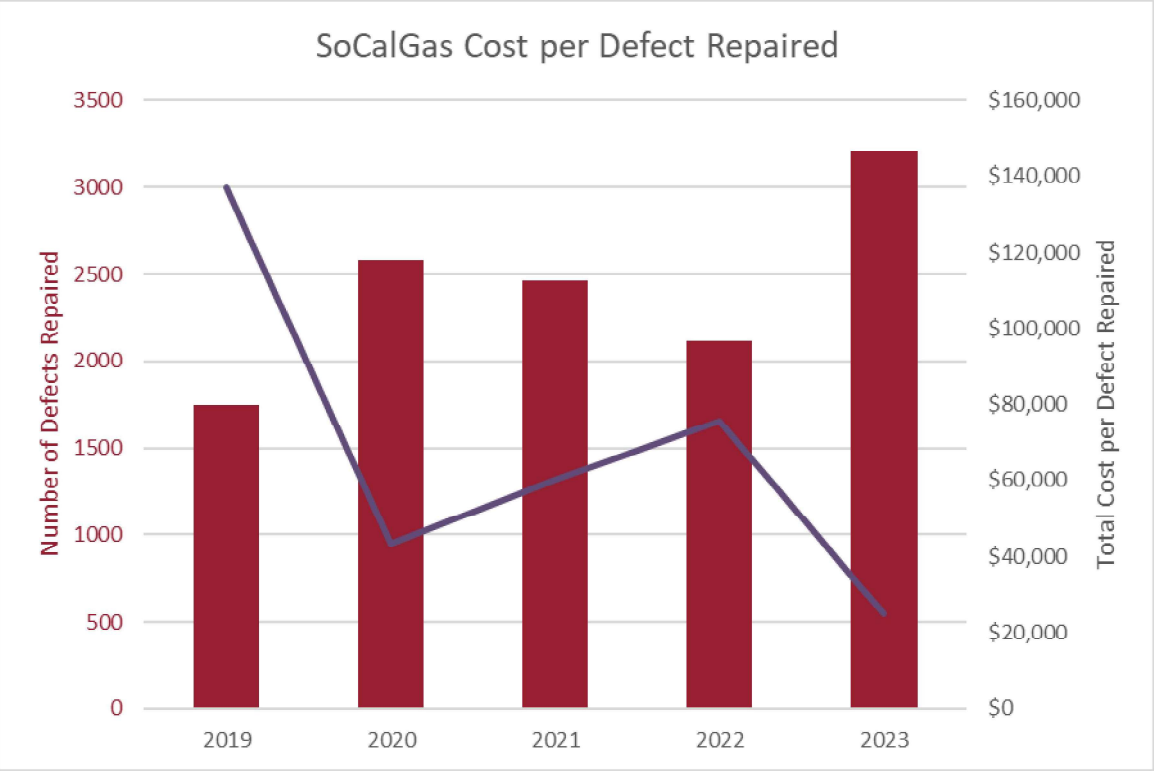


Figure 5-26: SoCalGas Number of Individual Defects Repaired and Costs per Defect Repaired [9]

In their Risk Assessment Mitigation Phase (RAMP) report that precludes a General Rate Case filing, the CPUC requires that utilities analyze the Cost Benefit Ratio (CBR) of all the activities covered in their rates. This allows ranking of the cost-effectiveness of the various risk mitigation options. The CBR is defined as the monetized value of risk reduction benefits divided by the corresponding risk mitigation costs [15]:

$$CBR = \frac{Monetized\ Value\ of\ Risk\ Mitigation\ Benefits}{Risk\ Mitigation\ Costs}$$

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The calculated Cost Benefit Ratio (CBR) for the TIMP Assessment and Repair program-level activities in the 2025 RAMP application ranges from 3.43-3.97, using the 3 different methods of calculating the time discounting of the monetized value of the benefits. While these activities are compliance-driven and not elective, they still demonstrate a positive CBR for the company. Any CBR greater than 1 indicates a positive relationship between costs and benefits. Given that TIMP activities are compliance-driven, a ratio almost 4 times higher than the baseline efficiency metric provides another way in which to observe the overall cost-effectiveness of SoCalGas's TIMP.

There are several other ways in which SoCalGas has demonstrated cost-effectiveness that should be noted qualitatively in this report:

- SoCalGas follows a competitive bidding process for all their assessments and remediation work. For assessments, this includes bidding out both ILI and Direct Assessment inspections. ILI vendors are selected on several factors, including tool technologies, operational capabilities, data evaluation quality, and final report timeliness. For remediation work, the bidding process includes both the excavation and Non-Destructive Examination tasks, often the two most costly parts of the project execution.
- SoCalGas has negotiated fixed-price contracts with preferred remediation contractors to control costs associated with short-notice work like Immediate conditions from ILI. This type of work cannot be planned, so it is difficult to implement measures to reduce costs and having set rates helps SoCalGas perform the most cost-effective execution.
- Due to the complex nature of SoCalGas' system, with pipeline facilities located in congested urban and suburban areas, many ILI projects require additional equipment for safe execution. Temporary launching and receiving traps are used when workspace isn't available in the company-owned sites for permanent installations. Additionally, filter separator equipment is almost always required to reduce the risk of inherent pipeline liquids from affecting downstream pressure regulation, metering equipment or customers. SoCalGas has purchased several sets of this equipment that can be reused on multiple projects. By owning the equipment instead of renting it for every project, this saves cost on every project, which improves the overall cost-effectiveness of ILI project execution.

While performing this review, SI noted several opportunities for enhancement that could offer benefits in terms of cost effectiveness. These items are discussed in detail in Section 9.1 below.

6.0 DIMP - PROGRAM EVALUATION FOR EFFECTIVENESS, EFFICIENCY AND COST-EFFECTIVENESS

The effectiveness of a Distribution Integrity Management Program (DIMP) is measured by its ability to proactively identify, assess, and mitigate risks to pipeline integrity, ensuring safe and reliable delivery of natural gas. An effective DIMP demonstrates that SoCalGas meets or exceeds compliance with regulatory requirements and also integrates data-driven risk analysis, robust preventive measures, and continuous improvement practices. SoCalGas evaluates effectiveness through performance metrics including, but not limited to, leak reduction trends, incident frequency, and compliance audit results.

SoCalGas DIMP optimizes safety and reliability by focusing on risk-based decision-making using a quantitative risk analysis model. SoCalGas leverages its Distribution Risk Evaluation and Monitoring System (DREAMS) to identify high-risk segments based on leak history, material type and geospatial (or location-based) risk. This approach confirms that main and service replacements are allocated to those areas of the system that comprise the highest risk, avoiding unnecessary systemwide replacements.

Additionally, SoCalGas tracks effectiveness of their DIMP Program through DOT/PHMSA-required metrics as well as company internal performance measures. The trending of the performance metrics is used to analyze the performance of the DIMP Program as compared to the baseline values set by SoCalGas. Refer to the following Sections for detailed metrics and accompanying narrative in support of SoCalGas's DIMP program effectiveness.

In addition to complying with regulatory requirements, SoCalGas further demonstrates DIMP effectiveness in additional ways with a focus on proactive and innovative practices such as the following:

- Leak detection capabilities that have been strengthened through the deployment of smart sensors and aerial monitoring technologies, ensuring rapid identification and response to threats (Refer to SoCalGas Gas Standard (GS 223.0100) – Leakage Surveys).
- A strong safety culture is supported by comprehensive workforce training programs that emphasize risk awareness and operational excellence.
- Public awareness initiatives and partnerships with emergency responders that further demonstrate the operator's commitment to community safety and stakeholder engagement.
- Continuous improvement that is embedded in the program through SoCalGas operating experience, industry lessons learned, and conclusions drawn from the distribution integrity management process, as well as adopting new tools and technologies as they become available. The program applies risk evaluation and leak cause analysis to assess performance measures and identify opportunities for improvement when necessary.
- Development of DIMP goals that align with sustainability objectives, including methane emission reduction and modernization of aging infrastructure and implementation of strategies to achieve these goals.

These measures collectively position SoCalGas as a leader in pipeline integrity, demonstrating a commitment to safety, reliability, and environmental stewardship.

6.1 DIMP Procedural Review

SI performed a comprehensive review of SoCalGas's DIMP Plan. Core IM program elements were reviewed through a detailed assessment of each DIMP chapter and the associated Gas Standards (GS). The DIMP chapters are designed as high-level plans, outlining the overall process and providing general guidance for task execution. In contrast, GSs are procedural documents, specifying step-by-

step requirements and clearly defined roles and responsibilities for consistent implementation of DIMP-related activities.

The table below, Table 6-1, outlines the core components of SoCalGas's DIMP, linking each regulatory required program element to its governing standards and/or DIMP plan section as well as the organizational group/responsible role within SoCalGas. The structure details how compliance with regulatory requirements is achieved through SoCalGas procedures, specifically the DIMP Plan and supporting Gas Standards. It also demonstrates organizational alignment, with assigned owners of corresponding program activities, providing further evidence in support of an effective DIMP Program.

Table 6-1: DIMP Program Elements

Regulatory Required DIMP Program Element	SoCalGas DIMP Chapter	Associated SoCalGas Standards	Organizational Owner (Primary Role & Responsibility)
Knowledge	2	GS 184.0050 *General Construction Requirements for Distribution Mains*	DIMP Program Manager Integrity Management
		GS 184.0060 *General Construction Requirements for Distribution Service*	
		GS 184.0098 *Identification Codes for Polyethelene Material*	
		GS 192.0020 *Preparation of Completion Sketch*	
Identify Threats	3	GS 184.0031 *Pressure Monitoring of Distribution Systems*	Integrity Risk Strategy Manager Threat & Risk Assessment Manager
Evaluate and Rank Risk	4	NA	Integrity Risk Strategy Manager Threat & Risk Assessment Manager Threat & Risk Assessment Engineers DIMP Risk & Threat Steering Committee
Identify and Implement Measures to Address Risks	5	GS 233.0125 *Below Ground Leakage Coding and Mitigation Schedules*	The DIMP Program Manager Integrity Management Project Managers Project Execution Teams
		GS 223.0126 *Above Ground Leakage Classification and Mitigation Schedules*	
Measure Performance, Monitor Results, and Evaluate Effectiveness	6	NA	Data Analytics and Performance Manager Integrity Management
Periodic Evaluation and Improvements	8	NA	Data Analystics and Performance Monitoring Manager Integrity Management Personnel
Report Results	9	GS 184.0231 *Mechanical Fitting Leak and Failure Reporting*	Integrity Management

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6.2 DIMP Process Data Map

The SoCalGas DIMP process is a comprehensive framework designed to identify, assess, and mitigate risks in gas distribution systems. It integrates multiple datasets, such as One Call tickets, new facility and pipeline construction records, leak data, and pipeline damage reports, into a centralized risk management workflow.

The image below shows SoCalGas's DIMP Process Data Map, which outlines how SoCalGas manages an effective distribution pipeline integrity management program through data-driven risk analysis and compliance measures.

Key steps include:

- **Data Collection and Validation**: Inputs from systems like Korterra, SAP, eGIS, and leak management platforms (e.g., MAXIMO, PCMR) are aligned and validated to confirm accuracy.
- **Threat Identification and Leak Cause Analysis**: Leak performance metrics and pipeline damage data feed into threat identification, supported by field personnel knowledge (SMEs).
- **Risk Analysis and Ranking**: Using both program-level and facility-level risk ranking, the process prioritizes threats based on severity and likelihood.
- **Performance Monitoring**: Code-based performance measures and internal metrics track compliance and effectiveness. Refer to sections below for specific performance monitoring measures.
- **Preventive Actions**: Non-PAAR activities such as corrosion control, damage prevention, leak surveys, and public awareness campaigns complement risk-based actions.
- **Visualization and Reporting**: SoCalGas data dashboards (Tableau) provide transparency and enable decision-makers to monitor trends and allocate resources effectively.

The process leverages advanced risk analysis and ranking at both program and facility levels, ensuring that mitigation efforts and infrastructure investments are targeting the highest-risk assets, further optimizing program effectiveness. By integrating field personnel knowledge with data-driven insights, threat identification and validation become more robust and accurate. Real-time dashboards provide visibility into system performance, enabling proactive decision-making and supporting regulatory compliance.

From a cost-effective standpoint, the diagram outlines that resources are allocated where they deliver the greatest safety benefit, avoiding unnecessary replacements or repairs. Corrosion control, damage prevention, and public awareness, non-PAAR activities, are integrated into the framework and speak to a reduction in long-term costs by preventing failures before they occur, reinforcing a preventative rather than reactive strategy.

Lastly, this workflow demonstrates efficiencies within DIMP leveraging dashboards to enhance transparency and simplifying DIMP specific data reporting to automated data alignment and validation which reduces manual effort where possible and improves accuracy of the data.

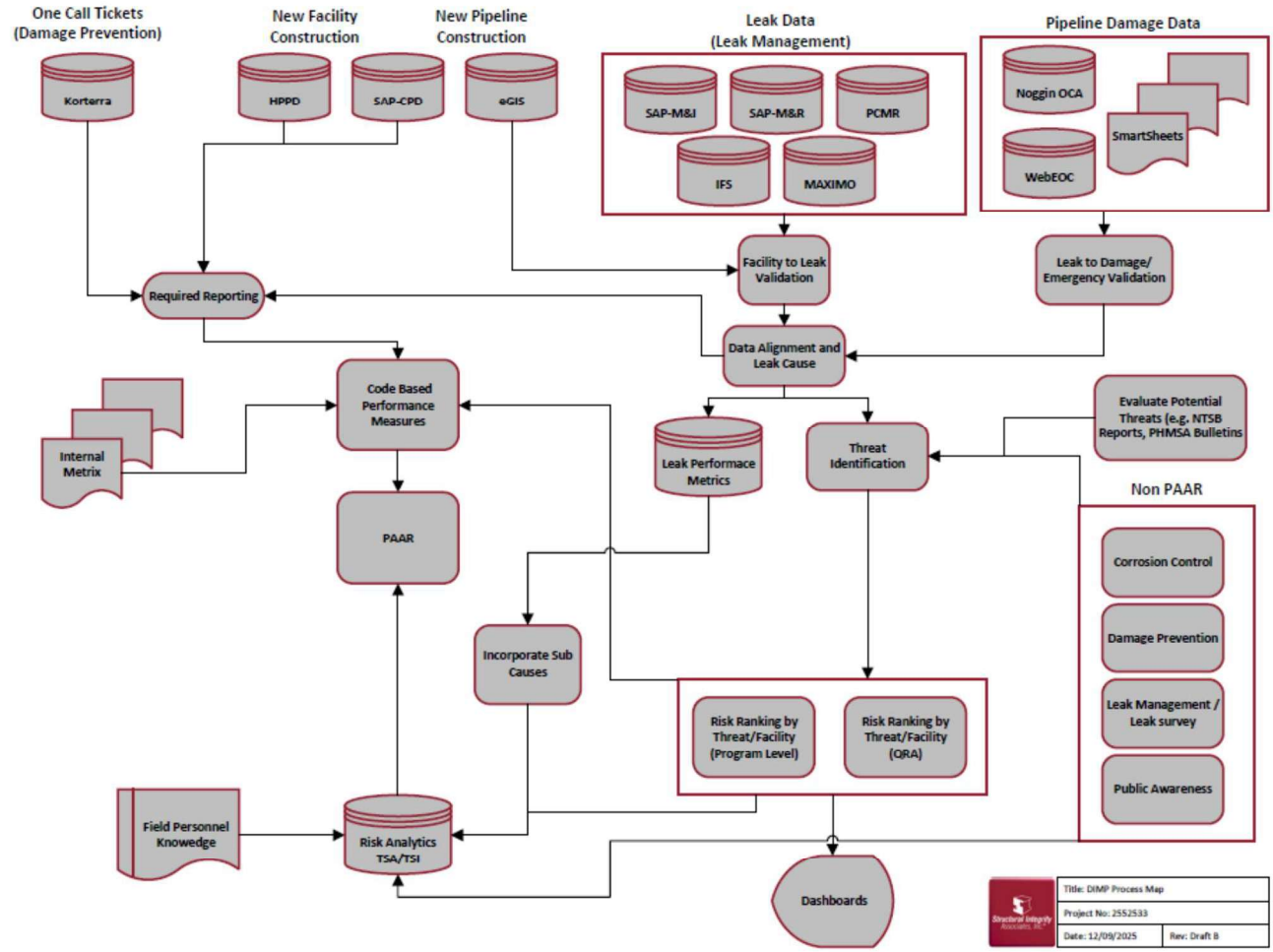


Figure 6-1: DIMP Process & Data Map

6.3 DIMP – Efficiency of Programs

Analysis of DIMP program data from 2017 to 2024 [16] shows notable trends in Full-Time Equivalent (FTE) staffing and inspection activity for certain DIMP programs. It is important to note that SI's analysis was based on a focused subset of data, offering a clear snapshot of current performance. While this narrower view doesn't capture the full historical picture, it provides valuable insights into recent trends and SoCalGas program efficiency. Current efficiency scores should be considered within this context of targeted data. Figure 6-2 summarizes each program's relative efficiency using an Efficiency Index (EI). The EI is a normalized measure used to compare cost efficiency across units within the organization. An EI of 100, as presented in Figure 6-2, represents the organization-wide average cost-per-FTE for a given year, serving as the baseline for comparison. Values above 100 indicate better-than-average efficiency (lower cost per unit of FTE activity), while values below 100 reflect higher

than average cost-per-FTE. Lower EI values may be explained by program rollout activities, process redesigns, or other changes, all of which can temporarily increase cost relative to output. However, additional data would be needed to establish a definitive correlation between these operational changes and observed efficiency shift.

In the context of the data provided, Full Time Equivalent (FTE) is calculated as Labor dollars (employees) divided by an average employee salary. It represents the forecasted and actual number of internal employees only, expressed as FTEs.

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Programs such as DRIP, GIPP and Other PAARs show very strong efficiency performances for this period, with index values ranging 125 to 185. These elevated scores suggest periods of highly optimized resource utilization. By 2024, most programs remain above 100, signaling efficiency levels that are at or above the annual organizational baseline and indicating that operational programs are functioning consistently and effectively.

The overall trend demonstrates that although efficiency can fluctuate across different stages program's lifecycle, most DIMP programs converge toward stable and sustainable performance by 2024. DRIP maintains above-average efficiency throughout the period and shows the program is regaining momentum in 2024 after a slight dip in 2023. SLIP program experienced a U-shaped trend over the review period, with efficiency declining through 2022 before rebounding strongly to above-average performance in 2024. This turnaround reflects the impact of SoCalGas targeted process improvements, including optimized scheduling and enhanced contractor coordination. These changes have enabled the program to focus on the highest-risk laterals, improving both inspection coverage and resource utilization. GIPP showed a dynamic efficiency pattern over the review period, peaking in 2021, dipping to its lowest point around 2023, and then recovering in 2024. This rebound reflects the effectiveness of recent adjustments in inspection scheduling and resource allocation.
One program, Other PAARs, remain slightly below 100 in 2024, which does not necessarily indicate poor performance but rather highlights potential opportunities to improve workflow alignment and resource allocation relative to the average efficiency index across the Programs used in this analysis. The BSRP & VIPP program has demonstrated steady, continuous improvement from 2019 through 2024, moving closer to the annual efficiency benchmark each year. This upward trajectory reflects progress in process maturity and operational consistency. Recent integration of the SoCalGas QRA modeling has further strengthened decision-making by prioritizing high-risk assets and optimizing resource allocation.
These programs are addressed in Section 6.15 and 6.16 respectively. Continued monitoring and process optimization remain a focus for programs like PAARs to achieve more alignment with baseline expectations. PAARs are discussed more specifically in Section 6.13.

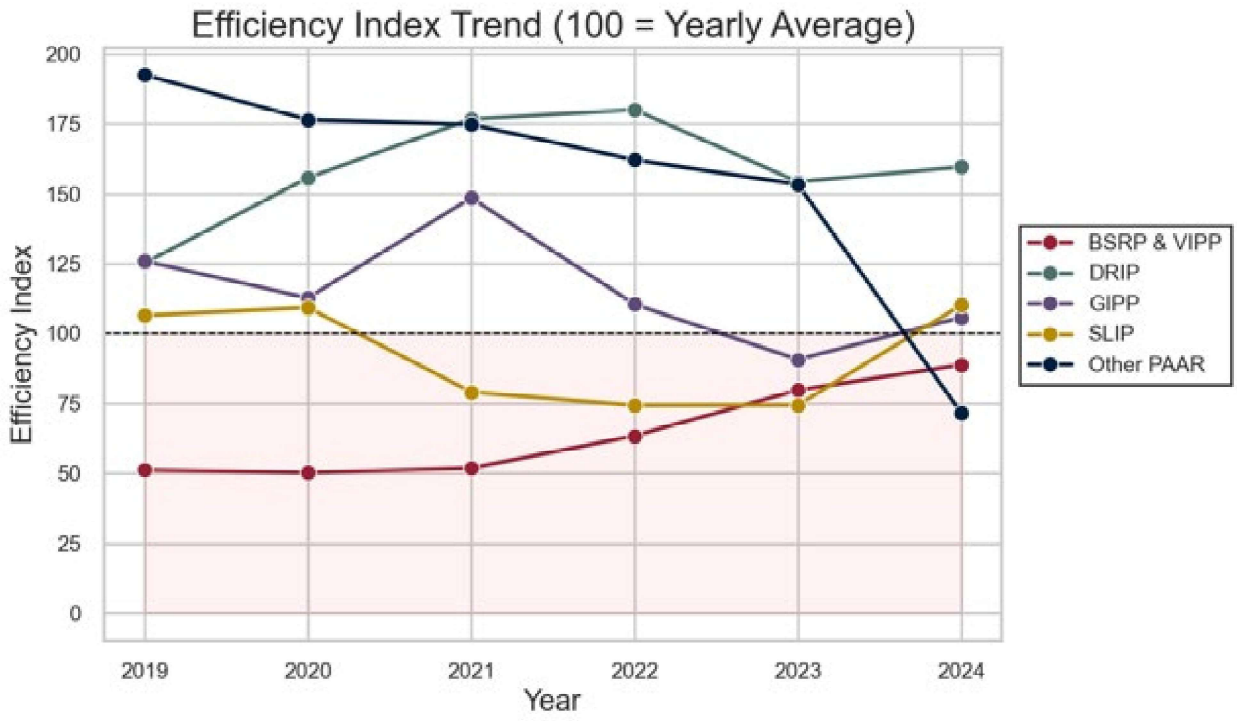


Figure 6-2: DIMP Program Efficiency

6.4 Recent Audit Performance

SoCalGas has demonstrated strong compliance and operational discipline, as evidenced by minimal concerns from the CPUC and SoCalGas internal auditing during recent external and internal regulatory audits, respectively. Observations have been limited to concerns, with no notice of probable violations reported. This track record reflects a proactive approach to meeting regulatory requirements with comprehensive procedures and processes, and effective internal controls. Collectively this performance underscores SoCalGas's commitment to safety, reliability, and adherence to industry standards, and shows an effective DIMP overall.

6.4.1 DIMP External Audits

SI reviewed the results of CPUC audits from 2014 to 2024. The CPUC has performed an audit of SoCalGas's DIMP every year since 2020, before that, the SoCalGas DIMP Program was audited at 3-year intervals. Their audit findings range from "*No Findings*" to "*Recommendations*" or "*Areas of Concern*" which SoCalGas reviewed promptly and addressed. It is notable that there have been no audit findings for more severe categories (such as Corrective Action Orders or Notices of Probable Violation) since 2014. This demonstrates a strong and ongoing track record of regulatory compliance for DIMP.

Figure 6-3 below summarizes the results, with further discussion of each year's findings from 2020 to present.

Audit Year	Corrective Action Order	Notice of Probable Violation	Notice of Amendment	Advisory Notices (Recommendations or Areas of Concern)	No Findings
2014	0	0	0	4	0
2017	0	0	0	1	0
2020	0	0	0	1	0
2021	0	0	0	6	0
2022	0	0	0	4	0
2023	0	0	0	6	0
2024	0	0	0	0	0

Figure 6-3: Recent External Audit Performance

In October 2024, the Safety and Enforcement Division (SED) of the CPUC reported "No Preliminary Findings" or "No Preliminary Concerns".

In March 2023 the CPUC Safety and Enforcement Division (SED) identified six areas of concern (no preliminary findings or violations) and accepted responses to SoCalGas's progress on capturing plastic pipe joining data (joint type, qualified joiners), training improvements for pressure test documentation, roles and responsibilities for meeting Traceable, Verifiable, Complete (TVC) pressure test data. CPUC accepted SoCalGas's responses but will review in future inspections the following activities related to:

- Data collection processes.
- External threat sources.
- PAAR linkage.
- Quantitative Risk Analysis (QRA) methodology.
- Performance metrics.

No enforcement actions were made by the SED at the time of this inspection.

In May 2022, the CPUC SED inspection resulted in no enforcement actions and future follow up on plastic joint documentation and cybersecurity evaluation is to be expected in the next DIMP inspection.

In August 2021, the CPUC SED inspection resulted in no preliminary violations and future follow up on SoCalGas's implementation of documentation improvements, training, and system upgrades in future audits.

In June 2020, the CPUC SED inspection resulted in no enforcement actions for SoCalGas but will monitor implementation of data tracking, threat identification improvements, leak form revisions, performance metrics, and SME involvement in future audits.

6.4.2 DIMP Internal Audit Results

SoCalGas initiated several internal audits in more recent years of its Distribution Integrity Management Program (DIMP) to validate program effectiveness and identify opportunities for continuous improvement. These proactive reviews reflect SoCalGas's commitment to pipeline safety, risk management, and continued effectiveness. The results from 2019, 2023 and 2024 were reviewed and the following items were documented along with SoCalGas's corresponding actions.

The internal audits highlighted opportunities to enhance documentation related to CPUC SED inspections and process automation within the DIMP task management system. The opportunity is a process enhancement which SoCalGas has considered and will be introduced into the new tracking data system deployment. DIMP Management is automating scheduling of DIMP tasks to create a sustainable, repeatable process that supports consistency in DIMP execution activities. Additionally, the audit in 2023 was to confirm that process controls are well-designed and operating effectively to confirm the completeness, accuracy, and validity of DIMP O&M and capital costs recorded in SAP and concluded with no business control issues or trackable observations, confirming strong compliance and effective financial management.

6.5 Leak Management Program

The SoCalGas Leak Management Program is established in accordance with Part 192 and the SoCalGas Gas Standards. As part of SoCalGas Operations, leaks are systematically identified, classified, prioritized, and addressed, either through repair or mitigation, based on established severity criteria. Refer to Gas Standards 233.0125, *Below Ground Leakage Coding and Mitigation Schedules*, and 223.0126, *Above Ground Leakage Classification and Mitigation Schedules*. Leak classification determines the maximum allowable timeframe from the date of detection to the required corrective action. All leak data is recorded and maintained within the respective data repositories.

SoCalGas tracks various performance metrics to help determine the overall effectiveness of the Leak Management Program. Performance metrics are reported annually on the DOT Distribution Annual Report as well as the GO 112-F Report. SoCalGas has completed an analysis of the effectiveness of the Leak Management Program as required by Part 192 and has determined that the Company has an effective Leak Management Program.

6.6 Damage Prevention Analysis Program

The metrics outlined above for the Excavation Damage Prevention Program are trended to determine how effective the Program is in preventing excavation damages. SoCalGas has completed a formal analysis of the metrics below to determine if the metrics are stable, or trending upward or downward. Additional qualitative factors considered in the evaluation of Program effectiveness include increased Company communication with excavators and training with Company and/or contract locators. SoCalGas frequently monitors this Program to establish continuous improvement with results which

include investigating any unfavorable trends and proposing alternative measures in determining Program effectiveness.

- Number of One Call tickets
- Total number of excavation damages
- Total excavation damages per 1000 tickets
- Excavation damages per 1000 tickets due to mismark or no locates
- Normalized excavation damages (number of excavation damages per 1000 tickets). Currently SoCalGas defines the baseline as the average of the past three years plus one standard deviation.
- Number of services damaged by excavation
- Number of mains damaged by excavation

The chart below, Figure 6-4, illustrates SoCalGas' progress in reducing excavation damages per 1,000 excavation tickets from 2010 through 2024. Over this 15-year period, the company has achieved a significant and sustained improvement in damage prevention performance evident by the reduction of instances of excavation damage per 1,000 tickets.

SoCalGas has reduced excavation damages by more than 50% since 2011, demonstrating a strong commitment to pipeline safety and regulatory compliance. Additional targeted initiatives starting in 2016, including enhanced One-Call compliance, contractor education, and public awareness initiatives, which drove a steady decline in damage rates particularly in more recent years (2021–2024). Excavation damages have dropped to near or below the national average, with the five-year moving average trending downward. This positive, downward trend reflects the effectiveness of continuous improvement strategies with damage prevention, ultimately resulting in a more effective DIMP for excavation damage threat reduction and risk management.

Continued focus on automation, stakeholder engagement, and advanced monitoring technologies will help sustain and further improve performance.

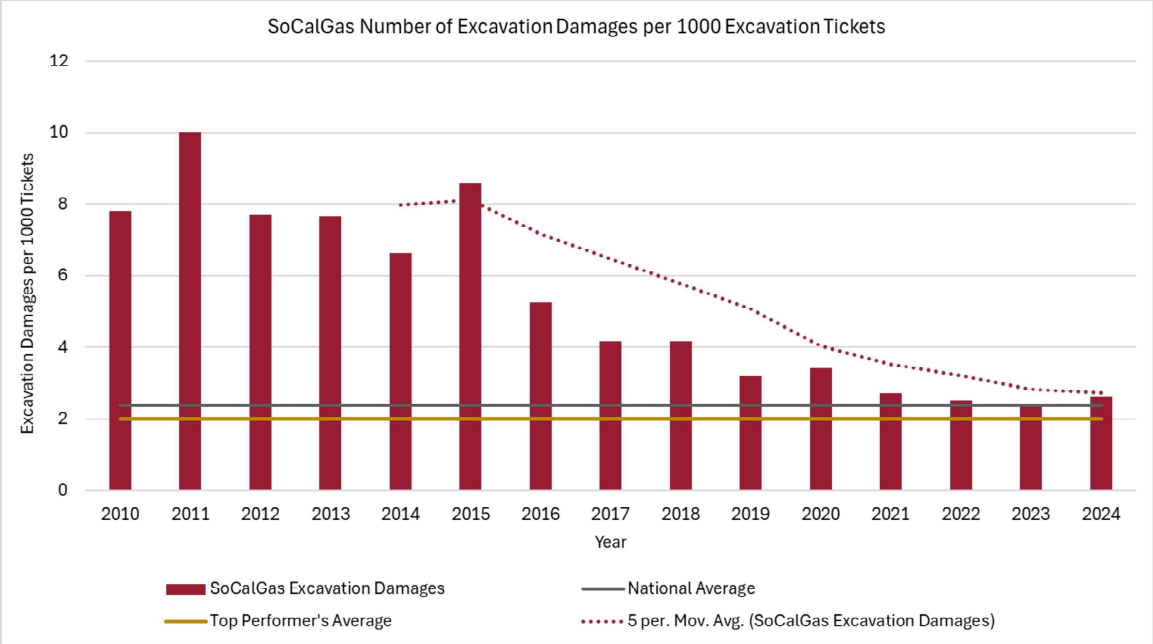


Figure 6-4: SoCalGas Number of Excavation Damages per 1000 Excavation Tickets [2]

The chart below, Figure 6-5, illustrates the relationship between SoCalGas excavation damage frequency (per 1,000 locate tickets) and average cost per damage from 2020 to 2024.

Excavation damages have steadily declined from approximately 3.8 per 1,000 tickets in 2020 to around 2.3 in 2023, reflecting the success of an effective damage prevention program, contractor education, and One-Call compliance initiatives. Despite fewer incidents, the average cost per damage has increased significantly, rising from roughly $8,000 in 2020 to over $14,000 in 2024. This trend underscores the growing financial impact of each damage event, driven by factors such as inflation, material costs, and complexity of repairs.

The reduction in damage frequency demonstrates strong alignment with damage prevention and DIMP objectives plus industry best practices for risk mitigation (i.e. contractor education programs, GPS-enabled locate tools and digital mapping for accurate distribution main marking and monitoring excavation damage trends to adjust outreach strategies accordingly). SoCalGas has considered and is currently reviewing a use case in advanced monitoring technologies, stakeholder engagement, and predictive analytics (i.e. machine learning to forecast excavation activity and prioritize preventative outreach or real-time notifications to SoCalGas when excavation tickets are issued near critical distribution assets, etc.). This measure may help sustain low damage rates and minimize further financial exposure. Refer to Section 8.1 for more information.

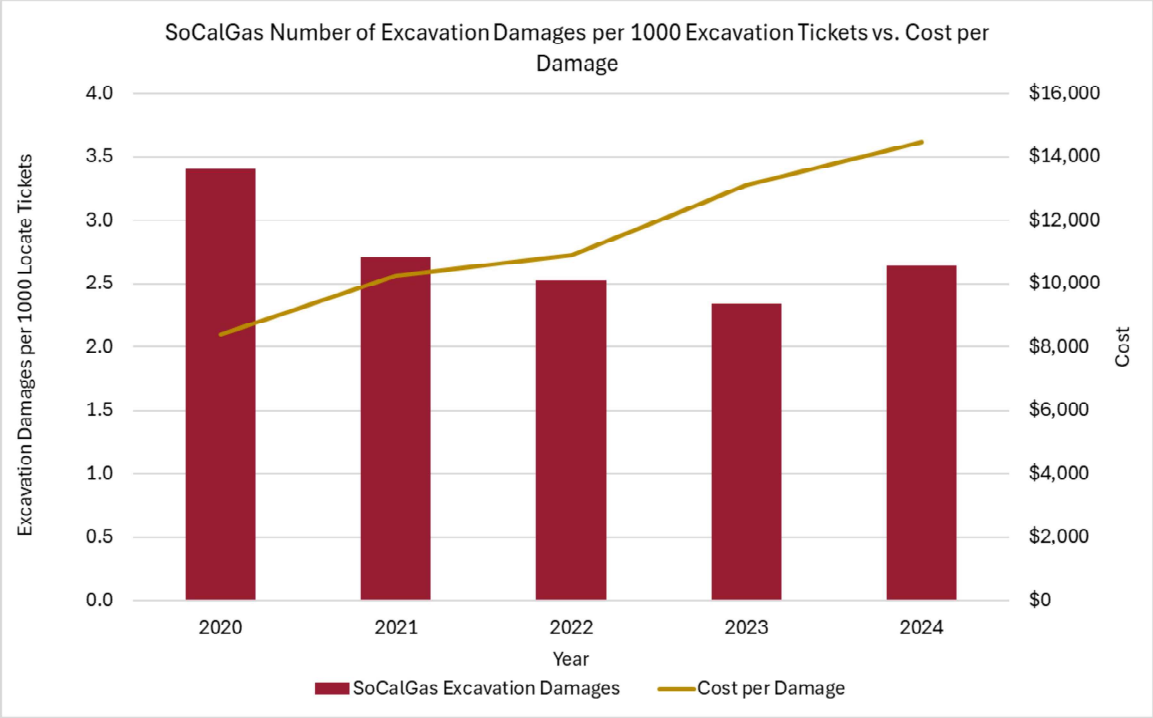


Figure 6-5: SoCalGas Number of Excavation Damages per 1000 Excavation Tickets vs Cost per Damage [2]

6.7 Vintage Plastic Pipe and Bare Steel Replacement Program

One of the main focuses of SI's review was understanding two key SoCalGas pipe replacement programs, the Vintage Integrity Plastic Pipe Program (VIPP) and the Bare Steel Replacement Program (BSRP). These programs address two of the natural gas industry's most historically vulnerable asset classes - pre-1986 plastic pipe and unprotected, coated or bare steel pipe. These types of materials have been consistently recognized as an industry threat of notable concern by PHMSA along with State Commissions, like the CPUC. These entities have identified these materials as high priority for replacement. A more quantitative and detailed review of this program can be found in Section 6.14.1 of this report.

6.8 Sewer Lateral Inspection Program (Cross Bore)

The Sewer Lateral Inspection Project (SLIP) is designed to mitigate the risk of cross bores, instances where trenchless gas pipeline installation inadvertently intersects and penetrates a sewer lateral. Such occurrences can lead to immediate or progressive blockages, which may prompt sewer line clearing attempts that damage the gas pipeline and allow gas migration into the sewer system, creating hazardous conditions. SLIP addresses this threat through a structured process that includes internal data review, targeted inspections and evaluations, and remediation or construction activities. Additionally, SoCalGas conducts proactive public outreach to educate plumbing contractors, equipment rental companies, and municipalities about cross bore risks. The initial phase involves a comprehensive review of installation records, including Enterprise Geographic Information Systems (eGIS) and construction documents, to identify locations where trenchless technology was used and

cross bores may exist. A more quantitative and detailed review of this program can be found in Section 6.15 of this report.

6.9 Public Awareness

Preventing gas distribution pipeline incidents includes the implementation of programs which involve educating the public to be aware of leak hazards, excavation damage prevention and general gas safety precautions. SoCalGas Public Awareness Program was developed in accordance with American Petroleum Institute (API) Recommended Practice (RP) 1162. The Public Awareness Program key performance metrics (those that establish program effectiveness) are:

- Number of third-party excavation damages
- Normalized excavation damages (excavation damages/1,000 tickets)
- Number and percentage of third-party damages as a result of failure to call 811 prior to excavation
- Number of direct contact communication with public and emergency responder personnel
- Number of favorable/unfavorable responses to public awareness surveys conducted by SoCalGas

The metrics outlined above for the Public Awareness Program are trended to determine how effective the Program is in promoting public awareness. SoCalGas has completed a formal analysis of the metrics above to establish continuous improvement within the Program.

6.10 Operator Qualification

SoCalGas Operator Qualification (OQ) Program is developed in accordance with 49 CFR Part 192 Subpart N and CPUC Code. The purpose of the OQ Program is to minimize the risk of failures caused by human performance by ensuring that individuals performing work on SoCalGas gas pipeline system are trained and qualified to complete the performance of covered tasks. Based on SI's cursory review, SoCalGas' OQ framework includes the designation of covered tasks, safety-sensitive operations and maintenance activities identified by SoCalGas which is in alignment with program requirements outlined in §192.801(b).

Employees and contractors who perform these tasks on SoCalGas's system may demonstrate the knowledge, skills, and abilities to complete each covered task through written testing and hands-on evaluations for each covered task. SoCalGas has also voluntarily extended the OQ Program to include certain tasks performed that are related to new construction.

6.11 Performance Evaluation of Effectiveness, Efficiency and Cost-Effectiveness

The objective of this section is to present SoCalGas's performance measures to assess program effectiveness, operational efficiency, and cost-effectiveness of the DIMP program. These measures provide insight into how well the program achieves its safety objectives, optimizes resource utilization, and maintains compliance.

Performance metrics are tracked over time to identify trends and inform decision-making. Current measures compare recent data, such as leak rates, excavation damage incidents, and repair timelines using current data and trending over time or against established baselines derived from historical performance. For example, SoCalGas uses a baseline that is calculated as the average of the past five years to monitor hazardous leak trends and assess potential increases in system risk. If observed trends exceed the threshold beyond one standard deviation, results are reviewed to determine whether they can be justified (e.g., through the inclusion of new data sources). When an increasing trend cannot be justified, and the threat is not currently classified as high risk with no mitigative measures in development, a threat-specific analysis is initiated to evaluate the underlying factors and identify the most affected locations. Trending these metrics enables the program to determine whether implemented strategies are reducing risk, improving process efficiency, and delivering value relative to cost.

In addition to effectiveness and efficiency, cost-effectiveness is assessed by examining the relationship between program expenditures and measurable outcomes, such as reductions in leaks or accelerated response times. Benchmarking against peer utilities further supports this analysis, providing context for performance and identifying opportunities to adopt best practices. Refer to Section 7.0 – Benchmarking for further information.

6.12 Gas Distribution Annual Report DIMP Performance Measures

The following four DIMP Performance Measures shall be reported annually, by March 15, to PHMSA as part of the Gas Distribution Annual Reports required by 49 CFR, § 191.11 and GO 112-F:

- Number of hazardous leaks either eliminated or repaired (or total number of leaks if all leaks are repaired when found), per § 192.703(c), categorized by cause
- Number of excavation damages
- Number of excavation tickets (receipt of information by the underground facility operator from the notification center)
- Total number of leaks either eliminated or repaired (or total number of leaks if all leaks are repaired when found), categorized by material

6.12.1 Number of Hazardous Leaks either Eliminated or Repaired, per §192.703(c), Categorized by Cause

The baseline and ongoing performance of the number of hazardous leaks either eliminated or repaired, per §192.703(c) (or total number of leaks if all leaks are repaired when found), categorized by cause, are documented on the following graphs below, Figure 6-6 (distribution mains) and Figure 6-7 (distribution services). The DIMP has demonstrated strong effectiveness in addressing hazardous leaks on mains, as shown by the consistent increase in the number of leaks eliminated or repaired from 2015 through 2024. The chart illustrates that leak repairs have grown from under 1,000 in 2015 to nearly 1,800 by 2024, addressing the 8 primary threats to the distribution system. This upward trend reflects proactive measures and improved processes that enable timely identification and remediation of leaks, thereby enhancing system integrity and safety.

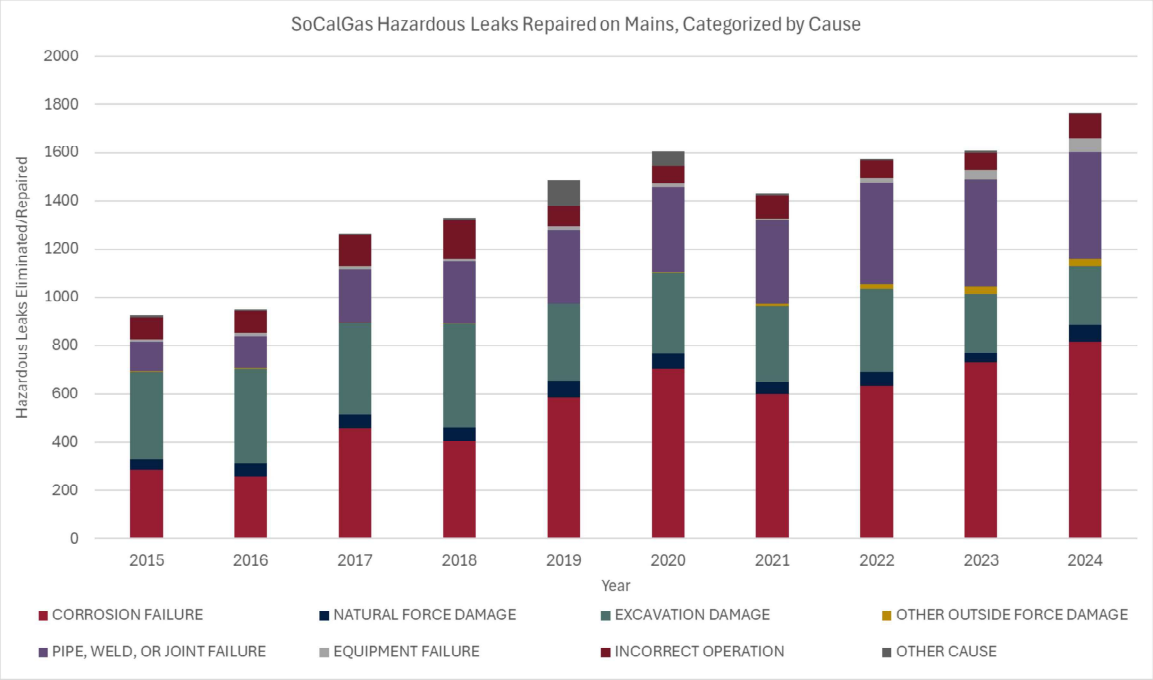


Figure 6-6: SoCalGas Hazardous Leaks Repaired on Mains, Categorized by Cause [2]

The DIMP continues to be effective in managing hazardous leaks on service lines, as evidenced by the consistently high number of leaks eliminated or repaired across all years. While annual totals fluctuate slightly, the chart shows sustained performance with repairs ranging from approximately 7,000 to 8,000 leaks per year. The program addresses the 8 primary threats, which speaks to the effectiveness of SoCalGas' comprehensive risk mitigation. This stability over time reflects strong operational practices and a proactive approach to maintaining service line integrity and public safety.

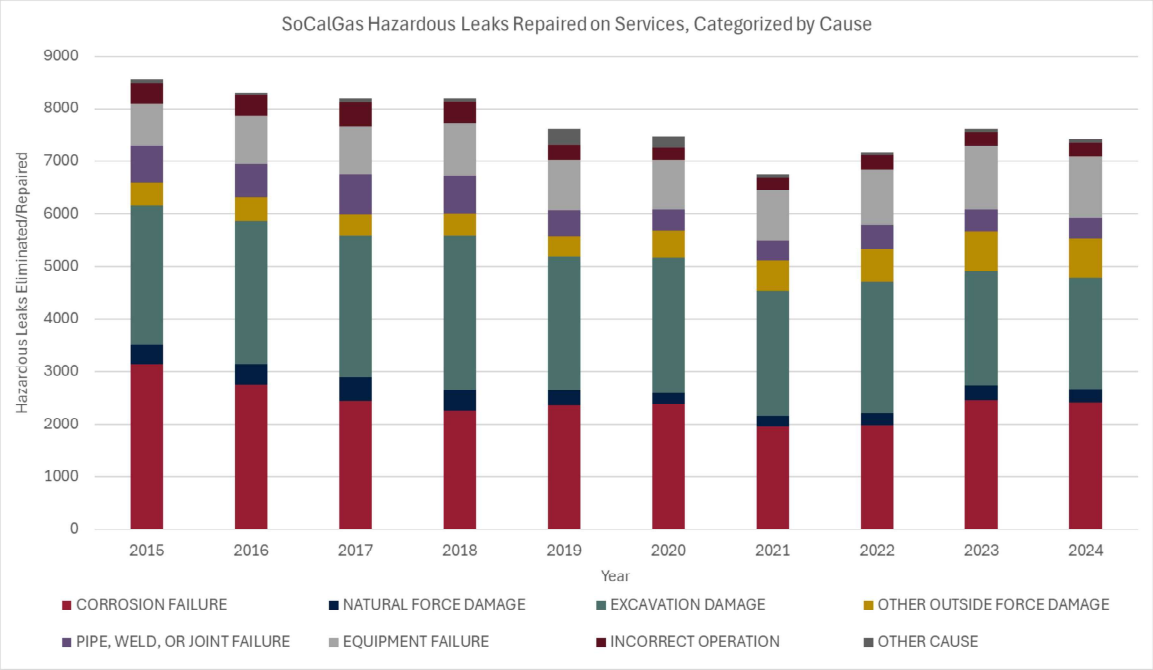


Figure 6-7: SoCalGas Hazardous Leaks Repaired on Services, Categorized by Cause [2]

6.12.2 Number of Excavation Damages

The performance of the number of excavation damages is documented below in Figure 6-8. The chart shows the total number of excavation damages from 2010 to 2024, with a peak around 2018 followed by a steady decline in recent years. This downward trend, from over 3,500 damages in 2018 to fewer than 2,800 in 2024, demonstrates the effectiveness of SoCalGas's public awareness initiatives, including enhanced outreach campaigns, partnerships with excavators, and the Damage Prevention Program. These measures have increased compliance and awareness among contractors and the public, reducing excavation-related incidents and improving overall system safety. Refer to Section 6.18 for more information.

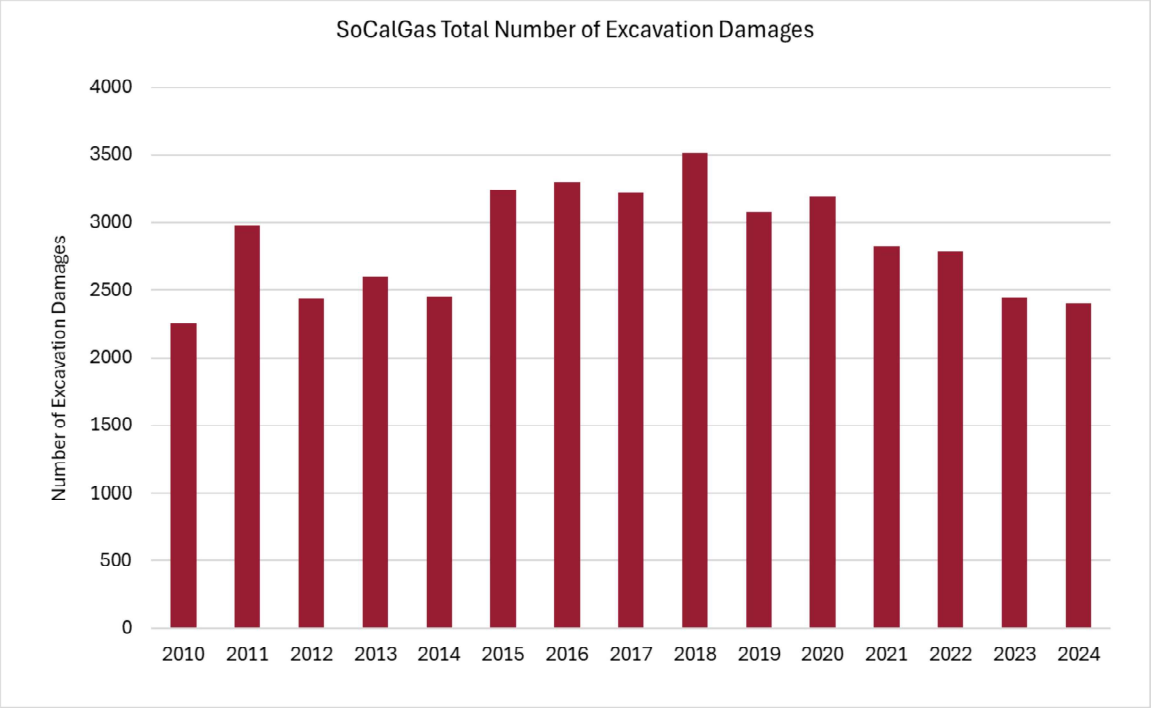


Figure 6-8: SoCalGas Total Number of Excavation Damages [2]

6.12.3 Number of Excavation Tickets (received from Notification Center)

The baseline and ongoing performance of the number of excavation tickets received from the notification center(s) is documented below in Figure 6-9. The chart illustrates a significant increase in the total number of excavation tickets from 2010 to 2024, rising from approximately 250,000 in 2010 to over 1 million by 2022. This growth reflects heightened compliance with safe digging practices and the success of SoCalGas's public awareness campaigns. By educating contractors, homeowners, and excavators about the importance of submitting tickets before excavation, SoCalGas has driven a substantial improvement in preventive measures. Although ticket volumes slightly declined after 2022, they remain well above historical levels, indicating sustained awareness and engagement.

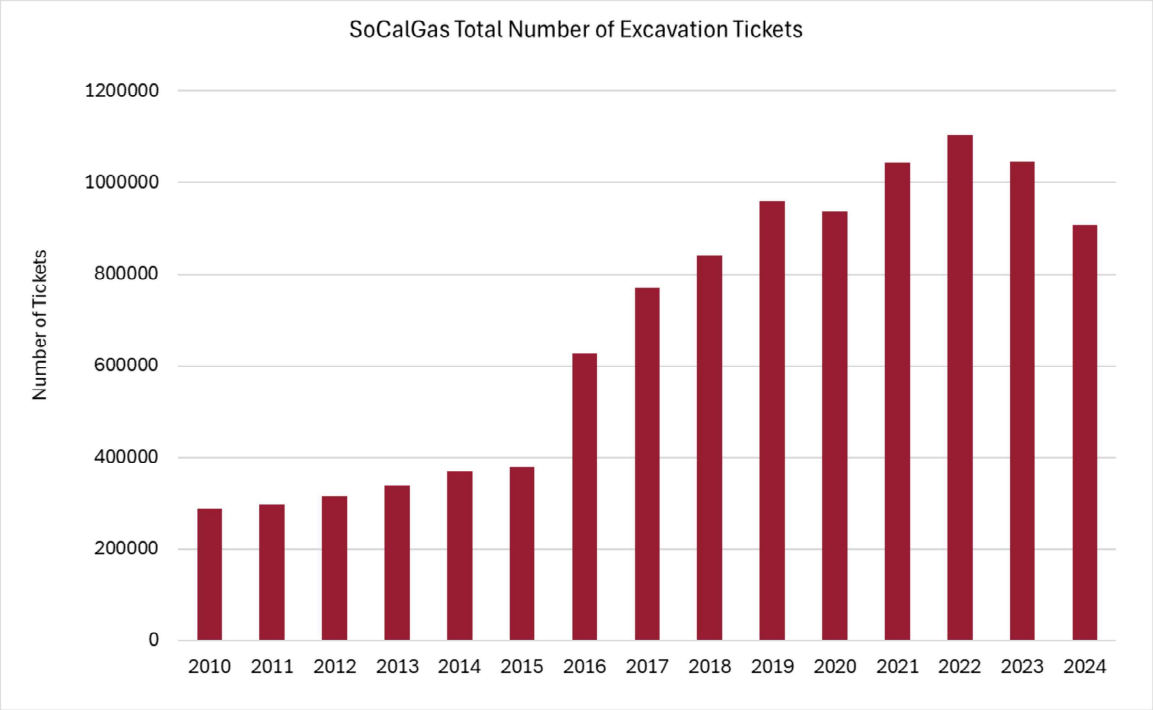


Figure 6-9: SoCalGas Total Number of Excavation Tickets [2]

6.12.4 Total Number of Leaks either Eliminated or Repaired, Categorized by Material

The baseline and ongoing performance of the number of hazardous leaks either eliminated or repaired, per §192.703(c) (or total number of leaks if all leaks are repaired when found), categorized by material, is documented below in Figure 6-10. The chart shows a steady increase in the total number of hazardous leaks repaired from 2012 to 2024, categorized by material type. Repairs have grown from fewer than 800 leaks in 2012 to over 2,000 leaks in 2024, reflecting proactive efforts to address aging infrastructure and material-specific vulnerabilities. This trend underscores SoCalGas's commitment to system integrity through targeted leak mitigation programs, prioritizing high-risk materials and implementing advanced monitoring and replacement strategies to enhance safety and reliability.

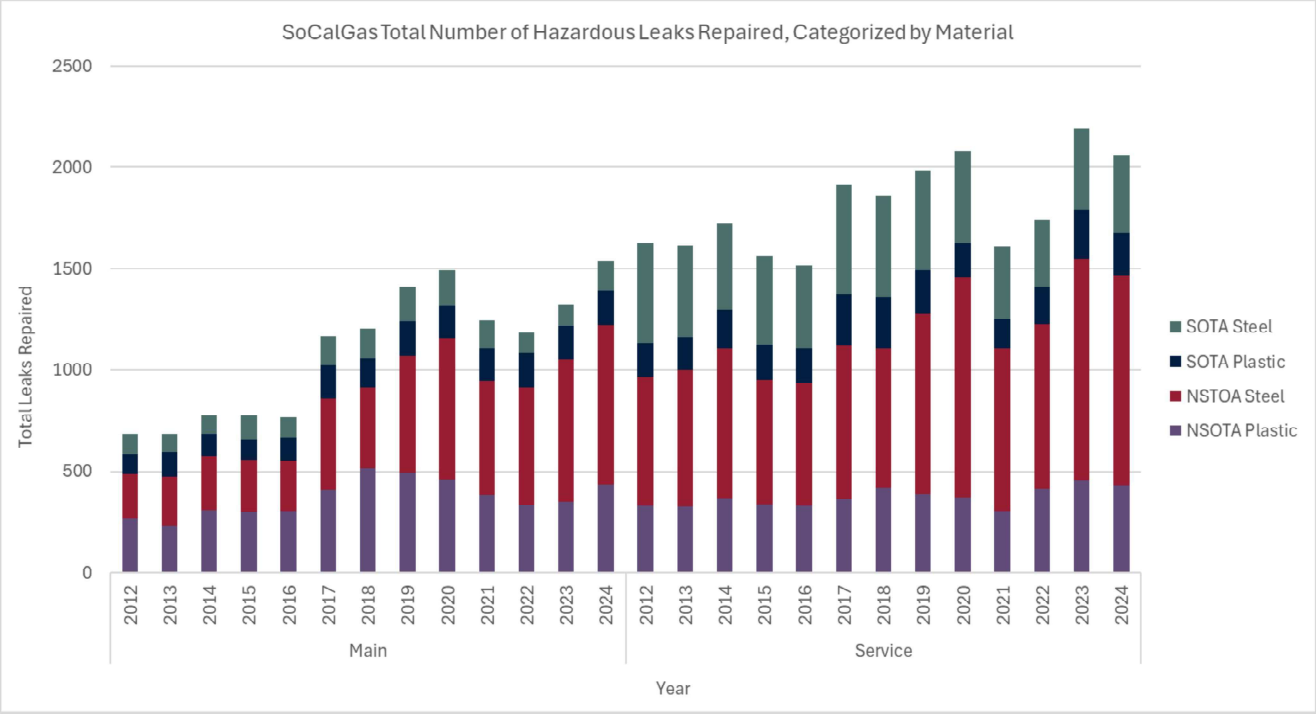


Figure 6-10: SoCalGas Total Number of Hazardous Leaks Repaired, Categorized by Material [17]

6.12.5 Additional Performance Measures Selected by SoCalGas

SoCalGas has determined that additional performance measures are needed to evaluate the effectiveness of the SoCalGas DIMP Program in controlling each identified threat, some of the performance measures are documented. Refer to Section 6.13 for Programs and Activities to Address Risk for more information.

6.13 Programs and Activities to Address Risk

SoCalGas has implemented a broad range of DIMP initiatives called PAARs[4] to mitigate risks and address threats to the distribution system. The PAAR activities go beyond routine maintenance and inspection requirements at distribution operational districts. PAAR includes programs such as the Distribution Risk Evaluation and Monitoring System (DREAMS), Distribution Riser Inspection Program (DRIP), Gas Infrastructure Protection Program (GIPP), and Sewer Lateral Inspection Program (SLIP). Performance metrics for PAAR are regularly evaluated to determine their effectiveness in reducing system threats.

6.14 VIPP and BSRP

One of the main focuses of SI's review was understanding two key SoCalGas pipe replacement programs, the Vintage Integrity Plastic Pipe Program (VIPP) and the Bare Steel Replacement Program

[4] PAARs are SoCalGas' "Additional and Accelerated Actions" determined by SoCalGas to be required in order to appropriately mitigate risk in accordance with Distribution Integrity Management FAQs, FAQ C.3.4, October 26, 2015.

(BSRP). These programs address two of the natural gas industry's most historically vulnerable asset classes - pre-1986 plastic pipe and unprotected, coated or bare steel pipe. These types of materials have been consistently recognized as an industry threat and PHMSA along with State Commissions, like the CPUC, have identified these materials as high priority for replacement.

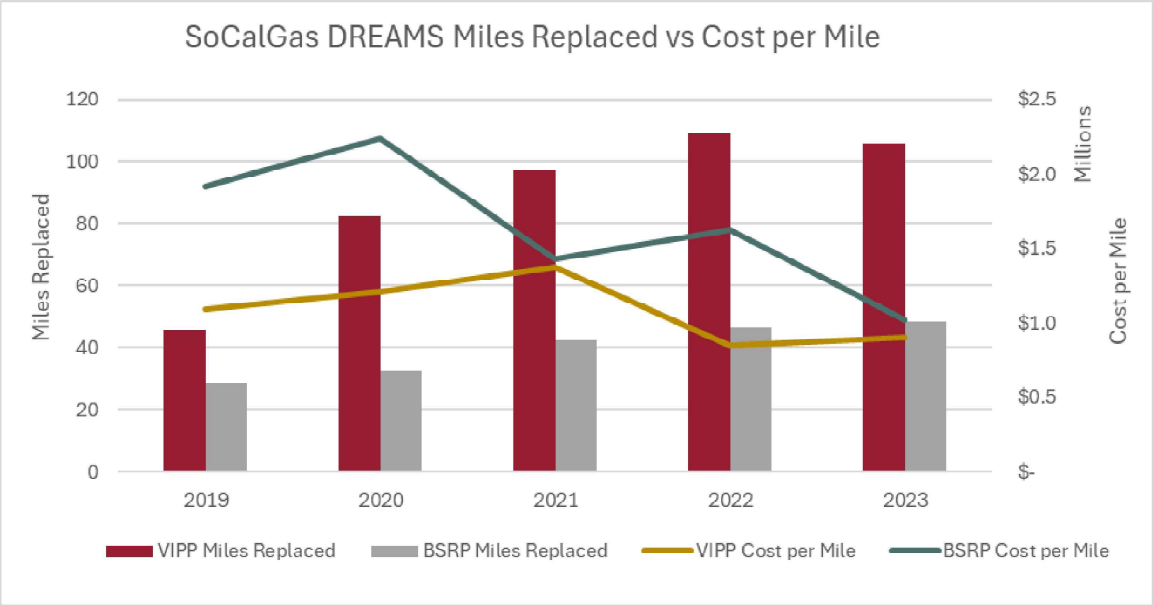


Figure 6-11: SoCalGas DREAMS Miles Replaced vs. Cost per Mile [18]

The data above (Figure 6-11) illustrates that SoCalGas's risk-based replacement programs under DREAMS deliver consistent and impactful results. From 2019 to 2023, VIPP miles replaced increased steadily, rising from approximately 48 miles in 2019 to over 100 miles annually by 2022 and 2023, while BSRP miles also grew, reflecting sustained investment in distribution system integrity.

Higher replacement mileage and lower costs demonstrate that the programs are not only extending their impact but doing so more efficiently. The ability to maintain cost control while accelerating replacements signals strong operational performance and validates the effectiveness of SoCalGas's risk-based prioritization strategy. These results reinforce that DREAMS is achieving its intended objectives, reducing risk exposure, optimizing resources, and supporting long-term distribution system integrity.

6.14.1 Vintage Integrity Plastic Program

SoCalGas recognizes that continued reliance on vintage Aldyl-A pipe poses systemic safety risks due to its susceptibility to slow crack growth and brittle-like failures, as documented by PHMSA and CPUC hazard analyses [19]. While repairs are technically feasible, they are short-term measures that introduce additional joints and stress points, increasing future leak potential and lifecycle costs. Industry guidance, including PHMSA's Call to Action [20] and National Association of Regulatory

Commissioners (NARUC) recommendations, emphasizes that replacement, not repair, is the preferred strategy for high-risk materials.

Accelerated replacement addresses several critical factors as follows:

- Mitigates risk exposure - reducing the likelihood of leaks, outages, and catastrophic failures that carry significant liability and emergency response costs.
- Controls escalating O&M costs - as frequent repairs and emergency field mobilizations often surpass the cost of planned replacements over time.
- Meets regulatory compliance with DIMP requirements - aligning with federal safety expectations and reducing long-term liability. Additionally, replacement supports workforce transition, as retirements inevitably reduce institutional knowledge needed for legacy material repairs.
- Avoids future cost increases, since deferring action compounds challenges from inflation, supply chain volatility, and potential regulatory mandates.

Maintaining VIPP replacement levels without acceleration could appear inconsistent with earlier CPUC positions that identified plastic pipe manufactured in the 1960s to the early 1980s, susceptible to premature failures as a result of brittle-like cracking as presenting a unique and urgent safety risk. The decision to rely solely on routine replacement programs, rather than accelerated main replacement, overlooks the specific vulnerabilities of vintage plastic pipe and undermines the proactive risk management principles embedded in the Operator DIMP framework.

Given documented failures such as the West Reading explosion in 2023 [21] and CPUC's findings that vintage plastic pipe presents an urgent safety risk, maintaining only routine replacement levels would be inconsistent with proactive risk management principles. Accelerated replacement with modern PE pipe remains the most effective strategy for safety, compliance, and long-term reliability. Given the CPUC's own technical findings [22] and the historical record of failures, the justification for a dedicated vintage plastic replacement program remains warranted. A review of VIPP accelerated replacement funding would align regulatory action with documented safety priorities and uphold the Commission's commitment to public safety.

SoCalGas's strategy to accelerate the replacement of Aldyl-A and other NSOTA materials is a highly effective risk mitigation measure because it directly addresses systemic vulnerabilities identified by federal regulators, CPUC, and industry advisories. Aldyl-A's susceptibility to slow crack growth and brittle-like failures creates a persistent safety hazard that cannot be fully resolved through repairs, which only provide temporary relief and introduce additional stress points. By leveraging risk models and the DREAMS prioritization tool, SoCalGas has implemented a structured, data-driven approach that exceeds regulatory minimums under Subpart P and aligns with PHMSA guidance emphasizing proactive replacement over repair.

The program's effectiveness is demonstrated by measurable outcomes: accelerated replacement mileage averaging 121 miles annually—14% above forecast—reduces leak risk, lowers lifecycle O&M costs, and enhances system reliability. This approach not only mitigates immediate safety threats but also supports long-term compliance and cost efficiency, avoiding compounding risks and regulatory exposure. In short, SoCalGas's proactive replacement program transforms a recognized

material hazard into a managed risk, reinforcing public safety and regulatory confidence. Further data in the corresponding graphs below provides evidence of the effectiveness and cost effectiveness of SoCalGas's DIMP Program.

Figure 6-12 below illustrates the trend in hazardous leaks repaired for NSOTA versus State-of-the-Art (SOTA) plastic mains and services from 2012 through 2024, focusing on failures related to the pipe, weld, or joint threat.

It is clear that NSOTA plastic main (purple line) drives hazardous leaks. The graph shows a sharp increase in hazardous leak repairs beginning around 2016, peaking in 2019–2020 at over 300 repairs per year, before declining slightly but remaining elevated through 2024. NSOTA services (red line) also exhibit a significant upward trend, reaching nearly 200 repairs annually by 2021 and maintaining these levels thereafter.

The persistent high leak rates for NSOTA plastic highlight its vulnerability to Pipe, Weld, and Joint failures and remains the dominant contributor to hazardous leaks.

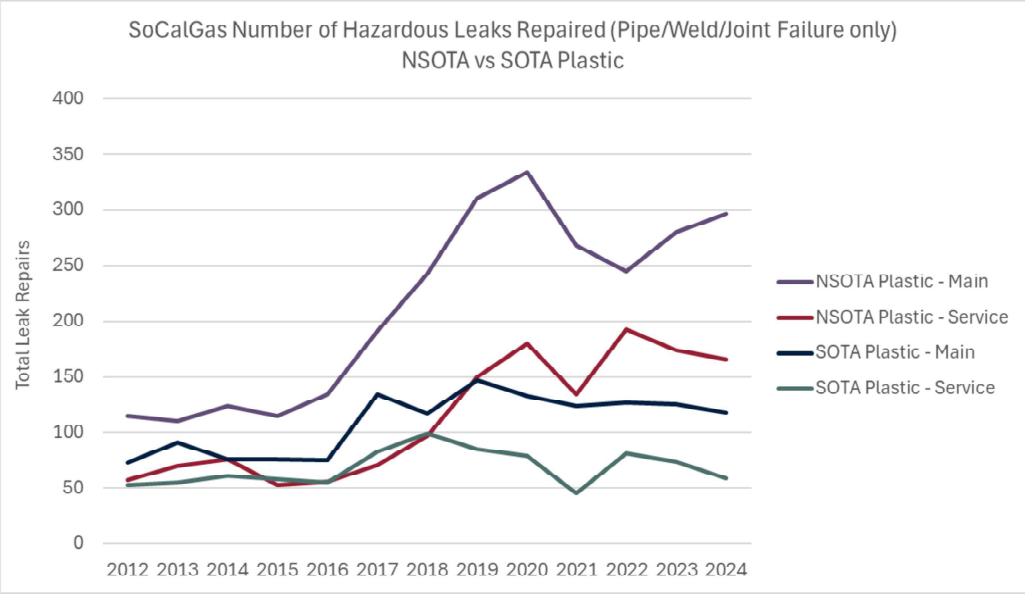


Figure 6-12: SoCalGas Number of Hazardous Leaks Repaired NSOTA vs SOTA Plastic [17]

The graph below, Figure 6-13, compares hazardous leak repair rates and total number of hazardous leaks repaired for NSOTA (Non-State-of-the-Art) and SOTA (State-of-the-Art) plastic mains and services from 2016 to 2024. The graph clearly demonstrates that NSOTA plastic is a major driver of hazardous leaks, with rates and repair counts far exceeding SOTA plastic, further validating the need for targeted replacement programs focused on NSOTA materials to reduce risk and regulatory exposure.

NSOTA Leak repair rates are significantly higher, at peak (2019-2020) they were estimated 40 leaks per 100 miles compared to SOTA which consistently have maintained very low leak repair rates,

generally under 5 leaks per 100 miles. Additionally, NSOTA services (gray bars) also show elevated rates compared to SOTA, though lower than mains.

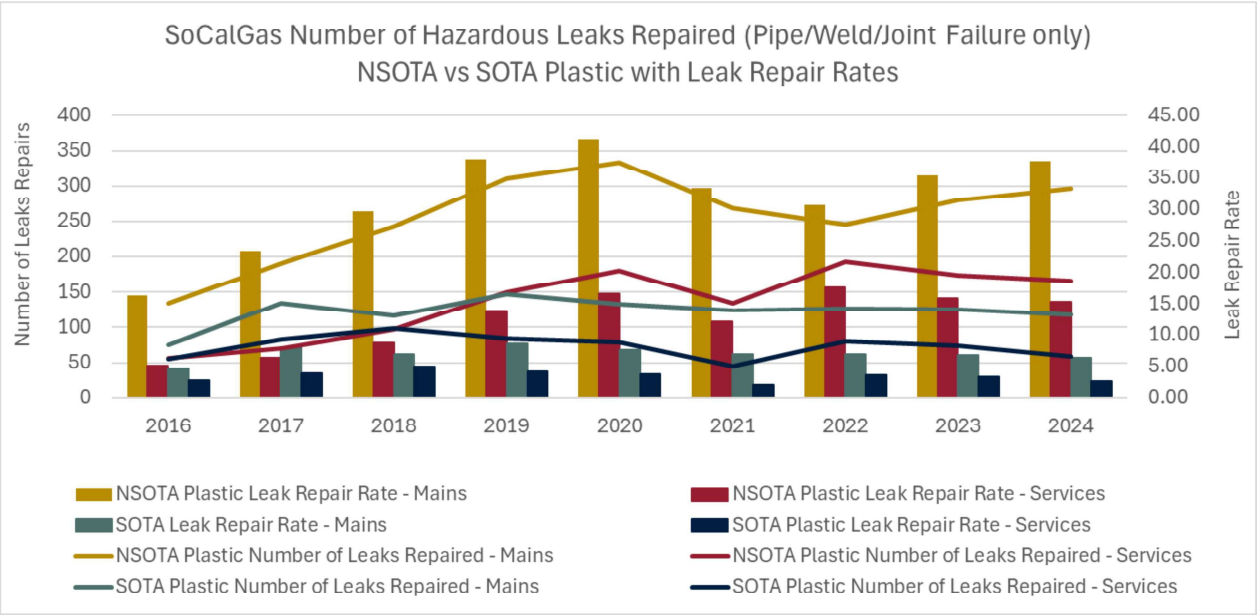


Figure 6-13: SoCalGas Number of Hazardous Leaks Repaired (Pipe/Weld/Joint Failure only) NSOTA vs SOTA Plastic with Leak Repair Rates [17]

The chart below, Figure 6-14, demonstrates SoCalGas's proactive approach to mitigating pipeline integrity risks through its VIPP. The data compares miles of mains replaced, with the hazardous leak repair rate from 2019 to 2024.

SoCalGas's vintage plastic main replacement activity has grown significantly, from approximately 20 miles in 2019 to nearly 60 miles in 2024, reflecting a strong commitment to modernizing aging infrastructure. The slight upward trend in hazardous leak repair rates suggests that probability of vintage plastic failures increases as the material ages, even as the vintage plastic main mileage is reduced through replacement, reinforcing the need for accelerated replacement to stay ahead of risk exposure to the distribution system.

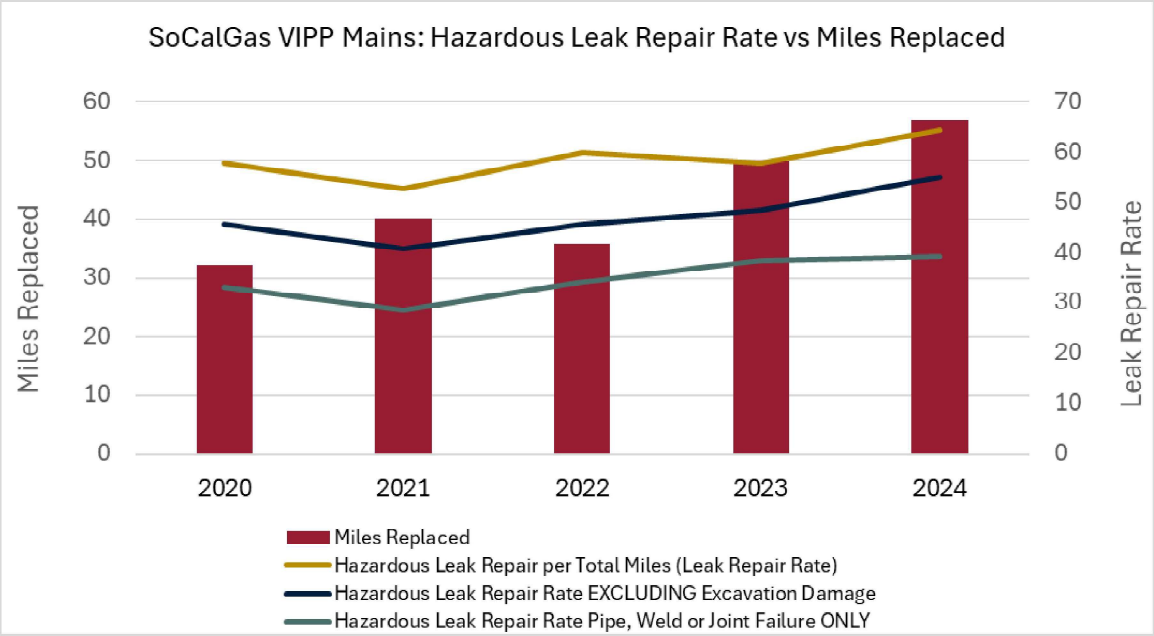


Figure 6-14: SoCalGas VIPP Mains: Hazardous Leak Repair Rate vs Miles Replaced [23], [24], [18]

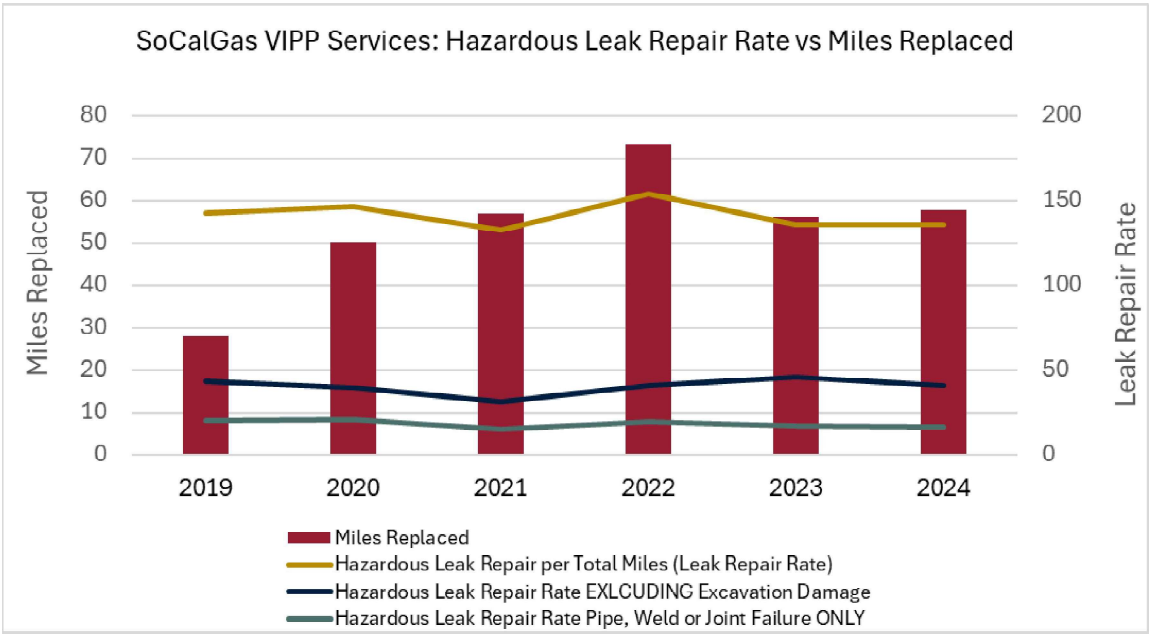


Figure 6-15: SoCalGas VIPP Services: Hazardous Leak Repair Rate vs Miles Replaced [23], [24], [18]

Figure 6-16 compares the miles of mains replaced with hazardous leak repair rates for two vintage material categories, Pre-1973 and 1973–1985, looking at the period from 2019 through 2024.

Despite increased replacement mileage for 1973–1985 mains, hazardous leak repair rates for both vintage categories remain high, indicating that replacement efforts have not yet outpaced risk exposure. Focusing solely on Pre-1973 mains ignore the fact that 1973–1985 mains represent a large portion of the SoCalGas system and continue to drive hazardous leak incidents. This also points to the Hazard Analysis and Mitigation Report which discusses post-1973 vintage plastic material.

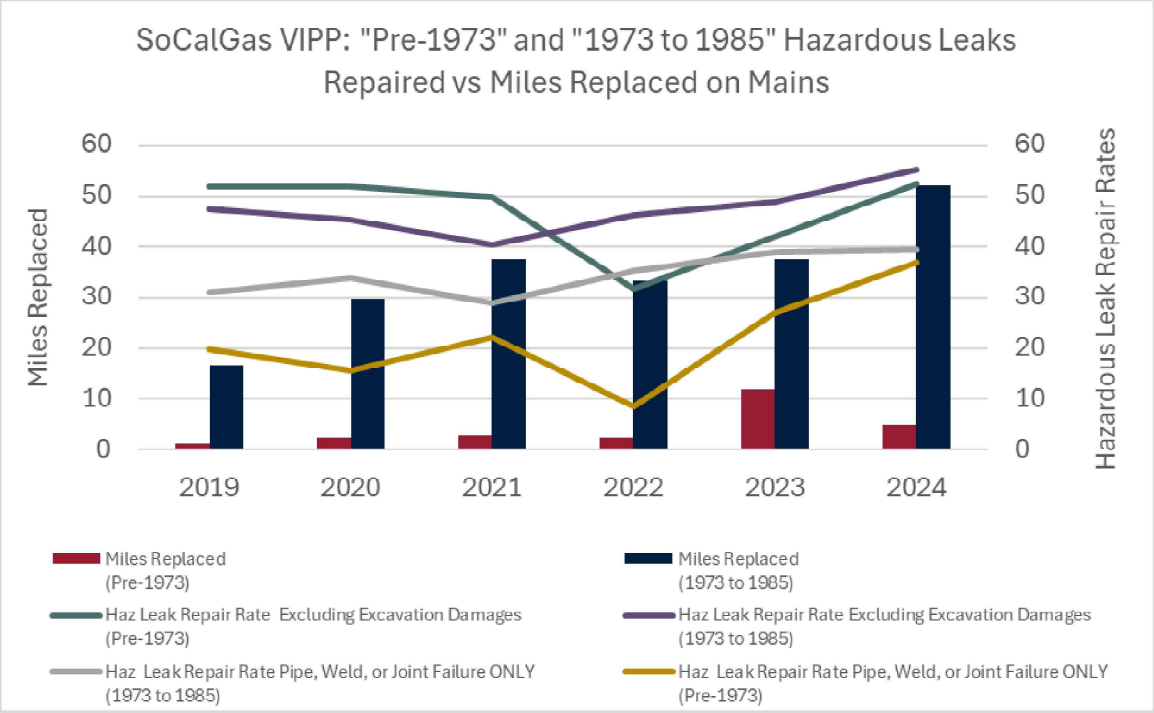


Figure 6-16: SoCalGas VIPP: "Pre-1973" and "1973 to 1985" Hazardous Leaks Repaired vs Miles Replaced on Mains [23], [24], [18]

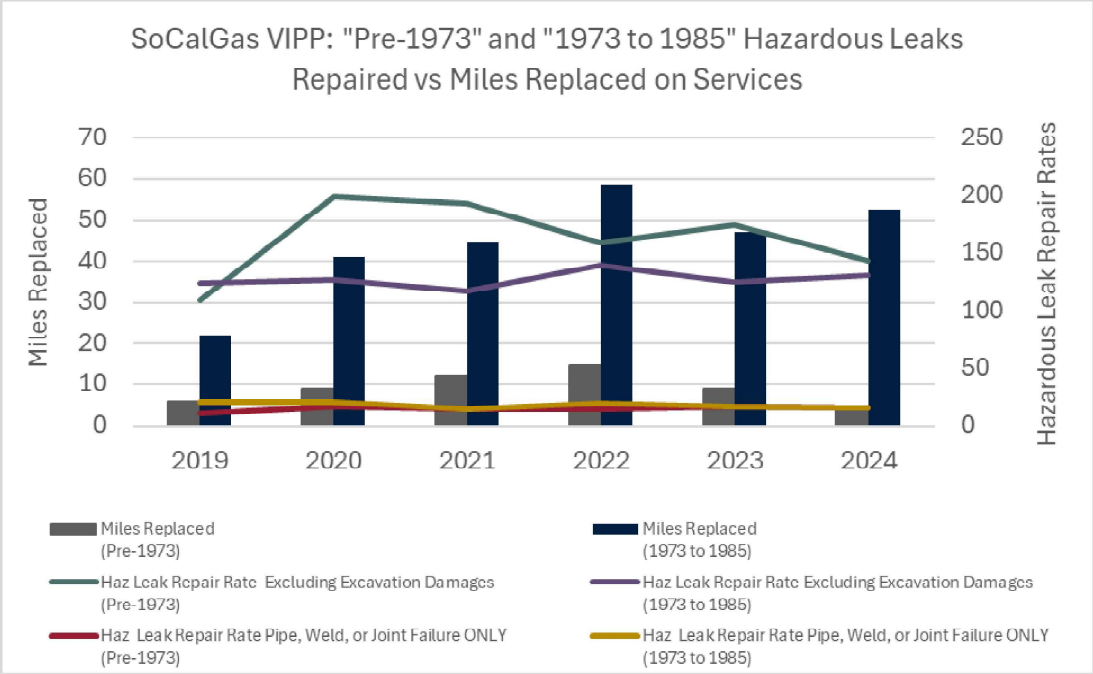


Figure 6-17: SoCalGas VIPP: "Pre-1973" and "1973 to 1985" Hazardous Leaks Repaired vs Miles Replaced on Services [23], [24], [18]

Figure 6-18 below compares the percentage of leaks occurring on NSOTA (Non-State-of-the-Art) and SOTA (State-of-the-Art) plastic to their respective share of total system length from 2016 through 2024. For context, steel material was included and is the largest portion of the SoCalGas system, around 42–44% of total mileage. NSOTA plastic accounts for roughly 18–21% of total system mileage, while SOTA plastic makes up 35–39% or total system mileage.

Despite NSOTA plastic representing less than one-fifth of the system, the percent of leaks on NSOTA plastic (purple dashed line) is disproportionately high, hovering between 30–35% throughout the period. The percent of hazardous leaks on plastic (yellow line) remains elevated, indicating that plastic materials, particularly NSOTA (Aldyl-A), are a major contributor to hazardous leak incidents.

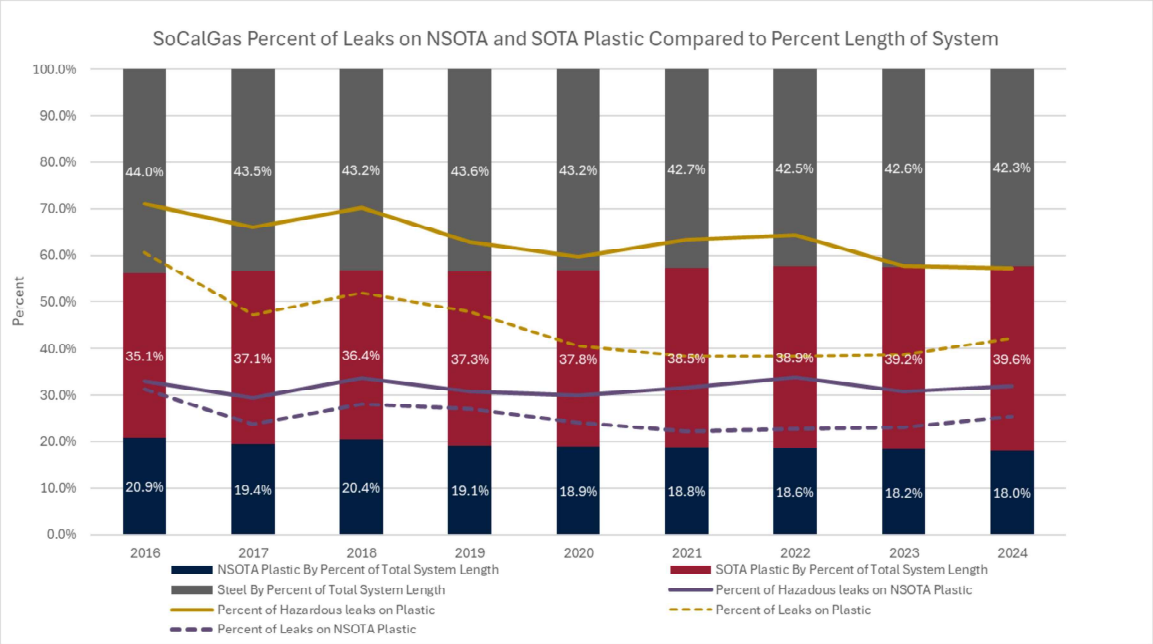


Figure 6-18: SoCalGas Percent of Leaks on NSOTA and SOTA Plastic Compared to Percent Length of System [23], [24]

6.14.2 Bare Steel Replacement Program

PHMSA has issued advisory bulletins and guidance related to bare steel pipelines as part of its broader effort to address aging and high-risk infrastructure, PHMSA's 2012 Advisory Bulletin [25] urged operators to accelerate the replacement of leak-prone materials, specifically cast iron, wrought iron, and bare steel, emphasizing a comprehensive review of respective distribution systems and prioritizing high-risk segments for repair or replacement. It also encouraged state agencies to enhance replacement programs for these materials. Similarly, PHMSA's Call to Action as referenced above, addressed not only vintage plastic but bare steel pipelines as well due to their susceptibility to corrosion and leaks.

SoCalGas has implemented a proactive Bare Steel Replacement Program to address the elevated risk associated with aging bare steel pipelines. Bare steel is highly susceptible to corrosion and leaks, posing significant safety and reliability concerns. The program prioritizes segments identified through risk-based analysis under SoCalGas's DIMP, focusing on areas with the highest likelihood of failure and potential impact.

Data in the corresponding graphs below is representative of the effectiveness and cost effectiveness of SoCalGas's DIMP Program.

Figure 6-19 illustrates the relationship between hazardous leak repair rates and miles replaced under SoCalGas's Bare Steel Replacement Program (BSRP) for mains and services from 2019 through 2024. The trend in bare steel miles replaced reflects significant progress in removing bare steel assets from the system proving their DIMP is effective. However, despite substantial replacement efforts, leak repair rates have not declined, indicating that remaining bare steel segments continue to degrade and pose increasing risk. The upward trend in leak repair rates suggests that corrosion-related failures

accelerate as bare steel ages, even as bare steel miles are removed, reinforcing the need for accelerated replacement to stay ahead of risk exposure to the distribution system.

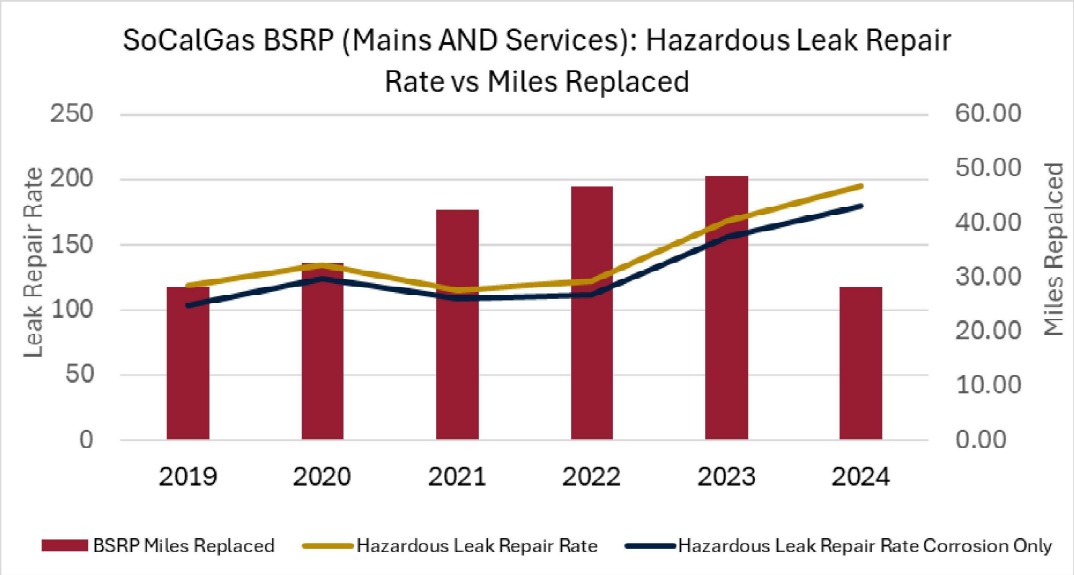


Figure 6-19: SoCalGas BSRP (Mains AND Services): Hazardous Leak Repair Rate vs Miles Replaced [24], [23], [18]

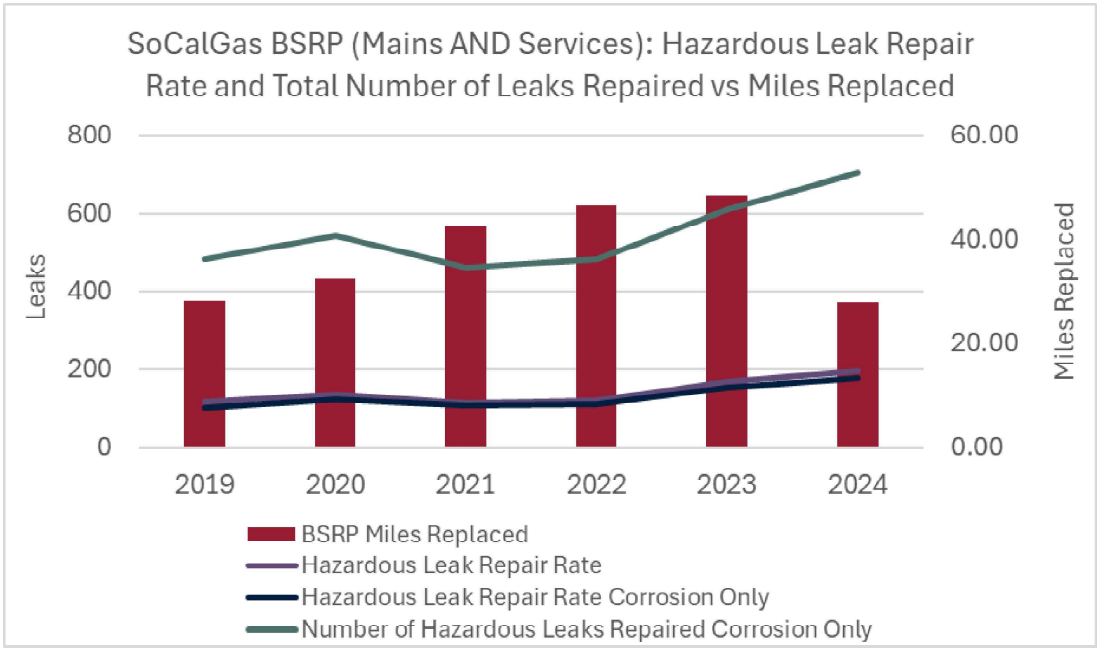


Figure 6-20: SoCalGas BSRP (Mains AND Services): Hazardous Leak Repair Rate and Total Number of Leaks Repaired vs Miles Replaced [24], [23], [18]

Figure 6-21 compares the cost per mile replaced under SoCalGas's Bare Steel Replacement Program (BSRP) with hazardous leak repair rates from 2019 through 2024. This analysis demonstrates why proactive replacement remains the most cost-effective strategy for managing bare steel risk on the SoCalGas distribution system.

Cost per Mile Trends

The cost per mile (blue bars) fluctuates between $1.2 million and $2.1 million, peaking in 2020 and declining to its lowest point in 2023 before rising slightly in 2024. These variations reflect conditions that influence project costs (i.e. material costs, labor rates, supply chain disruptions) and complexity with project installation but remain more predictable compared to emergency repair costs. Notably, while the leak rate held stable or showed a slight decline during this period, the significant reduction in spending in 2023 coincides with a subsequent uptick in leak occurrences, suggesting that sustained investment is critical to maintaining system integrity.

Hazardous Leak Repair Rates Rising

It is apparent that hazardous leak repair rates are rising, indicating that remaining bare steel segments are deteriorating faster over time. As leak rates climb, the cost of emergency response, unplanned outages, and regulatory exposure increases significantly, often exceeding the cost of planned replacement. Each hazardous leak carries labor, material, and emergency mobilization expenses that can surpass the per-mile replacement cost when aggregated over time, confirming that proactive replacement under the BSRP is the most cost-effective approach.

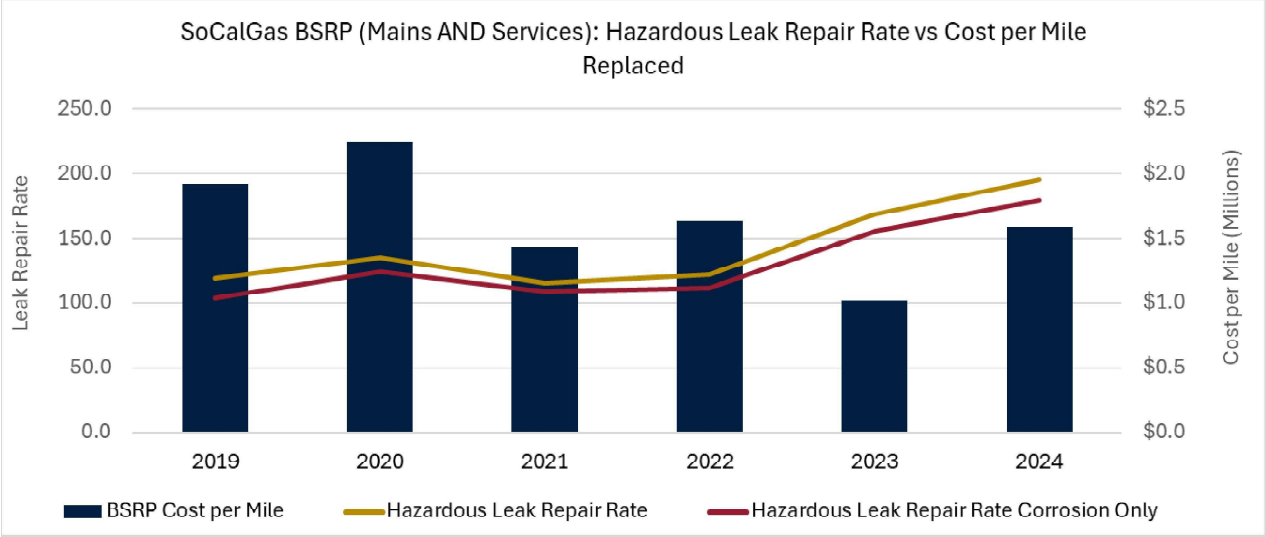


Figure 6-21: SoCalGas BSRP (Mains AND Services): Hazardous Leak Repair Rate vs Cost per Mile Replaced [24], [23], [18]

6.15 Sewer Lateral Inspection Program

The SoCalGas Sewer Lateral Inspection Program (SLIP) addresses a critical integrity threat associated with trenchless pipeline installations. When a new pipeline inadvertently intersects a sewer lateral

during boring, it can create a "cross bore." This condition may cause immediate blockage or one that worsens over time. Eventually, the obstruction can lead to clogged drains, prompting a plumber or property owner to use tools such as sewer augers to clear what appears to be routine debris. If the auger penetrates the pipeline, gas can escape into the sewer system and surrounding areas, creating a severe risk of a pipeline incident. SLIP addresses PHMSA's concerns under DIMP regulations, which require operators to address low-frequency but high-consequence threats to pipeline safety.

There have been multiple high-profile cross bore incidents across the U.S., each underscoring the catastrophic risk posed by undetected utility conflicts. Events such as the Dallas Atmos Energy explosion (2018) [26], where a sewer cleaning operation intersected a gas line installed decades earlier, have resulted in fatalities and widespread property damage. These incidents represent a systemic hazard inherent to trenchless installation practices when post-installation verification is lacking.

Preventing cross bore failures requires proactive measures such as camera inspections, GIS mapping, and rigorous quality assurance protocols, which are now recognized as industry best practices to protect public safety. SoCalGas has implemented some of these best practices to eliminate cross bore hazards and prevent incidents from occurring. In addition to legacy cross bore inspections, SoCalGas, since 2016, has employed a post construction inspection verification process using camera inspections of sewer laterals. Additionally, SoCalGas conducts targeted audits and quality assurance reviews to confirm that conflicts do not exist between gas and sewer infrastructure. These measures go beyond regulatory minimums and align with PHMSA and CPUC safety objectives, ensuring that cross bore risks are proactively mitigated rather than detected after the fact.

The trend in legacy cross-bores found per 1,000 inspections (refer to Figure 6-22, below) demonstrates significant progress in mitigating cross-bore-related safety risks. In 2012, SoCalGas identified nearly four cross-bores per 1,000 inspections, signaling a substantial legacy issue. Following the launch of targeted inspection and remediation programs, the rate dropped sharply by 2013, reflecting early program effectiveness. From 2014 through 2020, the rate stabilized at approximately two cross-bores per 1,000 inspections, indicating that the most severe legacy risks were addressed early while ongoing inspections continued to uncover residual issues. By 2023, the rate remains below one per 1,000 inspections, demonstrating sustained effectiveness and continued progress towards addressing legacy cross-bores. Given the significant risk associated with cross-bores associated with potential gas accumulations inside of structures, the presence of continued cross-bore detections underscores the need for continued vigilance, data-driven risk modeling, and continued investment in the SoCalGas SLIP programs to maintain compliance in addressing the cross-bore threat and to protect public safety.

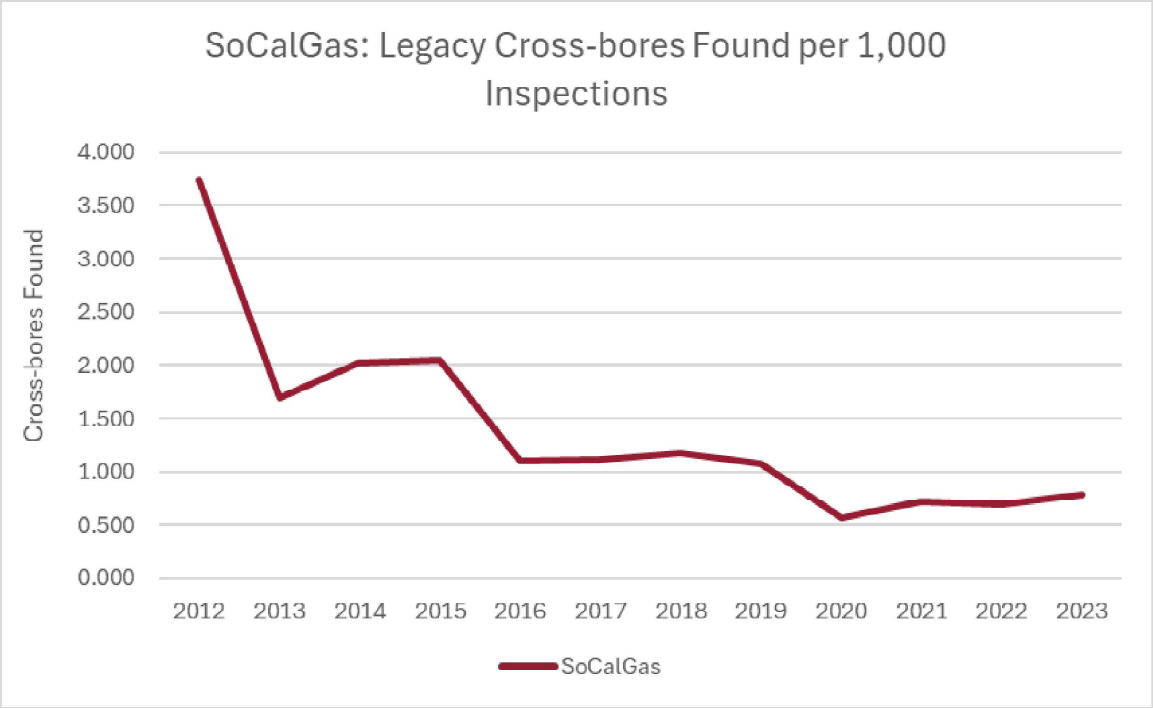


Figure 6-22: SoCalGas: Legacy Cross-bores Found per 1,000 Inspections [27]

Figure 6-23 compares the forecasted number of SLIP (Service Line Inspection Program) inspections to actual inspections completed by SoCalGas from 2019 through 2024.

SoCalGas is consistently overperforming demonstrating their commitment to public and employee safety. SoCalGas's ability to consistently exceed forecast planning indicates strong resource planning, efficient field execution, and prioritization of safety-related activities.

The data demonstrates that SoCalGas has historically exceeded inspection goals, reinforcing the effectiveness of its SLIP program in identifying and mitigating potential risks.

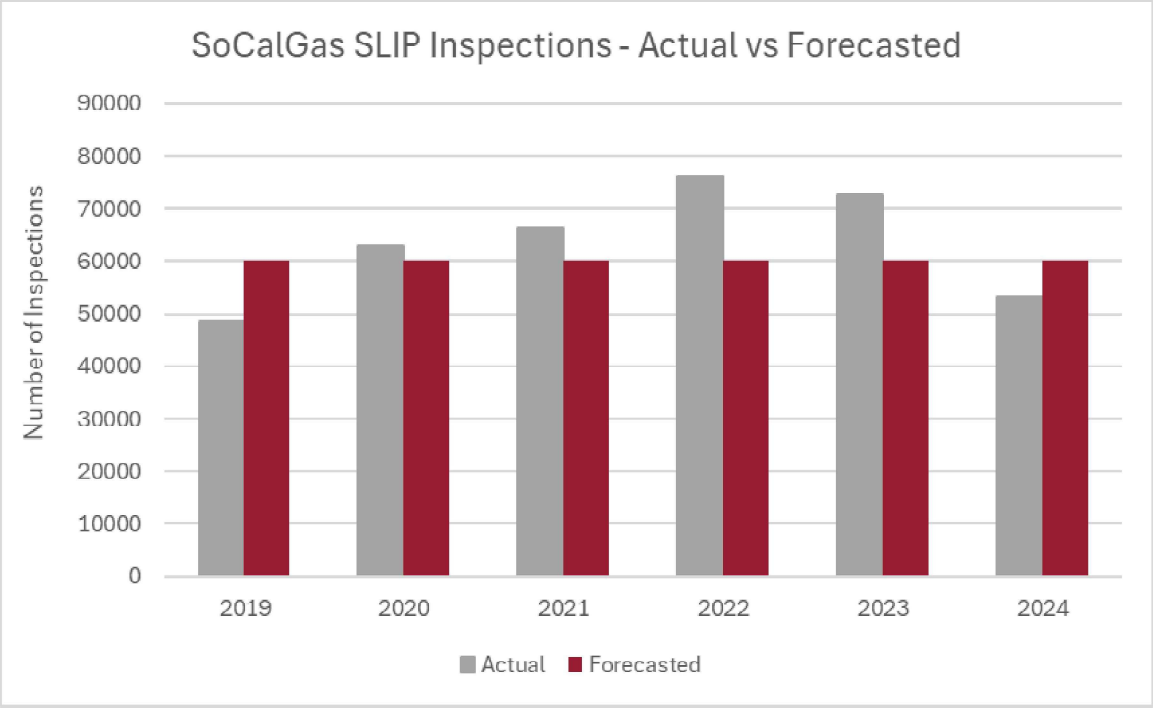


Figure 6-23: SoCalGas SLIP Inspections - Forecast vs. Actual [28]

Figure 6-24 compares the number of legacy cross-bores found with the cost per cross-bore identified from 2019 through 2024. While costs have increased over time as remaining cross-bores become harder to locate, the value of this program cannot be measured solely in dollars.

Early years delivered higher efficiency, with more legacy cross-bores found at lower cost. As the program matures, costs rise because remaining cross-bores are in less accessible areas, requiring potentially advanced detection methods. SoCalGas has been performing post installation inspection methods since 2016, not reflected in this dataset.

It should be noted that every cross-bore eliminated represents a significant reduction in catastrophic risk. The potential consequences of an undetected cross-bore (regulatory fines, litigation, reputational harm) can reach millions of dollars, but the loss of life or severe injury cannot be measured. The cost of prevention is negligible compared to these consequences.

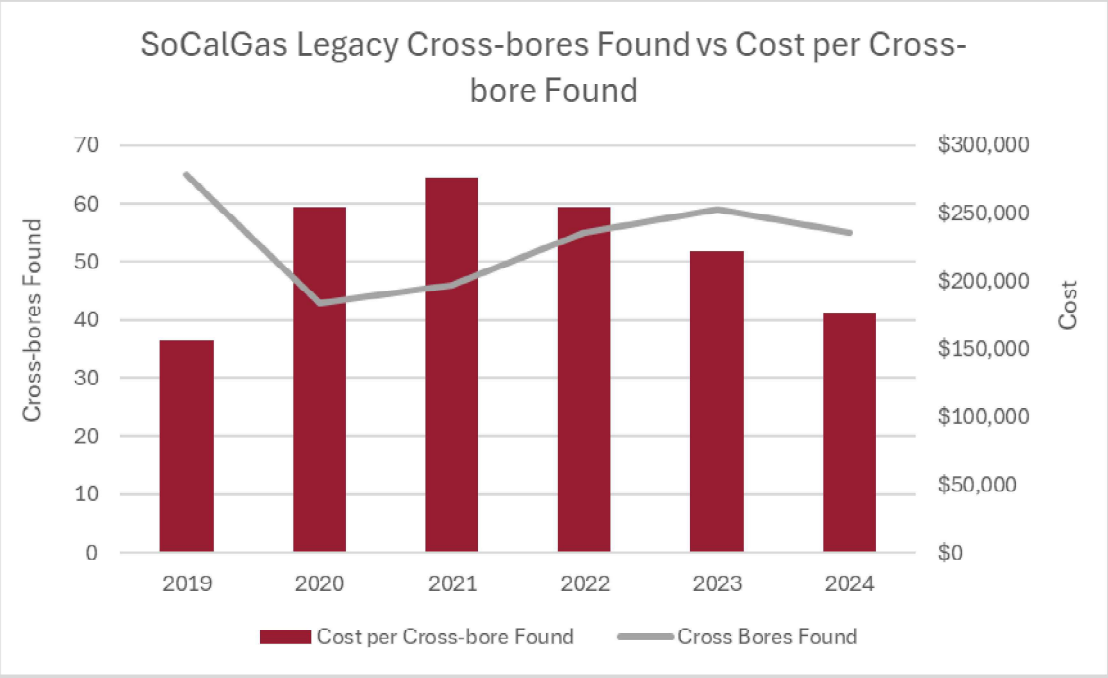


Figure 6-24: SoCalGas Legacy Cross-bores Found vs Cost per Cross-bore Found [29]

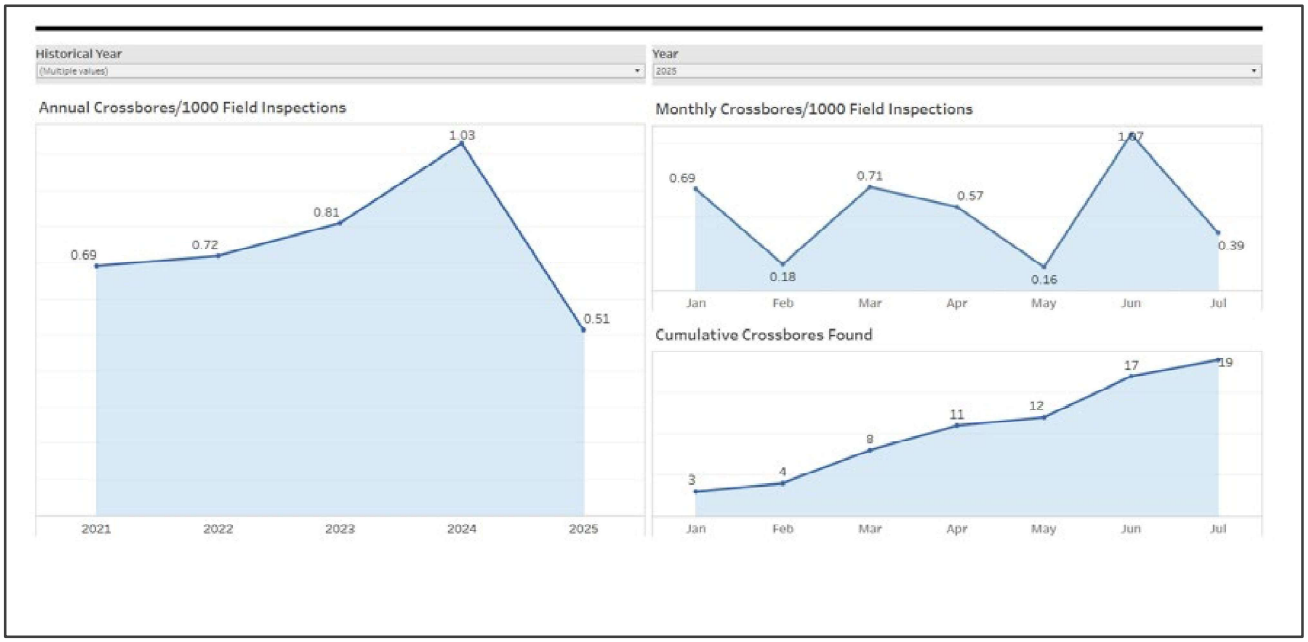


Figure 6-25: SLIP Dashboard [30]

The data above (Figure 6-25) demonstrates that the program continues to perform effectively. Although the 2025 data reflect only mid-year results, the current annual rate of 0.51 cross-bores per 1,000 inspections is well below the 2024 peak of 1.03 which confirm that risk mitigation measures (inspections) continue to identify and mitigate risks.

6.16 Gas Infrastructure Protection Program

The Gas Infrastructure Protection Program (GIPP) is a DIMP initiative developed in compliance with 49 CFR Part 192, Subpart P, to address the risk of third-party vehicular damage to above-ground pressurized natural gas facilities. Such incidents can result in severe consequences, including injuries or fatalities, if an unintentional gas release encounters an ignition source. GIPP also responds to PHMSA guidance recommending that operators consider low-frequency but high-consequence events under DIMP [31].

Through GIPP, SoCalGas identifies, evaluates, and implements damage prevention measures for above-ground pressurized facilities vulnerable to vehicular impact. Current solutions have proven effective in reducing both the frequency of incidents and the potential consequences of collisions. Program activities include analyzing historical claims data, developing risk assessment algorithms, reviewing records and conducting field inspections, categorizing risk exposure, implementing mitigation measures, updating policies and procedures, and establishing performance metrics. Prioritization of inspections and remediation is based on field assessments.

Mitigation strategies include installing visual barriers such as bollards or block walls, relocating facilities, or installing excess flow valves. While barriers serve primarily as visual deterrents, excess flow valves help limit gas flow in the event of a release. Relocation decisions consider factors such as road type, traffic volume, and surrounding land use (commercial or residential).

GIPP focuses on high-pressure residential first-stage regulators and commercial and industrial meter set assemblies (MSAs). Since the Program's launch in 2011, GIPP has primarily targeted high-pressure residential meter sets and commercial or industrial MSAs within SoCalGas's service territory.

Between 2011 and 2023, the program completed a total of 44,924 mitigations. Figure 6-26 below illustrates the annual mitigation counts by year and type of mitigation, standard or non-standard mitigation. The program started as a preventative and mitigative measure to address standard mitigation sites but evolved into a comprehensive risk management program addressing both standard and non-standard mitigation sites. This evolution aligns with regulatory expectations to address vehicular damage threat, a sub-threat under Other Outside Force Damage and demonstrates proactive risk reduction beyond initial design. In accordance with SoCalGas's Meter Set Assembly Damage Protection Guidelines Procedure (GS 185.0002) a standard mitigation site refers to a residential site that may be protected with the installation of domestic meter guard or bollards if risk is due to proximity of low speed areas and according to SoCalGas's Meter Guard – Installation Requirements Procedure (GS 185.0008). Non-Standard Mitigation Sites are non-residential sites at risk from traffic speed that may require the most effort to reduce risk. This usually requires relocating, abandoning, providing protection in place or vault installation of the meter set assembly.

Additionally, when selecting a meter location, SoCalGas provides consideration to potential damage by other outside forces such as vehicular traffic. In accordance with SoCalGas's Meter Locations Procedure (GS 185.0001), the meter location shall be evaluated in regard to traffic proximity to provide the least potential for damage by vehicles.

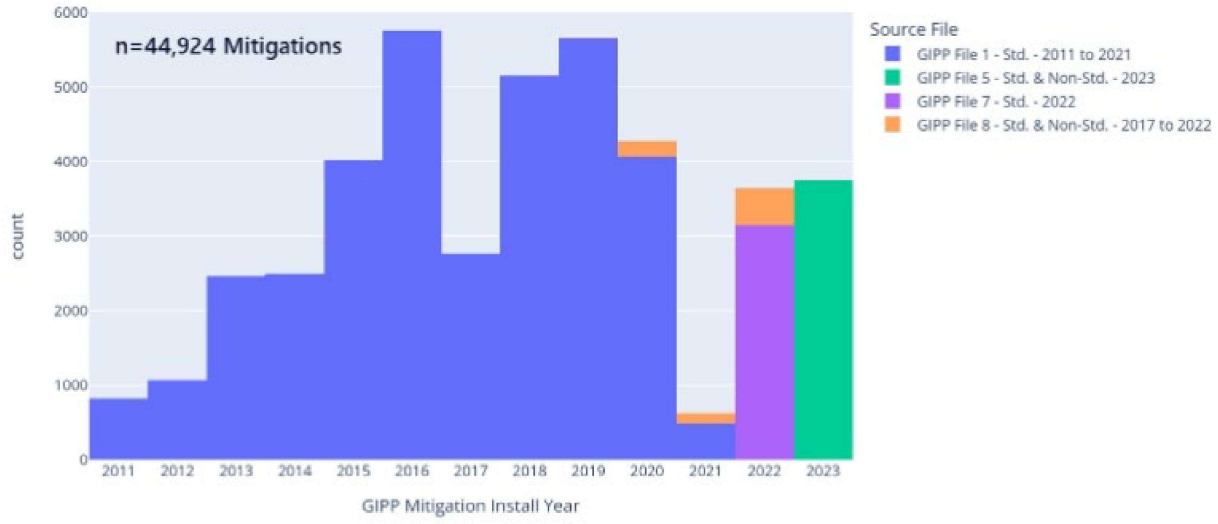


Figure 6-26: GIPP Mitigations by Year

To quantify the risk reduction achieved through GIPP, the hazardous leak rate for services was analyzed before and after mitigation; because mitigation occurs in different years for each service, the "before" rate includes leaks and exposure up to and including the mitigation year, while the "after" rate reflects leaks occurring in subsequent years. This comparison demonstrates the typical risk reduction benefit associated with GIPP mitigations.

Of approximately 372,000 customer sites in the system, about 47,600 are estimated to require mitigation [32].

GIPP encompasses both capital and O&M activities, with capital work measured by the number of mitigations completed annually. O&M costs include DIMP management functions such as data management, program evaluation, and reporting, which are difficult to quantify.

The graph below illustrates annual trends in GIPP activities, assessments, standard mitigations, and non-standard mitigations with respect to the associated total costs from 2019 through 2024.

The increase in assessments in 2019 and 2024 reflects a strong commitment to identifying threats before they escalate, reinforcing program effectiveness in preventing incidents.

Efficiency is evident in the shift toward standard mitigations, which remain the dominant mitigation type across all years. The relatively stable level of non-standard mitigations suggests that unique or complex threats are being addressed without excessive reliance on costly custom solutions.

Cost-effectiveness is highlighted by the relationship between threat mitigation activity levels and total annual costs. While costs trend upward, they remain proportionate to the scale of assessments and

mitigations, indicating disciplined resource allocation. This balance demonstrates that safety objectives are being met without uncontrolled spending, which is critical for regulatory confidence and stakeholder accountability.

Continued focus on optimizing assessment strategies and leveraging data-driven prioritization will further strengthen compliance and operational resilience.

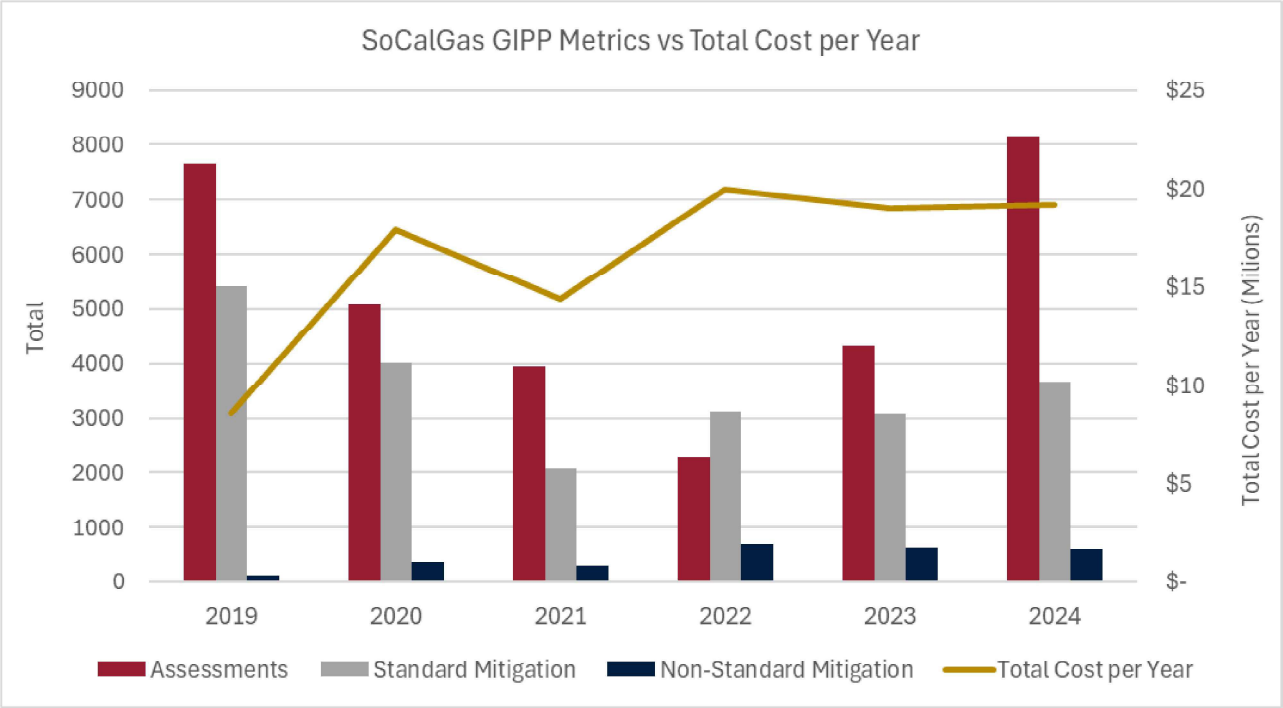


Figure 6-27: SoCalGas GIPP Metrics vs Total Cost per Year [33]

In Figure 6-28 below, the Program appears to be trending down since 2022 and below target which could signal lower risk exposure from vehicular damage. The Program is heavily weighted toward standard mitigation measures, but non-standard mitigation measures are critical for addressing unique or high-risk conditions which indicate SoCalGas' responsiveness to unique threats beyond routine measures.

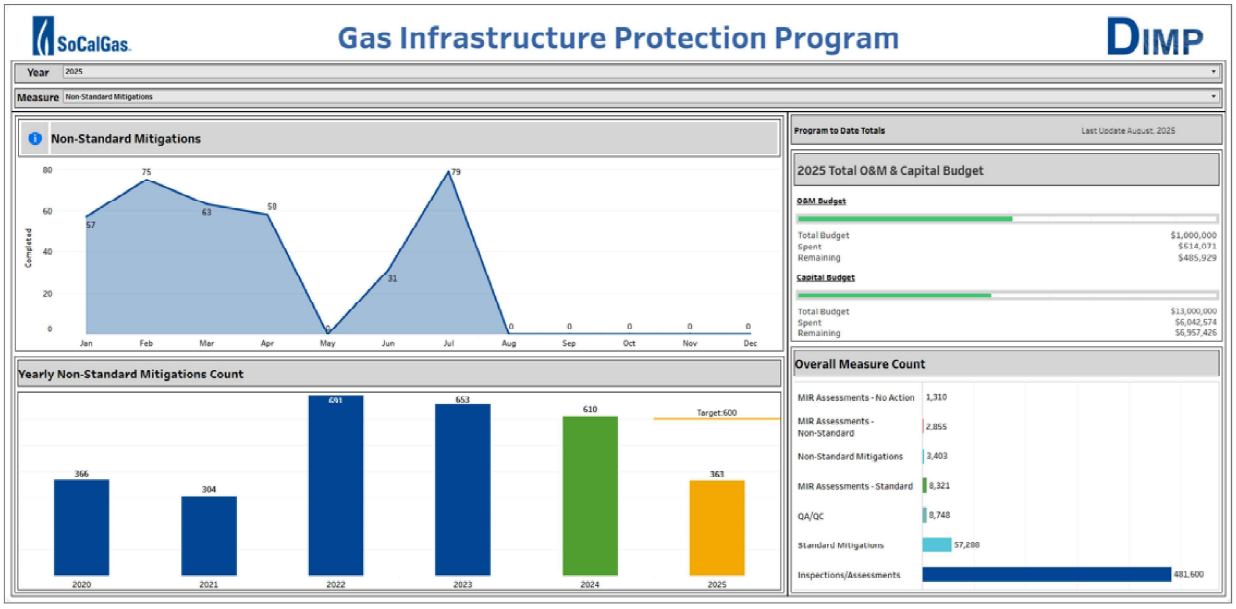


Figure 6-28: GIPP Dashboard [30]

6.17 Distribution Riser Inspection Program

The Distribution Riser Inspection Program (DRIP) is a key initiative within SoCalGas's DIMP, developed in response to Federal Requirements outlined in 49 CFR Part 192, Subpart P. This program specifically targets the risk of failure associated with anodeless risers (ALRs) due to corrosion. Per the requirements of 49 C.F.R., Part 192, §192.1007(b), Corrosion ("Corrosion Failure") including atmospheric corrosion shall be considered for each gas distribution pipeline.

ALRs, introduced in the 1970s as a replacement for traditional steel risers, connect underground plastic service lines to above-ground steel meter sets. When originally installed, the gas-carrying portion of the ALR was positioned above ground. Over time, changes in ground level caused by landscaping, hardscaping, or other environmental factors can result in this gas-carrying portion being buried or set too low. When in contact with soil, the exposed steel material can corrode, increasing the likelihood of failure.

Because ALRs are typically located adjacent to residences, a failure could lead to an unintentional gas release. If this release encounters an ignition source, the consequences could be severe, including property damage, injuries, or fatalities. DRIP addresses this risk by inspecting risers, identifying those at improper heights, and implementing corrective measures to maintain safety and compliance.

SoCalGas has leveraged research-driven strategies to address corrosion risks on anodeless risers (ALRs), both above ground and at ground level. These efforts have resulted in the adoption of an epoxy composite wrap as an alternative to full ALR replacement. The epoxy wrap creates a durable protective barrier for the exposed section of the riser, mitigating the impact of environmental conditions commonly associated with riser installations. Through DRIP, SoCalGas inspects ALRs

and, when corrosion-related threats are identified, applies the epoxy composite wrap to safeguard the above-ground portion of the riser and prevent potential failure.

The actual counts represent riser locations where mitigation has been completed, reducing the likelihood of premature riser failure and minimizing risks to public safety and property. The table below summarizes the number of DRIP inspections conducted between 2019 and 2023.

	GRC Forecasted	Actuals				
	2019	2019	2020	2021	2022	2023
Inspections	180,000 - 190,000	205,333	194,446	196,886	207,533	211,432

Figure 6-29: SoCalGas Distribution Riser Actual Inspections

Actual DRIP inspection counts exceeded the original GRC forecast for most years, with 205,333 inspections completed in 2019 compared to the forecasted range of 180,000–190,000 [34]. Subsequent years also maintained higher-than-expected volumes, with totals ranging from approximately 194,000 to over 211,000 inspections between 2020 and 2023. This increase reflects SoCalGas's proactive approach to risk mitigation under DIMP, driven by field conditions, regulatory expectations, and operational efficiencies. Performing more inspections than forecasted helps identify and remediate corrosion threats earlier, reducing the likelihood of riser failure and enhancing public safety.

The chart below (see Figure 6-30) illustrates the relationship between total leaks fixed on service risers and total spend from 2019 to 2024. With respect to DIMP, service risers represent a critical component because they are exposed to environmental conditions and customer activity, making them susceptible to leaks.

Key Observations:

- Leak Repairs Trend: The number of leaks fixed fluctuates between ~1,800 and ~2,050 annually. The highest repair activity occurred in 2020 and 2023, suggesting targeted mitigation efforts during those years.
- Program Costs: Total spend shows a gradual increase from about $14.25M in 2019 to a peak of $15.M in 2023, followed by a slight decline in 2024. This indicates that resource allocation has generally aligned with periods of higher leak remediation.
- Risk Mitigation Alignment: The increase in spending during 2022–2023 coincides with rising leak counts, reflecting proactive investment to address elevated risk. The slight decline in 2024 may suggest improved system integrity or efficiency gains from prior investments.

The data indicates that leak repairs on distribution service risers continue to be a significant risk driver within the SoCalGas distribution system. Spending patterns over the observed period demonstrate alignment with Subpart P requirements for risk-based prioritization, as higher investments correspond to periods of increased leak activity. While this trend reflects proactive risk mitigation, ongoing

monitoring remains critical to make certain that future reductions in spending do not compromise leak remediation efforts, particularly if leak counts remain elevated.

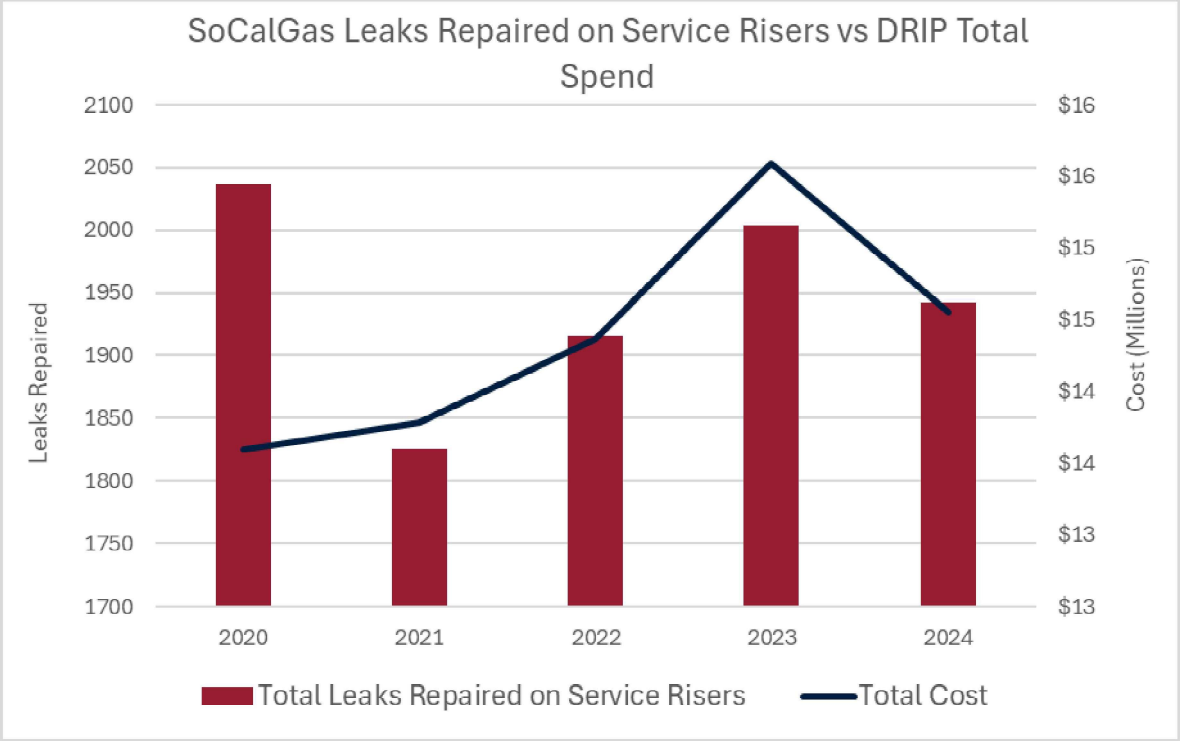


Figure 6-30: SoCalGas Leaks Repaired on Distribution Service Risers vs DRIP Total Spend [35]

The chart below (Figure 6-31) shows the normalized leak repair rate on service risers per 1,000 inspections compared to total spend from 2019 through 2024. Normalizing the leak data provides a clearer view of system integrity by accounting for inspection volume, which is a key DIMP principle for risk evaluation.

The normalized leak rate on service risers peaked in 2020 at more than 10.5 leaks per 1,000 inspections, signaling elevated risk during that period. By normalizing leaks per 1,000 inspections, the graph provides a clearer picture of system integrity by removing the influence of inspection volume. This approach highlights true performance trends rather than inspection effort alone. The spike in 2020 indicates a disproportionately high number of leaks relative to inspections, which may point to material or environmental factors during that period.

After 2020, leak rates declined through 2022, suggesting that mitigation measures were effective. However, the upward trend in 2023 and 2024 indicates a potential resurgence of risk factors that warrant attention. Spending patterns generally increased over the same timeframe, reaching a high in 2023 before tapering slightly in 2024. This alignment between investment and periods of higher normalized leak rates reflects a risk-based prioritization approach consistent with Subpart P requirements. The data demonstrates that service risers remain a persistent threat requiring ongoing monitoring and mitigation. While increased spending has correlated with reductions in leak rates, the

recent uptick underscores the need for continued investment and targeted strategies to mitigate leak risk from deteriorated risers.

Spending patterns show a lag behind changes in leak rates. While the highest normalized leak rate occurred in 2020, spending did not peak until 2023. This suggests that mitigation strategies require time to implement or that budget cycles influence when resources are allocated.

Despite elevated spending in 2023, normalized leak rates rose again in 2024, signaling that investment alone may not fully address underlying risks. Factors such as aging infrastructure or external conditions could be contributing to persistent issues.

The decline in leak rates from 2020 to 2022 during moderate spending increases may indicate efficiency gains. The subsequent rise in leaks despite higher investment raises questions about diminishing returns and evolving risk profiles that require ongoing evaluation.

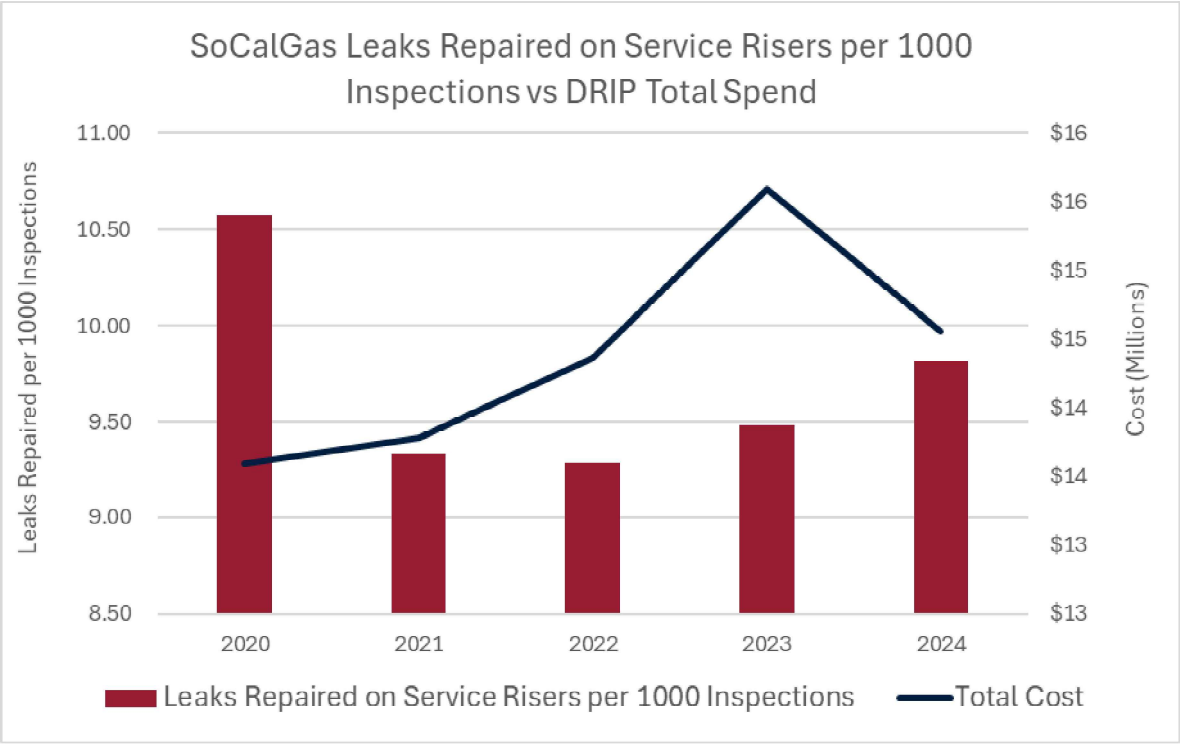


Figure 6-31: SoCalGas Leaks Repaired on Distribution Service Risers per 1000 Inspections vs DRIP Total Spend [35]

Advisory Bulletins such as ADB-2021-01, which emphasizes eliminating hazardous leaks and minimizing gas releases, reinforce the importance of corrosion control and leak remediation efforts under the Distribution Risk Identification Program (DRIP). Similarly, ADB-2016-04 highlights the need for effective corrosion protection under coatings, supporting SoCalGas's adoption of epoxy composite wraps for anodeless risers as an alternative to full replacement. Additionally, ADB-2022-01 addresses risks associated with earth movement and external forces, informing the Gas

Infrastructure Protection Program (GIPP) and its focus on preventing vehicular damage through barriers, relocations, and excess flow valves. By integrating these advisories into program design and execution, SoCalGas demonstrates alignment with federal expectations while proactively reducing threats to public safety and system reliability.

The DRIP program has delivered substantial results, including over 211,000 inspections completed in 2023, 1.9 million wax pad installations, and thousands of referrals for corrective action. These achievements demonstrate a strong commitment to mitigating distribution system risks and complying with CPUC and PHMSA safety mandates. However, the scale of activity, such as 50,848 low-in-earth riser referrals and 12,380 heavily corroded riser referrals, presents opportunities to enhance efficiency while maintaining safety and reliability.

To improve efficiency, the program should transition from a volume-driven approach to a risk-based, data-driven model. First, prioritizing high-risk conditions such as heavy corrosion and obstruction over lower-risk referrals will guarantee resources are allocated where they deliver the greatest impact. Second, optimizing preventive measures like wax pad[5] (wax tape) installations based on soil corrosivity and riser age, rather than blanket application, will reduce unnecessary work and material costs. SoCalGas installs wax pads on nearly all risers regardless of their environment or condition, this leads to 1.9M installations which is costly and labor-intensive. Many of these installations may be unnecessary if the riser is in low-corrosivity soil or is relatively new. Third, integrating inspection and repair activities, deploying crews to perform both tasks in high-risk areas, will minimize repeat mobilization and reduce operational overhead.

Further efficiency gains can be achieved through predictive analytics. SoCalGas has an opportunity to leverage inspection data to forecast riser failure probabilities, allowing a more proactive approach to scheduling distribution riser repairs, reducing emergency type response and improving cost control. Additionally, automating scheduling and grouping work geographically will streamline field operations and reduce travel time. Coordinating paving orders with repair schedules will also minimize redundant site visits and accelerate project completion, however this approach may present coordination and logistical challenges. Despite these challenges, implementing integrated planning tools and geographic work grouping can help overcome these obstacles and deliver efficiency gains.

By implementing these strategies, the distribution riser integrity program will evolve into a risk-prioritized, technology-enabled process that delivers measurable safety improvements at a lower cost. This approach aligns with CPUC directives for cost-effectiveness and continuous improvement, ensuring compliance while optimizing ratepayer value.

6.18 Damage Prevention Analyst Program

The Damage Prevention Analyst Program (DPAP) is a DIMP-driven PAAR initiative designed to reduce third-party damages to the Company's pipeline infrastructure. The program deploys field personnel who promote the importance of One-Call/USA/811 and safe excavation practices, assist with damage investigations, and gather excavation practice data directly from excavators.

[5] Refers to the application of a specialized flexible, corrosion-preventative coating to protect exposed metal piping using wax tape wrap to shield the riser.

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Although SI did not dive in depth to the SoCalGas Damage Prevention Program as a whole, SI was provided an overview of the dashboard (screenshot below) used in presenting performance metrics for damage prevention awareness activity. The metrics provided for the period of 2019 to 2025 present the following information:

- Outreach surveys dominate overall activity and drive spikes in activity.
- Ambassador 811 has influenced a measurable portion (216 surveys).
- Current average monthly rate (52) is much lower than historical peaks, suggesting either a seasonal slowdown or reduced campaign intensity.
- There's variability year-over-year, with major spikes likely tied to specific initiatives or construction activity.

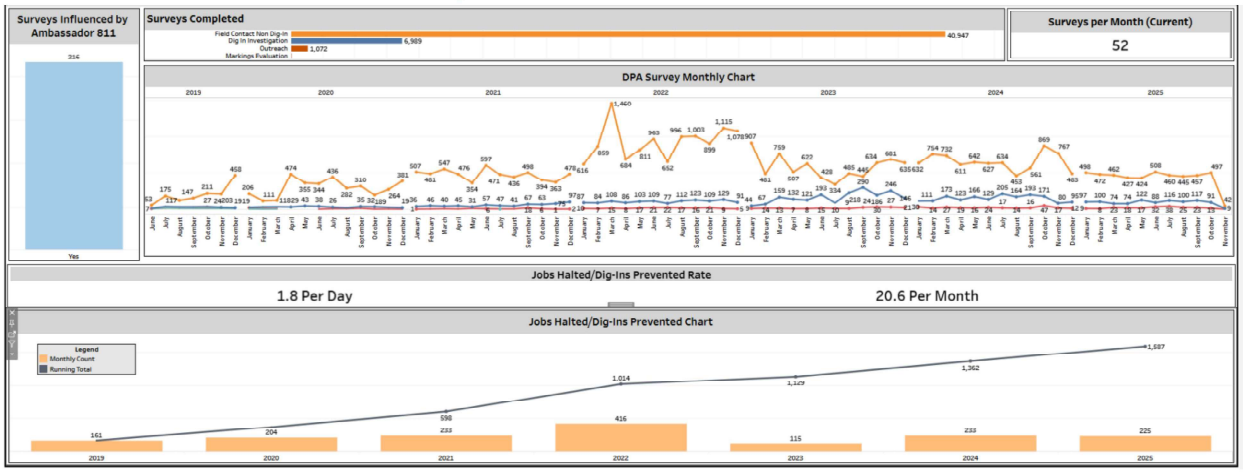


Figure 6-32: SoCal DPAP Analysis

The effectiveness of a damage prevention program depends on timely, targeted engagement with stakeholders who influence excavation practices. Historical data from Damage Prevention Analyst (DPA) surveys show clear seasonal spikes in outreach success, suggesting that timing and focus are critical. To maximize impact and reduce third-party damages, the program should adopt a multi-pronged approach:

- Analysis of past survey trends indicates that outreach efforts yield the greatest results during peak construction seasons. These periods coincide with increased excavation activity, which elevates the risk of dig-ins. By concentrating resources before and during these high-risk windows, such as spring, summer and fall, SoCalGas can deliver contractor training and reinforce One-Call/811 compliance during those off-peak and peak windows of construction activity. This proactive scheduling assures that safety messages reach excavators at the point of highest exposure.
- In SI's review of the damages by location, not all regions or contractors present equal risk. Historical dig-in data and survey results can identify geographic hotspots and contractors with

recurring compliance issues. SoCalGas has prioritized outreach in these areas allowing resources to be allocated where they will have the greatest impact.

- While traditional field contacts remain essential, digital marketing solutions can complement these efforts or provide more strategic opportunities to broaden outreach and improve efficiency. Email campaigns, SMS alerts, and social media messaging can reinforce safe excavation practices and One-Call requirements at scale. Digital engagement also provides measurable metrics, such as click-throughs, that can measure outreach and engagement with less reliance on additional physical field presence proving to be more cost-effective.
- Further, advanced analytics, such as SoCalGas's QRA model, can also help predict emerging risk patterns, enabling the program to shift from reactive to predictive damage prevention engagement.

Direct Costs		2019	2020	2021	2022	2023
Damage Prevention DPA	O&M	593,871	581,051	669,995	564,074	1,128,912
Damage Prevention-Media Campaign	O&M	454,990	447,298	432,010	494,335	500,349

Figure 6-33: Damage Prevention Analyst versus Media Campaign Costs [36]

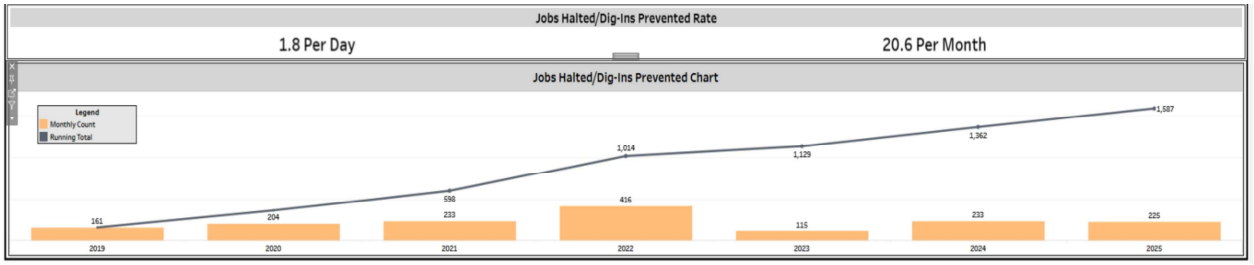


Figure 6-34: Jobs Halted/ Dig-Ins Prevented [37]

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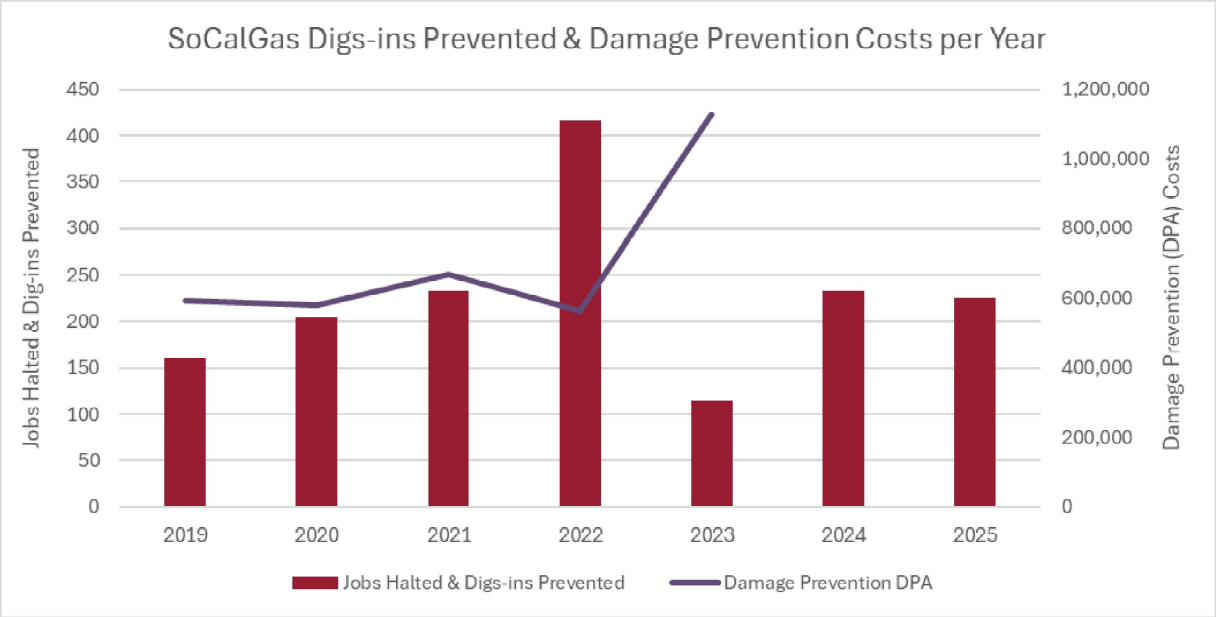


Figure 6-35: SoCalGas Dig-in Prevented & Damage Prevention Costs per Year [37]

Correlation of the two pieces of data in Figure 6-35 above shows that 2022 was the most cost-effective year, with high prevention (416) at moderate cost; however 2023 shows a major efficiency drop where DPA costs nearly doubled, but prevention fell by 72%. This suggests resource allocation or program execution deficiencies in 2023. However, spending budget alone does not guarantee effectiveness; timing, targeting, and outreach strategy matter. Historical data shows that optimized campaigns (2022) achieved better Return on Investment (ROI) than high-cost years. For continued focus on DPA effectiveness, SoCalGas should focus on:

- Data-driven targeting (contractors, regions with high risk).
- Pre-season and seasonal alignment (peak excavation periods).
- Performance monitoring to avoid diminishing returns.
- Digital engagement strategies.

Improving outreach efficiency isn't just about increasing the volume of activities but validating that every activity performed adds meaningful value toward achieving the overall objectives of the damage prevention program. Targeted timing, data-driven prioritization, and multi-channel communication reduce the likelihood of third-party damages, align with § 192.614 and § 192.1007(f) requirements, and optimize program costs. These strategies position the program to achieve measurable reductions in dig-in incidents while demonstrating regulatory compliance and safety to the public and Company personnel. Should DPA outreach costs continue to rise without sustained survey output, DPA program effectiveness needs review (e.g., resource allocation, ambassador impact).

6.19 Other PAAR Initiatives

The listed activities represent foundational elements of the SoCalGas DIMP, each designed to strengthen system integrity through accurate data, risk modeling, and proactive mitigation. These initiatives are highly effective because they address the elements of integrity management which are Knowledge of System (data quality) and Evaluation and Ranking of Risk (risk identification), while being cost-efficient compared to large-scale field project initiatives.

These projects rely on data research and IT-driven improvements rather than costly field replacements. By improving data accuracy and risk prioritization, SoCalGas avoids unnecessary capital spending and can focus resources on the highest-risk assets. For example, identifying Aldyl-A segments precisely prevents over-replacement of non-critical pipe, saving millions in capital costs. Additionally, centralizing data (e.g., SAP HANA) and improving workflows (e.g., Engineering Analysis Center (EAC) material sample tracking) streamlines processes across departments, an initiative currently in effect at SoCalGas. This activity reduces manual effort, accelerates decision-making, and supports real-time dashboards for risk ranking and compliance reporting.

Incident Record Research

SoCalGas properly documents and analyzes all leak and damage events using multiple sources (Leak Repair Orders, Noggin, WebEOC, GIS, SAP). This enables SoCalGas to identify and effectively address threats to the SoCalGas distribution system, reducing the likelihood of repeat incidents.

Pre-1986 Unknown PE Manufacturer Identification

SoCalGas is actively identifying unknown polyethylene manufacturers for vintage pipe segments to support more accurate risk modeling for Aldyl-A and other vintage polyethylene pipes enabling targeted replacement strategies.

Pre-1969 Plastic Main Review

SoCalGas validates historical records to confirm installation dates for plastic mains. In support of the Knowledge of System element, this is a current project to perform records research identifying the manufacturer (DuPont Aldyl-A, Plexco, etc.) of medium pressure polyethylene pipe installed in business districts, where the manufacturer is currently unknown. This effort incorporates the most accurate data into the risk model and prevents SoCalGas from allocating resources to pipe that does not exist.

Stranded Steel Segments Review

SoCalGas identifies steel pipe segments lacking cathodic protection records, allowing timely remediation before corrosion-related failures occur.

Engineering Analysis Center (EAC) Sample Management

A current process SoCalGas practices to enhance traceability of pipe samples for laboratory testing allowing material performance data to inform risk decisions. Where feasible, SoCalGas should make

use of opportunistic identification to determine whether an exposed pipe segment is Aldyl A and whether it has Low Ductility Inner Wall (LDIW) characteristics whenever sections are cut out [38].

SoCalGas field personnel are required in accordance with Gas Standard 184.0235 (PE Pipe Repair), to document all actions on every leak investigation. On an opportunistic basis, where it is necessary for a pipe cut-out during leak repair activities, SoCalGas field personnel will send failure pipe segment samples to the Company Engineering Analysis Center to perform a leak cause failure analysis.

Data Research for Incident Records

This is for researching incident records via an array of resources including Leak Repair Orders, Noggin, WebEOC, Geographic Information System (GIS), SAP, Work Order Packages, and others. Reviewers will investigate incidents of various types and verify the data is properly reported using available resources stated.

Technology Related Additional & Accelerated Actions

- Third Party Damage

  SoCalGas has developed and implemented a probabilistic risk analysis tool which utilized Monte Carlo simulations to predict the locations across the pipeline system which have an elevated risk of third-party damage occurring and resulting in a failure/leak. The algorithm incorporates historical excavation activity; population densities, roads, building footprints; and pipeline properties such as material properties and depths of cover. This risk solution prioritizes response to the threat of third party damage having an elevated risk of potential damage.

- Quantitative Risk Analyses

  SoCalGas is developing and implementing a quantitative risk model (QRA) which will utilize machine learning to prioritize pipeline replacements associated with the VIPP and BSRP. Once fully trained, SoCalGas also envisions the models will result in new cost efficiencies by fundamentally changing the approach to pipeline replacements from prioritizing wholesale replacements of certain materials to determining specific populations for replacement beyond which additional replacements may not be necessary based on risk.

- IMP Data Lake

  One of the most significant and difficult challenges for integrity management programs involves data integration. Data integration is crucial to evaluating the success of integrity management program strategies, processes, and methods as well as ensuring that threat and risk analyses are both determined with and validated using relevant data. The data integration challenge is only heightened for a company of the size of SoCalGas given the volume of activity that occurs across the pipeline system every day. SoCalGas has initiated the development of an Enterprise Asset Management (EAM) Data Lake, including spatial and non-spatial data, to provide a single source of data to more optimally inform evaluations of asset conditions, susceptibility to risks and threats, and evaluations of both the likelihood and consequence of failure.

6.20 Proactive Alignment with Current and Notice of Proposed Rulemakings

The actions described in the sections above demonstrate SoCalGas's proactive and systematic approach to risk management. By integrating advisory guidance into engineering standards, material specifications, and risk algorithms, SoCalGas has strengthened their ability to identify, prioritize, and mitigate threats to pipeline integrity. This target strategy ensures resources are allocated efficiently to address the highest-risk assets, reducing leak incidents and enhancing public safety.

Further, SoCalGas has taken a forward-looking approach to anticipated PHMSA regulations by embedding advanced leak detection and risk management practices into its Gas Safety Plan and operational programs. In anticipation of the **"**Gas Pipeline Leak Detection and Repair**"** rulemaking, SoCalGas has already deployed an Advanced Leak Detection Program (ALDP) leveraging state-of-the-art technologies such as aerial methane detection, continuous monitoring sensors, and enhanced mobile survey tools. Leak grading and repair prioritization have been integrated into risk-based models, ensuring that hazardous leaks are addressed within accelerated timelines. Additionally, survey frequency has been increased beyond current regulatory minimums, and failure investigation protocols have been strengthened to align with PHMSA's proposed requirements for leak cause analysis and preventive measures.

For Pipeline Safety: Safety of Gas Distribution Pipelines and Other Pipeline Safety Initiatives, Notice of Proposed Rulemaking (NPRM) [39], SoCalGas has also taken steps and continues to make progress on the completeness and accuracy of distribution pipeline records and is looking to enhance their existing digital platforms for asset data management. These updates reflect lessons learned from industry incidents and align with the Leonel Rondon Pipeline Safety Act provisions.

SoCalGas's alignment between increased high**-** risk segment replacement mileage and controlled leak repair rates demonstrates effective prioritization under DIMP requirements and a risk-based approach, focusing on resources where risk is greatest. SoCalGas is not only meeting regulatory requirements under 49 CFR §192.1007(d) but also delivering measurable improvements in system integrity proving their DIMP is effective. The VIPP and BSRP programs prioritize segments identified through DIMP risk modeling and include factors such as risk exposure, escalating O&M costs, aging workforce and knowledge loss and future cost pressures. By considering these factors holistically, SoCalGas's design replacement programs balance effectiveness (risk reduction), regulatory obligations, efficiency (aligning resources to long term goals) and cost-effectiveness (financial prudence) resulting in continued safety and reliability.

In the figure below, the data shows that 2021–2024 were strong years for pipeline replacement, with consistent mileage and capital investment supporting risk reduction goals. 2025 reflects a slowdown, possibly due to budget reallocation or program completion phases. Efficiency appears to improve in mid-2025, as higher mileage is achieved with lower monthly spending. Overall, the trend demonstrates effective execution of the VIPP and BSRP replacement programs, strong alignment with risk-based priorities, and cost-effectiveness gains through more strategic risk-based prioritization and resource utilization.

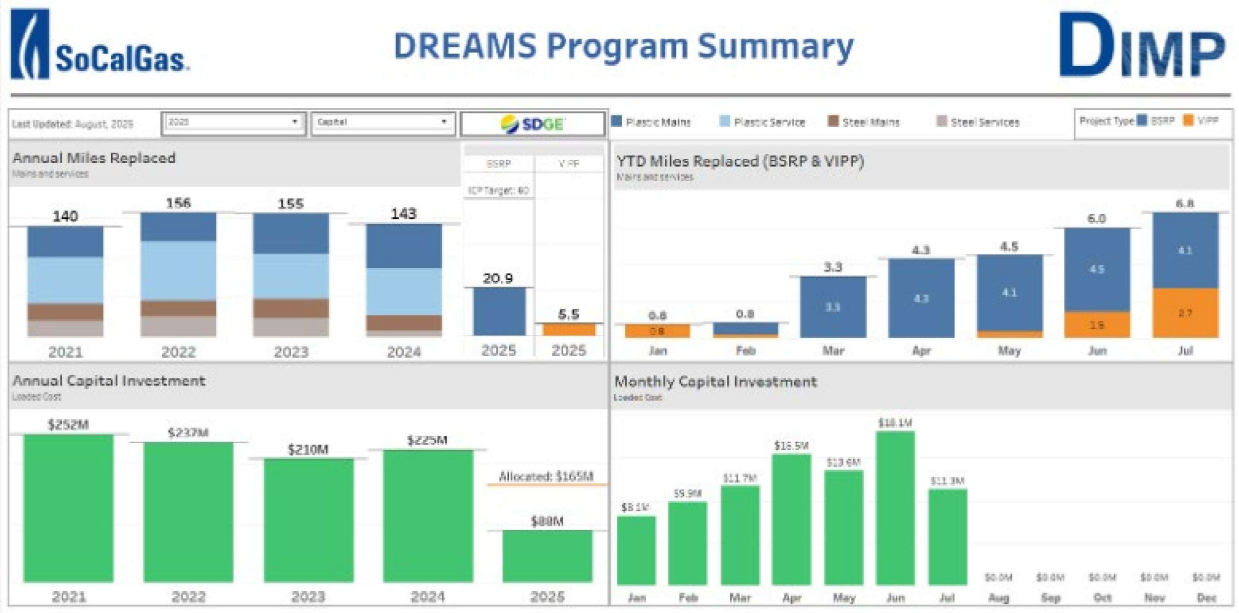


Figure 6-36: DREAMS Program Summary

6.21 DIMP Program Effectiveness Enhancements

SoCalGas can strengthen its program by improving current process and leveraging technology in the following areas:

Optimizing Data Management

- **Data Lake:** Centralize inspection, maintenance, and risk-related data for streamlined access and analysis. For example, SoCalGas is reviewing multiple leak management platforms with the goal of consolidating them into a single, integrated system. This consolidation improves data accuracy, eliminates redundancy, and allows leak data to directly inform risk models and prioritization strategies for PAARs and main replacement programs.
- **Data Integration:** Connect PAAR data with GIS systems to provide a comprehensive, location-based view of assets and risks.
- **Advanced data analytics and GIS-based risk modeling:** Enable proactive risk mitigation (PAARs and main replacements) and improved decision-making to anticipate potential threats before they occur.

Benchmarking

- SoCalGas actively participates in gas industry related roundtable discussion (i.e. American Gas Association (AGA)) and Peer Benchmarking reviews. Through discussion with SoCalGas, it was evident that the Company is an active participant in industry roundtable discussions (i.e. AGA roundtables) which demonstrate SoCalGas' commitment to industry leadership and continuous improvement. These forums provide unparalleled opportunities to exchange best practices, benchmark performance, and influence the development of standards and regulatory guidance. SoCalGas stays ahead of emerging risks and technologies

by engaging in these collaborative discussions. Additional effectiveness gains can be realized by further documenting SoCalGas' activities against industry lessons learned.

Advanced Continuous Improvement

- Supported by regular DIMP Plan reviews and threat specific investigations, SoCalGas could benefit in enhancing their feedback loop where insights from data analytics inform program adjustments to PAARs and/or main replacement such as VIPP and BSRP. This approach allows SoCalGas's current risk management strategies to remain adaptive and responsive to potential threats and operational data.
- Consolidating multiple DIMP chapters into a single, cohesive plan enhances the plan review process and strengthens operational consistency. A unified plan reduces duplication and complexity, making it easier for the DIMP team to follow and apply changes where needed in a consistent format. A unified plan would also provide clear, centralized guidance for the field and management teams supporting DIMP. This approach may improve documentation, strengthen the connection between program elements, and improve the plan review requirements if presented in a clear, integrated framework.

DIMP effectiveness is reflected in SoCalGas's improved distribution system reliability, enhanced public safety, and reduced environmental impact, positioning SoCalGas as leaders in pipeline integrity and regulatory compliance.

7.0 BENCHMARKING – DIMP

Benchmarking is a strategic tool for evaluating operational performance against peers or industry standards to gain insights that drive excellence. The purpose of this benchmarking exercise is to assess relative performance, highlight progress made by SoCalGas, and identify strategic priorities for future growth based on peer comparisons.

The purpose of this benchmarking exercise is to:

- Assess relative performance in terms of incident frequency and trends.
- Highlight progress made by SoCalGas in reducing leaks and incidents over time.
- Identify best practices from peers that can inform future strategies that enhance effectiveness, efficiency and cost-effectiveness.

This analysis provides actionable insights to support continuous improvement and reinforce SoCalGas's commitment to operational excellence and safety leadership.

7.1.1 SoCalGas and Peer Company Distribution Incidents

The chart below compares incident trends for SoCalGas against a peer company (Company B) from 2010 to 2024. Overall, SoCalGas demonstrates a significant improvement in safety performance over time, particularly when viewed against its peer operator.

From 2010 to 2014, Company B consistently reported higher incident counts than SoCalGas, peaking at 13 incidents in both 2010 and 2014. During this same period, SoCalGas began with relatively low incident levels (around 1 to 3 per year), but experienced a gradual increase, reaching 7 incidents in 2013. This early trend positioned SoCalGas favorably compared to its peer, though the upward movement signaled emerging challenges.

SoCalGas peaked at 8 incidents in 2017, while Company B remained higher overall, recording 10 incidents that same year. Moving average trends for both operators rose during this period, signaling the importance of continued attention to risk management and operational enhancements to incident response procedures or workforce training as an example.

The most notable progress occurred from 2019 to 2024. SoCalGas achieved a sharp reduction in incidents following 2020, stabilizing at 3 to 4 annually. Its moving average declined steadily, signaling sustained improvement.

Key Observations:

- SoCalGas has reduced incidents significantly since its peak in 2017, cutting them by more than half.
- The downward trend in the moving average suggests sustained improvement and speaks to the effectiveness of their operational procedures.

SoCalGas has demonstrated a strong commitment to safety improvement, reversing earlier upward trends and achieving consistent reductions in incidents. Continued focus on proactive risk management could position SoCalGas as an industry leader in effective performance.

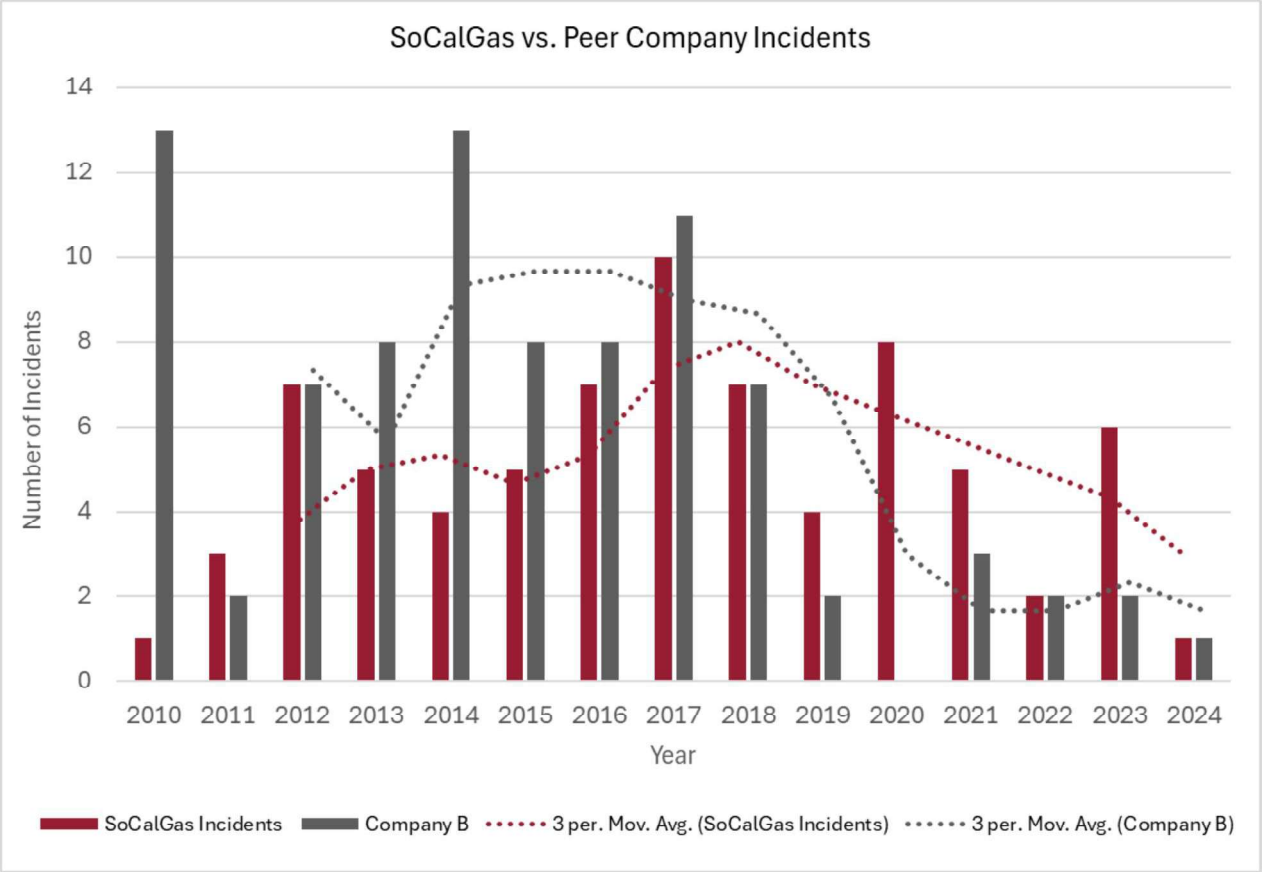


Figure 7-1: SoCalGas vs. Peer Company Incidents [2]

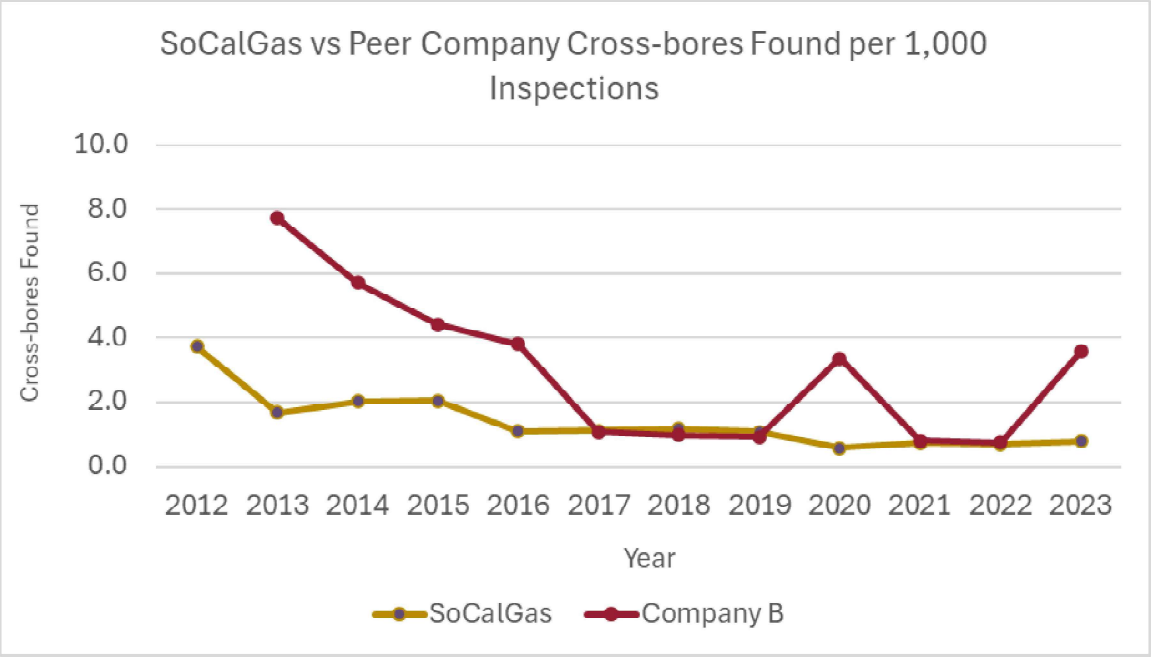


Figure 7-2: SoCalGas vs Peer Company Cross-bores Found per 1,000 Inspections [27]

7.1.2 SoCalGas and Peer Company Number of Excavation Damages per 1000 Excavation Tickets

The chart, Figure 7-3, below demonstrates a strong and sustained improvement in SoCalGas's performance in reducing excavation damages per 1,000 tickets over the past 15 years. In 2010, SoCalGas reported approximately 8 damages per 1,000 tickets, which was significantly above the national average and top performer benchmarks. However, the consistent decline underscores the effectiveness of SoCalGas's damage prevention program.

From 2010 through 2016, SoCalGas maintained relatively high damage rates, but beginning in 2017, the company initiated a clear downward trajectory. The moving average line illustrates consistent improvement year after year, with damages dropping by more than 60% from their peak. By 2024, SoCalGas is performing near the national average, signaling proactive damage prevention initiatives are effective.

Key Benchmarking Points:

- Enhanced Damage Prevention Programs such as expanded public awareness campaigns and contractor education.
- Stronger collaboration with excavators and local agencies to affirm compliance with safe digging practices.

SoCalGas's progress reflects a commitment to safety, continuous improvement, and alignment with damage prevention best practices across the gas industry.

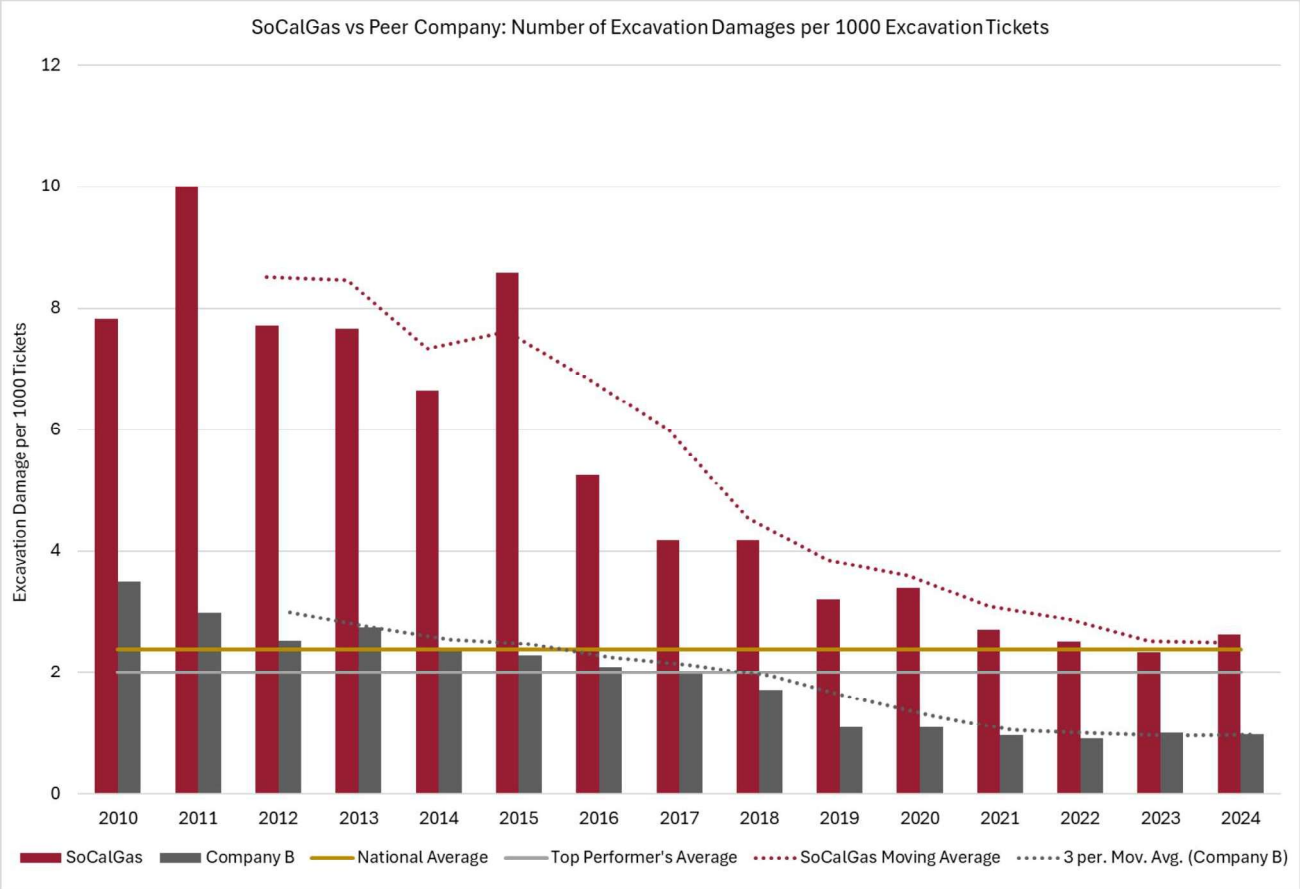


Figure 7-3: SoCalGas vs Peer Company: Number of Excavation Damages per 1000 Excavation Tickets [2]

7.1.3 Benchmarking Table: SoCalGas Aldyl-A Replacement and Peer Operator

The table below outlines the CPUC decision and rationale for Aldyl-A replacement programs in the state of California which points to some inconsistencies in how similar material-specific risks (Aldyl-A) identified by PHMSA, are considered. The Peer operator's accelerated Aldyl-A replacement program sets a precedent for addressing material-specific risks proactively. The CPUC approved this program based on PHMSA guidance, proven risk modeling, and the need to prevent failures.

While CPUC curtailed SoCalGas's accelerated program in Decision 24-12-074, citing lower relative risk and affordability concerns, the underlying safety issue remains the same: Aldyl-A is a known threat to pipeline integrity. Limiting SoCalGas to routine replacement under DIMP introduces unnecessary risk and delays the removal of vulnerable assets.

Key Benchmarking Points:

- SoCalGas and Peer Operator both operate legacy Aldyl-A pipe. If Peer Operator's risk warranted accelerated removal, SoCalGas should receive similar consideration to maintain uniform safety standards statewide.

- Peer Operator's program demonstrates feasibility and effectiveness. Benchmarking against this success shows that SoCalGas has achieved comparable outcomes with similar regulatory support.
- Risk-Based Consistency: Both utilities face material-specific hazards. Benchmarking establishes the idea that risk mitigation strategies are applied consistently, not based on utility size or affordability arguments alone.

Table 7-1: Benchmarking Aldyl-A Replacement Programs – SoCalGas and Peer Operator

Metric	Peer Operator	SoCalGas (D.24-12-074)
Program Type	Accelerated Aldyl-A Replacement	Integrated into DIMP (no acceleration)
Annual Funding	$46–$50 million/year	$46.394M (2022), $47.010M (2023), $0 (2024)
Mileage Target	~30 miles/year	~15–20 miles/year (historical average)
Program Continuation	Approved through 2026	Accelerated program ended after 2023
Risk Basis	Material-specific hazard (PHMSA advisory)	Lower priority vs. bare steel; affordability focus
Regulatory Rationale	Safety priority due to brittle cracking risk	Cost-effectiveness and holistic risk management

If Peer Operator's Aldyl-A segments warrant accelerated replacement due to safety risks, then SoCalGas's Aldyl-A inventory should be treated with the same urgency. A consistent regulatory approach affirms equitable safety standards, reduces long-term risk, and aligns with federal and state integrity mandates.

8.0 PROGRAM MODERNIZATION AND EFFICIENCY IMPROVEMENTS

SoCalGas has invested in data-driven tools to prioritize pipe replacements and optimize capital expenditures to improve efficiency and maximize return on investments for the purpose of pipeline safety.

8.1 Enhancing DIMP Data and Analytics

SoCalGas is undertaking a comprehensive initiative to strengthen the quality and utility of data within its DIMP. This effort focuses on improving asset management decisions through advanced analytics and predictive modeling. By investing in enhanced data integration and analytics capabilities, SoCalGas aims to enable more informed, proactive decision-making that supports regulatory compliance and optimizes maintenance strategies.

The focus of this initiative is the application of machine learning (ML) and artificial intelligence (AI) to the extensive datasets collected over the past decade. SoCalGas looks to leverage these technologies and advanced analytics to uncover hidden patterns, improve predictive accuracy, and

automate decision-making processes to historical datasets. Current Use Case datasets being reviewed include:

- One-Call Ticket Assessment
- Leak Cause
- Regulator Station Pipelines
- Damage Data Reconciliation
- Cathodic Protection
- Threat Specific Investigations (Data Correlation Automation)

These advancements will not only enhance risk assessment but also drive operational efficiency and cost-effectiveness by prioritizing resources where they deliver the greatest impact. Ultimately, this data-driven approach positions SoCalGas to reduce leaks, extend asset life, and maintain system reliability in alignment with regulatory expectations and industry best practices.

8.2 GIS Enhancements

SoCalGas transitioned from the ArcGIS Pipeline Data Model (APDM) to Esri's Utility and Pipeline Data Model (UPDM) with ArcGIS Pipeline Referencing (APR). This GIS enhancement project enabled real-time synchronization of high-pressure asset data across GIS and SAP systems, improved emergency response and maintenance planning, and established a single source of truth for asset data including maintenance history and documentation.

8.3 Data Lake Project

SoCalGas is developing an enterprise "data lake" which compiles and integrates data from many sources around the company into one location that subsequently offers a variety of reporting, mapping and data analysis capabilities. This technological improvement will streamline data integration for risk assessments supporting DIMP and TIMP thus resulting in continued effectiveness and efficiency gains for both Programs.

8.4 IM Task Management Solution Replacement

SoCalGas has utilized their existing IM task management system for over ten years to track compliance related activities performed under DIMP and TIMP. While incremental improvements have been made over years, internal audits have helped recognize the need for a change. The goal of the replacement system is to integrate the activity tracking with existing enterprise platforms and to streamline the task tracking for less administrative burden.

8.5 Risk Modeling

SoCalGas focuses on making continual improvements to the risk evaluation of specific threats using new and innovative methods that support data-driven decision making in their IMPs. SoCalGas developed a supplemental Quantitative Risk Assessment (QRA) model for medium-pressure mains under DIMP and for transmission lines under TIMP. The model uses internal data (e.g., leak records,

cathodic protection, pipeline segments) and external data sources to quantify the probability and consequence of pipeline failures. By integrating QRA results into their base relative risk and threat identification models, SoCalGas has moved beyond using simple yes/no classifications to a more nuanced approach that categorizes inputs across a susceptibility range. This provides a higher standard of precision and accountability in risk-based decision making, which is why the QRA results are used to prioritize mitigations such as pipe replacements. A full transition to the QRA model is planned for future years as part of SoCalGas's strategy to balance efficiency with cost-effectiveness in the execution of their integrity programs.

9.0 OBSERVATIONS FOR ENHANCEMENT OF PROGRAM OBJECTIVES

During SI's Review, SoCalGas personnel demonstrated the Company's commitment to the efficient, safe and reliable delivery of natural gas to the Company's customers, to protect the safety of the public and to comply with applicable pipeline safety regulations. The Company has well-managed IM Programs, well written Transmission and Distribution IM Plans and qualified and competent personnel that are dedicated to prudent management of both IM Programs. Company personnel demonstrated a commitment to continuous improvement of both IM Programs.

9.1 TIMP Recommendations

The following recommendations are specific to SoCalGas's TIMP.

9.1.1 SCC Threat Evaluation

Section 5.8.2 provides background on SoCalGas's current approach to the SCC threat and why that changed in recent years based on regulatory updates. SI applauds SoCalGas's leading approach to utilizing EMAT and complementary SCCDA to achieve assessments for both the axial and circumferential SCC sub-threats. Now armed with several years of assessment data and the SCC field findings, there may be cost-effectiveness improvements possible during the threat evaluation and assessment method selection processes. SCCDA is generally a lower cost option to assess the threat; however, it is not as comprehensive because it only identifies areas in which SCC is likely to occur versus EMAT which identifies both the dimensions of crack-like anomalies and their actual locations. EMAT can also be used to assess crack-like manufacturing defects in the pipe long seam, making it an attractive choice for segments with that threat too, and further complicating the tool selection process. SoCalGas has already been working to improve the accuracy of their SCC threat identification and risk analysis processes, but SI still wants to highlight this topic as a recommendation due to the significance to the overall program. Further enhancement of the SCC risk assessment towards a risk-based approach to the EMAT vs. SCCDA decision will help SoCalGas balance the assessment requirements for SCC with the high costs of EMAT, while still maintaining regulatory compliance and ensuring pipeline safety.

Recommendation:

- SI recommends that SoCalGas continue enhancement of their SCC risk assessment process, supporting cost-effective decision-making.

9.1.2 Validation Spools

Validation spools are short sections of pipe placed into an existing pipeline that contain manufactured defects of various dimensions. The defects in the validation spool are analyzed by the ILI vendor during an integrity assessment, provided on the final report, and subsequently used by the operator to validate ILI tool performance without the need to perform validation digs. Any reduction in digs for SoCalGas would quickly result in large cost savings, as the congested and environmentally sensitive areas that they operate translate to high average dig costs. While there is an upfront cost for purchasing or manufacturing the validation spools, it is a one-time expense that generates returns by saving even one dig.

The use of validation spools also results in more efficient and cost-effective qualifications of new ILI vendors and technologies. Validation spools can be added to most ILI projects that use temporary traps, since the validation spool can be placed between the temporary traps and the existing pipeline, if space allows. They can also be inserted into the existing buried pipeline during planned replacement projects (integrity repairs, valve replacements, pressure test tie-ins, etc.). SoCalGas has already effectively utilized validation spools on several projects with robotic ILI to reduce validation digs in challenging locations. The use of validation spools outside of robotic ILIs is not a common practice but it is starting to gain traction as operators seek to increase cost-effectiveness.

Recommendation:

- SI recommend that SoCalGas adopt the use of validation spools more broadly to improve their cost effectiveness.

9.1.3 Composite Sleeves

There are many different types of composite sleeves available for operators to use when repairing a variety of pipeline defects. Composite sleeves are an industry-proven technology to restore pipelines to their original strength. They offer faster repair times and lower costs than the traditional repair methods of pipe replacement or metallic sleeves, as the pipeline does not need to be taken out of service and there is no welding required. Care must be taken to follow proper installation steps according to the manufacturer's requirements, so corresponding OQ tasks are essential for field installation crews to install the repairs correctly. The traditional defects repaired by composite sleeves are external corrosion and dents, but recent testing has also qualified them for repair of girth weld defects, crack-like defects in the long seam, and SCC. A tangential benefit is that the repaired defects can be used for future ILI validation, like the validation spools discussed above. Composite sleeve repairs have the potential to reduce remediation costs compared to metallic sleeves and cut-out repairs. SoCalGas is currently evaluating the use of composite sleeves, so this recommendation is aimed to move the evaluation towards implementation.

Recommendation:

- SI recommends that SoCalGas evaluate composite sleeve repairs by reviewing vendors' performance data and testing reports in compliance with ASME PCC-2, updating their repair and OQ procedures, and incorporating them as a repair option.

9.1.4 Compressive Steel Sleeves

Compressive sleeve repairs are an industry-proven technology to restore pipelines to their original strength that offer similar repair capabilities to both composite and Type-B sleeves, but with improved performance for crack-like defects. There is potential to save money utilizing compressive sleeves compared to Type-B sleeves or cut-out repairs as there is no live-line welding required. The sleeve is fit up snugly to the carrier pipe, heated using propane torches, clamped down tightly, then welded to itself (not the carrier pipe) and allowed to cool. This installation process results in a sleeve that is compressing the carrier pipeline, completely negating the hoop stresses that drive crack growth. Since SoCalGas is currently repairing crack-like manufacturing defects in the long seam by pipe replacements, utilizing compressive sleeves as a repair method would improve their cost-effectiveness when performing these repairs.

Recommendation:

- SI recommends that SoCalGas evaluate compressive sleeve repairs by reviewing vendors' performance data and testing reports in compliance with ASME PCC-2, updating their repair and OQ procedures, and incorporating them as a repair option.

9.1.5 Annual Program Review Process

SoCalGas performs an annual review of their TIMP performance in accordance with TIMP.15 Quality Assurance Plan. This review is performed at a high-level and summarizes significant process changes, changes to position papers, data requests fulfilled by the team, a simple overview of PHMSA Annual Report data, overdue IM tasks, and corrective actions performed that year.

Recommendation:

- SI recommends that SoCalGas improve this annual review process by adding more performance metrics (which are already being collected by the TIMP team), providing further commentary on performance trends within their program, highlights of program accomplishments and challenges, and new strategies, processes, or actions to address these challenges. While the current process meets regulatory requirements, SI believes that a more robust view of annual performance would be valuable to internal and external stakeholders.

9.2 DIMP Recommendations

The review of the SoCalGas Distribution Integrity Management Program (DIMP) highlights several areas where the program demonstrates strong commitment and where opportunities exist to enhance alignment with regulatory expectations and industry best practices.

9.2.1 Program Structure and Governance

The DIMP benefits from a dedicated workforce who provide a strong platform for successful execution of the DIMP Program elements. To further strengthen program performance, there is an opportunity to clarify roles and responsibilities. Doing so can help improve coordination and establish consistent execution across all functions.

The current DIMP Plan incorporates "Responsibilities"; however, there is no documentation defining IM Program Staff "qualifications" as well as the "qualifications" of SoCalGas's Subject Matter Experts (SME's). Qualifications, in this case, are information defined by roles, years of experience, and knowledge of gas distribution systems. The IM Plan should have a current list of qualified SoCalGas SMEs.

Recommendations:

- Define qualifications for SMEs (years of experience, technical expertise).
- Create a RACI matrix (Responsible, Accountable, Consulted, Informed) for all DIMP tasks to show clear accountability.
- Identify all roles and responsibilities in the DIMP Plan, not just "Integrity Personnel".

9.2.2 Metrics and Performance Monitoring

The program tracks both code-required and internally developed metrics (DIMP 6), which is a positive step toward comprehensive performance monitoring. The connection between these metrics and actionable improvements could be made more distinct. For example, while leak data is monitored over a five-year average, the process for using this information to evaluate program effectiveness and inform decision-making should be formally documented.

Recommendations:

- Document reviews of the DIMP performance metrics including five-year comprehensive reviews as well as annual reviews to establish the overall effectiveness of the DIMP program and related strategies, methods, and tactics. These reviews should also document if significant new information has been gained which warrants changes in strategies, methods, and actions should also be documented.

9.2.3 System Knowledge and Data Management

SI's review suggests that initiatives related to knowledge of system could be enhanced. Specifically, the DIMP should benefit from a more structured approach to gathering data and information (e.g., pipe and material properties, installation dates, and operating conditions, etc.) during performance of daily field activities. Clearly defining and documenting the processes for identifying unknown assets and integrating that data into risk assessments will strengthen confidence in system integrity and support proactive risk management.

Recommendations:

- Formally document the existing process SoCalGas utilizes for improving system knowledge during normal operations, maintenance, and construction activities.
- Expand data capture of material properties (e.g., wall thickness/Standard Dimension Ratio (SDR), lot number, pipe specification, etc.) for new installations of steel and plastic mains and service lines.

- Implement a data governance process to further confirm accuracy and completeness of records.

9.2.4 Threat Identification

Threat identification follows PHMSA's eight primary categories and considers both existing and new or emerging potential threats. SoCalGas reviews internal data sources (leak history, corrosion control records, excavation damage reports) and external sources (PHMSA advisory bulletins, industry best practices). Threats are documented and updated periodically based on new information.

To build on current strengths and further enhance compliance and safety, SoCalGas may consider adopting a structured process for integrating additional items into its DIMP. This could include:

- Advisory Bulletins
  Establishing a formal mechanism to track and evaluate PHMSA advisory bulletins and incorporate applicable guidance into procedures, training, and risk models.
- NTSB Safety Recommendations
  Developing a protocol for reviewing NTSB recommendations and integrating lessons learned into Management of Change processes and emergency response planning.
- Industry Best Practices
  Benchmarking against AGA, API, and ASME guidance, including API RP 1173 and AGA PSMS principles, to identify areas of improvement in risk assessment, corrosion control, and emergency preparedness. SoCalGas actively participates in industry peer reviews (i.e. AGA Benchmarking as noted in Section 6.11).
- Continuous Improvement Framework
  Embedding these inputs into a cycle of periodic audits, management reviews, and performance evaluations to verify effectiveness and maintain alignment with evolving standards.

The monitoring and evaluation of potential threats from external sources must be documented.

Recommendations:

- Further refine SoCalGas' existing threat identification procedure (DIMP 3C) to specify data sources and review frequency.
- Incorporate reviews of sub-threats (e.g., atmospheric corrosion, frost heave, etc.) and emerging threats (e.g., review of Advisory Bulletins etc.) for more granular risk assessment.
- Establish a formal process for integrating external advisory bulletins and documenting applicability decisions. The DIMP should evaluate emerging threats for applicability across the system, and any results should be documented in the DIMP Plan or by reference.

9.2.5 Reporting and Documentation

Required reports, including annual report submissions, are prepared and submitted per regulatory timelines. Documentation supporting program implementation, risk evaluations, and performance monitoring is maintained for audit readiness.

Recommendations:

- Maintain a centralized repository for audit-ready documentation.

Key components of the repository include, but not limited to:

- IM Plan and Revisions
  - Current version of the Integrity Management Plan.
  - Revision history with dates, approvals, and rationale for changes.
- Risk Model Documentation
  - Methodology, weighting factors, and validation records.
  - SME review notes and discrepancy resolution logs.
- Threat Identification Records
  - Data sources used (internal and external).
  - Evidence of periodic updates and incorporation of new threats.
- Additional and Accelerated Actions
  - List of measures linked to specific threats and risk scores.
  - Implementation schedules and completion status.
- Performance Measures
  - Baseline data and trending analysis.
  - Reports showing effectiveness of risk reduction actions.
- Training and Qualifications
  - Attendance records for DIMP training sessions.
  - SME qualification documentation.
- Regulatory Reports
  - Annual PHMSA submissions.
  - Mechanical fitting failure reports.
- Audit Responses
  - Previous audit findings and corrective actions.
  - Evidence of continuous improvement.

9.2.6 Program Scope and Integration

Elements such as damage prevention, leak management, public awareness, and operator qualification are critical to overall safety performance. Incorporating these components more explicitly into the DIMP plan will help demonstrate a holistic approach to integrity management and align with regulatory expectations. For example, SoCalGas' leak management program establishes that all gas leaks are investigated, classified, monitored, repaired, and reported. To prove SoCalGas has an effective leak management program, SI recommends SoCalGas compile leak related data including leakage surveys, re-checks, and repairs along with designated timelines into a comprehensive report to show evidence that the program is effective. The process for trending and analysis of those trends must include a comprehensive review of the data to verify validity.

Recommendations:

- The Program Managers of these programs should:
  - Annually evaluate program effectiveness and document the results, findings and recommendations, etc. and define opportunities to enhance and improve the effectiveness of these programs; and
  - Provide results of these program evaluations as well as related status of improvement initiatives to the TIMP and DIMP Managers.
- Assignment of responsibility, by organization and or role(s), for implementing actions.

9.2.7 Annual Review Requirement

As part of regulatory compliance, SoCalGas conducts an annual review of performance measures. Where acceptance criteria are not met or exceeded, threats and risks should be reassessed through comprehensive analysis and documentation to confirm whether current measures remain effective and whether additional actions beyond code requirements are warranted. These reviews should also evaluate PAAR performance metrics or determine if a PAAR is necessary to address emerging issues or improve program performance.

Recommendations:

The DIMP should document a formal process to detail the basis for decisions and be documented.

Decisions include:

a. Which measures to reduce risk to implement

b. Schedule for implementation of the measure(s) to reduce risk

c. Performance metrics for the measures to reduce risk

The process did not adequately document a justification for decisions regarding additional preventive and mitigative measures.

10.0 CONCLUSION

Structural Integrity Associates, Inc. (SI) conducted an independent review of SoCalGas's TIMP and DIMP, focusing on their effectiveness, operational efficiency, and cost-effectiveness. The evaluation confirms that both programs are achieving their core objectives, enhancing safety, reducing risk, and maintaining compliance, while strategically managing resources to deliver measurable value.

Effectiveness is evident in the programs' ability to reduce leak rates, improve system reliability, and meet stringent regulatory requirements. TIMP realizes significant risk reductions through proactive risk modeling, integrity assessments, repair of defects, and preventive measures, while DIMP delivers localized risk mitigation and a broad range of Additional and Accelerated Actions that directly improve public safety.

Efficiency is reflected in structured planning and risk-based prioritization. TIMP follows a rigorous project management process to ensure consistent execution, while DIMP leverages operational agility to respond quickly to emerging risks. Both programs optimize workflows and resource allocation, minimizing redundancy and improving responsiveness.

Cost-effectiveness is achieved through targeted investments that prevent catastrophic failures, reduce emergency repair costs, and avoid regulatory penalties. TIMP's upfront investments in system retrofits and integrity assessments extend asset life, while DIMP's risk-based capital projects and advanced leak detection technologies lower long-term maintenance costs and support California's climate goals.

Audit results, performance metrics, and observed trends, such as declining leak rates and strategic replacement activities, underscore the success of these programs. While both programs are mature and well-managed, opportunities remain to further enhance efficiency and cost-effectiveness through advanced analytics, digital tools, and industry best practices. SoCalGas is currently in the process of implementing or reviewing new processes that will continue to drive improvements. These strategies will position SoCalGas to sustain compliance, strengthen risk management, and continue leading in safety and reliability.

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APPENDIX G

SUPPLEMENTAL APPENDIX CAPITAL CAVA INVESTMENT PROPOSALS

Appendix G
CAVA Investment Proposals

This Appendix provides detail for the CAVA Investment Proposals and capital workpaper (A0302A), as prescribed in Commission guidelines adopted in Decision (D.) 24-08-005[1] of the Climate Change Adaptation OIR (R.18-04-019).[2]

I. BACKGROUND

The State of California is a global leader in setting proactive policy and developing scientific guidance to address climate change. As noted by the California Public Utilities Commission (Commission) "robust climate adaptation planning in a time of worsening climate impacts is a prudent next step to ensure the safety and reliability of all investor-owned public utilities."[3] Foundational to climate adaptation is sound science including rigorous, comprehensive climate change scenarios at a scale that enable California's energy sector to incorporate recommendations and information to inform vulnerability assessments and adaptation strategies.[4]

In 2018, the Commission issued the Climate Change Adaptation OIR. Three subsequent Decisions (D.19-10-054, D.20-08-046, D.24-08-005) mandate how investor-owned gas and electric utilities (IOUs) in California should assess their vulnerabilities to climate risks. D.20-08-046 set requirements for filing a climate adaptation vulnerability assessment (CAVA). SoCalGas performed robust stakeholder engagement, including with disadvantaged vulnerable communities and Tribal nations, and integrated the input to develop its first CAVA, submitted in May 2025. The findings of the CAVA, as shown in CAVA Table 5-1: Priorities for Project-Level Adaptation Analysis and Table 5-2: Potential Adaptation Strategies of the CAVA (Section II. and III., respectively), identify vulnerabilities and have informed this General Rate Case and underpin the cost forecast described in the capital workpaper (A0302A).

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2 R.18-04-019, Order Instituting Rulemaking (OIR) to Consider Strategies and Guidance for Climate Change Adaptation (September 24, 2020) (Climate Change Adaptation OIR).

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4 California Energy Commission (CEC), *California's Fourth Climate Change Assessment – Statewide Summary Report* (2018), *available at:* https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf

A. List of Vulnerabilities

The CAVA applies forward-looking climate science to SoCalGas's gas system and evaluates assets using climate exposure, infrastructure sensitivity, vulnerability, and adaptive capacity scores. SoCalGas's CAVA considers the 2023, 2030, 2050, and 2070 time periods in its assessment. Assets were categorized into the following five (5) simplified asset classes: (1) high-pressure pipelines, (2) medium-pressure pipelines, (3) facilities, (4) regulator stations, compressors, and valves, and (5) storage fields. These asset classes were then evaluated according to the Shared Socioeconomic Pathway (SSP) Scenario 3-7.0. These inputs generate climate change risk scores that identify priority asset-hazard vulnerabilities across the system. Based on these results, SoCalGas developed CAVA Investment Proposals aligned with the vulnerabilities and adaptation options identified in the CAVA. The proposals were then vetted across operational departments.

B. CAVA Investment Proposals

The CAVA Investment Proposals are designed to proactively address climate change impacts to existing infrastructure and are grounded in the 2025 CAVA and D.24-08-005. Programmatic oversight will be provided through the Climate Adaptation and Geohazard Management Program (CAGMP), with annual reporting via CAVA Tier 1 Advice Letters. Each CAVA Investment Proposal demonstrates:

- **Incrementality**: the infrastructure investment proposals presented in this chapter are demonstrably incremental to investments approved for reliability, safety, and resiliency purposes.
- **Prioritization**: infrastructure is classified in SoCalGas's CAVA as high-risk and low-adaptive capacity within the 10-20-year analytical timeframe.
- **Cost-effectiveness**: relative to alternative adaptation options identified in the CAVA.
- **Justification of Investment**: an explanation of why CAVA investments cannot be included in certain spending categories and how IOUs will make sure those costs are not duplicative of other approved or proposed costs.

1. Installation of New Strain Gauges

As the risk of elevated rainfall due to climate change is expected to increase, so does the potential for landslides and inland flooding. Strain gauges measure the deformation (strain) of

steel when force is applied, through changes in its internal tensioned wire. The strain gauge is sensitive to small changes in an object's geometry, enabling it to calculate the amount of induced stress by measuring changes in resistance.[5] Strain gauges can be monitored remotely, and in the event a pipeline experiences increased strain, the gauge can trigger notifications, enabling SoCalGas to proactively monitor and address pipelines that have a greater risk of damage due to landslides and erosion.

SoCalGas proposes installing two strain gauges on Central Coast transmission pipelines identified in the CAVA as high risk. These installations are incremental to existing patrols, cost-effective relative to alternatives such as frequent trenching, and support mitigation of identified high-pressure system risks.

- **Incrementality**: The two proposed strain gauges will supplement field observation data obtained through routine pipeline patrols performed by SoCalGas Operations for safety purposes by providing real-time ground movement information.
- **Prioritization**: the locations were identified in the CAVA as high-risk and low-adaptive capacity within the 10-20-year analytical timeframe (*see* CAVA, Section 4.12 Asset Vulnerability Score Results).
- **Cost-effectiveness**: strain gauges are identified in CAVA as a potential adaptation strategy. Additionally, strain gauges are more cost-effective compared to alternative adaptation options, such as open trench/visual inspections of the pipe.
- **Justification of Investment**: strain gauges can provide supplemental information to monitor pipelines, or landslide and erosion risk, beyond routine safety pipeline patrols and may alleviate RAMP risks to the High Pressure Gas System.

2. LIDAR of High and Medium Pressure Pipelines

Light Detection and Ranging (LiDAR) is a technology used to create high-resolution models of ground elevation with a vertical accuracy of 10 centimeters (4 inches). LiDAR equipment is typically mounted on a small aircraft or drone and includes a laser scanner, a Global Positioning System (GPS), and an Inertial Navigation System (INS). The laser scanner transmits brief pulses of light to the ground surface. Those pulses are reflected or scattered back,

[5] Durham Geo Slope Indicator (DGSI), *Spot-Weldable Strain Gauges*, *available at:* www.durhamgeo.com/product-wp/spot-weldable-strain-gauges/.

and their travel time is used to calculate the distance between the laser scanner and the ground.[6] SoCalGas intends to use this technology to survey its high-pressure and medium-pressure pipelines for climate-related hazards, such as erosion. The data would provide baseline, linking ground surface data to high-resolution aerial imagery, enabling targeted pipeline evaluation and, if necessary, remediation activities. These actions would be coordinated by SoCalGas's Aviation Services.[7] LiDAR is incremental to current two-dimensional aerial surveys and will support targeted inspections and remediation. Surveys will focus on pipeline segments identified as high risk in the CAVA and may be adjusted based on findings. LiDAR is often more cost effective and safer than additional ground patrols in remote areas.

- **Incrementality**: SoCalGas currently conducts aerial surveys of high-pressure pipelines to obtain two-dimensional high-resolution imagery. The LiDAR data would be incremental and complementary to the ongoing aerial mapping because it will provide actual three-dimensional geospatial surface data to better understand climate-enhanced erosion and landslide and inland flooding movement due to rainfall. To the extent feasible, SoCalGas will leverage other aerial mapping efforts to coordinate flights and data collection.[8]
- **Prioritization**: Aerial LiDAR mapping will be performed over high and medium pressure pipelines evaluated in CAVA to assess whether areas identified as high-risk and low-adaptive capacity within the 10-20-year analytical timeframe have changed. Aerial LiDAR may change based on the findings of each assessment and be adjusted (reduced or expanded) as appropriate.
- **Cost-effectiveness**: LiDAR may be more cost effective than deploying additional pipeline patrols to survey high and medium pressure pipelines in remote areas that are difficult for field crews to safely access.
- **Justification of Investment**: LiDAR is a proactive mitigation to identify and monitor company assets and may provide greater ground visibility to areas with limited pedestrian or

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6 USGU, *What is Lidar data and where can I download it?*, *available at:* https://www.usgs.gov/faqs/what-lidar-data-and-where-can-i-download-it.

7 *See* Section IV.E. "Aviation Services and Programs" for more information.

8 Aerial mapping technology varies for different data collection efforts (e.g., leak detection versus LiDAR). In certain cases, specialized equipment collecting different data cannot be used at the same time thereby requiring different aircraft and/or equipment to be flown at different times.

vehicle accessibility. LiDAR can also help assess how risk changes over time, particularly after the rainy season, providing opportunities to address threats proactively, and can help alleviate identified CAVA landslide and inland flooding risks to SoCalGas's High Pressure Gas System and Medium Pressure Gas System.

3. High-Pressure Pipeline Hardening Projects

SoCalGas identified five projects on high-pressure pipelines where hardening can mitigate climate-related hazards from landslides and erosion. These projects were prioritized based on CAVA risk findings and flagged as high or moderate risk. Proactive hardening supports climate adaptation needs by reducing failure risk, avoiding costly unplanned repairs, and supporting continued service reliability.

- **Incrementality**: These pipeline projects have been identified because the primary driver is climate adaptation.[9]
- **Prioritization**: These five projects have been prioritized based on the results of the CAVA analysis flagging the pipelines as high or moderate risk.
- **Cost-effectiveness**: hardening these high-pressure pipelines will reduce potential risk of failure, which can independently cause the need for unscheduled and costly repairs. Additionally, unplanned loss of gas service could impact communities downstream.
- **Justification of Investment**: proactive pipeline hardening mitigation can help reduce risk identified CAVA landslide and flooding risks to SoCalGas's high-pressure pipelines.

4. CAVA Assessment Adaptation Measures

SoCalGas proposes to evaluate site-specific vulnerabilities related to landslide and inland flooding identified in its desktop-level 2025 CAVA. These assessments may reveal conditions requiring timely mitigation, such as increased erosion following extreme rainfall events (e.g., 2023 Hurricane Hilary). Establishing funds for these measures allows rapid, cost-effective responses to climate-driven geohazards identified in the field.

- **Incrementality**: These assessments have not yet occurred and would provide adaptation measures to address climate-related risk.

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[9] High-pressure pipeline projects (new, replacement, repair) for which the primary driver is a core business purpose, such as safety, have been identified and described in the Gas Transmission and Storage testimony (Ex. SCG-05).

- **Prioritization**: As field assessments occur, circumstances may warrant timely action to address a growing climate related hazard. Funds will be used to address these unknown circumstances that could be identified in the field.
- **Cost-effectiveness**: Establishing a fixed forecast for this adaptation measure will allow timely action to address potential climate-related geohazards identified through field assessments, promoting project efficiency and ultimately cost savings.
- **Justification of Investment**: Certain sites may warrant an immediate response to address a climate-related condition.

These investments will enhance safety and enable sound investment in climate adaptation measures to provide reliable energy to customers.

II. CAVA, Table 5-1: Priorities for Project-Level Adaptation Analysis

CAVA Table 5-1: Priorities Identified for Project-Level Adaptation Analysis					
Asset Name	**Climate Hazard**				
	Wildfire	**Landslide**	**Inland Flooding**	**Coastal Flooding**	**Coastal Erosion**
Storage Field					
Honor Rancho	☑	☑	☑		
Aliso Canyon	☑	☑	☑		
Playa Del Rey		☑	☑	☑	
Goleta		☑	☑	☑	☑
Rim Forest Base Building 01	☑		☑		
Blue Ridge Communication Site	☑				
Mount David Communication Site	☑				
Sunset Ridge Communication Site	☑				
Valencia Base Building 01			☑		
Simi Valley Base Building 01			☑		
La Habra Height Communication Site			☑		
Yucca Valley Base Building 01			☑		
Baldwin Hills Communication Site		☑			
High-Pressure Pipelines					
Lines 44-307 and SL 44-1008 between Central Coast and Central Valley regions		☑			
Lines SL 38-250, 7055, 7056 from the southwestern portion of Central Valley extending in the nearby mountains			☑		
Line SL 32-116-2, SL 38-116-1 1 between Wheeler Ridge and Tehachapi			☑		
Line SL 36-9-10 just west of Cayucos and just north of Morro Bay					☑
Lines SL-36-1032, SL-36-9-18, SL-36-9-04 in western Santa Barbara County			☑		
Line 1010 in western Santa Barbara County		☑			
Lines 247, SL 36-1002 parallel to coast in Santa Barbara County		☑			
Lines 247 in Goleta					
Lines 1003, 1004, 1005 in Santa Barbara and Ventura Counties roughly parallel to the coast		☑			
Line SL 36-8-04 between Ventura and Ojai			☑		
Line SL 38-174 near Frazier Park			☑		
Line 8109 between Oxnard and Cuyama		☑	☑		
Line 324 between Oxnard and Santa Clarita		☑			
Line SL 36-8-01-E near Ormond Beach					☑
Lines 225 and 85 South between Santa Clarita and Lebec		☑			
Portions of Lines 404 and 406 and other shorter lines between the Ventura area and the southern edge of San Fernando Valley		☑			

CAVA Table 5-1: Priorities Identified for Project-Level Adaptation Analysis					
Asset Name	**Climate Hazard**				
	Wildfire	**Landslide**	**Inland Flooding**	**Coastal Flooding**	**Coastal Erosion**
Lines 3003, 407, and others in the Santa Monica Mountains between Santa Monica and San Fernando Valley		✓			
Line SL 37-04 at Malibu Creek					✓
Lines 235 West and 335 between Santa Clarita and Palmdale		✓			
Lines 2001 West, 2000, 4000, and 4002 crossing the Chino Hills		✓			
Lines 4000 and 4002 crossing the Cajon Pass		✓			
Line SL 35-20 in Crystal Cove State Park					✓
Controllable Gas Valves					
Along the transmission lines that parallel the coast in Santa Barbara and Ventura Counties, such as Lines 1003 and 247	✓	✓	✓		
In the mountains near the City of Ventura	✓	✓	✓		
In the Santa Monica Mountains between Oxnard and San Fernando Valley	✓	✓	✓		
Mountainous areas in and around Santa Clarita	✓	✓	✓		
Along the transmission lines between Santa Clarita and the Central Valley, such as Lines 225 and 85 South	✓	✓	✓		
Along the transmission lines between Santa Clarita and Palmdale, including Lines 235 West and 335	✓		✓		
Along the transmission lines through the Cajon Pass between Fontana and the Adelanto Compressor Station, including Lines 4000 and 4002	✓	✓	✓		
Some portions of the eastern Santa Monica Mountains and Monterey Heights north of downtown Los Angeles	✓	✓			
Some portions of southern Orange County, such as Mission Viejo, Dana Point, and San Juan Capistrano		✓			
Some portions of the Chino Hills area		✓			
Along the transmission lines between Morongo Valley and Joshua Tree, including Lines 6916 and SL 41-54			✓		
Assets in various portions of Central Coast region in western San Luis Obispo and Santa Barbara counties			✓		
Assets along the western and southern edge of the Central Valley			✓		
Along the transmission lines in the San Jacinto Mountains and through the San Gorgonio Pass, including Lines 2000 and 5000(3)	✓		✓		

CAVA Table 5-1: Priorities Identified for Project-Level Adaptation Analysis					
Asset Name	**Climate Hazard**				
	Wildfire	**Landslide**	**Inland Flooding**	**Coastal Flooding**	**Coastal Erosion**
Along the transmission lines between Yorba Linda and Lake Elsinore, including Lines 2000 and SL-41-12	☑				
Northern Kings County near Lemoore			☑		
Between Tehachapi and Wheeler Ridge			☑		
Regulator Stations					
Southern Central Valley in the Di Gorgio and Arvin areas			☑		
Between the Central Valley and Tehachapi, including Line SL 32-116-2	☑		☑		
Rural western Santa Barbara County, such as along Lines 1010, SL 36-9-22, and SL 36-1032		☑	☑		
Southern Santa Barbara County in the corridor between the coast and Santa Ynez Mountains, including some along Lines 247, 1005, and 1003	☑	☑			
In southern Oxnard near Ormand Beach					☑
Line 324 in the mountains between Oxnard and Santa Clarita	☑				
Santa Clarita area	☑		☑		
Frazier Park area			☑		
Lines SL 36-37 and SL 33-37 near Oak Park and Calabasas	☑				
In the river valleys in southern Ventura County, such as Santa Clara River and the Arroyo Simi			☑		
Along SL 37-04 parallel to the coast east of Malibu	☑	☑	☑		
Along SL 37-04 between Big Rock and Topanga Beach					☑
Along the transmission lines between Santa Clarita and Palmdale, including Lines 235 West and 335, and SL 32-85	☑				
In the Lake Arrowhead area	☑				
In the Fontana and Cajon Canyon area, including along lines 4000 and 4002	☑		☑		
Central Coast region in western San Luis Obispo, such as portions of Atascadero and Arroyo Grande areas		☑			
Portions of the Rancho Palos Verdes area		☑			
Hillier portions of southern Orange County		☑			
In northern Kings County near Lemoore			☑		

CAVA Table 5-1: Priorities Identified for Project-Level Adaptation Analysis					
Asset Name	**Climate Hazard**				
	Wildfire	**Landslide**	**Inland Flooding**	**Coastal Flooding**	**Coastal Erosion**
West Newport Beach area				☑	
In the San Gorgonio Pass area			☑		

III. CAVA, Table 5-2: Potential Adaptation Strategies

CAVA Table 5-2: Potential Adaptation Strategies						
Adaptation Strategy	**Category (Planning/ Design or Operations/ Maintenance)**	**Hazard Type**				
		Wildfire	**Landslide & Subsidence**	**Inland Flooding**	**Coastal Erosion & Flooding**	**Multiple Hazards**
Incorporate future climate projections into climate-related design parameters used in design (e.g., ambient temperature, flood elevation, rainfall depth, scour depth, and wave runup elevation)	Planning/Design					☑
Identify locations where assets are close to the affected pipeline and isolate pipeline segments by identifying appropriate valves and turning them off when a hazard occurs	Operations/ Maintenance					☑
Consider remote-controlled valves for emergency access	Planning/Design					☑
Mitigate impacts with duplicate/redundant valves	Planning/Design					☑
Regularly patrol pipeline network after events	Operations/ Maintenance					☑
Use findings, such as climate projections, to inform preventive measures such as rupture-mitigation valves or similar technologies to identify pipeline ruptures when they occur and close valves to isolate the ruptured segment as soon as practicable	Operations/ Maintenance					☑
Use vegetation control (fencing, trimming)	Operations/ Maintenance	☑				
Inspect pipelines after wildfires	Operations/ Maintenance	☑				
Install fire systems and sprinklers in buildings	Planning/Design	☑				
Increase water supply in fire-prone areas	Planning/Design	☑				
Partner with the fire department to control the flow of gas at the service to the main connection or squeeze pipes in the distribution system when a wildfire burns down structures	Operations/ Maintenance	☑				
Follow architectural code for fire protection	Planning/Design	☑				
Enclose susceptible equipment	Operations/ Maintenance	☑				
Ensure Fire Marshals review plans for projects	Planning/Design	☑				
Replace plastic markers along pipelines after being destroyed by wildfire	Planning/Design	☑				
Install fiber optics to monitor slope integrity	Planning/Design		☑			
Conduct geohazard reviews and design adjustments	Planning/Design		☑			
Open the trench, visually inspect the pipe, and, if needed, cut the pipe to release the strain for pipelines affected by subsidence or slope movement	Operations/ Maintenance		☑			

CAVA Table 5-2: Potential Adaptation Strategies							
Adaptation Strategy	**Category (Planning/ Design or Operations/ Maintenance)**	**Hazard Type**				
		Wildfire	**Landslide & Subsidence**	**Inland Flooding**	**Coastal Erosion & Flooding**	**Multiple Hazards**
Place rock or landscaping grid to stabilize a slope; add retaining walls where warranted as landslide mitigation options at buildings	Planning/Design		✅			
Add strain gauges to pipes	Planning/Design		✅			
Explore options including attaching piles to the underlying bedrock for buildings prone to slope movement or subsidence	Planning/Design		✅			
Retrofit facilities and compressor stations when subsidence occurs	Operations/ Maintenance		✅			
Consider design options (e.g., using extra support or redirecting water) in areas vulnerable to landslide; compare with operational solutions such as relying on valves upstream	Planning/Design		✅			
Develop a plan for how to shut down in the event of a rupture and how to maintain service for customers for areas particularly vulnerable to slope movement	Planning/Design		✅			
Stabilize slopes for infrastructures in landslide-prone areas	Planning/Design		✅			
Enhance stormwater drainage in geohazard-prone areas	Planning/Design		✅			
Use bend joints on landslide-prone pipelines	Planning/Design		✅			
Elevate infrastructure susceptible to flood inundation	Planning/Design			✅	✅	
Relocate infrastructure if flood risk is too high	Planning/Design			✅	✅	
Bury pipelines deeper in flood-prone areas	Planning/Design			✅		
Use sump pumps for flood-prone buildings	Operations/ Maintenance			✅		
Use information on depth of cover, area, slope, property of materials, catchment area, and precipitation levels to calculate flood height and scour depths when designing pipelines	Planning/Design			✅	✅	
Use flood protection design codes for flood-prone facilities	Planning/Design			✅	✅	
Ensure designs account for these impacts for coastal areas prone to wave action	Planning/Design				✅	

APPENDIX H

RD&D PROGRAM REQUIREMENTS MATRIX

Appendix H

RD&D Program Requirements Matrix

This appendix summarizes current regulatory requirements for the RD&D Program, as established by applicable GRC decisions and Research Plan Resolutions that define the framework under which the program operates.

Req. #	Description
D.19-09-051, 2019 GRC dated 10/19/2019	
1	"…file a Tier 3 Advice Letter with its research plan for the following calendar year…" (p. 379)
2	"…detail budgets broken down by research sub-program area…" (p. 379)
3	"…explain how the projects help improve reliability, safety, environmental benefits, or operational efficiencies…" (p. 379)
4	"…discuss how SoCalGas incorporated feedback from workshop stakeholders and Commission staff." (p. 379)
5	"Approval of the funding for the RD&D program should be subject to a one-way balancing account treatment and unspent funds should be returned to ratepayers at the end of each GRC cycle. (Conclusions of Law (COL) 66, p. 769)"
6	"Costs related to multi-year project and single-year projects under the current RD&D program will continue to be funded consistent with the TY2016 protocols until the planned completion of those projects." (COL 68, p. 769)
7	"Southern California Gas Company (SoCalGas) shall host an annual workshop during the second quarter of 2020 and 2021 under supervision of the Commission's Energy Division. At these workshops, SoCalGas shall present the result of the previous year's Research, Development, and Demonstration (RD&D) program and obtain input regarding its intended spending for the following calendar year." (Ordering Paragraph (OP) 30, p. 783)
8	"Prior to the workshop, SoCalGas shall: a. Submit a report to Energy Division staff describing prior years' RD&D program including a summary of ongoing and completed projects; funds expended, funding recipients, and leveraged funding; and an explanation of the process used for selecting RD&D project areas as well as the structure of SoCalGas' RD&D portfolio..." (OP 30, p. 783)
9	"Provide Energy Division staff with the workshop presentation materials as well as documentation of stakeholders consulted in the development of RD&D projects, both at least one week before the workshop…" (OP 30, p. 783)

10	"Engage relevant stakeholders to encourage their attendance at the workshop, such as the California Energy Commission, Gas Technology Institute, the U.S. Department of Energy, and other organizations engaged in gas research and development…" (OP 30, p. 783)
11	"SoCalGas must also present its budget broken down by research projects, request for proposals, and funding amounts. Other specific details concerning the workshops must be coordinated with the Commission's Energy Division staff." (OP 30, p. 783)
Resolution G-3573, 2021 Research Plan, dated March 19, 2021	
12	"SoCalGas shall make the following modifications to its 2021 Research, Development, and Demonstration Program Research Plan and implementation of its plan: • Direct all budgeted funding of research in the Low Carbon Hydrogen Production Sub-Program to support projects utilizing renewable natural gas. • SoCalGas is only permitted to spend ratepayer funds for research into zero emission technologies. • Direct all permitted funding of research in the Clean Transportation Program to focus on support for projects involving vehicles fueled either by renewable hydrogen or renewable natural gas." (OP 2)
13	In developing the subsequent Research Plans, SoCalGas shall: • Continue to increase transparency in project area selection processes and criteria, program benefit assessment processes and criteria, stakeholder outreach efforts, and justification of consortia dues. • …future annual reports and proposed R&D plans should include an explanation of how SoCalGas has used (or intends to use) the results of the RD&D projects. • Continue to increase its focus on equity by including detail on how it will measure impacts to communities and providing additional detail on engagement with community-based organizations. • Detail how future RD&D proposals align with the State's transportation and decarbonization goals." (OP 3)
14	"…explaining the justifications for its criteria selection, the weights of different criteria, and the processes by which the use of criteria in assessments determined funding for research programs and sub-programs." "…including a chart showing SoCalGas's dues to each consortium and their allocation to various research projects." "…explaining how it will assess progress made toward the listed benefits for each sub-program area." (pp. 6-7)

15	"SoCalGas should limit hydrogen-related RD&D funding in the Clean Transportation Program exclusively to projects utilizing renewable hydrogen (*e.g.,* hydrogen produced via electrolysis)." (p. 13)
Resolution G-3586, 2022 Research Plan, dated March 17, 2022	
	Ordering Paragraph (OP) 5) "In subsequent Research Plans, SoCalGas shall provide the following:…
14	"…Describe how SoCalGas is engaging with diverse academic populations at universities to foster new researchers…" (Ordering Paragraph (OP) 5)
15	"…Explain how SoCalGas incorporates into its Research Plan feedback received in pre-workshop stakeholder interviews with community-based organizations…" (OP 5)
16	"…Describe, with Energy Division staff guidance, how to ensure energy efficiency RD&D projects for gas-powered appliances align with the State's transportation and building decarbonization goals." (OP 5)
17	"…Provide project-level detail about Research Plans with the 16 data fields described in the Discussion sub-section titled *Detailed budgets broken down by research subprogram*." (OP 5)
18	"…Provide detail quantifying the amount of program funds already committed and the quantity of program funds that are for projects under development in following years." (OP 5)
19	"…Provide detail about how research projects supplement and coordinate with similar projects conducted by the CEC and the other IOUs." (OP 5)
20	"…Provide detail about administrative budgets using allowable cost categories that will be developed in a process launched by D.21-11- 028 defining allowable EPIC administrative costs." (OP 5)
21	"Provide detail quantifying research funding allocations by research consortium, as well as project costs related to each consortium." (OP 4, OP 5)
22	"…Provide quantitative detail, in consultation with Energy Division staff, measuring the impact of RD&D projects on disadvantaged and low-income communities in terms of job creation and other economic development impacts and in terms of energy cost, greenhouse gas emissions, and energy reliability." (OP 5)
23	"…Provide specific rather than general detail in subprogram equity descriptions about how the research areas benefit underserved communities." (OP 5)
	Ordering Paragraph (OP) 4) "SoCalGas shall submit a Tier 2 Advice Letter within 90 days with the following information:…"

24	"…Provide detail about the 2022 RD&D administrative budget using the same administrative cost categories described in SoCalGas's 2021 Research Plan." (OP 4)
25	"…Develop, in consultation with Energy Division staff, a framework for collecting and reporting sufficient quantitative estimates of potential safety, reliability, operational efficiency, improved affordability, environmental-related benefits (including NOx and GHG emission reductions), benefits to underserved communities, and numeric targets or a specified numeric range of potential benefits for projects." (OP 4)
26	"…SoCalGas shall provide details of the framework to be considered with the approval of Energy Division staff including a scheduled progress update to be provided after the Tier 2 Advice Letter is submitted." (OP 4)
27	"…Provide detail to Energy Division about the content and completion status of SoCalGas's RD&D Program Equity Engagement Plan if it has not been completed. If it has been completed, SoCalGas shall share the RD&D Program Equity Engagement Plan on relevant service lists related to natural gas and equity." (OP 4)
28	"…explain its portfolio selection process in [future] Annual Reports as well as in its Research Plans." (p.6)
29	"SoCalGas is required to explain why it didn't include specific research areas or proposals offered by stakeholders before, during, and after the annual workshop...Moving forward, SoCalGas should include more detail about how it considered whether to adopt or not adopt all research ideas proposed by stakeholders." (p. 13)
30	"In its Tier 2 Advice Letter, we require that SoCalGas develop in consultation with Energy Division staff a framework for collecting and reporting measures of quantitative impacts of natural gas RD&D projects on disadvantaged and low-income communities including mitigation of greenhouse gas and other particulate emissions as well as anticipated impacts of RD&D on energy costs and reliability on communities. We require that SoCalGas include such quantitative measures for every research area in all future Plans." (p. 17)
31	"Future Research Plans should also provide updates on implementation of the community engagement plan as well as use established metrics to quantify the benefits of specific projects and research programs and subprograms to ESJ communities." (p.17)
32	"We require that future Research Plans should specifically link research programs and subprograms to both specific stakeholder input received before and during annual workshops and to equity-related questions listed among top policy selection criteria in the Plans." (p. 17)

33	"SoCalGas should continue to describe in its 2023 Research Plan specific details about how it is engaging with diverse academic populations at universities and colleges to develop new lab- and bench-scale applied research as well as technology demonstration sites that provide learning opportunities for new researchers especially among first-generation students and students from ESJ populations. Relevant details about engagement with higher education should include specific partnerships with colleges and universities, the number of students involved, the types of research activities involved, new knowledge created, and advances made in grid integration of new technology." (p. 17)
34	"In future Plans, SoCalGas should align its RD&D investments with evolving state energy policies. Specifically, transportation projects should be related only to zero-emission vehicle adoption and not further fund any research that does not support zero-emission vehicles." (p. 21)
35	"SoCalGas may record expenses for multi-year projects approved and contracted prior to the Resolution in the RD&D expense account, consistent with D.19-09-051." (p. 22)
36	"It is reasonable for SoCalGas to develop a benefits framework to be implemented with Energy Division and stakeholder input given that metrics had not been previously defined and attempting to implement retroactively may face contractual limits." (p. 22)
Resolution G-3601 , 2023 Research Plan, dated November 30, 2023	
37	"Southern California Gas Company (SoCalGas) shall submit a Tier 2 Advice Letter within 90 days with the information described below. SoCalGas shall commensurately modify its 2023 Gas Research, Development, and Demonstration (RD&D) Plan with this information and attach to its Advice Letter: 1) a track-change version of its original Plan; 2) a clean version of its updated Plan; 3) a table describing the changes it has made aligned with the ordering paragraph and page number. a) SoCalGas shall propose how it will reallocate $7,301,717 of its 2023 Gas RD&D funding…In its Tier 2 AL, SoCalGas shall provide granular budget information for each subprogram delineating the restored funding from the funds which must be reallocated. For the reallocation, SoCalGas shall propose projects that comply with the RD&D criteria described herein[.] […] SoCalGas shall reallocate $129,938 of these 2023 Gas RD&D funds toward its proportional share of a comprehensive Gas RD&D database. SoCalGas shall also reallocate $675,000 of these 2023 Gas RD&D funds toward a comprehensive program evaluation. b) SoCalGas shall demonstrate that any hydrogen programs and projects conducted by SoCalGas utilize clean renewable hydrogen, consistent with the definition given in Decision (D.) 22-12-057. We deny any hydrogen projects/programs that are not consistent with this definition of clean renewable hydrogen. SoCalGas shall update its Plan in its Tier 2 AL demonstrating that it will use the allowed clean renewable hydrogen or otherwise propose to reallocate funds.

	c) SoCalGas shall demonstrate that the System Inspection & Monitoring clean renewable hydrogen blending projects do not duplicate the hydrogen blending pilots conducted through D.22-12-057. d) SoCalGas shall provide greater detail about how its proposed projects and strategies specifically will benefit the ESJ communities that fund this research related to the state's climate goals. Further, SoCalGas shall explain how it measures the impacts of its research on ESJ communities. e) SoCalGas shall provide an interim update on its impact (benefit) analysis framework as ordered in Resolution G-3586, but complete development of its final framework as guided by the outcome of the Uniform Impact Analysis Framework guidance in R.19-10-005. f) SoCalGas shall explicitly justify how its 2023 Gas RD&D consortia dues directly benefit its gas ratepayers or SoCalGas must otherwise reallocate these funds informed by the guidance in this resolution." (OP 3)
38	"Southern California Gas Company (SoCalGas) shall allocate 4% ($675,000) of its 2023 Gas Research, Development, and Demonstration (RD&D) funds to fund a comprehensive evaluation of SoCalGas's Gas RD&D program to be implemented by Energy Division. Energy Division staff shall develop a scope of work, issue a request for proposal, and hire and manage the contractor. Staff may create efficiencies by utilizing a fiscal manager and evaluating all Gas RD&D administrators through a comprehensive evaluation process." (OP 4)
39	"All of [SoCalGas]'s new and future [RD&D] projects shall occur in the State of California. The only exception may be made for projects with out of state federal labs. In this case, SoCalGas shall explicitly justify benefits to its gas ratepayers of an out-of-state project in its Tier 3 Advice Letter annual plan." (OP 5)
	Ordering Paragraph (op) 6 "In its 2024 Gas Research, Development, and Demonstration (RD&D) Research Plan and beyond, Southern California Gas Company (SoCalGas) shall:"
40	"Meet with Energy Division at least six weeks [before] submitting its annual. RD&D Plan to present its proposed Plan and incorporate Energy Division feedback. At that time SoCalGas's proposed Plan should reflect input from RD&D administrator coordination and broad stakeholders including the research and ESJ communities." (OP 6.a)
41	"Explicitly justify how all consortia dues benefit gas ratepayers." (OP 6.b)
42	"Elaborate on the results of its RD&D projects. SoCalGas shall describe how results are used to address the state's climate goals, how its research project results are scaled/commercialized, and how SoCalGas measures the impacts of its research." (OP 6.c)
43	"Itemize and include more detail about how it incorporated proposals and feedback on research ideas proposed by stakeholders at its Annual Stakeholder workshop, including disadvantaged

	communities. SoCalGas should otherwise explain why it did not incorporate stakeholder input." (OP 6.d)
44	"Modify the term "benefits analysis framework" to "uniform impact analysis framework" to better explain the Commission's intent. SoCalGas shall implement the uniform impacts analysis framework approved in Appendix A of Decision (D.) 23-04-042, as relevant for Gas RD&D, to allow for tracking and evaluating the quantitative impacts of all Gas RD&D projects." (OP 6.e)
45	"Use the Disadvantaged Communities Advisory Group's (DACAG) Equity Framework for guidance on how to develop research projects that benefit Environmental and Social Justice (ESJ) communities as well as engage with disadvantaged, low-income, and tribal communities. SoCalGas shall demonstrate in its research plan how it applied the DACAG's Equity Framework and offer to brief DACAG members on its annual gas research, development, and demonstration (RD&D) proposals. Further, SoCalGas shall describe the benefits and impacts of its RD&D work in ESJ communities in its annual Plan." (OP 6.f)
46	"Demonstrate that it has consulted with ESJ communities in advance of developing research projects to ensure projects are effective in realizing benefits for ESJ communities. In its workshop to solicit stakeholder feedback on its future Gas RD&D plans, SoCalGas shall consult with Energy Division in curating an ESJ community advisory workshop panel to be consulted in a public workshop prior to submitting its annual Gas RD&D Plan to the Commission. SoCalGas shall explore compensation strategies for its advisory panel." (OP 6.g)
47	"Demonstrate that any hydrogen programs and projects utilize clean renewable hydrogen, consistent with the definition given in D.22-12-057, or the Commission's successor definition for clean hydrogen." (OP 6.h)
48	"Demonstrate how SoCalGas coordinates in advance with other gas RD&D program administrators to ensure efficiencies, avoid duplication, and optimize research that benefits California ratepayers." (OP 6.i)
49	"Southern California Gas Company (SoCalGas) is authorized to continue projects that are currently ongoing in its Distributed Generation and Industrial Process subprograms. Any new Research, Development, and Demonstration projects in these subprograms shall not be funded by SoCalGas." (OP 8)
50	"Moving forward, SoCalGas should explain how it considered whether to adopt or not adopt all research ideas proposed by stakeholders." (p. 9)
51	"In all future plans, SoCalGas shall elaborate on how its results are used to address the state's climate goals and how its research project results are scaled/commercialized." (p. 11)
52	"In its future RD&D Plan proposals, SoCalGas shall further incorporate more details about outcomes and impacts of its research projects on ESJ communities, as explained further in the section on the program's Impact Analysis Framework. SoCalGas must demonstrate how it incorporated ESJ community feedback or otherwise explain why it did not take this feedback, described by each proposed ESJ recommendation in an Appendix table." (p. 12)

53	"SoCalGas 5991-G is compliant with the building decarbonization goals requirement from Resolution G-3583. It is unclear if Advice Letter 5991-G is compliant with the State's transportation goals given the State's movement to electrified transportation." (p. 13)
54	"Going forward, we expect that SoCalGas will demonstrate how it coordinates in advance with other gas RD&D program administrators to ensure efficiencies, avoid duplication, and optimize research that benefits California ratepayers." (p. 16)
55	"SoCalGas must continue to engage with disadvantaged communities and describe the benefits of its RD&D work in disadvantaged communities in its annual plans." (p. 19)
56	"On July 29, 2022, SoCalGas submitted AL 6014-G, which created the foundational principles for a Benefits Analysis Framework.52 AL 6014-G was approved by the CPUC on August 28, 2022. SoCalGas proposes a timeline of action items for the creation of the Benefits Analysis Framework that will take 15-20 months to implement beginning on the Advice Letter approval date (August 28, 2022)." (p. 17)
57	"In…EPIC Decision,54 D.23-04-042, the Commission found that the term "benefits analysis framework" should be now called the "uniform impacts framework." D.23-04-042 states, "we find that the term impact better captures the spirit of this new framework. By nature, research and development (R&D) projects have an element of risk, which means that not all EPIC projects will directly benefit ratepayers in a quantifiable manner. There still should be an easily explainable impact, benefit, or lesson learned, that should be detailed in project reports and summarized in annual reports and inform program evaluations."…" (p. 17)
58	"SoCalGas should continue to explain how it measures Gas RD&D project impacts for its customers and make ongoing improvements to its impact framework by adapting it as informed by the process and outcomes of the EPIC proceeding's Impact Analysis Framework in EPIC proceeding R.19-10-005, as relevant to gas RD&D projects. […] Once the EPIC impact analysis is adopted by the Commission, SoCalGas must implement the Impact Analysis Framework in all future Gas RD&D research plans. In the interim, SoCalGas should generally follow the Impact Analysis Framework principles outlined in Appendix A of D.23-04-042 and continue to measure program outcomes as approved in AL 6014-G." (p. 18)
59	"SoCalGas shall use the Disadvantaged Communities Advisory Group's (DACAG's) Equity Framework as one component of demonstrating how its RD&D proposal will benefit underserved communities." (p. 19)
60	"SoCalGas shall also consult the ESJ advisory group described above to ensure its programs benefit ESJ communities." (p. 19)
61	"To ensure compliance with the requirements from D.19-09-051, Resolution G-3573, and Resolution G-3586, SoCalGas shall allocate 4% ($675,000) of its 2023 Gas RD&D funds toward a comprehensive evaluation of its program. Such funds should come from reallocation of identified denied programs. The Commission considers program evaluation an essential

	component to support research efforts and demonstrate value to gas ratepayers' investment. This evaluation will align with the evaluation approach of the CEC's Gas RD&D Program, as explained in Resolution G-3592, as well as consider efficiencies in implementing holistic Gas RD&D program evaluations." (pp. 19-20)
62	"[T]he Commission has not yet provided overarching policy guidance on whether and how ratepayers should fund CCUS research." (p. 21)
63	"The Commission has not yet provided policy guidance on whether gas ratepayers should fund transportation sector Off-Road vehicles." (p. 26)
64	"[T]he Commission has not yet provided any policy guidance on whether gas ratepayers should fund transportation sector Onboard Storage." (p. 27)
65	"[T]he Commission has not yet provided any policy guidance on whether gas ratepayers should fund transportation sector On-Road vehicles." (p. 27)
66	"We find that SoCalGas's request to also conduct research on Refueling Stations is duplicative of the CEC's work. These are projects that will have ratepayer and market impacts that need to be further investigated by the Commission before committing gas ratepayer funds." (p. 28)
67	"[W]e deny any new proposed DG research at this time. SoCalGas may complete in-progress projects for which it has invested significant ratepayer funds […] SoCalGas shall not begin any new RD&D projects in the Distributed Generation subprogram at this time." (p. 29)
68	"SoCalGas may continue any projects that have already begun in the Industrial Process Equipment subprogram […] SoCalGas shall not begin any new RD&D projects in the Industrial Process Equipment subprogram at this time." (p.32)
69	"SoCalGas shall use guidance and direction from R.20-01-007, the CARB 2022 Scoping Plan, and any other CPUC or State policies to conduct research on pruning the gas system." (p. 34)
70	"SoCalGas shall also reallocate $129,938 of its 2023 Gas RD&D funds as a contribution of its proportional share toward a comprehensive Gas RD&D database. Currently, all electric RD&D projects are publicly accessible in an online database. As the Commission found in D.23-04-042, given the increasing overlap between electricity and gas, it makes sense to track all ratepayer-funded RD&D projects in one database. We, therefore, direct Energy Division staff to work with its database consultant to develop a similar Gas RD&D component of the EPIC database, relevant to gas research projects, that will be updated on a regular basis, similar to the EPIC program." (p. 34, citations omitted)
71	"We direct Energy Division to manage the evaluation of SoCalGas's Gas RD&D program. For efficiencies, Energy Division may streamline the evaluation of more than one gas RD&D program in one holistic evaluation." (p. 34)

72	"SoCalGas asks the Commission to provide clear direction authorizing it to spend 2023 RD&D funds during the 2024 GRC cycle years. We approve SoCalGas spending its approved 2023 RD&D funding in *calendar year* 2024. Ordering Paragraph 7 has been included to reflect this." (p. 37)
73	"We clarify that instead of continuing to develop its own benefits analysis framework, SoCalGas shall engage in the impact analysis framework process in proceeding R.19-10-005 (EPIC proceeding) anticipated in 2024. The Commission anticipates that its workshop process to develop an RD&D impact analysis framework will be applicable to all RD&D programs and may be tailored for its relevant applicability for Gas RD&D programs. In the interim, SoCalGas should continue to report its impacts on, and benefits to, its ratepayers." (p. 37)
D.24-12-074, 2024 GRC dated 12/23/2024	
74	"Southern California Gas Company shall continue the Research, Development, and Demonstration program under the rules adopted in Decision 19-09-051 and Resolutions G-3573, G-3586, and G-3601. The funds are subject to a one-way balancing account treatment and any unspent funds shall be returned to ratepayers at the end of the 2024-2027 general rate case cycle." (OP 37)
75	"Ratepayer recovery for hydrogen projects proposed by SoCalGas and SDG&E within their Clean Energy Innovations initiative lacked sufficient substantiation. These projects overlap with pending proposals before the Commission regarding hydrogen blending demonstrations or are pilot and demonstration projects, which are better evaluated through research, development, and demonstration programs." (p.6)
76	"SoCalGas is instructed to continue filing a Tier 3 Advice Letter per D.19-09-051. This instruction shall remain in effect until the next GRC cycle or until the Commission adopts a separate or different process, whichever comes first." (p. 328)
77	"Regarding the delays caused by the review and approval process, the Energy Division should strive to maintain a reasonable approval process timeline, ensuring certainty for the third parties supporting the programs for SoCalGas." (p. 329)
78	"It is reasonable to base the Test Year 2024 RD&D budget on the average trend of incurred costs authorized in recent years. Based on the authorized costs in the past seven years, we approve $15.915 million for Test Year 2024. This budget ceiling shall include the 10 percent administrative costs SoCalGas receives to administer the program." (p. 329)
79	"In D.19-09-051 and subsequent resolutions approving the funding and research projects, the Commission adopted program oversight rules. This decision does not alter the provisions adopted in that prior decision and Commission resolutions." (p. 330)
80	"The Commission finds it reasonable to authorize SoCalGas's requests to continue the following Regulatory Accounts that are undisputed in this rate case cycle:" "4. Research, Development, and Demonstration Expense Account (RDDEA);" (p. 857)

Public Utilities Code § 740.1	
81	"(a) Projects should offer a reasonable probability of providing benefits to ratepayers."
82	"(b) Expenditures on projects which have a low probability for success should be minimized."
83	"(d) Projects should not unnecessarily duplicate research currently, previously, or imminently undertaken by other electrical or gas corporations or research organizations."
84	"(e)Each project should also support one or more of the following objectives: (1) Environmental improvement. (2) Public and employee safety. (3) Conservation by efficient resource use or by reducing or shifting system load. (4) Development of new resources and processes, particularly renewable resources and processes which further supply technologies. (5) Improve operating efficiency and reliability or otherwise reduce operating costs."
Miscellaneous CPUC Guidance and Activities	
85	"Pursuant to Public Utilities (PU) Code Sections 314.5, 314.6, 581, 582, and 584, the Utility Audits Branch (UAB) of the California Public Utilities Commission (CPUC) will conduct an audit of Southern California Gas Company's (SoCalGas) Gas Research and Development (GR&D) program for the period of January 1, 2023, through December 31, 2023." Engagement Letter dated, July 18, 2024. Final Report Issued November 26, 2025.
86	Policy + Innovation Coordination Group (PICG) RD&D Meetings related to EPIC's Strategic Goal of Achieving 100% Net-Zero Carbon Emissions and the Coordinated Role of Gas. Gas RD&D Administrators to participate in the November [reschedule d to December 5th] meeting for an in-person briefing and discussion. (email dated 9/18/2025)
CPUC Gas RD&D Program Initiative Criteria, dated September 2025	
87	1. Alignment with and prioritization of critical gaps and needs identified in State and specific CPUC Policies and Proceedings;[1]
88	2. Cost-effectiveness and protection of affordability to ratepayers;[2]

[1] Consistent with:
General Order 96-B Rule 7.6.1 at PDF p. 23.
D.04-08-010 at FOF 32.
Resolution G-3573 (2021) at OP 3.
Resolution G-3603 (2024): Approving CEC's FY2023-2024 Gas RD&D Plan at OP 4.

[2] Consistent with:
California Public Utilities Code Section 740.1 (e)(5)
D.19-09-051 at OP 30.
Executive Order (EO) N-5-24 (2024): On affordability.

89	3. Promote equity and provide benefits to Environmental & Social Justice (ESJ) communities, informed by consultation with community-based organizations (CBOs);[3]
90	4. Reasonable probability of providing California ratepayer benefit by locating projects in the State of California[4] and detailed planned methodologies for tracking and evaluating quantitative impacts from investments through the use of the EPIC Program's Uniform Impacts Analysis Foundational Principles;[5]
91	5. Intended pathways to scale, commercialize, and otherwise utilize results from RD&D activities to promote technology transfer and market transformation;[6]
92	6. Innovation and differentiation from existing RD&D activities to support complementary rather than duplicative efforts, informed by specific consultation with other Gas RD&D Administrators.[7]

[3] Consistent with:
Resolution G-3546 (2018): Approving CEC's FY2018-2019 Gas RD&D Plan at OP 6a.
Resolution G-3555 (2019): Approving CEC's FY2019-2020 Gas RD&D Plan at OP 6.
D.19-09-051 at OP 30.
Resolution G-3571 (2020) at OP 8b.
Resolution G-3573 (2021) at OP 3.
Resolution G-3586 (2022): Approving SoCalGas' 2022 Gas RD&D Plan at OP 4 & 5.
D.23-11-069 at p. 218 & 220.
Resolution G-3592 (2023): Approving CEC's FY2022-2023 Gas RD&D Plan at OP 5a.
Resolution G-3601 (2023): Approving SoCalGas' 2023 Gas RD&D Plan at OP 3d & 6f.

[4] The only exception made is for projects affiliated with out-of-state federal labs, in which case Administrators shall explicitly justify benefits to California ratepayers.

[5] Consistent with:
California Public Utilities Code Section 740.1 (a)
D.04-08-010 at p. 25 & 27.
Resolution G-3573 (2021) at OP 3.
Resolution G-3586 (2022) at OP 4 & 5.
D.23-04-042 (2023) at Appendix A.
D.23-11-069 at p. 218 & 220.
Resolution G-3592 (2023) at OP 6.
Resolution G-3601 (2023) at OP 5 & 6.
Resolution G-3603 (2024) at OP 6.

[6] Consistent with:
Resolution G-3573 (2021) at OP 3.
Resolution G-3601 (2023) at OP 6c.
D.23-04-042 (2023) at A-1.

[7] Consistent with:
California Public Utilities Code Section 740.1 (d)
Resolution G-3586 (2022) at OP 5.
Resolution G-3601 (2023) at OP 6.
Resolution G-3603 (2024) at OP 4.
D.23-04-042 (2023) at A-1.
D.24-12-074 at p. 327.

APPENDIX I

PROBLEM STATEMENTS AND ROADMAP FOR RD&D GAS SYSTEMS INTREGRITY AND DECARBONIZATION THEMES

Appendix I

Problem Statements and Roadmap for RD&D Gas System Integrity and Decarbonization Themes

This appendix presents problem statements defined for each research theme and associated research areas, designed to deliver ratepayer benefits by identifying key technology gaps and challenges. Building on prior research and current objectives, these roadmaps will inform the RD&D Program's focus areas for the 2028-2031 GRC cycle.

Gas System Integrity Theme		
Problem Statement	**Pathways - Roadmap**	**Future State**
Current leak management practices remain largely reactive, limiting the pace and cost-effectiveness of greenhouse gas reductions while increasing operational and reliability risk. To meet emissions goals without compromising affordability or system performance, methodologies must transition to proactive, scalable leak prevention and emissions-reduction approaches.	Integrate siloed operational and emissions datasets to develop systemwide asset risk visibility. Apply predictive analytics to forecast patterns and identify high-risk components and areas. Identify new technologies and advancements and deploy scalable leak prevention technologies. Optimize survey frequency and maintenance planning.	• Measurable reductions in methane and GHG emissions (metric tons CO_2e avoided annually). • Reduced frequency and severity of leak incidents and safety events. • Lower inspection, maintenance, and repair costs through targeted, risk-based interventions. • Predictive asset management practices embedded into normal operations. • Improved system reliability and strengthened public, worker, and contractor safety outcomes.
Energy waste and system inefficiencies drive up costs, reduce affordability, and introduce potential safety risks. Addressing these challenges requires a cost-effective, scalable solution that minimizes energy loss, improves operational efficiency, and enhances safety, without compromising system performance or ratepayer value.	Improve anomaly classification and accuracy to reduce false positives and earlier leak identification. Automate prioritization of high economic impact anomalies such as those in disadvantaged communities. Provide actionable energy usage insights to ratepayers. Identify communities with recurring energy losses to support targeted conservation efforts in high-burden areas.	• Quantifiable reductions in unintended gas usage. • Lower ratepayer energy bills from avoided waste. • Reduced GHG emissions from ratepayer-side sources. • Fewer unnecessary field investigations, reducing O&M costs. • Improved safety, transparency, and affordability for all communities.
Enhance inspection and monitoring capabilities to strengthen the safety, reliability, and availability of the mature, geographically dispersed gas infrastructure. Adopting more affordable, integrated, and data-driven approaches can improve early risk detection and enable more predictive decision-making, supporting resilient operations amid evolving	Advance inspection technology detection capabilities and identify new and improved technologies to reduce inspection cost and operational disruptions. Improve capabilities of integrity assessment technologies and systems. Apply predictive modeling to integrity risks.	A resilient and data-driven integrity management system with: • Earlier detection of integrity threats and degradation. • Reduced likelihood of high-consequence failures. • Lower inspection, monitoring, and outage costs.

environmental and geophysical conditions.	Enhance geohazard detection and response frameworks.	• Improved infrastructure availability and reliability. • Predictive, risk-based inspection and maintenance practices.
Pipeline and well safety are foundational principals of operational integrity but maintaining that safety affordably is becoming increasingly challenging as infrastructure ages and operating conditions continue to evolve. Traditional replacement strategies can be expensive and disruptive, creating opportunities for improvement. Improving the understanding of material performance, refining designs, and applying innovative repair solutions can lead to extended asset life, more effective risk management, and maintain affordability.	Improve material performance characterization and modeling.	A durable and cost-effective infrastructure portfolio with: • Extended asset life and reduced failure risk. • Fewer unplanned outages and emergency repairs. • Lower lifecycle capital and maintenance costs. • Improved safety through proactive integrity margins. • Reliable operation under evolving system conditions.
	Enhance lifetime prediction for pipeline materials and integrate integrity margins into design.	
	Validate alternative repair and protection technologies.	
	Reduce reliance on full asset replacement.	
Achieving RNG procurement and environmental goals is constrained by high interconnection costs, operational complexity, gas quality and source variability, and pipeline injection limitations. These challenges increase project risk, delay deployment, and raise costs for ratepayers. Advancing scalable, standardized and system-optimized integration approaches are needed to enable the safe, reliable and affordable expansion of RNG across the network.	Standardize and modularize interconnection designs.	A scalable and affordable RNG delivery system with: • Increased RNG injection and utilization rates. • Lower interconnection, O&M, and lifecycle costs. • Reduced flaring of RNG and improved air quality outcomes. • Reliable integration with existing gas infrastructure. • Accelerated progress toward climate and procurement targets.
	Reduce RNG deployment and integration costs.	
	Optimize pipeline utilization and injection capacity.	
	Mitigate community impacts of RNG facilities.	
	Identify or develop new technologies or methodologies for gas quality monitoring and integration.	

Decarbonization Theme		
Problem Statement	**Pathways - Roadmap**	**Future State**
Capital and operating costs are too expensive for state-of-the-art production technologies to ensure affordable or reliable low carbon fuel supply.	Reduce cost of electricity to operate facilities and equipment.	Abundant, affordable, and reliable low carbon fuel supply from a diverse set of feedstocks and production technologies.
	Improve feedstock processing and availability.	
	Co-locate production with other technologies.	
	Reduce cost of equipment and ancillary systems.	
	Reduce cost of integration with existing infrastructure.	
Fuel based power generation today requires viable decarbonized pathways that do not compromise reliability, resilience or energy affordability to ratepayers, and minimizes stranded ratepayer assets/investments.	Microgrid/Generation Controls: (System Level Decarbonization) .	• Power systems that are materially decarbonized- delivering lower GHG emissions and improved air quality- while maintaining reliability, resilience and affordability. • A gradual to full transition to decarbonized systems while minimizing stranded ratepayer assets.
	Advanced Combustion Based Generation: (Incremental to Immediate Decarb of Existing Tech).	
	Non-Combustion Based Generation: (Incremental to Immediate Decarb of Existing Tech).	
	Point-of-Use Decarbonization: Decarbonization through Fuel Transformation, or Decarbonization without Gas Network Assumptions / without Changing Fuel or Prime Mover.	
Gas Ratepayers need cost-effective strategies to reduce energy usage and emissions from their buildings and facilities.	Building Efficiency: (Cost and emissions reductions through efficiency improvements).	Low- or zero-emission technologies that are cost effective and easily implemented into new and existing buildings and facilities.
	Industrial Process Equipment: (Efficiency improvements and emissions reductions).	
	Thermal Energy Storage (Net energy reductions).	
	Carbon Management Integration: (Decarbonization without Changing Fuel).	

APPENDIX J

2026 SB 1371 COMPLIANCE PLAN



2026 SB 1371

COMPLIANCE PLAN

SoCalGas™

Introduction

SoCalGas submits this Biennial Compliance Plan on March 13, 2026 (Compliance Plan) as part of the Natural Gas Leak Abatement Program (NGLAP or Program). Implementation of the measures described in this Compliance Plan is planned during years 2027 and 2028 (2026 Compliance Period). For work planned in 2027, SoCalGas plans to begin implementation during January 2027 because funding for such period was authorized in Resolution G-3605. For work planned in 2028, SoCalGas plans to begin implementation in 2028 following the approval of SoCalGas' TY 2028 GRC Application.

Measures proposed in this Compliance Plan are for activities that are incremental to safety and specific to the emission reduction goals of Decision (D.) 19-08-020. SoCalGas currently has policies and procedures in place to meet environmental and safety regulations implemented by various state and federal agencies, including, but not limited to, the U.S. EPA, PHMSA, CalGEM, OSHA, CARB, and local air pollution control districts. Some of these policies and procedures overlap with those supporting SB 1371 requirements that are addressed in the relevant Chapters herein.

Emission Reductions from 2015 Baseline

The current 2015 emissions inventory baseline for SoCalGas' system is 1,953,795 MCF. Estimated emission reductions resulting from major activities proposed in this Compliance Plan during 2027 and 2028 are currently 1,102,075 MCF and 1,438,196 MCF, respectively. Assuming that SoCalGas will be authorized to continue the activities proposed in this Compliance Plan through 2030, SoCalGas estimates that it will achieve a 32% reduction from baseline in 2030. Notably, baseline emissions are periodically updated as new methodologies are identified and approved. As such, the estimated percentage reductions and emission levels presented in this Compliance Plan may differ from the results observed in future years.

Table 1 below, Major Efforts to Reduce Emissions, summarizes SoCalGas' proposed major activities and estimated emission reductions proposed in the 2026 Compliance Plan.

Table 1: Major Efforts to Reduce Emissions – SoCalGas

Chapter	2027 Emission Reduction, MCF	2030 Emission Reduction, MCF	Standard Cost Effectiveness ($/MCF), (2027-2028)	Net Cost Effectiveness** ($/MCF), (2027-2028)
Chapter 1 – Leak Inventory Reduction	555,560	555,560	24	-3
Chapter 2 – Increased Leak Survey*	146,308	146,308	N/A	N/A
Chapter 3 – Blowdown Reduction Activities	398,905	398,905	12	-16
Chapter 14 – Aerial Monitoring (System Only)	0	275,165	25	-3
Chapter 15 – Damage Prevention Public Awareness	1,302	15,233	99	72
Program Totals	**1,102,075**	**1,391,171**	**18**	**-10**
Percentage Reduction Relative to 2015 Baseline	**28%**	**32%**		

*Cost Effectiveness for Chapter 2 cannot be calculated because SoCalGas is not requesting funding for this Chapter (See Chapter 2 for details)

**Net Cost Effectiveness reflects the Standard Cost Effectiveness with Avoided Cap & Invest and Social Cost of Methane Cost Benefits

Emission Reduction Estimation Assumptions

- SoCalGas is using leaker-based emission factors to estimate 2027, 2028, and 2030 Distribution Main & Service Pipeline leak emissions and MSA leak emissions. SoCalGas is utilizing the same emission factors that were submitted in the 2025 Annual Emissions Report to estimate emissions for Chapters 1, 2, and 15. SoCalGas is using the emission

factors that were submitted in the "SoCalGas and SDG&E 2022 Aerial Methane Mapping Research & Cost Effectiveness Summary Report" from February 2023 to estimate emissions for Chapter 14.

- To estimate overall reductions relative to baseline, SoCalGas estimated the impact of the proposed activities on annual emissions during 2027 and 2030, and these volumes were assessed relative to the 2015 baseline volume.

Emission models used to forecast reductions will have some degree of variation and the final observed reduction may be higher or lower. Based on information and technologies currently available, SoCalGas is proposing to implement measures that maximize cost-effective emission reductions as reasonably as possible and then maintain the reduced emission levels through 2030 and beyond. As research projects and pilots are completed, more accurate modeling may become available. Furthermore, new technologies may become commercially available to further reduce emissions beyond what is currently forecasted. Notably, in order to sustain emission reductions through 2030, programs will need continued funding for O&M.

In addition to the emissions forecasted to be reduced from SoCalGas' system, SoCalGas is proposing to use emerging technologies to reduce post-meter (customer) emissions, further discussed in Chapter 14 (Aerial Monitoring). Although these reductions are not currently reflected in SoCalGas' Annual Emissions Report, these activities support the state's climate goals and the spirit of Senate Bill 1371.

Calculating Cost Effectiveness

SoCalGas calculates the cost effectiveness of its projects with avoided Cap & Invest (formerly Cap & Trade) costs, and social cost of methane as follows:

Historical Standard Cost Effectiveness:

$$\frac{(RRR - Cost\ Benefits)_{2018\text{-}2024}}{Emissions\ Reductions_{2018\text{-}2024}}$$

Pursuant to D.19-08-020, SoCalGas also calculates cost effectiveness with avoided Cap & Invest costs, and social cost of methane as follows:

Historical Cost Effectiveness with avoided Cap & Invest Costs:

$$\frac{(RRR - Cost\ Benefits - Avoided\ Cap\ \&\ Invest\ Costs)_{2018\text{-}2024}}{Emissions\ Reductions_{2018\text{-}2024}}$$

Historical Cost Effectiveness with avoided Social Cost of Methane and Cap & Invest Costs:

$$\frac{(RRR - Cost\ Benefits - Avoided\ Cap\ \&\ Invest\ Costs - Social\ Cost\ of\ Methane)_{2018\text{-}2024}}{Emissions\ Reductions_{2018\text{-}2024}}$$

Future Standard Cost Effectiveness:

$$\frac{(AARR - Cost\ Benefits)_{2027\text{-}2028}}{Emissions\ Reductions_{2027\text{-}2028}}$$

Pursuant to D.19-08-020, SoCalGas also calculates cost effectiveness with avoided Cap & Invest costs, and social cost of methane as follows:

Future Cost Effectiveness with avoided Cap & Invest Costs:

$$\frac{(AARR - Cost\ Benefits - Avoided\ Cap\ \&\ Invest\ Costs)_{2027\text{-}2028}}{Emissions\ Reductions_{2027\text{-}2028}}$$

Future Cost Effectiveness with avoided Social Cost of Methane and Cap & Invest Costs:

$$\frac{(AARR - Cost\ Benefits - Avoided\ Cap\ \&\ Invest\ Costs - Social\ Cost\ of\ Methane)_{2027\text{-}2028}}{Emissions\ Reductions_{2027\text{-}2028}}$$

Cost Effectiveness Assumptions and Supporting Details

- AARR = Average annual revenue requirement, calculated by dividing the cumulative revenue requirement for each measure by the useful life of the measure or asset.
- RRR = Realized revenue requirement. It should be noted that AARR and RRR will not match up by definition. Using an "average" does not account for the "realized" due to actual timing of when costs hit and the magnitude and mix of O&M and capital spending. As such, the corresponding AARR and RRR will result in variances.
- The cost benefit values utilized in the 2026 Compliance Plan are as follows:
    - The social cost of methane is $25.92/MCF. The social cost of methane from the 2024 Compliance Plan was adjusted for inflation using the California Consumer Price Index to arrive at the updated value.
    - The cost benefit of the reduced cost of gas was evaluated at the forecasted average annual WACOG published in the 2024 California Gas Report, converted to cost per MCF using a BTU conversion factor of 1.0317 MCF/MMBtu, resulting in a cost benefit of $5.46/MCF.
    - Cap & Invest costs are $32.83/MT$CO_2$e, assuming December 2027 vintage prices, based on a 5-day average of trading days January 21 – 26, 2026. This futures data was acquired from the International Exchange. Converting from MTCO_2e to MCF results in a cost benefit of $1.79/MCF.

SoCalGas Table of Concordance

Chapter	Best Practices Addressed	Subject	Page Number
1	15,16, 20a, 21	Leak Inventory Reduction	8
2	15, 16	Increased Leak Survey	13
3	23, 3-7	Blowdown Reduction Activities	16
4	15, 16, 20a, 21	Large Leak Prioritization	21
5	24, 25, 26	Damage Prevention Algorithm & Proactive Intervention	24
6	17	Advanced Meter Analytics Algorithm	26
7	9	Recordkeeping IT Project	28
8	9, 20b	Geographic Tracking	33
9	13	Competency Based Training Development	36
10	13	Training Facility Enhancements	38
11	23	Blowdown Reduction Projects at Storage	40
12	18	Stationary Methane Detectors	42
13	20b	Electronic Leak Survey	44
14	16, 17, 20a	Aerial Monitoring	47
15	24, 25, 26	Damage Prevention Public Awareness	54
16	22	Pipe Fitting Specifications	58
17	26	Repeat Offenders IT Systems	61
18	21	Accelerated Leak Repair - Transmission	63
19	17	Gas Speciation	65
20	20b	Public Leak Maps	67
21	21,23	Leak and Vented Emission Reduction - Transmission Compressor Facilities	69
22	23	Vapor Collection Systems	71
23	19	Distribution Above Ground Leak Survey	73
24	19, 21	Storage Above Ground Leak Survey	75
25	19, 21	Distribution Above Ground Leak Repair	77
26	23	High Bleed Device Replacement	79

SoCalGas Acronym Library

Acronym	Definition
49 CFR 192	PHMSA Regulation - Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards
811	National call-before-you-dig phone number
AARR	Average annual revenue requirement
ACOR	Atmospheric Corrosion
AG	Above Ground
AM	Advanced Meter
AMM	Aerial Methane Mapping/Aerial Monitoring
AOC	Abnormal Operating Conditions
API	American Petroleum Institute
ARSA	Area Resource Scheduling Advisor
BP	Best Practice
BTU	British thermal unit
CalGEM	California Geological Energy Management Division
CARB	California Air Resources Board
CCSLB	California Contractor State License Board
CFH	Cubic feet per hour
CFR	Code of Federal Regulations
CNG	Compressed Natural Gas
CPDR	Company Property Damage Report
CPUC	California Public Utilities Commission
CT	Construction Technician
DIMP	Distribution Integrity Management Program
DAC	Disadvantaged Communities
EDAPO	Engineering Data Analytics and Performance Optimization
ELS	Electronic Leak Survey
EPA	Environmental Protection Agency
G.O. 112-F	State General Order Governing Design, Construction, Testing, Operation, and Maintenance of Gas Gathering, Transmission, and Distribution Piping Systems
GIS	Geographic Information System
GML	Gas Mapping LiDAR™
GRC	General Rate Case
GS	Gas Standard
HESD	Historizing Emission Sensor Data
LiDAR	Light Detection and Ranging
M&R	Measurement and Regulation
MCF	Thousand cubic feet

Acronym	Definition
MMBtu	Million British thermal units
MSCF/MCF	Thousand standard cubic feet
MSA	Meter Set Assembly
MSP	Material Specification Properties
$MTCO_2e$	Metric tons of Carbon Dioxide equivalent
N/A	Not Applicable
NGLAP	Natural Gas Leak Abatement Program
NSOTA	Non-State-of-the-Art
NZE	Net Zero Emissions
O&M	Operations & Maintenance
PE	Polyethylene
PHMSA	Pipeline and Hazardous Materials Safety Administration
PPM	Parts Per Million
psig	Pounds per square inch gauge
QC	Quality Control
RD&D	Research, Development, & Demonstration
RP	Recommended Practice
ROW	Right of Way
RRR	Realized Revenue Requirement
SB	Senate Bill
SCF	Standard cubic feet
SED	Safety and Enforcement Division
SMS	Safety Management System
SPD	Safety Policy Division
TIMP	Transmission Integrity Management Program
TY	Test Year
WACOG	Weighted Average Cost of Gas

2026 SB 1371 Compliance Plan
Chapter 1: Leak Inventory Reduction

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 15: Distribution Leak Surveys
Utilities should conduct leak surveys of the gas distribution system every three (3) years, not to exceed 39 months, in areas where General Order (G.O.) 112-F, or its successors, requires surveying every five (5) years. In lieu of a system-wide three-year leak survey cycle, utilities may propose and justify in their Compliance Plan filings, subject to Commission approval, a risk-assessment based, more cost-effective methodology for conducting gas distribution pipeline leak surveys at a less frequent interval. However, utilities shall always meet the minimum requirements of G.O. 112-F, and its successors.
Best Practice 16: Special Leak Surveys
Utilities shall conduct special leak surveys, possibly at a more frequent interval than required by G.O. 112-F (or its successors) or BP 15, for specific areas of their transmission and distribution pipeline systems with known risks for natural gas leakage. Special leak surveys may focus on specific pipeline materials known to be susceptible to leaks or other known pipeline integrity risks, such as geological conditions. Special leak surveys shall be coordinated with transmission and distribution integrity management programs (TIMP/DIMP) and other utility safety programs. Utilities shall file in their Compliance Plan proposed special leak surveys for known risks and proposed methodologies for identifying additional special leak surveys based on risk assessments (including predictive and/or historical trends analysis). As surveys are conducted over time, utilities shall report as part of their Compliance Plans, details about leakage trends. Predictive analysis may be defined differently for differing companies based on company size and trends.
Best Practice 20a: Quantification
Utilities shall develop methodologies for improved quantification, geographic evaluation, and tracking of leaks from the gas systems. Utilities shall file in their Compliance Plan how they propose to address quantification. Utilities shall work together, with CPUC and ARB staff, to come to an agreement on a similar methodology to improve emissions quantification of leaks to assist the demonstration of actual emission reductions.
Best Practice 21: Find It, Fix It
Utilities shall repair leaks as soon as reasonably possible after discovery, but in no event, more than three (3) years after discovery. Utilities may make reasonable exceptions for leaks that are costly to repair relative to the estimated size of the leak.

Historic Project Achievements:

Since the SB 1371 program began, Chapter 1 has been a major driver of methane emission reductions. Chapter 1 project activities started in 2017 when a dedicated operations team was formed to focus on improving repair times and reducing leak inventory. The team identified permitting timeframes as one of the biggest obstacles to leak repair and engaged municipalities to propose a more streamlined process. Many cities cooperated, reducing the backlog of leaks awaiting permits. At the same time, specialized crews and equipment were deployed to repair nonhazardous leaks, allowing permitted leaks to be fixed instead of remaining in inventory. As a

result, repair times improved immediately, and leak inventory declined. Average repair times for nonhazardous leaks dropped from 21 months in 2020 to 7.8 months in 2024.
The program continued to gain momentum when procedures to prioritize older leaks and infrastructure replacements in areas susceptible to leaks were implemented. Regulatory requirements under G.O. 112-F, Section 143.2(b) mandate Code 2 Main & Service line leaks be repaired within 15 months, and Best Practice 21 requires utilities to repair leaks as soon as possible and no longer than three (3) years after discovery. Compliance Plan resolutions in 2018, 2020, and 2022 enabled SoCalGas to accelerate repair efforts so that by the end of 2024, most leaks were repaired in half the required compliance timeframe. This achievement significantly reduced emissions and minimized environmental impacts, while improving safety, reliability, and operational efficiency.

Resolution G-3605, issued on September 18, 2025, granted funding to meet G.O. 112-F compliance timeframes only, along with an overall 20% emissions reduction, even though an overall 40% reduction had almost been reached. Because Resolution G-3605 did not authorize funding for SoCalGas to maintain its current levels of leak repair and emission reductions, SoCalGas anticipates that nonhazardous leak repair times and emissions will increase.

Emission Reductions Achieved:

Historical Emission Reductions (MCF)

2018	2019	2020	2021	2022	2023	2024
N/A	N/A	373,415	574,182	652,514	611,516	428,814

To estimate the annual emission reductions, SoCalGas first identified the leak repairs that were accelerated under Chapter 1 each year, and SoCalGas estimated the volume of emissions that would have been released if the Code 2 Plastic, Code 2 Steel, and Code 3 Plastic leaks were repaired within their compliance timeframes. In addition, SoCalGas estimated the volume of emissions that would have been released if the Code 3 Steel leaks were repaired in 49 months. Forty-nine months was utilized for Code 3 Steel leaks because this was the average repair time for Code 3 Steel leaks from the 2015 baseline year. Next, after summing these volumes, SoCalGas subtracted the volume of emissions that were actually released by these leaks. The resulting difference is the estimated emission reductions.

Cost Effectiveness Evaluation of Historic Work:

Historical Standard Cost Effectiveness ($/MCF)

Projected in 2024 Compliance Plan	Actual Cost Effectiveness (2018-2024)
$195	$68

Part 2. Proposed New or Continuing Measures

Emissions from SoCalGas Main & Service line leaks accounted for approximately 43% of SoCalGas' total natural gas emissions during 2024. Because they account for such a large portion of SoCalGas' annual emissions, it is important for SoCalGas to continue its efforts to reduce Main & Service line emissions through accelerated nonhazardous leak repairs.
Moreover, SoCalGas emphasizes the importance of maintaining prior milestones approved by the CPUC in the 2018, 2020, and 2022 Compliance Plans. These prior milestones were achieved utilizing ratepayer funding. Without adequate funding to maintain these milestones, the concrete benefits customers received from these achievements will not be sustained, and significant resources will have been wasted.

For 2027, SoCalGas will utilize the authorized funds from Resolution G-3605 to continue meeting Code 2 and Code 3 leak repair regulatory timeframes. Repairing leaks identified as likely emitting at a higher volume by the Large Leak Prioritization program will also remain a priority to maximize emission reductions.

For 2028, SoCalGas plans to target accelerated repair times of 75 days or less in the TY 2028 GRC for leaks identified as likely emitting at a higher volume by the Large Leak Prioritization program.

Part 3. Abatement Estimates

Because of the funding authorized in Resolution G-3605, SoCalGas anticipates emissions from nonhazardous Distribution Main & Service line leaks in 2027 will increase relative to 2025 and 2026. A reversal to this near-term increase is possible in 2028 following the forthcoming TY 2028 GRC Decision.

To estimate the emission reductions, SoCalGas first estimated the number of potentially large leaks that it expects to detect and repair during 2027 and 2028. Next, SoCalGas estimated the volume of emissions that would be released if Code 2 Plastic, Code 2 Steel, and Code 3 Plastic leaks were repaired within their compliance timeframes, and SoCalGas also estimated the volume of emissions that would be released if Code 3 Steel leaks were repaired in 49 months. Forty-nine months was utilized for Code 3 Steel leaks because this was the average repair time for Code 3 Steel leaks from the 2015 baseline year. Finally, after summing these volumes, SoCalGas subtracted the estimated volume of emissions that would be released if the leaks were repaired within the accelerated timeframe of 75 days. The resulting difference is the estimated emission reductions.

Forecast of Emission Reductions (MCF)

2027	2028
555,560	602,585

Part 4. Cost Estimates

The 2027 costs are authorized by Resolution G-3605. The 2028 costs to accelerate repair times for leaks identified by the Large Leak Prioritization program to an average of 75 days will be requested in SoCalGas' TY 2028 GRC Application. Revenue requirement for the work planned during 2027 and 2028 is included in the table below.

Total Revenue Requirement over Expected Life of Investment
$61.9 million
Average Annual Revenue Requirement
$17.3 million

Part 5. Cost Effectiveness/Benefits

Leak Inventory Reduction has played a large role in the SoCalGas NGLAP, advancing the objectives of SB 1371 and CARB. From 2020 to 2025, SoCalGas achieved a significant improvement in leak repair times, reducing the average duration from 21 months to eight (8) months. This accelerated pace allowed SoCalGas to nearly reach a 40 percent reduction in methane emissions compared to the 2015 baseline well ahead of schedule. These improvements have delivered meaningful benefits, including lower emissions that support climate goals, enhanced safety by preventing leaks from becoming hazardous, improved system reliability, and reduced long-term maintenance costs.

However, Resolution G-3605 authorized funding only to meet compliance requirements and maintain a 20 percent reduction, which creates challenges to sustain the progress and benefits already realized.

Looking forward, SoCalGas anticipates continued benefits from implementing this Chapter. Timely repair of nonhazardous leaks is critical because such leaks can become hazardous over time. By addressing them more promptly, SoCalGas reduces the risk of escalation and enhances safety for customers and communities. Furthermore, accelerated repairs strengthen system reliability by minimizing the likelihood of service disruptions and operational risks. These efforts will help preserve environmental and safety improvements while supporting California's long-term climate and energy objectives. In addition, these efforts also help reduce long-term maintenance costs by eliminating the need for recurring operational monitoring by SoCalGas technicians. By preventing leaks from persisting, SoCalGas mitigates the risk that leaks become more costly to repair in the future.

Historical Achieved Cost Effectiveness Calculations (2018-2024) ($/MCF)

Standard Cost Effectiveness	With Cap and Invest Cost Benefits	With Cap and Invest, and Social Cost of Methane Cost Benefits
$68	$66	$40

Forecast of Cost Effectiveness Calculations (2027-2028) ($/MCF)

Standard Cost Effectiveness	With Cap and Invest Cost Benefits	With Cap and Invest, and Social Cost of Methane Cost Benefits
$24	$23	-$3

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 2: Increased Leak Survey

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 15: Gas Distribution Leak Surveys
Utilities should conduct leak surveys of the gas distribution system every 3 years, not to exceed 39 months, in areas where General Order (G.O.) 112-F, or its successors, requires surveying every 5 years. In lieu of a system-wide three-year leak survey cycle, utilities may propose and justify in their Compliance Plan filings, subject to Commission approval, a risk-assessment based, more cost-effective methodology for conducting gas distribution pipeline leak surveys at a less frequent interval. However, utilities shall always meet the minimum requirements of G.O. 112-F, and its successors.
Best Practice 16: Special Leak Surveys
Utilities shall conduct special leak surveys, possibly at a more frequent interval than required by G.O. 112-F (or its successors) or BP 15, for specific areas of their transmission and distribution pipeline systems with known risks for natural gas leakage. Special leak surveys may focus on specific pipeline materials known to be susceptible to leaks or other known pipeline integrity risks, such as geological conditions. Special leak surveys shall be coordinated with transmission and distribution integrity management programs (TIMP/DIMP) and other utility safety programs. Utilities shall file in their Compliance Plan proposed special leak surveys for known risks and proposed methodologies for identifying additional special leak surveys based on risk assessments (including predictive and/or historical trends analysis). As surveys are conducted over time, utilities shall report as part of their Compliance Plans, details about leakage trends. Predictive analysis may be defined differently for differing companies based on company size and trends.

Historic Project Achievements:

SoCalGas began accelerated leak surveys in 2018, moving Vintage Plastic (Aldyl-A (PE) pipe installed before 1986) distribution line surveys to annual inspections, instead of 5-year cycles required in 49 CFR § 192.723. This activity was funded by DIMP. Unprotected Steel lines were accelerated to annual surveys in 2020 through the NGLAP. Implementation of the increased leak survey program required developing survey algorithms, reworking survey schedules, levelizing annual survey dates, updating Gas Standards, hiring and training survey technicians and leakage clerks, and purchasing vehicles and survey equipment. The entire program was implemented over a 7-year period, and levelization was completed at the end of 2025.

Program benefits included faster leak detection and repair relative to the prior 3- or 5-year survey cycles, which not only reduces methane emissions, but also limits the timeframe during which leaks can potentially increase in size and extent between survey cycles. The benefits of the program have contributed to increased safety, reliability, and reduced emissions. However, in accordance with the direction from the CPUC in Resolution G-3605, all previously accelerated leak survey cycles were decelerated in 2026 except for Vintage Plastic, which remains on a 1-year cycle.

Emission Reductions Achieved:

Historical Emission Reductions (MCF)

2018	2019	2020	2021	2022	2023	2024
162,794	179,658	442,119	310,655	262,745	318,351	327,424

Emission reductions from mains and services are calculated by estimating how much earlier leaks were identified by the accelerated surveys relative to the prior cycles and then multiplying the durations by the leaks' emission factors. For riser and MSA leaks, the reductions are estimated by first assuming that the number of leaks found through the accelerated surveys were proportional to the increases in survey mileage. Next, SoCalGas estimated how much earlier leaks were identified by the accelerated surveys relative to the prior cycles and multiplied this by the average emission factor and the estimated number of leaks to calculate the emission reductions.

Cost Effectiveness Evaluation of Historic Work:

Historical Standard Cost Effectiveness ($/MCF)

Projected in 2024 Compliance Plan	Actual Cost Effectiveness (2018-2024)
$71	$5

Part 2. Proposed New or Continuing Measure

Resolution G-3605 denied funding beyond 2025 for Ch. 2 Increased Leak Survey. As a result, SoCalGas returned its Unprotected Steel survey schedule to the prior 3-year cycles required by 49 CFR § 192.723 For this 2-year Compliance Plan period, SoCalGas will continue the 3-year survey cycles for Unprotected Steel, which does not require additional funding.

Part 3. Abatement Estimates

Forecast of Emission Reductions (MCF)*

2027	2028
146,308	146,308

*Note: Forecasted reductions are only for accelerated surveys on Vintage Plastic because SoCalGas' proposal to continue accelerated surveys on Unprotected Steel was not authorized in Resolution G-3605.

Forecasted emission reductions are calculated by averaging the emission reductions achieved through accelerated surveys on Vintage Plastic during 2023 and 2024.

Part 4. Cost Estimates

SoCalGas discontinued this program following Resolution G-3605. No funding is requested.

Part 5. Cost Effectiveness/Benefits

Cost effectiveness cannot be calculated because SoCalGas does not request funding for this Chapter during this Compliance Period.

Part 6. Supplemental Information/Documentation

Not applicable.

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 23: Minimize Emissions from Operations, Maintenance and Other Activities
Utilities shall minimize emissions from operations, maintenance, and other activities, such as new construction or replacement, in the gas distribution, transmission systems, and storage facilities. Utilities shall replace high-bleed pneumatic devices with technology that does not vent gas (i.e. no-bleed) or vents significantly less natural gas (i.e. low-bleed) devices. Utilities shall also reduce emissions from blowdowns, as much as operationally feasible.
Best Practice 3: Pressure Reduction Policy
Written company policy stating that pressure reduction to the lowest operationally feasible level in order to minimize methane emissions is required before non-emergency venting of high-pressure distribution (above 60 psig), transmission, underground storage infrastructure consistent with safe operations, and considering alternative potential sources of supply to reliably serve customers.
Best Practice 4: Project Scheduling Policy
Written company policy stating that any high-pressure distribution (above 60 psig), transmission or underground storage infrastructure project that requires evacuating methane will build time into the project schedule to minimize methane emissions to the atmosphere consistent with safe operations and considering alternative potential sources of supply to reliably serve customers. Projected schedules of high-pressure distribution (above 60 psig), transmission or underground storage infrastructure work, requiring methane evacuation, shall also be submitted to facilitate audits, with line venting schedule updates TBD.
Best Practice 5: Methane Evacuation Procedures
Written company procedures implementing the BPs approved for use to evacuate methane for non-emergency venting of high-pressure distribution (above 60 psig), transmission or underground storage infrastructure, how to use them consistent with safe operations, and considering alternative potential sources of supply to reliably serve customers.
Best Practice 6: Methane Evacuation Work Orders Policy
Written company policy that requires that for any high-pressure distribution (above 60 psig), transmission or underground storage infrastructure projects requiring evacuating methane, Work Planners shall clearly delineate, in procedural documents, such as work orders used in the field, the steps required to safely and efficiently reduce the pressure in the lines, prior to lines being vented, considering alternative potential sources of supply to reliably serve customers.
Best Practice 7: Bundling Work Policy
Written company policy requiring bundling of work, whenever practicable, to prevent multiple venting of the same piping consistent with safe operations, and considering alternative potential sources of supply to reliably serve customers. Company policy shall define situations where work bundling is not practicable.

Historic Project Achievements:

SoCalGas has documented use of cost-effective methods to reduce vented emissions during high-pressure construction projects, including performing pressure reduction using mobile compressors, transferring gas to lower pressure systems, and isolating smaller sections of pipe using gas capture tank trailers.

Operators of natural gas pipeline systems routinely reduce line pressure and discharge gas from pipeline sections to provide safe working conditions during maintenance and repair activities. In the 2022 and 2024 Compliance Plans, SoCalGas was approved to continue blowdown reduction efforts and to increase the resources to support blowdown gas capture activities. This included purchasing compressors and cross-compression equipment to reduce blowdown emissions, increasing field operations staff to support the incremental time required to reduce blowdown emissions, and creating a recordkeeping and compliance process to document that the requirements of the Best Practices are being met.

In addition to staffing efforts, in October 2021 SoCalGas published a Gas Standard 223.0155, *Planning Pipeline Blowdowns and Reporting* to outline the methods of blowdown reduction and provide resources to Planners and Project Managers when planning pipeline blowdowns and the associated blowdown reductions.

Emission Reductions Achieved:

The 2015 baseline for blowdown emissions reported for Blowdowns in Transmission Pipelines, Transmission M&R Stations, Distribution Mains & Services, Distribution M&R Stations totaled 204,987 MCF. Emissions from these categories in the calendar years 2018, 2019, 2020, 2021, and 2022 totaled 167,211 MCF, 134,787 MCF, 76,352 MCF, 13,335 MCF, and 21,478 MCF, respectively. This equates to an estimated reduction of 37,776 MCF for 2018, 70,200 MCF for 2019, 128,635 MCF for 2020, 191,652 MCF for 2021, and 183,509 MCF for 2022.

Beginning in 2023, SoCalGas was required to report the volumes of mitigated Transmission Pipeline blowdowns on the Annual Emissions Report, which are now being leveraged to estimate emission reductions for 2023 and 2024. The annual mitigated blowdown emissions reported in this Compliance Plan are from the following categories: Blowdowns in Transmission Pipelines, Transmission M&R Stations, and Distribution Mains & Services. Emissions mitigated from these three (3) categories over calendar years 2023 and 2024 totaled 641,463 MCF, 152,957 MCF, and 4,289 MCF respectively. This equates to an estimated reduction of 314,427 MCF for 2023, and 483,382 MCF for 2024.

Historical Emission Reductions (MCF)

2018	2019	2020	2021	2022	2023	2024
37,776	70,200	128,635	191,652	183,509	314,428	483,382

Cost Effectiveness Evaluation of Historic Work:

Historical Standard Cost Effectiveness ($/MCF)

Projected in 2024 Compliance Plan	Actual Cost Effectiveness (2018-2024)
$30	$25

Part 2. Proposed New or Continuing Measure

For 2027, SoCalGas will continue implementing high-pressure pipeline blowdown reduction measures across both Transmission and Distribution systems. These activities include bundling work on high-pressure lines when practical and safe, lowering line pressures before blowdowns, and using cross-compression and gas-capture services to minimize methane emissions.

SoCalGas will maintain and expand the blowdown reduction program by increasing the use of gas capture and recompression technologies, as well as installing fittings on valves to enable additional cross-compression capabilities. These enhancements support consistent methane mitigation and align with established internal procedures.

Projects often require blowdown equipment to remain deployed on-site for extended periods—sometimes several weeks—due to operational complexity and safety monitoring requirements. This reduces equipment availability for other scheduled work and forces the CNG Support Services team to reprioritize or delay projects. To address this constraint, SoCalGas plans to purchase additional gas capture tank trailers in 2027, supported by authorized funding, to increase availability and reduce scheduling bottlenecks.

In 2028, SoCalGas will continue its high-pressure blowdown reduction efforts and will request funding in the TY 2028 GRC Application to replace aging medium gas capture tank trailers. This equipment is reaching end of life, and replacing it is necessary to maintain the reliability and effectiveness of blowdown mitigation operations.

Part 3. Abatement Estimates

SoCalGas estimates reducing Blowdown emissions within the Transmission Pipeline, Transmission M&R Stations, Distribution Mains & Services, and Distribution M&R Station Categories will result in the following annual emission reductions.

Forecast of Emission Reductions (MCF)

2027	2028
398,905	398,905

Blowdown emissions are a function of activity level. From 2027 to 2028, the forecasted emission reductions were derived from the average historical emission reductions from emission years 2023 and 2024. SoCalGas will continue evaluating opportunities to expand blowdown reduction

capabilities, and emerging technologies may allow for further reductions in future Compliance Periods.

Part 4. Cost Estimates

The 2027 costs are authorized by Resolution G-3605. The 2028 funding will be requested in SoCalGas' TY 2028 GRC Application. Revenue requirement for the work planned during 2027 and 2028 is included in the table below.

Total Revenue Requirement over Expected Life of Investment
$94.5 million
Average Annual Revenue Requirement
$7.0 million

Part 5. Cost Effectiveness/Benefits

The blowdown reduction program is a cost-effective investment that minimizes methane emissions, contributing to California's climate goals and reducing environmental impact in the communities SoCalGas serves. In addition, the program directly supports system safety and affordability.

From a safety perspective, the use of cross compression and gas capture equipment allows SoCalGas to safely reduce pipeline pressure, which reduces the risk of uncontrolled releases and enhances worker and public safety. These practices are aligned with SoCalGas Gas Standard 223.0155, *Planning Pipeline Blowdowns and Reporting,* which promotes consistent application of mitigation procedures across all high-pressure operations.

Blowdown reduction activities have saved an average annual volume of 398,905 MCF during 2023 and 2024. By using the U.S. EPA greenhouse gas equivalencies calculator,[1] the annual savings are equivalent to greenhouse gas emissions from 50,100 gasoline power passenger vehicles driven for one (1) year or CO_2 emissions from 2,460,435 gallons of gasoline consumed. These improvements stem from advanced gas capture and recompression techniques that align with CPUC directives and internal Company standards and procedures. In the past, it was a standard industry procedure to vent the entire volume of gas into the atmosphere, whereas now SoCalGas is mitigating these vented emissions to reduce environmental impact.

The program supports affordability by injecting gas back into SoCalGas' pipeline infrastructure that would otherwise have been vented to the atmosphere. The annual cost savings of this program are expected to result in a cost benefit of $2,178,021 based on the WACOG of $5.46/MCF and estimated annual emission reductions of approximately 400,000 MCF through 2028. These reductions are achievable through continued investment in SoCalGas-owned equipment and operational enhancements that support sustained abatement across both

[1] Greenhouse Gas Equivalencies Calculator | US EPA

Transmission and Distribution systems. These efficiencies minimize cost for customers while reliably mitigating blowdown emissions.

The requested funding in the TY 2028 GRC Application is necessary to continue providing these benefits to customers and continue SoCalGas' internal capabilities. Investing in SoCalGas-owned equipment supports long-term cost control, promotes compliance with SB 1371's Best Practices, and enables sustained emission reductions. This program is essential to meeting regulatory expectations and providing safe, reliable, and affordable service for SoCalGas' customers. Reducing methane emissions improves regional air quality and accelerates progress toward the state's 2030 climate commitment and 2045 carbon neutrality goal.

Historical Achieved Cost Effectiveness Calculations (2018-2024) ($/MCF)

Standard Cost Effectiveness	With Cap and Invest Cost Benefits	With Cap and Invest, and Social Cost of Methane Cost Benefits
$25	$23	-$3

Forecast of Cost Effectiveness Calculations (2027-2028) ($/MCF)

Standard Cost Effectiveness	With Cap and Invest Cost Benefits	With Cap and Invest, and Social Cost of Methane Cost Benefits
$12	$10	-$16

Part 6. Supplemental Information/Documentation

Not applicable.

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 15: Gas Distribution Leak Surveys
Utilities should conduct leak surveys of the gas distribution system every 3 years, not to exceed 39 months, in areas where General Order (G.O.) 112-F, or its successors, requires surveying every 5 years. In lieu of a system-wide three-year leak survey cycle, utilities may propose and justify in their Compliance Plan filings, subject to Commission approval, a risk-assessment based, more cost-effective methodology for conducting gas distribution pipeline leak surveys at a less frequent interval. However, utilities shall always meet the minimum requirements of G.O. 112-F, and its successors.
Best Practice 16: Special Leak Surveys
Utilities shall conduct special leak surveys, possibly at a more frequent interval than required by G.O. 112-F (or its successors) or BP 15, for specific areas of their transmission and distribution pipeline systems with known risks for natural gas leakage. Special leak surveys may focus on specific pipeline materials known to be susceptible to leaks or other known pipeline integrity risks, such as geological conditions. Special leak surveys shall be coordinated with transmission and distribution integrity management programs (TIMP/DIMP) and other utility safety programs. Utilities shall file in their Compliance Plan proposed special leak surveys for known risks and proposed methodologies for identifying additional special leak surveys based on risk assessments (including predictive and/or historical trends analysis). As surveys are conducted over time, utilities shall report as part of their Compliance Plans, details about leakage trends. Predictive analysis may be defined differently for differing companies based on company size and trends.
Best Practice 20a: Quantification
Utilities shall develop methodologies for improved quantification and geographic evaluation and tracking of leaks from the gas systems. Utilities shall file in their Compliance Plan how they propose to address quantification. Utilities shall work together with CPUC and ARB staff to come to an agreement on a similar methodology to improve emissions quantification of leaks to assist the demonstration of actual emission reductions.
Best Practice 21: Find It, Fix It
Utilities shall repair leaks as soon as reasonably possible after discovery, but in no event, more than 3 years after discovery. Utilities may make reasonable exceptions for leaks that are costly to repair relative to the estimated size of the leak.

Historic Project Achievements:

SoCalGas has historically repaired leaks based on safety risk and has coded leaks as grades 1, 2, or 3 based on proximity to buildings, population density, and concentration of the leak. In the past, leak repair prioritization was solely based on safety and there was no correlation with emission volumes.

In the 2018 Compliance Plan, SoCalGas was approved to develop a method to differentiate leak locations with potentially larger leak rates and to conduct leak quantification resulting in repairs prioritized by leak rate.

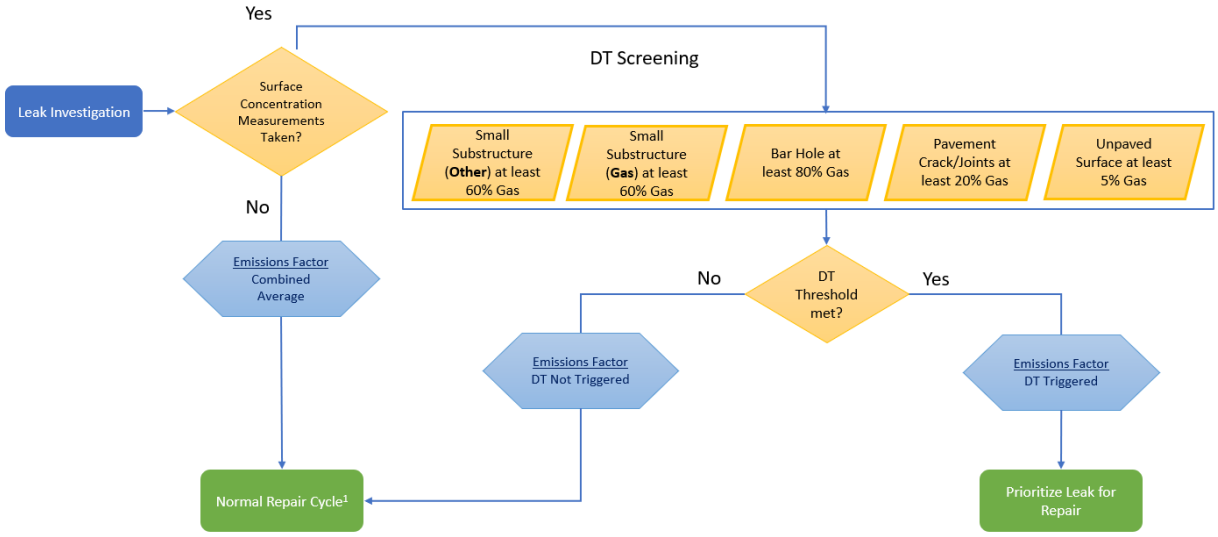
2026 SB 1371 Compliance Plan
Chapter 4: Large Leak Prioritization

In 2019, SoCalGas developed a decision tree methodology to identify and prioritize Code 2 and Code 3 leaks using surface expression measurements. The program was implemented in three (3) Gas Distribution Service Districts. Expedited leak repair was performed by the leakage personnel hired to support incremental leak repair for emission reduction, as outlined in Chapter 1.

During the Decision Tree Pilot Study, data showed that approximately 15% of leaks that met the Decision Tree threshold required measurement. Of the leaks that required measurement, approximately 13% were identified as "large leaks," or roughly 2% of all detected leaks. At the time of the pilot study, the threshold for a leak to be considered large is a flux rate greater than or equal to 10 CFH.

Based on the results of the 2021 Emission Factor Pilot Study Report, where emission flux rates were measured on 195 leaks, the average emission rate for large leaks is estimated at 8.29 CFH. Leaks that did not meet the decision tree threshold have an estimated emission rate of 2.10 CFH, and leaks where the decision tree process cannot be applied have an estimated emission rate of 4.52 CFH. SoCalGas will consider large leak cutoff points of 10 SCFH for all leaks that meet the decision tree and 6 CFH for all quantified leaks. SoCalGas strives to prioritize all large leaks for repair as soon as logistically possible. The updated decision tree is shown below:

Figure 1. The Leak Investigation Decision Tree



1The normal repair cycle is based on leak grade (e.g., Code 1 leaks are repaired immediately while Code 2 and Code 3 leaks are repaired within the required regulatory time frame)

Emission Reductions Achieved:

Historical Emission Reductions (MCF)

2018	2019	2020	2021	2022	2023	2024
N/A	N/A	N/A	23,962	85,790	47,481	30,890

Emission reductions achieved in 2021 by implementing this activity in the Gas Distribution Service Districts were 23,962 MCF. Due to the 2020 Compliance Plan being approved in late 2020 and the COVID-19 pandemic, the implementation of the Large Leak Prioritization (LLP) program was implemented late in 2021, resulting in emission reductions lower than the estimated 54,646 MCF in the 2020 Compliance Plan. In 2022, the emission reductions achieved by implementing the LLP program were 85,790 MCF. The program was fully implemented in 2022 because the obstacles referenced above delayed progress in the previous year. Emission reductions achieved are displayed in the table above.

The accelerated leak repairs are part of the Leak Inventory Reduction Program Chapter 1.

Cost Effectiveness Evaluation of Historic Work:

Historical cost effectiveness was not evaluated for the 2022 Compliance Period because SoCalGas did not request any additional funding for this program.

Part 2. Proposed New or Continuing Measure

SoCalGas plans to continue implementing the previously approved measures and does not propose new measures.

Part 3. Abatement Estimates

Estimated emission reductions are included in Chapter 1 of this Compliance Plan because accelerated leak repairs are part of the Leak Inventory Reduction Program.

Part 4. Cost Estimates

This measure has been incorporated into SoCalGas' routine operations as part of Chapter 1 maintenance activities and will be included in SoCalGas' TY 2028 GRC Application. No additional funding is being requested as part of this Compliance Plan.

Part 5. Cost Effectiveness/Benefits

The LLP initiative integrates leak-rate quantification to develop accurate emission factors for below ground leaks, enabling the identification of potentially high-emitting leaks through a decision-tree methodology. This approach prioritizes the repair of potentially high-emitting leaks, significantly reducing methane emissions, allowing leakage personnel to focus on the most impactful repairs improving operational efficiency. By directly reducing methane emissions, the LLP program advances climate objectives and enhances cost effectiveness because it integrates seamlessly into standard operational processes.

Part 6. Supplemental Information/Documentation

Not applicable.

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 24: Dig-Ins and Public Education Program
Expand existing public education program to alert the public and third-party excavation contractors to the Call Before You Dig – 811 program. In addition, utilities must provide procedures for excavation contractors to follow when excavating to prevent damaging or rupturing a gas line.
Best Practice 25: Dig-Ins and Company Standby Monitors
Utilities must provide company monitors to witness all excavations near gas transmission lines to ensure that contractors are following utility procedures to properly excavate and backfill around transmission lines.
Best Practice 26: Dig-Ins and Repeat Offenders
Utilities shall document procedures to address Repeat Offenders such as providing post-damage-safe excavation training and on-site spot visits. Utilities shall keep track and report multiple incidents, within a 5-year period, of dig-ins from the same party in their Annual Emissions Inventory Reports. These incidents and leaks shall be recorded as required in the recordkeeping best practice. In addition, the utility should report egregious offenders to appropriate enforcement agencies including the California Contractors State License Board. The Board has the authority to investigate and punish dishonest or negligent contractors. Punishment can include suspension of their contractor's license.

Historic Project Achievements:

In 2019, SoCalGas completed a pilot using four (4) Damage Prevention Analysts (DPA) to engage, educate, and enforce the use of Dig Alert, which involves calling 811 prior to excavation. These communications were triggered by a risk analysis algorithm that flags excavations that may be at a higher risk of damaging a pipeline. The pilot resulted in over 2,100 field contacts with excavators, over 200 educational safe excavation training sessions, and 300 damage investigations, thus promoting improved excavation safety. In 2021, SoCalGas continued to develop the damage prevention risk analysis algorithm to utilize the information that would be used to trigger a proactive intervention. Proactive interventions included activities that SoCalGas performed to address potential excavation sites that pose a high risk of damage, resulting in methane emissions. Furthermore, SoCalGas expanded the resources necessary to accommodate implementing the risk analysis algorithm process by hiring an additional six (6) DPAs.

Using the prioritized results from the risk analysis algorithm, SoCalGas personnel communicated with excavators to discuss the project and the importance of locating and protecting natural gas pipes within the project's delineated area. The method of communication included phone calls, text messages, emails, or job site visits prior to the date of excavation. This proactive excavation intervention enabled SoCalGas to minimize methane emissions from preventable damages.

In 2023, the Damage Prevention Algorithm & Proactive Intervention project for the 2022 Compliance Plan period was not approved because of its high standard cost effectiveness. Because

this project is deemed a crucial component in emissions prevention, it was incorporated into SoCalGas' routine O&M activities.

Emission Reductions Achieved:

No updates to the achieved emission reductions were made for this Compliance Period.

Cost Effectiveness Evaluation of Historic Work:

No updates on the cost effectiveness of historic work were made for this Compliance Period.

Part 2. Proposed New or Continuing Measure

SoCalGas does not propose new or continuing measures for this Chapter.

Part 3. Abatement Estimates

SoCalGas is not proposing new or continuing measures, and therefore, abatement estimates are not available.

Part 4. Cost Estimates

SoCalGas does not request funds for this Chapter in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

Cost effectiveness cannot be calculated because SoCalGas does not request funding for this Chapter during this Compliance Period.

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 6: Advanced Meter Analytics Algorithm

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 17: Enhanced Methane Detection
Utilities shall utilize enhanced methane detection practices (e.g. mobile methane detection and/or aerial leak detection) including gas speciation technologies.

Historic Project Achievements:

Prior to the implementation of Advanced Meter technology, SoCalGas relied on monthly meter readings to monitor gas usage. This approach often delayed the detection of high consumption or potential leaks, resulting in investigation timelines of up to 45 days.

SoCalGas adopted Advanced Meter technology, enabling the collection of hourly consumption data. This advancement significantly improved the ability to identify and respond to unusual usage patterns, reducing investigation times from 45 days to within 48 hours. The result has been enhanced safety and reduced methane emissions through faster response to leaks and excessive usage.

The Consumption Analytics Team's efforts have led to significant improvements, including the development of algorithms to detect gas consumption anomalies and evaluate millions of data points daily.

As data science capabilities matured, SoCalGas initiated a new project under the 2022 RD&D Compliance Plan to enhance its leak detection algorithms.

SoCalGas continued to explore the development of leak-identifying algorithms under its RD&D program; however, this initiative was paused due to funding constraints in 2025. The project did not exit the RD&D phase.

Emission Reductions Achieved:

Because the project was in RD&D development, there are no emission reductions to report.

Cost Effectiveness Evaluation of Historic Work:

The project was in RD&D development; and therefore, historical cost effectiveness cannot be quantified.

Part 2. New or Continuing Measure

SoCalGas does not propose new or continuing measures for this Chapter.

Part 3. Abatement Estimates

SoCalGas is not proposing new or continuing measures, and therefore, abatement estimates are not available.

Part 4. Cost Estimates

SoCalGas does not request funds for this Chapter in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

Cost effectiveness cannot be calculated because SoCalGas does not request funding for this Chapter during this Compliance Period.

Part 6. Supplemental Information/Documentation

Not applicable.

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 9: Recordkeeping
Written Company Policy directing the gas business unit to maintain records of all SB 1371 Annual Emissions Inventory Report methane emissions and leaks, including the calculations, data and assumptions used to derive the volume of methane released. Records are to be maintained in accordance with G.O. 112-F, succeeding revisions, and 49 CFR 192. Currently, the record retention time in G.O. 112-F is at least 75 years for the transmission system. 49 CFR 192.1011 requires a record retention time of at least 10 years for the distribution system.

Historic Project Achievements:

Measure 1: Data Lake

In the past, developing the Annual Emissions Report required by the NGLAP involved querying various records, which were stored in varying formats, locations, databases, and with various record owners. This made report generation a time-consuming manual process. Additional challenges arose because the electronic systems were not designed for generating reports for emissions, but rather for billing, maintenance, or operational recordkeeping. To help improve efficiency, between 2020 and 2024, SoCalGas developed a Data Lake with automated interfaces from various source systems to help capture data elements required for emissions reporting. In addition, the Data Lake is designed to enable seamless modification of the emissions reporting templates as they evolve annually. The scope of the Data Lake expanded to capture the dynamic improvement of The Company's technical system upgrades and incorporate new emissions estimation methodologies and reporting requirements. The automated capture of source system data has reduced the effort needed by the critical experienced staff and made the data capture and reporting process more accurate and reliable.

Milestones Completed:

- Developed the Data Lake with automated interfaces from source systems.
- Modified the automated interfaces when source system technical upgrades occurred.
- Enhanced the automated interfaces when new data elements became available.
- Modified and enhanced the automated reports to align with updated emissions estimation methodologies and reporting requirements.

Measure 2: Engineering Data Analytics and Performance Optimization (EDAPO)

SoCalGas developed an initial phase of the EDAPO system to provide capabilities to support advanced analytics for Gas Operations, System Integrity, Distribution, Transmission, and Storage. The initial phase completed a proof-of-concept to forecast distribution system pressure excursions using data from 20 electronic pressure monitors. However, the EDAPO system is capable of capturing hourly pressure data for the entire distribution system, and the project also implemented a pilot phase to capture hourly pressure data from 2,000 electronic pressure monitors representing the entire distribution system. The pilot phase used machine learning to forecast 44% of the 25

distribution system pressure excursions that occurred over a four (4) year period. Although determining the balance between false positives and missed positives was challenging, each avoided pressure excursion reduced the risk of emissions and leak repair costs.

Milestones Completed:

- Completed a proof-of-concept to forecast distribution system pressure excursions using data from 20 electronic pressure monitors.
- Completed a pilot phase using machine learning to forecast distribution system pressure excursions using hourly pressure data from 2,000 electronic pressure monitors.

Measure 3: Asset Field Verification

Prior to the 2018 Compliance Plan, SoCalGas maintenance and inspection work management systems were designed for billing, maintenance, or operational recordkeeping purposes only. Moreover, because consistent naming conventions were not in place, records used varying types of nomenclature relevant to specific departments. Querying records from numerous departments in the Company and combining them to generate a single report was challenging and not readily available.

To improve asset data in the Company's source systems, SoCalGas performed Asset Verification projects at its transmission and storage facilities. The Asset Verification projects enhanced existing systems to include additional data elements required for the methane emissions calculations, which enabled field personnel to record required information into systems that were previously incapable of recording certain component data (e.g., manufacturer, date of installation, and photos). Having such data readily available enhanced the emissions estimations for the mandated Annual Emissions Report associated with these assets, and it has also allowed departments to refer to assets by unified naming methods and improve data governance.

Milestones Completed:

- Field verification of transmission assets completed Q2 of 2023.
- Field verification of storage assets completed Q4 of 2022.

Measure 4: Real-time Data Management for Methane Abatement/Monitoring Support for Other Gas Operational Units

Real-time data management and monitoring is an essential tool to analyze methane emissions and implement efforts to reduce methane emissions effectively across all operational areas. SoCalGas purchased a software license to modernize real-time data management and help improve existing and new methane emissions reduction projects. This tool's Operational & Maintenance cost was distributed to the end of 2025 to comply with regulatory accounting requirements. The tool enabled SoCalGas to improve maintenance/performance practices for its assets in transmission, distribution, and storage facilities. Moreover, the collected data is used to develop analytical capabilities to provide the ability to integrate with enterprise initiatives across the Company.

Milestones Completed:

- Obtained Enterprise license.
- Enabled additional analytics capabilities and gained the ability to integrate with other enterprise initiatives.
- Integrated existing infrastructure into the NGLAP solutions to enhance the Company's compliance with methane emission requirements.

Measure 5: Develop Mobile Field Forms

Prior to the 2022 Compliance Plan, the work management system used by Transmission did not include digitized forms or mobile capabilities. Enhancement efforts to address these deficiencies commenced in 2021 with software module updates to the work management system. The second part of the enhancement was to digitize forms and add mobile and spatial capabilities. Such improvements facilitated data recovery for maintaining assets, improved safety, and eliminated inconsistencies that the paper form may have caused. The digitized forms will also be used for reporting purposes, e.g., SB 1371. The project is anticipated to be completed in Q2 of 2026.

Milestones Completed:

- Modernized and enhanced mobile solutions to have offline capabilities by Q2 of 2022.
- Enabled spatial capabilities to the mobile solution by Q2 of 2022.

Measure 6: Historizing Emission Sensor Data (HESD)

The RD&D Pilot – Evaluation of Stationary Methane Detectors – did not identify monitors that could be deployed to cost-effectively scan for emissions. Therefore, the sensor data intended to be historized by the HESD project was unavailable during the 2023-2024 Compliance Plan period. However, the Emission Reductions Analytical Tools (ERAT) project showed promise for identifying new areas to target for emission reductions. As such, HESD funding from the 2022 Compliance Plan was reallocated to ERAT initiatives during the 2023-2024 Compliance Plan period.

Measure 7: Emission Reduction Analytical Tools (ERAT)

During 2023, a tool for forecasting annual emissions from Distribution Main & Service leak was completed within the ERAT portfolio. The tool allows the user to forecast emissions based on targeted repair durations and projected leak counts.

Milestones Completed:

- Produced a tool for forecasting emissions from Distribution Main & Service leaks.
- Initiated development of several tools for identifying areas to focus emission reduction efforts before the project was paused to support affordability.

Measure 8: Program Process Improvement

The NGLAP is focused on the technology, data, and best practices that guide SoCalGas in reducing emissions. The NGLAP is structured to support the elements of satisfying regulatory requirements, tracking financials and compliance requirements, responding to data requests, establishing dashboard(s) with metrics/project controls, and implementing the projects as outlined in the SB 1371 Compliance Plan for emission reductions.

The NGLAP developed and integrated tools to support these efforts that help enhance consistency and accuracy across the program. This allowed for improved tracking of key performance indicators and decision-making. This process improvement utilized tools and methodologies to effectively manage the program's workflow, including the below workstreams:

- Finance & Regulatory.
- Project Execution.
- Research & Development.
- Policy & Communication.

Milestones Completed:

- Developed and deployed a program dashboard that included descriptive program and financial analytics for all Compliance Plan chapters.
- Automated reports for blowdown reduction metrics.
- Configured and deployed data models for leak repair and overall program financials for optimized analytic query workloads.

Emission Reductions Achieved:

The measures in Chapter 7 were designed to comply with mandatory Best Practice 9 established by D.17-06-015. Due to the nature of Best Practice 9, emission reductions cannot be quantified.

Cost Effectiveness Evaluation of Historic Work:

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 2. Proposed New or Continuing Measures

Measure 1: Data Lake

SoCalGas plans to maintain the previously approved project and does not propose any new measures. For 2027, SoCalGas will utilize the authorized funds from Resolution G-3605, and the 2028 funding will be requested in SoCalGas' TY 2028 GRC Application.

Part 3. Abatement Estimates

The measures in Chapter 7 were designed to comply with mandatory Best Practice 9 established by D.17-06-015. Due to the nature of Best Practice 9, emission reductions cannot be quantified.

Part 4. Cost Estimates

The 2027 costs are authorized by Resolution G-3605. The 2028 funding will be requested in SoCalGas' TY 2028 GRC Application.

Part 5. Cost Effectiveness/Benefits

The measures in this Chapter were developed to comply with mandatory Best Practice 9 from D.17-06-015. Best Practice 9 requires SoCalGas to maintain records, data, calculations, and assumptions associated with emissions reporting, and D.17-06-015 states that accurate reporting, including estimation methodologies and assumptions, is critical for regulatory audits to promote compliance. SoCalGas maintains compliance with these requirements by developing tools to gather, track, and improve program data.

In addition, these tools enhance affordability by reducing the amount of time that staff need to spend gathering data for annual reporting and general program management, and the tools bolster the resilience and reliability of SoCalGas' reporting and project management processes by automating part of the processes. The automation helps to confirm that data are prepared in a consistent and accurate manner.

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 8: Geographic Tracking

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 9: Recordkeeping
Written Company Policy directing the gas business unit to maintain records of all SB 1371 Annual Emissions Inventory Report methane emissions and leaks, including the calculations data and assumptions used to derive the volume of methane released. Records are to be maintained in accordance with G.O. 112 F and succeeding revisions, and 49 CFR 192. Currently, the record retention time in G.O. 112 F is at least 75 years for the transmission system. 49 CFR 192.1011 requires a record retention time of at least 10 years for the distribution system. Exact wording TBD by the company and approved by the CPUC, in consultation with CARB, as part of the Compliance Plan filing.
Best Practice 20b: Geographic Tracking
Utilities shall develop methodologies for improved geographic tracking and evaluation of leaks from the gas systems. Utilities shall work together, with CPUC and ARB staff, to come to agreement on a similar methodology to improve geographic evaluation and tracking of leaks to assist demonstrations of actual emissions reductions. Leak detection technology should be capable of transferring leak data to a central database to be able to provide data for leak maps. Geographic leak maps shall be publicly available with leaks displayed by zip code or census tract.

Historic Project Achievements:

SoCalGas has implemented two (2) major initiatives under Chapter 8. The first initiative is the implementation of the AVEVA platform, which enables SoCalGas Engineering to create data centric 3D models of high-pressure facilities. SoCalGas requested in prior Compliance Plans to back-model high-pressure facilities in AVEVA and enable scanning technology at facilities with storage and compressor components. Having these 3D models makes it easier to estimate emission volumes, tie leaks with the Company's supply management programs to order replacement parts when needed, identify lead times for replacement, and identify if leaks are on critical systems, which will influence plans for repair.

Since AVEVA's inception, SoCalGas has completed digitization of approximately 2,400 Piping & Instrumentation Diagrams (P&IDs) for its high-pressure facilities. These digital P&IDs allow the SoCalGas Engineering Department to locate engineering tags for pipeline, equipment, or instrumentation that is currently found in these facilities. Additionally, several facilities have generated 3D models. SoCalGas has completed the proposed objectives for the AVEVA project.

SoCalGas' second major initiative under Chapter 8 is the digitization of its ROWs. Currently, SoCalGas' ROWs are mapped in the GIS system by the Company's employees as part of the land acquisition process; however, historic ROWs acquired prior to the GIS posting process are not geospatially depicted in the GIS system. For these historic ROWs, when responding to leak survey or pipeline repair and replacement work requests, SoCalGas' Land & Right of Way team conducts site specific research by reviewing strip maps and leak survey maps (legacy Company maps) to first identify the ROW number, and subsequently, the ROW is reviewed and analyzed to determine

if it correlates to the specific location. To better support leak survey, repair, and replacement projects, historic ROWs were digitized and mapped into the GIS system, making ROW location information more accessible. The digitization of historic ROWs provides geospatial depiction of over 5,000 separate ROW agreements, covering over 2,800 miles of pipelines, which effectively reduces research time and overall costs by:

- Increasing productivity with quick identification of accurate ROW locations from the GIS system, eliminating the time-consuming step of legacy map review.
- Reducing response time to requests from gas operations on leak surveys, pipeline repair or replacement work, and other pipeline maintenance and inspection projects, providing downstream benefits of emission reductions and safety enhancement.
- Efficiently tracking ROWs in the GIS system with a geospatial depiction.

Emission Reductions Achieved:

The measures in Chapter 8 were designed to comply with mandatory Best Practices 9 and 20b established by D.17-06-015. Due to the nature of Best Practices 9 and 20b, emission reductions cannot be quantified.

Cost Effectiveness Evaluation of Historic Work:

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 2. Proposed New or Continuing Measure

SoCalGas does not propose new or continuing measures for this Chapter.

Part 3. Abatement Estimates

The measures in Chapter 8 were designed to comply with mandatory Best Practices 9 and 20b established by D.17-06-015. Due to the nature of Best Practices 9 and 20b, emission reductions cannot be quantified.

Part 4. Cost Estimates

SoCalGas does not request funds for this Chapter in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

The AVEVA project has delivered significant operational and cost-efficiency benefits for SoCalGas. By developing data-centric 3D models and approximately 2,400 P&IDs, the platform enables faster leak identification, more accurate scoping, and streamlined repair planning. Integration with supply chain processes accelerate procurement of replacement parts, reducing downtime and helping to avoid costly emergency repairs. These advancements shorten response times for gas operations teams, strengthen safety by design, and support compliance with SB 1371.

While direct emission reductions cannot be quantified, the project promotes affordability by reducing research time, improving productivity, and minimizing operational disruptions—ultimately lowering long-term costs without requiring ongoing maintenance expenditures.

Furthermore, the digitization of over 5,000 historic ROWs across over 2,800 miles of pipelines streamlines responses to leak surveys and repair work within private properties, helping reduce emissions by enabling faster identification and mitigation of potential gas leaks. By improving access to critical locations and shortening response times for gas operations teams, the system strengthens overall safety for customers and communities. This digital approach also promotes more efficient planning and execution of leak surveys and repairs, supporting affordability by reducing operational inefficiencies and saving time in ROW research. Additionally, tracking ROWs through the GIS system with accurate geospatial depiction enhances SoCalGas' ability to effectively manage its assets, reinforcing system reliability, and promoting consistent, dependable service delivery.

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 6. Supplemental Information/Documentation

Not applicable.

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 13: Performance Focused Training Program
Create and implement training programs to instruct workers, including contractors, on how to perform the BPs chosen, efficiently and safely. Training programs to be designed by the Company and approved by the CPUC, in consultation with CARB, as part of the Compliance Plan filing. If integration of training and program development is required with the company's GRC and/or CBC processes, then the company shall file a draft training program and plan with a process to update the program once finalized into its Compliance Plan.

Historic Project Achievements:

Gas Operations Training has been driven by a strong emphasis on PHMSA's safety regulations. The NGLAP required additional emphasis on the control of emissions. As changes in processes, procedures, equipment, and technology emerged due to implementation of Best Practices, existing training needed to be modified, and new training modules developed. This training supports the new processes and policies, and it trains employees with an increased focus on the environmental impact of methane emissions.

SoCalGas continued to implement its competency-based training program, which encompasses training designed for all new methane mitigation policy and procedural changes. SoCalGas continues to transition from a traditional classroom-only training approach towards a hybrid in-person and competency-based web-based video training module system, which has enhanced the ability to incorporate new policies and increase learning at a faster pace.

Several SoCalGas trainings have been updated from scheduled classes that start and end on specific dates, to an on-demand training paradigm. The individualized instruction environment has allowed students to begin training anytime for specific courses, and those courses conclude when the student has demonstrated competence. The instructor's role has changed from the primary dispenser of instructional content to a facilitator of learning by coaching, mentoring, and observing hands-on activities performed by students. This new training format is enhancing the competency development for the previously implemented courses.

These training modules help introduce new policies and procedures, enhance technician onboarding, reduce field errors, and strengthen safety, supporting SoCalGas' goal to reduce methane emissions.

Emission Reductions Achieved:

The measures in Chapter 9 were designed to comply with mandatory Best Practice 13 established by D.17-06-015. Due to the nature of Best Practice 13, emission reductions cannot be quantified.

Cost Effectiveness Evaluation of Historic Work:

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 2. Proposed New or Continuing Measure

SoCalGas does not propose new or continuing measures for this Chapter.

Part 3. Abatement Estimates

The measures in Chapter 9 were designed to comply with mandatory Best Practice 13 established by D.17-06-015. Due to the nature of Best Practice 13, emission reductions cannot be quantified.

Part 4. Cost Estimates

SoCalGas does not request funding for this initiative in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

The Competency Based Training Development of eLearning modules provides refresher content that helps prevent errors leading to avoidable emissions, reinforcing reliability and safety. By reducing manual entry for knowledge base testing and facilitating instructor-led coaching and mentoring, these modules create a safer and more efficient learning environment. They enhance competency development through a repeatable, documented platform that supports scalability across teams and locations, while enabling rapid integration of new policies and procedures, including those related to methane mitigation and environmental compliance. Additionally, eLearning enhances efficiency in filling vacancies with trained, competent technicians and strengthens safety fundamentals and emission reduction practices through diverse learning methods. Courses offer flexibility with pre-learning options, remote distance learning, and onsite hands-on training, reducing costs and time by eliminating the need for long-distance travel or extended stays.

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 10: Training Facility Enhancements

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 13: Performance Focused Training Program
Create and implement training programs to instruct workers, including contractors, on how to perform the BP's chosen, efficiently, and safely. Training programs to be designed by the Company and approved by the CPUC, in consultation with CARB, as part of the Compliance Plan filing. If integration of training and program development is required with the company's GRC and/or CBC process, then the Company shall file a draft training program and plan with a process to update the program once finalized into its Compliance Plan.

Historical Project Achievements:

SoCalGas has a robust classroom training program provided at a centralized training facility in Pico Rivera. The training facility is equipped with an area known as Situation City, where trainees can experience hands-on real-world scenarios, such as blowing high-pressure lines with an ignition source, within a controlled and safe environment. Training programs are focused primarily on PHMSA's and G.O. 112-F's safety regulations. SoCalGas' SMS is a structured framework with established roles and responsibilities used to manage safety comprehensively, systematically, and in an integrated manner. Per SoCalGas' SMS, "Competence, Awareness, and Training" is one of the Company's ten (10) core Safety Values. All current training programs are focused around incorporating safety in all procedures as a primary goal. As part of its formal training program and Operator Qualification requirements, SoCalGas incorporates hands-on training conducted at Situation City.

Situation City consists of 22 simulated "homes" set up on simulated residential streets with gas meters, mains, and services in the streets. This facility can train distribution, transmission, storage and customer service field students using a real, working gas distribution system in a safe, controlled environment. After completion of the previous Situation City improvements to the leak detection course, SoCalGas can now simulate gas leaks at approximately 1 CFH for training purposes. These new simulations allow training to detect much smaller leaks in an effort to further reduce emissions and increase safety.

Emission Reductions Achieved:

The measures in Chapter 10 were designed to comply with mandatory Best Practice 13 established by D.17-06-015. Due to the nature of Best Practice 13, emission reductions cannot be quantified.

Cost Effectiveness Evaluation of Historic Work:

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 2. Proposed New or Continuing Measures

SoCalGas does not propose new or continuing measures for this Chapter.

Part 3. Abatement Estimates

The measures in Chapter 10 were designed to comply with mandatory Best Practice 13 established by D.17-06-015. Due to the nature of Best Practice 13, emission reductions cannot be quantified.

Part 4. Cost Estimates

SoCalGas does not request funding for this initiative in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

SoCalGas Situation City training facility provides a unique opportunity to advance SoCalGas' goals for emission reductions, safety, reliability, and affordability by delivering realistic, hands-on training in a controlled environment. Featuring simulated homes connected to a functioning gas distribution system, among other training activities, the facility replicates real-world conditions while maintaining safety standards.

Recent enhancements to the leak detection course enable simulation of small gas leaks, allowing trainees to practice identifying minor leaks that contribute to methane emissions. Training scenarios include leaking services with indications at and away from foundations, leaks on concrete cracks, unpaved surfaces (grass), sewer manholes, gas curb meter boxes (CMB), gas valve casings, water meter boxes, electrical boxes (high voltage/street lighting), leaks on risers behind gates, and on meter set assemblies. Furthermore, an integrated electrical panel allows instructors to adjust scenario complexity to match trainee skill levels. These realistic scenarios provide comprehensive exposure to field conditions, enabling trainees to gain practical experience that supports emission reductions, enhances safety, and prevents costly service disruptions.

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 6. Supplemental Information/Documentation

Not applicable.

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 23: Minimize Emissions from Operations, Maintenance and Other Activities
Utilities shall minimize emissions from operations, maintenance and other activities, such as new construction or replacement, in the gas distribution and transmission systems and storage facilities. Utilities shall replace high-bleed pneumatic devices with technology that does not vent gas (i.e. no-bleed) or vents significantly less natural gas (i.e. low-bleed) devices. Utilities shall also reduce emissions from blowdowns, as much as operationally feasible.

Historic Project Achievements:

In the 2022 Compliance Plan, SoCalGas was not approved to implement emission reductions efforts at Storage Facilities. From 2018 to 2021, SoCalGas implemented over 17 projects that reduced emissions from storage facilities. These projects included the modification/removal of orifice meters, replacement of chemical injection pumps with ventless types, reduction of wellhead venting, gas blowdown studies, and the replacement of gas-powered actuation with compressed air.

SoCalGas published Gas Standard 223.0155, *Planning Pipeline Blowdowns and Reporting,* to outline the methods of blowdown reduction and provide resources to Planners and Project Managers when planning pipeline blowdowns and the associated blowdown reductions.

Emission Reductions Achieved:

The Underground Storage Blowdown Emissions reported as the baseline in 2015 were 10,812 MCF. Underground Storage Blowdown Emissions reported in the calendar year 2018 were 3,933 MCF, with an estimated reduction of 6,879 MCF. Underground Storage Emissions reported in the calendar year 2019 were 3,697 MCF, with an estimated reduction of 7,115 MCF. Underground Storage Emissions reported in the calendar year 2020 were 1,783 MCF, with an estimated reduction of 9,029 MCF. Underground Storage Emissions reported in the calendar year 2021 were 2,154 MCF, with an estimated reduction of 8,658 MCF. Underground Storage Emissions reported in the calendar year 2022 were 1,947 MCF, with an estimated reduction of 8,865 MCF. Underground Storage Emissions reported in the calendar year 2023 were 2,165 MCF, with an estimated reduction of 8,647 MCF. Underground Storage Emissions reported in the calendar year 2024 were 1,371 MCF, with an estimated reduction of 9,441 MCF. The following table summarizes these reductions.

Historical Emission Reductions (MCF)

2018	2019	2020	2021	2022	2023	2024
6,879	7,115	9,029	8,658	8,865	8,647	9,441

The historical emission reductions represent the annual emission reductions relative to the 2015 baseline year. These reductions were achieved by the activities in Chapter 11 as well as other enhancements and external factors.

Cost Effectiveness Evaluation of Historic Work:

Historical cost effectiveness was not evaluated because there was no authorized funding for the 2022 Compliance Period.

Part 2. Proposed New or Continuing Measure

SoCalGas does not propose new or continuing measures for this Chapter.

Part 3. Abatement Estimates

SoCalGas is not proposing new or continuing measures, and therefore, abatement estimates are not available.

Part 4. Cost Estimates

SoCalGas does not request funds for this Chapter in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

Cost effectiveness cannot be calculated because SoCalGas does not request funding for this measure during this Compliance Period.

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 12: Stationary Methane Detectors

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 18: Stationary Methane Detectors
Utilities shall utilize Stationary Methane Detectors for early detection of leaks. Locations include: Compressor Stations, Terminals, Gas Storage Facilities, City Gates, and Metering & Regulating (M&R) Stations (M&R above ground and pressures above 300 psig only). Methane detector technology should be capable of transferring leak data to a central database, if appropriate for location.

Historical Project Achievements:

SoCalGas conducted a phased study of stationary methane detection technologies at Company facilities from 2018-2022. This activity explored a range of alternative monitoring technologies to assess their accuracy, propensity to generate false alarms, and cost effectiveness when deployed at M&R stations. SoCalGas included sensors from multiple tunable diode vendors in the evaluation to assess their relative performance in comparison to each other and to the results of on-site leak surveys. The results of the evaluation determined that implementation of stationary methane detector technology at above ground Distribution M&R stations was not cost-effective for early leak detection compared to performing additional leak surveys.

SoCalGas also performed a research study on Stationary Methane Detectors intending to install methane sensors for early leak detection at 50 Transmission facilities. However, the research study has shown that the sensors are not cost-effective.

Emission Reductions Achieved:

Historical Emission Reductions (MCF)

2018	2019	2020	2021	2022	2023	2024
279	279	279	N/A	N/A	N/A	N/A

Cost Effectiveness Evaluation of Historic Work:

SoCalGas' evaluations determined that implementation of stationary methane detector technology at above ground Distribution M&R stations and Transmission facilities was not cost effective.

Part 2. Proposed New or Continuing Measure

SoCalGas does not propose new or continuing measures for this Chapter.

Part 3. Abatement Estimates

SoCalGas is not proposing new or continuing measures, and therefore, abatement estimates are not available.

Part 4. Cost Estimates

SoCalGas does not request funds for this Chapter in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

Cost effectiveness cannot be calculated because SoCalGas does not request funding for this Chapter during this Compliance Period.

Part 6. Supplemental Information/Documentation

Not applicable.

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 20b: Geographic Tracking
Utilities shall develop methodologies for improved geographic tracking and evaluation of leaks from the gas systems. Utilities shall work together, with CPUC and ARB staff, to come to agreement on a similar methodology to improve geographic evaluation and tracking of leaks to assist demonstrations of actual emission reductions. Leak detection technology should be capable of transferring leak data to a central database in order to provide data for leak maps. Geographic leak maps shall be publicly available with leaks displayed by zip code or census tract.

Historical Project Achievements:

Using digital and mobile technology, SoCalGas modernized leak survey operations with the goals of reducing costs, increasing processing efficiency, and enhancing visibility of this critical safety activity. Leak survey instrumentation was used to track leaks and generate data, which was then electronically uploaded into GIS. Breadcrumb (GIS Location) data was collected for developing the ELS mobile application. The ELS project replaced the existing distribution routine leak survey process involving paper maps with:

- GIS web-based portal application that is used to electronically prepare, review, and store leak survey map completions.
- Mobile application on a tablet device that is used by operator qualified technicians to report leak survey completions and to document conditions found that require follow-up, such as leaks.
- Highly integrated solution with SoCalGas software that leverages existing enterprise systems and business workflows to auto-create and generate follow-up work orders.
- Dashboard for managing near real-time work order status and completion.

The ELS project tested the release of the mobile application, resulting in its training and deployment. As implementation continued, the gas system benefitted from improved geographic evaluation and tracking of leaks, ACOR, and other AOC locational data using smart forms. Furthermore, point-and-click technology using GIS coordinates allows information, such as addresses, to be auto-populated.

Emission Reductions Achieved:

The measures in Chapter 13 were designed to comply with mandatory Best Practice 20b established by D.17-06-015. Due to the nature of Best Practice 20b, emission reductions cannot be quantified.

Cost Effectiveness Evaluation of Historic Work:

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 2. Proposed New or Continuing Measure

SoCalGas plans to maintain the existing ELS software and does not propose new measures for this Chapter.

Part 3. Abatement Estimates

The measures in Chapter 13 were designed to comply with mandatory Best Practice 20b established by D.17-06-015. Due to the nature of Best Practice 20b, emission reductions cannot be quantified.

Part 4. Cost Estimates

This measure has been incorporated into SoCalGas' routine O&M activities and will be included in SoCalGas' TY 2028 GRC Application.

Part 5. Cost Effectiveness/Benefits

The implementation of the ELS project delivers significant operational and compliance benefits aligned with organizational goals for emission reduction, safety, reliability, and affordability.

By eliminating reliance on paper-based leak survey maps, including plotting, printing, reviewing, and mailing maps, the initiative strengthens operational controls by reducing cost exposure, decreasing resource consumption, and lowering associated environmental impacts. This transition to digital workflows also mitigates risks related to document loss and process inefficiencies.

Integration with Company software improves geographic accuracy and tracking of leaks and other AOCs, supporting timely follow-up and reducing the risk of human error through auto-populated GIS coordinates.

By automating the leak survey work assignment process within Distribution, the system enhances efficiency and flexibility in cross-district assignments and routing, improving workforce utilization and reducing dependency on manual processes. Automation enhances safety and reliability by providing near real-time access to leak survey data, enabling rapid response during critical events such as system overpressure, seismic activity, fires, and floods supporting faster field response.

Additionally, field supervisors, leakage clerks, and ARSA personnel now receive near real-time updates via the portal app, strengthening oversight and decision-making, which was previously inaccessible on-the-go.

The project also provides valuable data inputs for advanced analytics, supporting future initiatives aimed at cost reduction, enhanced safety, and improved operational efficiency in alignment with regulatory and environmental standards.

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 6. Supplemental Information/Documentation

Not applicable.

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 16: Special Leak Surveys
Utilities shall conduct special leak surveys, possibly at a more frequent interval than required by G.O. 112-F (or its successors) or BP 15, for specific areas of their transmission and distribution pipeline systems with known risks for natural gas leakage. Special leak surveys may focus on specific pipeline materials known to be susceptible to leaks or other known pipeline integrity risks, such as geological conditions. Special leak surveys shall be coordinated with transmission and distribution integrity management programs (TIMP/DIMP) and other utility safety programs. Utilities shall file in their Compliance Plan proposed special leak surveys for known risks and proposed methodologies for identifying additional special leak surveys based on risk assessments (including predictive and/or historical trends analysis). As surveys are conducted over time, utilities shall report as part of their Compliance Plans, details about leakage trends. Predictive analysis may be defined differently for differing companies based on company size and trends.
Best Practice 17: Enhanced Methane Detection
Utilities shall utilize enhanced methane detection practices (e.g. mobile methane detection and/or aerial leak detection) including gas speciation technologies.
Best Practice 20a: Quantification
Utilities shall develop methodologies for improved quantification and geographic evaluation and tracking of leaks from the gas systems. Utilities shall file in their Compliance Plan how they propose to address quantification. Utilities shall work together, with CPUC and ARB staff, to come to agreement on a similar methodology to improve emissions quantification of leaks to assist in the demonstration of actual emissions reductions.

Historic Project Achievements:

Between 2019 and 2020, SoCalGas piloted aerial LiDAR technology to detect and measure methane emissions across 154 square miles of its territory. The pilot demonstrated that the technology is successful in detecting emissions from SoCalGas' system and customer systems.

In 2021, the implementation phase of the project launched on a small scale. By 2024, it was operating at full capacity, scanning nearly 100% of Vintage Plastic (Aldyl-A (PE) pipe installed before 1986) and Unprotected Steel Distribution Mains & Services and the proximal customer parcels that were close enough to be scanned with the LiDAR technology while the helicopter was scanning SoCalGas assets. The results of the years are shown below.

2021-2024 Leak Detection Results

		2021*	2022	2023*	2024
Scanned (Sq miles)		569	2,496	1,464	2,751
Mains & Services Scanned (miles)		18,281	65,599	44,427	81,002
Customer Meters Scanned		933,799	2,994,752	1,911,265	3,564,805
Leak count	System	222	808	482	938
	Non-system	308	1,143	1,096	1,952
Customer Incomplete Combustion count		356	975	899	1,565

*In 2021, the program was initially scaling up. In 2023, the 2022 Compliance Plan decision was delayed which reduced the duration available to implement the full scope of 2023 leading to reduced flights and therefore reduced detections. The reduced funding expenditure in 2023 was made up for in 2024.

From a methane reduction perspective, the key takeaways are:

- The program has a successful track record of detecting and eliminating leaks.
    - As shown in the table above, the program has a proven track record of detecting leaks from SoCalGas' Distribution Mains & Services. By identifying leaks earlier than the scheduled walking surveys, SoCalGas successfully eliminated significant methane emissions (see table below for quantified abatement figures).
- As outlined in the 2024 Compliance Plan, the program is a key contributor to the success of the SB 1371 methane reduction initiative—accounting for 25% of total forecasted emission reductions when non-system emissions are excluded.
- The program has consistently detected emissions from customer equipment. By addressing these emissions, it has (i) reduced methane emissions, (ii) improved the safety of customer equipment, and (iii) lowered customer costs.
- Initial research completed under RD&D demonstrated measurable reductions in methane emissions resulting from the resolution of incomplete combustion in customer appliances. A limited number of customer sites were visited, and using the Carbon Balance equation, based on the Law of Conservation of Mass, SoCalGas estimated that each customer reduced an average of 341 MCF of emissions per year after optimizing previously unoptimized equipment. The potential for further emission reductions remains significant. The addressable opportunity is estimated at 420,000 MCF/year, based on the average number of incomplete combustion cases observed in 2023 and 2024, multiplied by the 341 MCF/year reduction per case. While not all opportunities will be pursued, the scale of the potential reduction highlights a promising path for continued emission mitigation.
- The program has consistently reduced the cost per MCF of emissions abated year-over-year through several initiatives, including: (i) enhancing methane sensor performance, (ii) negotiating volume-based cost reductions with key vendors, and (iii) streamlining internal processes to reduce staffing costs.

De-risking Vintage Aldyl-A pipe:

SoCalGas currently operates Vintage Aldyl-A Plastic pipes, sometimes referred to as NSOTA plastic pipes. In a June 11, 2014 report titled Hazard Analysis and Mitigation Report, the CPUC's staff outlined the risks associated with Vintage Aldyl-A pipes. The report states that "Vintage Aldyl-A pipes were identified as a major potential hazard affecting gas pipeline safety."[2] The Aerial Monitoring program specifically targets the Vintage Aldyl-A pipes and Unprotected Steel pipes among its distribution assets. Therefore, the Aerial Monitoring program helps mitigate a hazard, which the CPUC staff report classified as a "major potential hazard." As demonstrated, the Aerial Monitoring program provides benefits beyond methane reduction and customer safety—it also offers significant safety enhancements for SoCalGas' distribution assets.

Improvement in Cost Effectiveness:

In 2025, Resolution G-3605 denied funding requested for Chapter 2, which improved the economics of the proposed Chapter 14 program.

- CPUC SPD, in its recommendation dated May 15, 2025,[3] stated, "SPD approves the Aerial Monitoring Program as proposed in SoCalGas' 2024 Plan." Within the same recommendation, SPD expressly denied approval of Chapter 2, titled "Increased Leak Survey." Chapter 2 would have required surveys of Unprotected Steel pipelines at one (1) year intervals, rather than the three (3) year interval required by 49 CFR § 192.723.
- At the time the Aerial Monitoring cost effectiveness analysis was presented in the 2024 Compliance Plan, the underlying assumptions reflected the survey cycle proposed in Chapter 2 of the 2024 Compliance Plan. Specifically, if the Aerial Monitoring Program detected a leak on an Unprotected Steel pipeline, the analysis assumed that, under a worst-case scenario, the leak would have been identified through Chapter 2 within one (1) year—because Chapter 2 proposed annual surveys of Unprotected Steel pipelines.
- However, because Chapter 2 funding was denied, walking surveys of Unprotected Steel pipelines were returned to a 3-year cycle rather than a 1-year cycle. Consequently, leaks detected by Aerial Monitoring on Unprotected Steel pipelines could remain undetected for as long as two (2) to three (3) years. This materially increases the emissions that Aerial Monitoring prevents. Emissions associated with other asset classes, such as Protected Steel and plastic pipelines, remain unaffected.

[2] California Public Utilities Commission, *Hazard Analysis and Mitigation Report on Aldyl-A Polyethylene Gas Pipelines in California*, prepared by Steven Haine, P.E., with technical assistance from Gene Palermo, Palo Alto Plastics Pipe Consulting, June 11, 2014, at 29 (identifying vintage Aldyl-A pipes as a "major potential hazard affecting gas pipeline safety").

[3] CPUC Safety Policy Division, *Evaluation of SoCalGas 2024 NGLA Compliance Plan* (May 15, 2025).

- Accordingly, the emission reductions attributable to Aerial Monitoring increase significantly. In Resolution G-3605,[4] the CPUC noted, "The consideration of emission reductions from infrastructure that is not part of SoCalGas' transmission or distribution system is therefore beyond the scope of the CPUC's legislative mandate. When only such emissions from SoCalGas infrastructure are considered, the cost effectiveness of Aerial Monitoring is $61/MCF, which exceeds the cost effectiveness threshold by a considerable margin." However, the $61/MCF cost effectiveness calculations did not account for the concurrent denial of Chapter 2 funding.
- Revised emissions calculations, reflecting the denial of funding for Chapter 2, are presented below. As demonstrated, the Aerial Monitoring program, Chapter 14, meets cost effectiveness criteria under the methodology applied by the CPUC in Resolution G-3605.

Completed Milestones:

- IT System enhancements completed (2022).
- Upgraded sensor from 1st generation to 2nd generation (2022).
- Negotiated lower rates from key vendors (2024).
- Set up a new customer follow up system to confirm customers were closing leaks (2024).

Emission Reductions Achieved:

Historical Emission Reductions (MCF)

Source	2018	2019	2020	2021	2022	2023	2024
SoCalGas	N/A	814	5,191	22,626	141,084	110,305	267,804
Confirmed Customer Leaks Abated[5]	N/A	N/A	N/A	45,196	154,046	166,570	273,651

Cost Effectiveness Evaluation of Historic Work:

System emissions only calculation:

Historical Standard Cost Effectiveness ($/MCF)

Projected in 2024 Compliance Plan	Actual Cost Effectiveness (2018-2024)
$61	$61

[4] Resolution G-3605, *Approves and Denies in Part Southern California Gas Company's 2024 Compliance Plan, Forecasts, and Caps for its Natural Gas Leak Abatement Program*, at p. 16 (Cal. Pub. Utils. Comm'n July 24, 2025).

[5] Customer side emission estimates use the most recent customer leak rates presented in "Incorporation of AMM/GML Detections into SoCalGas Above and Below Ground Leak-Based Emission Factors" white paper.

System+ Confirmed Non-system emission calculation:

Historical Standard Cost Effectiveness ($/MCF)

Projected in 2024 Compliance Plan	Actual Cost Effectiveness (2018-2024)
$24	$25

Part 2. Proposed New or Continuing Measure

This proposal is continuing under the Aviation Services emissions detection program.
Given the improvement in cost effectiveness discussed in Part 2 above, SoCalGas proposes to continue this program at the same objective and funding scope as approved in the 2021-2024 program. As discussed in detail in Part 1 above, there are benefits beyond methane reduction, such as enhanced customer safety, improved affordability, and increased gas distribution system safety.

Part 3. Abatement Estimates

System and non-system leaks

The forecasted reduction in emissions is provided below. This estimate is derived from expectations to find approximately 986 system leaks and 1,505 non-system leaks each year.

Forecast of SoCalGas Emission Reductions (MCF)

Source	2027*	2028
System Leaks	0	275,165
Non-System Leaks Abated	0	273,651

*Aerial Monitoring not funded in 2027

The project proposes to annually cover nearly 100% of Vintage Aldyl-A Plastic and Unprotected Steel lines and nearly 80% of all Distribution Mains & Services. Improvements in LiDAR technology, as seen in 2023, could further increase emission reductions over time.

The current forecasts are based on 2019 pilot studies and the 2021-2024 rollout, using linear models. Additionally, the forecast assumes currently planned survey cycles of the various distribution lines, including 3-year survey cycles of Unprotected Steel lines.

Part 4. Cost Estimates

This measure has been incorporated into SoCalGas' routine O&M activities and will be included in SoCalGas' TY 2028 GRC Application.

Total Revenue Requirement over Expected Life of Investment
$8.4 million
Average Annual Revenue Requirement
$4.2 million

Part 5. Cost Effectiveness/Benefits

The program offers environmental, affordability, and safety benefits. As discussed in the sections above, by detecting leaks sooner, Aerial Monitoring helps SoCalGas reduce emissions from its distribution system, and earlier identification and repair of leaks also helps to enhance system safety.

Moreover, because this program identifies leaks on customer equipment, the program provides a direct safety and cost benefit for customers. This program provides cost benefits to customers by identifying leaks or other issues with their natural gas equipment and appliances. After repairs are completed, customers experience savings in their utility bills because unused gas is no longer leaking from their equipment and appliances. During 2028, SoCalGas estimates that this program will save customers close to $3.5 million due to mitigated leak emissions, assuming $1.56/therms. These benefits may be felt the strongest in DACs, where appliances may be leakier. In 2024, 19% of the customers covered were in DAC regions, but 37% of the leaks and 42% of incomplete combustion detections were in the DAC regions.

System emissions only calculation:

Historical Achieved Cost Effectiveness Calculations (2018-2024) ($/MCF)

Standard Cost Effectiveness	With Cap and Invest Cost Benefits	With Cap and Invest, and Social Cost of Methane Cost Benefits
$61	$59	$33

Forecast of Cost Effectiveness Calculations (2027-2028) ($/MCF)

Standard Cost Effectiveness	With Cap and Invest Cost Benefits	With Cap and Invest, and Social Cost of Methane Cost Benefits
$25	$23	-$3

System + Confirmed Non-system emissions calculation:

Historical Achieved Cost Effectiveness Calculations (2018-2024) ($/MCF)

Standard Cost Effectiveness	With Cap and Invest Cost Benefits	With Cap and Invest, and Social Cost of Methane Cost Benefits
$25	$23	-$2

Forecast of Cost Effectiveness Calculations (2027-2028) ($/MCF)

Standard Cost Effectiveness	With Cap and Invest Cost Benefits	With Cap and Invest, and Social Cost of Methane Cost Benefits
$10	$8	-$18

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 15: Damage Prevention Public Awareness

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 24: Dig-Ins and Public Education Program
Expand existing public education program to alert the public and third-party excavation contractors to the Call Before You Dig – 811 program. In addition, utilities must provide procedures for excavation contractors to follow when excavating to prevent damaging or rupturing a gas line.
Best Practice 25: Dig-Ins and Company Standby Monitors
Utilities must provide company monitors to witness all excavations near gas transmission lines to ensure that contractors are following utility procedures to properly excavate and backfill around transmission lines.
Best Practice 26: Dig-Ins and Repeat Offenders
Utilities shall document procedures to address Repeat Offenders such as providing post-damage safe excavation training and on-site spot visits. Utilities shall keep track and report multiple incidents, within a 5-year period, of dig-ins from the same party in their Annual Emissions Inventory Reports. These incidents and leaks shall be recorded as required in the recordkeeping best practice. In addition, the utility should report egregious offenders to appropriate enforcement agencies including the California Contractor's State License Board. The Board has the authority to investigate and punish dishonest or negligent contractors. Punishment can include suspension of their contractor's license.

Historic Project Achievements:

SoCalGas implements a federally mandated Public Awareness program, as prescribed in 49 CFR § 192.616, which contributes to enhanced public safety. In addition, the State of California mandates a preconstruction meeting with excavators requesting Locate and Mark support and requires continuous monitoring of all excavations within ten feet of high-pressure pipelines pursuant to Cal. Gov't Code § 4216.2. The Public Awareness program is also driven by the requirements of 49 CFR. § 192.616, the technical document, Public Awareness Programs for Pipeline Operators, API RP 1162, and program expansion recommendations by regulators.

SoCalGas conducted the following activities:

- Contractor and Excavator Outreach
    - Paradigm Excavator Outreach Meetings – Additional safety meetings across the service territory.
    - Contractor Damage Prevention Awareness Meetings – Quarterly virtual meetings with DigAlert.
- Damage Prevention Analyst Engagements
    - On-site education including:
        - 7,765 proactive engagements in 2024.
        - 1,719 dig-in investigations in 2024.
        - 253 Outreach engagements in 2024.
        - 233 "Stop the Job" interventions in 2024.

  - Plumber/Sewer Contractor Outreach – Development of stand-alone pipeline safety mailers.
  - Solar/Electrical Contractor Outreach – Stand-alone mailers for pipeline safety.
  - Landscaper/Fencer Contractor Outreach – Mailers developed for pipeline safety.
- Community and Nonprofit Partnerships
  - Regional Public Affairs (RPA) Partnerships – Collaborations with cities, municipalities, and nonprofits.
  - Community Relations Nonprofit Partnerships – Outreach through major nonprofit organizations.
  - Community Outreach Events – Participation in events like Taste of Soul, FLOW Expo, and emergency fairs.
  - Big Shovel Display – Featured at large events including World Ag Expo and California Strawberry Festival.
- Media and Marketing Campaigns
  - 811 Media Campaign – Digital content and social media ads during National Safe Digging Month of April and August for 811 Day.
  - Social Media Campaigns – Targeted outreach across service territory.
  - Safety Marketing Campaign – "Always Call 811" multimedia campaign targeting contractors and homeowners.
  - Agricultural Safety Campaign – Focused outreach in San Joaquin Valley with nearly 6 million impressions.
- Sports Partnerships
  - MLB Los Angeles Angels Outreach – Stadium signage, radio commercials, and fan engagement.
  - MLB Los Angeles Dodgers Outreach – End-of-season messaging via podcasts and radio.
  - Common Ground Alliance Collaborations – 811 Day events with other operators.
  - Expanded Sports Partnerships – Outreach through LA Kings, Ontario Reign, LA Galaxy, LAFC, Los Angeles Lakers, Anaheim Ducks, Fresno State Bulldogs, and California Farm Bureau.
- Innovative Programs
  - Enertech Geofencing Program – Targeted messaging near relevant retail locations.
  - Good Neighbor Program – 811 postcards sent to neighbors of USA ticket submitters.
  - 811 Awareness Doorhanger Distribution Program – 35,000 doorhangers distributed in high-risk areas in 2024.
  - 811 Ambassador Program – Employee-led "See Something, Say Something" initiative.
  - Fleet Vehicle Program – Updated 811 stickers on fleet vehicles during maintenance.
  - Water and Energy Efficiency Kits – 811 info included in kits for low-income households in partnership with LADWP.

Emission Reductions Achieved:

Historical Emission Reductions (MCF)

2018	2019	2020	2021	2022	2023	2024
N/A	1,076	0	13,495	11,787	15,515	14,952

Emission reductions were estimated by taking the difference between Appendices 1 and 4 excavation damage emissions from emission year 2018 and the Appendices 1 and 4 excavation damage emissions for each respective year. Emission year 2018 was used as the baseline because implementation for this program began during 2019. Annual reductions from Chapter 17 (Repeat Offenders) were subtracted from the totals because Chapter 17 contributes emission reductions to the same area.

Cost Effectiveness Evaluation of Historic Work:

Historical Standard Cost Effectiveness ($/MCF)

Projected in 2024 Compliance Plan	Actual Cost Effectiveness (2018-2024)
N/A	$115

Part 2. Proposed New or Continuing Measure

SoCalGas plans to maintain the previously approved project and does not propose any new measures. For 2027, SoCalGas will utilize the authorized funds from Resolution G-3605, and the 2028 funding will be requested in SoCalGas' TY 2028 GRC Application.

Part 3. Abatement Estimates

Forecast of Emission Reductions (MCF)

2027	2028
1,302	15,233

The 2028 emission reductions were estimated as the average of the 2023 and 2024 reductions. The 2027 reductions were adjusted downward to account for the reduction in program funding.

Part 4. Cost Estimates

The 2027 costs are authorized by Resolution G-3605. The 2028 funding will be requested in SoCalGas' TY 2028 GRC Application. Revenue requirement for the work planned during 2027 and 2028 is included in the table below.

Total Revenue Requirement over Expected Life of Investment
$1.7 million
Average Annual Revenue Requirement
$0.9 million

Part 5. Cost Effectiveness/Benefits

In addition to reducing emissions, the Damage Prevention Public Awareness project enhances public safety by educating stakeholders of the risks of damaging pipelines during excavations. Through a wide range of outreach efforts, including contractor meetings, targeted mailers, and proactive field engagements, the project helps to prevent dig-ins that could lead to gas leaks.

These efforts advance affordability objectives by reducing costly emergency repairs. The project increases SoCalGas system reliability by equipping contractors and communities with the awareness to avoid damaging infrastructure. This is achieved by deploying innovative tools like geofencing and mobile outreach, and through real-time interventions that protect pipeline integrity. With expanded partnerships, multimedia campaigns, and community engagement, the project demonstrates a comprehensive and evolving approach to public awareness and damage prevention.

Historical Achieved Cost Effectiveness Calculations (2018-2024) ($/MCF)

Standard Cost Effectiveness	With Cap and Invest Cost Benefits	With Cap and Invest, and Social Cost of Methane Cost Benefits
$115	$113	$87

Forecast of Cost Effectiveness Calculations (2027-2028) ($/MCF)

Standard Cost Effectiveness	With Cap and Invest Cost Benefits	With Cap and Invest, and Social Cost of Methane Cost Benefits
$99	$98	$72

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 16: Pipe Fitting Specifications

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 22: Pipe Fitting Specifications
Companies shall review and revise pipe fitting specifications, as necessary, to ensure tighter tolerance/better quality pipe threads. Utilities are required to review any available data on its threaded fittings, and if necessary, propose a fitting replacement program for threaded connections with significant leaks or comprehensive procedures for leak repairs and meter set assembly installations and repairs as part of their Compliance Plans. A fitting replacement program should consider components such as pressure control fittings, service tees, and valves metrics, among other things.

Historic Project Achievements:

Materials must meet SoCalGas' MSP requirements for all components. When materials are received, samples are inspected at a warehouse facility to verify requirements are met. Pipe fittings are components used to join pipe sections together with other fluid control products like valves and pumps to create pipelines. If there are any concerns regarding the quality of materials, including the threaded components and fittings, the Supply Management department is engaged to correct the issue and either engage the current vendor to increase quality assurance standards or begin contract negotiations with alternative vendors to confirm all concerns are addressed.

In 2019, SoCalGas hired a third-party consultant to review its QC process and MSP standards to identify consistent requirements across component categories, which resulted in enhancements to the following processes:

- Manufacturing and QC.
- Shipping, Handling, and Storage.
- Construction and Installation.
- O&M.

The intent of these enhancements was to reduce emissions from threaded pipe fittings by improving manufacturers' tolerances and thread quality. In 2021, SoCalGas hired a Project Manager to develop a project execution plan. The project execution plan was separated into two (2) phases. Phase One focused on updating the material specifications and QC inspection instruction standards. Phase Two focused on implementing the updated standards during the inspection process, shipping and handling, and construction and installation. A training program was completed during Phase Two to introduce internal stakeholders to recommended best practice improvements. SoCalGas' Gas Standard 185.0300, *MSA - Installing, Rebuilding and Inspections* was updated to include approved thread sealants and an installation procedure. A Company Gas Standard was developed for field-fabricated threads to confirm thread geometry was within acceptable tolerances.

Additional accomplishments include:

- Required manufacturers' thread fabrication process and product to conform to the National Pipe Thread (NPT) tolerances.
- Mandated that manufacturers apply plastic protectors to preserve thread quality during shipping and logistics.
- Developed and implemented a training program for QC inspection team focusing on updated material standards.
- Required manufacturers to demonstrate higher level of thread quality.
- Confirmed manufacturers conformed to updated material standards from QC programs.
- Conducted quarterly inventory studies to continue generating metrics and monitor thread quality and NPT thread tolerance from manufacturers.
- Enhanced QC inspection process.
- Coordination and data exchange with RD&D group on various thread-related studies to continually improve facilitation of program recommendations.
- Provided fitting repair and replacement reports to all internal stakeholders of the process, including QC and MSP engineer, for further evaluation.
- Developed recommendations for fitting replacement program.

Emission Reductions Achieved:

The measures in Chapter 16 were designed to comply with mandatory Best Practice 22 established by D.17-06-015. Due to the nature of Best Practice 22, emission reductions cannot be quantified.

Cost Effectiveness Evaluation of Historic Work:

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 2. Proposed New or Continuing Measure

SoCalGas plans to maintain the previously approved project and does not propose any new measures in 2027. The 2028 funding will be requested in SoCalGas' TY 2028 GRC Application.

Part 3. Abatement Estimates

The measures in Chapter 16 were designed to comply with mandatory Best Practice 22 established by D.17-06-015. Due to the nature of Best Practice 22, emission reductions cannot be quantified.

Part 4. Cost Estimates

This measure has been incorporated into SoCalGas' routine O&M activities and will be included in SoCalGas' TY 2028 GRC Application.

Part 5. Cost Effectiveness/Benefits

The Pipe Fitting Specifications project supports multiple strategic goals by improving the quality and consistency of threaded pipe fittings used across SoCalGas' system. By imposing stricter manufacturing tolerances on thread geometry, the project directly contributes to emission reductions, as tighter seals minimize leaks. The project advances affordability objectives by reducing the frequency of leak-related repairs and emergency maintenance, streamlining procurement through standardized materials, and improving vendor quality assurance.

In addition, this project increases system resiliency through standardized installation procedures that provide consistent performance under varying conditions. The project contributes to reliability improvements by addressing fitting-related issues, which can help maintain system performance and consistent gas delivery. Each of these enhancements also provide the co-benefit of improved safety for customers. The project's training programs and updates to SoCalGas' Gas Standards further reinforce these benefits by embedding best practices into field operations. Overall, the project demonstrates a comprehensive approach to infrastructure improvement that delivers value across environmental, operational, and customer-focused dimensions.

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 17: Repeat Offenders IT Systems

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 26: Dig-Ins and Repeat Offenders
Utilities shall document procedures to address Repeat Offenders such as providing post-damage safe excavation training and on-site spot visits. Utilities shall keep track and report multiple incidents, within a 5-year period, of dig-ins from the same party in their Annual Emissions Inventory Reports. These incidents and leaks shall be recorded as required in the recordkeeping best practice. In addition, the utility should report egregious offenders to appropriate enforcement agencies including the California Contractor's State License Board. The Board has the authority to investigate and punish dishonest or negligent contractors. Punishment can include suspension of their contractor's license.

Historic Project Achievements:

Best Practice 26 required a solution for capturing and reporting all dig-in incidents. Incidents caused by contractors are identified using contractor identification data from the CCSLB, and this data enabled accurate identification and reporting of repeat offenders. Incident information was captured on a paper form called the CPDR. The Repeat Offenders IT System project converted the paper form to an electronic form called the eCPDR and made it available on mobile devices. The eCPDR shared the form data across the systems used by the Customer Service, Distribution, and Claims departments. The data continues to be shared with the Data Lake (discussed in Chapter 7), which enables emissions reporting. In addition to identifying repeat offenders, the Repeat Offenders IT System eliminated manual effort and potential for data errors in managing paper damage forms, as well as improved the timeliness of reporting through automated data sharing and claim creation. The implementation of the Repeat Offenders IT System commenced in Q1 of 2022.

Emission Reductions Achieved:

Historical Emission Reductions (MCF)

2018	2019	2020	2021	2022	2023	2024
N/A	N/A	N/A	N/A	N/A	2,445	4,492

Emission reductions were estimated by determining the difference in repeat offender incidents that occurred during 2022 relative to each respective year following. The reduction in incidents was multiplied by the average excavation damage volume from Appendices 1 and 4 for each respective year to estimate the volume of emission reductions.

Cost Effectiveness Evaluation of Historic Work:

Historical cost effectiveness was not evaluated because implementation of the system commenced in Q1 of 2022.

Part 2. Proposed New or Continuing Measure

The Repeat Offenders IT System data will continue to be used to prevent damages and reduce emissions.

Part 3. Abatement Estimates:

Forecast of Emission Reductions (MCF)

2027	2028
3,469	3,469

The forecast for 2027 and 2028 assumes that the average level of reductions from 2023 and 2024 will be maintained.

Part 4. Cost Estimates

SoCalGas does not request funds for this Chapter in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

The Repeat Offenders IT Systems project was designed to comply with the requirements of Best Practice 26. The implementation of this work has reduced emissions, enhanced safety, and bolstered reliability.

Cost effectiveness cannot be calculated because SoCalGas does not request funding for this Chapter during this Compliance Period.

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 18: Accelerated Leak Repair - Transmission

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 21: Find It, Fix It
Utilities shall repair leaks as soon as reasonably possible after discovery, but in no event more than three (3) years after discovery. Utilities may make reasonable exceptions for leaks that are costly to repair relative to the estimated size of the leak.

Historic Project Achievements:
SoCalGas has historically repaired transmission leaks to meet the requirements of 49 CFR Part 192 and the CPUC's G.O. 112-F based on safety risk, and has coded leaks as grades 1, 2, and 3 based on population density, and concentration of the leak. In the past, leak repair prioritization was solely based on safety and was not correlated to emission volumes.

In the 2022 Compliance Plan, SoCalGas was approved to fund accelerated leak repairs beyond the normal repair timeframes. Repairing leaks faster on transmission lines directly attributes to lower emissions.

Emission Reductions Achieved:

SoCalGas cannot estimate emission reductions because it does not currently have an approved leaker-based methodology to utilize for the emission estimates.

Cost Effectiveness Evaluation of Historic Work:

SoCalGas cannot estimate cost effectiveness because it does not currently have an approved leaker-based methodology to utilize for the emission estimates.

Part 2. Proposed New or Continuing Measure

SoCalGas does not propose new or continuing measures for this Chapter.

Part 3. Abatement Estimates

SoCalGas is not proposing new or continuing measures, and therefore, abatement estimates are not available.

Part 4. Cost Estimates

SoCalGas does not request funds for this initiative in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

Cost effectiveness cannot be calculated because SoCalGas does not request funding for this Chapter during this Compliance Period.

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 19: Gas Speciation

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 17: Enhance Methane Detection
Utilities shall utilize enhanced methane detection practices (e.g. mobile methane detection and/or aerial leak detection) including gas speciation technologies.

Historic Project Achievements:

SoCalGas has a robust laboratory known as the Engineering Analysis Center (EAC). When a methane source is in question, the EAC dispatches a mobile gas speciation van to determine the chemical content of the gas and identify its source.

SoCalGas expanded the capacity of the EAC by increasing staff and equipment to respond to requests from Operations for leak speciation where a methane source is in question. These resources were also required to address lower detection limits of new advanced leak detection instrumentation and the increased level of leak survey activities being driven by the program.

Emission Reductions Achieved:

The measures in Chapter 19 were designed to comply with mandatory Best Practice 17 established by D.17-06-015. Due to the nature of Best Practice 17, emission reductions cannot be quantified.

Cost Effectiveness Evaluation of Historic Work:

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 2. Proposed New or Continuing Measure

SoCalGas plans to maintain the previously approved project and does not propose new measures in 2027. The 2028 funding will be requested in SoCalGas' TY 2028 GRC Application.

Part 3. Abatement Estimates

The measures in Chapter 19 were designed to comply with mandatory Best Practice 17 established by D.17-06-015. Due to the nature of Best Practice 17, emission reductions cannot be quantified.

Part 4. Cost Estimates

This measure has been incorporated into SoCalGas' routine O&M activities and will be included in SoCalGas' TY 2028 GRC Application.

Part 5. Cost Effectiveness/Benefits

The Gas Speciation project plays a vital role in reducing emissions, enhancing safety, and supporting operational efficiency. Through the expansion of SoCalGas' EAC and the deployment of multiple mobile gas speciation vans staffed with additional qualified technicians, the Company has significantly enhanced its ability to conduct gas speciation analyses. This increased capacity enables more rapid and accurate identification of the chemical composition and source of methane leaks, thereby supporting timely and effective leak mitigation efforts. This capability enables SoCalGas to quickly differentiate leaks near other combustible gas sources such as gas seepage from natural occurring sources, sewer lines, or third-party oil & gas pipelines, and initiate repair efforts once the Gas Speciation team confirms that the leak originates from SoCalGas' system. As a result, this directly supports emission reductions by enabling faster verification and repair of leaks—minimizing the duration that methane is released into the atmosphere and reducing health and safety risk to the general public. Ultimately, the Gas Speciation project delivers significant benefits by enhancing safety, reducing environmental impact, and promoting timely and effective leak response.

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 20: Public Leak Maps

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 20b: Geographic Tracking
Utilities shall develop methodologies for improved geographic tracking and evaluation of leaks from the gas systems. Utilities shall work together, with CPUC and ARB staff, to come to an agreement on a similar methodology to improve geographic evaluation and tracking of leaks to assist in demonstrations of actual emissions reductions. Leak detection technology should be capable of transferring leak data to a central database in order to provide data for leak maps. Geographic leak maps shall be publicly available with leaks displayed by zip code or census tract.

Historic Project Achievements:

Each year since 2021, SoCalGas has developed and published publicly available geographic maps of Distribution Main & Service leak information (e.g., ZIP codes & volume of emissions). The list of the Distribution Main & Service leaks is available to the public under Appendix 4 of the Annual Emissions Reports. SoCalGas plans to update the leak information in its public leak maps in Q3 each year because the submission date of the Annual Emissions Report is usually June 15th of each year. The maps allow customers to navigate the service territory via ZIP codes and view the current and historic volume of emissions associated with each ZIP code. The website address for the maps is as follows: https://www.socalgas.com/stay-safe/distribution-pipelines-emissions-map.

Emission Reductions Achieved:

The measures in Chapter 20 were designed to comply with mandatory Best Practice 20b established by D.17-06-015. Due to the nature of Best Practice 20b, emission reductions cannot be quantified.

Cost Effectiveness Evaluation of Historic Work:

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 2. Proposed New or Continuing Measure

SoCalGas proposes to maintain and annually update, in Q3, the publicly available geographic maps of Distribution Main & Service leak information with the latest data from the Annual Emissions Report.

Part 3. Abatement Estimates

The measures in Chapter 20 were designed to comply with mandatory Best Practice 20b established by D.17-06-015. Due to the nature of Best Practice 20b, emission reductions cannot be quantified.

Part 4. Cost Estimates

The 2027 costs are authorized by Resolution G-3605. The 2028 funding will be requested in SoCalGas' TY 2028 GRC Application.

Part 5. Cost Effectiveness/Benefits

The activities of Chapter 20 are completed to comply with mandatory Best Practice 20b from D.17-06-015. Best Practice 20b requires utilities to create publicly available geographic leak maps, which enhances public accessibility to the NGLAP data.

Due to the nature of this work, emission reductions and cost effectiveness cannot be quantified.

Part 6. Supplemental Information/Documentation

Not applicable.

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 23: Minimize Emissions from Operations, Maintenance and Other Activities
Utilities shall minimize emissions from operations, maintenance, and other activities, such as new construction or replacement, in the gas distribution and transmission systems and storage facilities. Utilities shall replace high-bleed pneumatic devices with technology that does not vent gas (i.e. no-bleed) or vents significantly less natural gas (i.e., low-bleed) devices. Utilities shall also reduce emissions from blowdowns, as much as operationally feasible.
Best Practice 21: Find It, Fix It
Utilities shall repair leaks as soon as reasonably possible after discovery, but in no event more than three (3) years after discovery. Utilities may make reasonable exceptions for leaks that are costly to repair relative to the estimated size of the leak.
Best Practice 19: Aboveground Leak Surveys
Utilities shall conduct frequent leak surveys and data collection at aboveground transmission and high-pressure distribution (above 60 psig) facilities including Compressor Stations, Gas Storage Facilities, City Gates, and Metering & Regulating (M&R) Stations (M&R aboveground and pressure above 300 psig only). At a minimum, aboveground leak surveys and data collection must be conducted on an annual basis for compressor stations and gas storage facilities.

Historic Project Achievements:

Above ground leak surveys at Transmission Compressor facilities have historically been completed to meet the requirements of 49 CFR Part 192 and CPUC's G.O. 112-F. In addition, the CARB Oil and Gas Rule became effective January 1, 2018, which requires quarterly leak surveys at SoCalGas' Transmission Compressor facilities. These surveys meet the requirement for Best Practice 19. Beyond the regularly scheduled leak surveys, other surveys are performed using soap tests and by monitoring sight, sound, and smell leak indications.

Emission Reductions Achieved:

Emission reductions for this program are variable due to the nature of the project and have not been evaluated for 2018-2021 or 2023-2024 because SoCalGas did not have funding during these periods. The emissions reduced in 2022 were indirectly piloted by Blowdown Reduction Activities.

Historical Emission Reductions (MCF)

2018	2019	2020	2021	2022	2023	2024
N/A	N/A	N/A	N/A	1,378	N/A	N/A

Cost Effectiveness Evaluation of Historic Work:

SoCalGas cannot calculate the historical cost effectiveness in 2022 because Leak and Vented Emissions was not a specified measure in the 2020 Compliance Plan. The emissions reduced in 2022 were indirectly piloted by Blowdown Reduction Activities.

Part 2. Proposed New or Continuing Measure

SoCalGas does not propose new measures. SoCalGas will explore more cost-effective measures at Transmission Compressor Stations to further reduce emissions.

Part 3. Abatement Estimates

SoCalGas is not proposing new or continuing measures, and therefore, abatement estimates are not available.

Part 4. Cost Estimates

SoCalGas does not request funds for this Chapter in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

Cost effectiveness cannot be calculated because SoCalGas does not request funding for this Chapter during this Compliance Period.

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 22: Vapor Collection Systems

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 23: Minimize Emissions from Operations, Maintenance and Other Activities
Utilities shall minimize emissions from operations, maintenance and other activities, such as new construction or replacement, in the gas distribution and transmission systems and storage facilities. Utilities shall replace high-bleed pneumatic devices with technology that does not vent gas (i.e., no-bleed) or vents significantly less natural gas (i.e., low-bleed) devices. Utilities shall also reduce emissions from blowdowns, as much as operationally feasible.

Historic Project Achievements:

In the 2018 Compliance Plan, SoCalGas requested and was approved for funding to collect emissions data from compressor rod packing systems and install vapor recovery systems on compressors. The vapor recovery systems would collect rod packing emissions which would otherwise be vented to the atmosphere. SoCalGas selected the Blythe Compressor Station as the first vapor recovery system project to be evaluated for cost effectiveness before proposing similar systems at other compressor stations. The Blythe vapor recovery system allows for the collection of emissions from compressor rod packing that would otherwise be vented directly to the atmosphere.

Emission Reductions Achieved:

Historical Emission Reductions (MCF)

2018	2019	2020	2021	2022	2023	2024
N/A	N/A	N/A	1,674	76	3,427	11

Cost Effectiveness Evaluation of Historic Work:

Historical cost effectiveness was not evaluated because there was no authorized funding for the 2022 Compliance Period.

Part 2. Proposed New or Continuing Measure

SoCalGas does not propose new measures. SoCalGas will explore more cost-effective measures at Transmission Compressor Stations to further reduce emissions.

Part 3. Abatement Estimates

Forecast of Emission Reductions (MCF)

2027	2028
324	324

The forecast for 2027 and 2028 assumes that the emission flow rates without vapor recovery would be equal to the flow rates from emission year 2024. In addition, the forecast assumes that the compressors with vapor recovery will operate a combined 3,921 hours per year, and the vapor recovery system will capture 90% of the potential emissions.

Part 4. Cost Estimates

SoCalGas does not request funds for this Chapter in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

Cost effectiveness cannot be calculated because SoCalGas does not request funding for this Chapter during this Compliance Period.

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 23: Distribution Above Ground Leak Survey

Part 1. Evaluate the Current Practices Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 19 Distribution: Aboveground Leak Surveys
Utilities shall conduct frequent leak surveys and data collection at above ground transmission and high-pressure distribution (above 60 psig) facilities including Compressor Stations, Gas Storage Facilities, City Gates, and Metering & Regulating (M&R) Stations (M&R above ground and pressures above 300 psig only). At a minimum, above ground leak surveys and data collection must be conducted on an annual basis for compressor stations and gas storage facilities.

Historic Project Achievements:

Above ground leakage surveys have historically been completed to meet the requirements of 49 C.F.R. Part 192 and CPUC's G.O. 112-F, which also satisfy the requirements defined in Best Practice 19. Historically, not all leakage survey inspections performed on Measurement and Regulation (M&R) stations have been performed using instrumentation, resulting in leak indications not being captured. Many M&R Station leak inspections were performed using soap tests and by monitoring for sight, sound, and smell.

In the 2018 Compliance Plan, SoCalGas requested and was approved funding to provide M&R Technicians with instrumentation to begin performing and recording instrumented leakage surveys. SoCalGas purchased the required instruments to perform instrumented inspections. SoCalGas also updated Gas Standard 184.0275, *Inspection Schedule – Regulator Station, Power Generating Plant Regulation Equipment Requirements,* to require M&R Technicians to soap test all connections during inspections and leave facilities free of leaks.

In 2020, SoCalGas ordered approximately 21 Remote Methane Leak Detectors to assist with leak surveys at regulator stations. Due to the COVID-19 Pandemic, in-person training was postponed with approximately 150 employees needing in-person training for the new instrumentation. In 2021, SoCalGas conducted Train-the-Trainer classes consisting of training supervisors who then would train field personnel. No incremental staffing was required to implement this measure because the measurement tool is an additional piece of equipment that helps detect methane leaks on SoCalGas regulator stations in addition to what is practiced in the field, as mentioned above.

Emission Reductions and Cost Effectiveness:

Historical Emission Reductions (MCF)

2018	2019	2020	2021	2022	2023	2024
N/A	N/A	0	918	1,416	1,812	1,226

Historical cost effectiveness was not evaluated because there was no authorized funding for the 2022 Compliance Period.

Part 2. Proposed New or Continuing Measure

SoCalGas will continue performing instrumented above ground leak surveys.

Part 3. Abatement Estimates

Forecast of Emission Reductions (MCF)

2027	2028
1,519	1,519

The forecasted emission reductions during 2027 and 2028 represent the average achieved reductions in 2023 and 2024.

Part 4. Cost Estimates

SoCalGas does not request funds for this Chapter in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

Cost effectiveness cannot be calculated because SoCalGas does not request funding for this Chapter during this Compliance Period.

Part 6. Supplemental Information/Documentation

Not applicable.

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 19: Aboveground Leak Surveys
Utilities shall conduct frequent leak surveys and data collection at aboveground transmission and high-pressure distribution (above 60 psig) facilities including Compressor Stations, Gas Storage Facilities, City Gates, and Metering & Regulating (M&R) Stations (M&R aboveground and pressure above 300 psig only). At a minimum, aboveground leak surveys and data collection must be conducted on an annual basis for compressor stations and gas storage facilities.
Best Practice 21: Find It, Fix It
Utilities shall repair leaks as soon as reasonably possible after discovery, but in no event, more than three (3) years after discovery. Utilities may make reasonable exceptions for leaks that are costly to repair relative to the estimated size of the leak.

Historic Project Achievements:

Aboveground leak surveys at storage facilities are completed to meet the requirements of 49 CFR Part 192, Subpart M (Maintenance) and CPUC's G.O. 112-F. However, most of the surveys use equipment to detect the leak rather than equipment that measures the concentration of the leak to levels required by the CARB. Effective January 1, 2018, CARB's Oil and Gas Rule requires quarterly leak surveys at storage facilities; as well as requiring storage facilities to implement a monitoring plan effective August 6, 2019. SoCalGas' monitoring plan includes ambient methane monitoring, wellhead leak detection monitoring, and optical gas imaging of a well blowout. In addition to the regularly scheduled leak surveys, other surveys are performed using soap tests and by monitoring for sight, sound, and smell leak indications.

Emission Reductions Achieved:

Historical Emission Reductions (MCF)

2018	2019	2020	2021	2022	2023	2024
N/A	N/A	721	1,323	1,508	1,758	1,467

Emission reductions have increased from 2020 to 2022. Beginning in 2020, leaks greater than or equal to 1,000 PPM were required to be repaired per the CARB Oil and Gas Rule. SoCalGas has improved on repairing these leaks under the required timeframe and these efforts have shown measurable returns in continuing to reduce emissions.

Cost Effectiveness Evaluation of Historic Work:

Historical Standard Cost Effectiveness ($/MCF)

Projected in 2024 Compliance Plan	Actual Cost Effectiveness (2018-2024)
$938	$1,068

Part 2. Proposed New or Continuing Measure

SoCalGas does not request funding for this Chapter because continuing these efforts is currently not cost-effective.

Part 3. Abatement Estimates

SoCalGas is not proposing new or continuing measures, and therefore, abatement estimates are not available.

Part 4. Cost Estimates

SoCalGas does not request funds for this Chapter in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

Cost effectiveness cannot be calculated because SoCalGas does not request funding for this Chapter during this Compliance Period.

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB1371 Compliance Plan
Chapter 25: Distribution Above Ground Leak Repair

Part 1. Evaluate the Current Practices Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 19: Above Ground Leak Surveys
Utilities shall conduct frequent leak surveys and data collection at above ground transmission and high-pressure distribution (above 60 psig) facilities including Compressor Stations, Gas Storage Facilities, City Gates, and Metering & Regulating (M&R) Stations (M&R above ground and pressures above 300 psig only). At a minimum, above ground leak surveys and data collection must be conducted on an annual basis at compressor stations and gas storage facilities.
Best Practice 21: Find It, Fix It
Utilities shall repair leaks as soon as reasonably possible after discovery, but in no event, more than three (3) years after discovery. Utilities may make reasonable exceptions for leaks that are costly to repair relative to the estimated size of the leak.

Historic Project Achievements:

In the 2018 Compliance Plan, SoCalGas requested and was approved funding to repair its AG minor leak inventory. In October 2018, this inventory included roughly 5,400 AG minor leaks. In 2019, SoCalGas repaired approximately 5,000 of these AG minor leaks. In March of 2020, SoCalGas completed mitigating approximately 400 leaks to reduce SoCalGas' inventory to zero. For the rest of 2020, SoCalGas worked on mitigating leaks within six (6) months of detection.

In addition to reducing the AG minor leak inventory in 2020, SoCalGas updated its Gas Standard 223.0126, *Above Ground Leakage Classification and Mitigation Schedules,* for AG minor leaks. Previously, Operations had the flexibility to repair AG minor leaks when it was practical to do so. Gas Standard 223.0126, *Above Ground Leakage Classification and Mitigation Schedules* was revised in 2020 requiring AG minor leaks discovered by Distribution to be classified as "AG non-hazardous" leaks and to be repaired in a time frame of ten (10) days to six (6) months, depending on the leak proximity to a building. Distribution no longer classifies AG leaks as AG minor at the time of detection.

In 2021, SoCalGas continued the efforts of repairing AG non-hazardous leaks within six (6) months of detection and not having an inventory by that year's end. To support these leak repair efforts, SoCalGas used incremental field employees discussed in Chapters 1 and 2 to manage the AG non-hazardous inventory.

Emission Reductions Achieved:

No updates to the achieved emission reductions were made for this Compliance Period.

Cost Effectiveness Evaluation of Historic Work

Historical cost effectiveness was not evaluated because there was no authorized funding for the 2022 Compliance Period.

Part 2. Proposed New or Continuing Measure

SoCalGas does not propose new or continuing measures for this Chapter.

Part 3. Abatement Estimates

SoCalGas is not proposing new or continuing measures, and therefore, abatement estimates are not available.

Part 4. Cost Estimates

SoCalGas does not request funds for this Chapter in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

Cost effectiveness cannot be calculated because SoCalGas does not request funding for this Chapter during this Compliance Period.

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
Chapter 26: High Bleed Device Replacement

Part 1. Evaluate the Current Practice Addressed in this Chapter

This Chapter addresses the following Best Practice(s):

Best Practice 23: Minimize Emissions from Operations, Maintenance and Other Activities
Utilities shall minimize emissions from operations, maintenance and other activities, such as new construction or replacement, in the gas distribution and transmission systems and storage facilities. Utilities shall replace high bleed pneumatic devices with technology that does not vent gas (i.e. no-bleed) or vents significantly less natural gas (i.e. low-bleed) devices. Utilities shall also reduce emissions from blowdowns, as much as operationally feasible.

Historic Project Achievements:

Since 1993, SoCalGas has been addressing the replacement of high-bleed pneumatic devices through the EPA Natural Gas STAR[6] Best Practice. Pneumatic devices powered by pressurized natural gas are used widely in the natural gas industry as pressure regulators and valve controllers. Emission reductions are achieved by replacing high-bleed devices with low-bleed devices, retrofitting high-bleed devices, and improving maintenance practices. Individual savings have varied depending on the design, condition, and specific operating conditions of the controller.

Pneumatic devices come in three (3) basic designs:

- Continuous bleed devices are used to modulate pressure and generally vent gas at a steady rate.
- Actuating or intermittent bleed devices perform snap-acting control and release gas only when they stroke a valve open or closed or as they throttle gas flows.
- Self-contained devices release gas into the downstream pipeline, not to the atmosphere.

Emission reductions from pneumatic devices were pursued by the following options, either alone or in combination:

- Replacement of high-bleed devices with low-bleed devices having similar performance capabilities.
- Installation of low-bleed retrofit kits on operating devices.
- Enhanced maintenance, cleaning and tuning, repairing/replacing leaking gaskets, tubing fittings, and seals.

In the 2018 Compliance Plan, SoCalGas was approved to remove the eight (8) remaining High Bleed Pneumatic Devices found in operation and, as of 2020, all have been removed or replaced. In 2021, no new devices were identified, removed, or replaced from the system. No incremental staffing was required to implement this measure.

[6] Natural Gas STAR Program | US EPA: https://www.epa.gov/natural-gas-star-program/natural-gas-star-program.

Emission Reductions Achieved:

Historical Emission Reductions (MCF)

2018	2019	2020
1,337	1,337	1,500

Cost Effectiveness Evaluation of Historic Work:

Historical cost effectiveness was not evaluated because there was no authorized funding for the 2022 Compliance Period.

Part 2. Proposed New or Continuing Measure

SoCalGas does not propose new or continuing measures for this Chapter.

Part 3. Abatement Estimates

SoCalGas is not proposing new or continuing measures, and therefore, abatement estimates are not available.

Part 4. Cost Estimates

SoCalGas does not request funds for this Chapter in this Compliance Period.

Part 5. Cost Effectiveness/Benefits

Cost effectiveness cannot be calculated because SoCalGas does not request funding for this Chapter during this Compliance Period.

Part 6. Supplemental Information/Documentation

Not applicable.

2026 SB 1371 Compliance Plan
RD&D Summary

In accordance with CPUC guidance in Resolution G-3605, the SoCalGas NGLAP Research, Demonstration & Development projects will be moved into the broader Research and Development program in its next TY 2028 GRC Application. Deliverables and reports from previously funded work will be completed during the 2024 Compliance Plan Period. This includes reports on the following projects:

- Fleet-based Passive Mobile Methane Detection with United States Postal Service (USPS).
- Improving Aerial Monitoring Cost Effectiveness through Ferry Scans.
- Improved Advanced Meter Algorithms for Customer Leak Detection.
- MSA Failure Mode Analysis.
- Pipe Thread Sealant Performance in Storage Applications.
- Cost Effectiveness Framework.
- Geographic Leak Data Environmental Justice Analysis.

A summary of NGLAP-related projects under the TY 2028 GRC will be provided in the 2028-2029 Compliance Plan. Below are two RD&D initiatives related to this program that will be proposed in the TY 2028 GRC Application.

Environmental and Safety Initiative

Identified Need	Proposed Solution	Anticipated Impacts
• The success of the NGLAP research program enabled SoCalGas to nearly achieve the 40% reduction target ahead of schedule, but more work is needed to achieve NZE. • 80% of the remaining emissions are from Distribution Mains & Services and Customer Meters. These emissions come from tens of thousands of leaks spread over six (6) million meters and 100,000 miles of pipeline. • Cost-effective system survey and leak prevention methods are needed to achieve safety and environmental goals while reducing customer costs.	• Integrate and analyze existing data from siloed systems to uncover prominent failure modes. • Leverage failure mode data and lessons learned from prior research to identify and validate cost-effective leak prevention solutions. • Evaluate advanced leak detection technologies capable of rapidly and frequently covering the vast territory at lower overall cost.	Carbon Emissions Reduction: Decrease in greenhouse gas emissions. Safety: Reduction in probability of incident occurrence. Cost Efficiency: Reduction in inspection, maintenance and repair costs.

Projects being proposed under this initiative currently include:

- Validation of Meter Set Component Alternatives.
- Multi-Source Emissions Data Integration & Failure Mode Mapping.
- Next Generation Aerial Leak Detection.
- Systemwide Leak Survey Optimization.

Community Impact and Energy Conservation Initiative

Identified Need	Proposed Solution	Anticipated Impacts
• Customers have limited means of recognizing unintended gas usage (e.g., odor, high bill). • Monetary impact of excess usage disproportionately affects DACs. • Algorithms utilizing AM data detect some, but not all usage anomalies. • False positive indications from AM algorithms increase operational costs.	• Prior research showed aerial leak survey data could be used to enhance AM algorithms, improving gas leak and hot water leak detection. • Further refinement of this approach is needed to reduce false positive rate. • Accurate identification of these anomalies can reduce customer costs while enhancing safety. • Data insights into areas of frequent or unresolved gas and hot water leaks could support efforts to address systemic maintenance challenges in DACs.	Cost Savings: Reduction in energy usage for customers. Cost Efficiency: Reduction in maintenance and repair costs. Carbon Emissions Reduction: Decrease in greenhouse gas emissions.

Projects being proposed under this initiative currently include:

- Field Validation of Aerial Data Enhanced Advanced Meter Algorithm.
- Refinement of Enhanced Advanced Meter Algorithm.
- Maintenance Analytics for Disadvantaged Communities.
- Customer-Facing Consumption Insight Tool.

APPENDIX K

REVISED
GRC-RAMP INTEGRATION

Area: GAS ENGINEERING & SYSTEM INTEGRITY

Witness: Amy Kitson

GRC - RAMP Integration

GRC Workpaper	GRC Wkp Description	RAMP WKP	RAMP Wkp Description	RAMP Unit Measure	TOTAL (in 000s)							UNITS						
					2025	2026	2027	2028	2029	2030	2031	2025	2026	2027	2028	2029	2030	2031
D07560.001	DIMP - Program Management	2CR03 C121	SCG-Risk-3 Medium Pressure Gas System Gas Infrastructure Protection Program (GIPP)	Mitigations	210	467	282	179	181	0	0	0	0	0	0	0	0	0
D07560.001	DIMP - Program Management	2CR03 C129	SCG-Risk-3 Medium Pressure Gas System Cathodic Protection System Improvement	Feet	141	165	100	77	77	82	82	0	0	0	0	0	0	0
D07560.001	DIMP - Program Management	2CR03 C182	SCG-Risk-3 Medium Pressure Gas System Distribution Risk Evaluation & Monitoring System (DREAMS)	Miles	3,658	6,537	5,623	3,784	3,782	3,958	3,958	0	0	0	0	0	0	0
P07560.001	TIMP IT Application; Data Foundation	2CR02 C171	SCG-Risk-2 High Pressure Gas System Integrity Assessments & Remediation	No feasible units	11,563	13,096	13,097	13,096	13,096	13,096	13,096	0	0	0	0	0	0	0

Note: Totals may include rounding differences. Total amounts preceded by a double asterisk (**) are in millions ($MM). Unit values preceded by a single asterisk (*) are displayed in thousands (000s).

Area: GAS ENGINEERING & SYSTEM INTEGRITY

Witness: Amy Kitson

GRC - RAMP Integration

GRC Workpaper	GRC Wkp Description	RAMP WKP	RAMP Wkp Description	RAMP Unit Measure	TOTAL (in 000s)							UNITS						
					2025	2026	2027	2028	2029	2030	2031	2025	2026	2027	2028	2029	2030	2031
S04410.001	SIMP IT application Data governance application; Data analytics Platform	2CR04 C401	SCG-Risk-4 Gas Storage System Storage Integrity Management Program (SIMP)	Wells	0	920	0	3,713	960	2,180	960	0	0	0	0	0	0	0

Note: Totals may include rounding differences. Total amounts preceded by a double asterisk (**) are in millions ($MM). Unit values preceded by a single asterisk (*) are displayed in thousands (000s).

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Witness: Amy Kitson

GRC - RAMP Integration

GRC Workpaper	GRC Wkp Description	RAMP WKP	RAMP Wkp Description	RAMP Unit Measure	TOTAL (in 000s)							UNITS						
					2025	2026	2027	2028	2029	2030	2031	2025	2026	2027	2028	2029	2030	2031
2200-0026.000	ENGINEERING INFORMATION TECHNOLOGY	2OR01C001	SCG-Risk-1 Excavation Damage Damage Prevention Strategies	USA tickets	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200-7000.000	TIMP SUPPORT FOR SDG&E - PROGRAM MANAGEMENT	2OR02C171	SCG-Risk-2 High Pressure Gas System Integrity Assessments & Remediation	Miles	896	864	864	862	862	861	861	0	0	0	0	0	0	0
2200-7001.000	DIMP SUPPORT FOR SDG&E - PROGRAM MANAGEMENT	2OR03C120	SCG-Risk-3 Medium Pressure Gas System Distribution Riser Inspection Program (DRIP)	Inspections	360	412	412	380	380	416	416	0	0	0	0	0	0	0
2200-7001.000	DIMP SUPPORT FOR SDG&E - PROGRAM MANAGEMENT	2OR03C121	SCG-Risk-3 Medium Pressure Gas System Gas Infrastructure Protection Program (GIPP)	Mitigations	21	36	36	37	37	0	0	0	0	0	0	0	0	0
2200-7001.000	DIMP SUPPORT FOR SDG&E - PROGRAM MANAGEMENT	2OR03C122	SCG-Risk-3 Medium Pressure Gas System Sewer Lateral Inspection Project (SLIP)	Inspections	376	458	458	479	479	479	479	0	0	0	0	0	0	0

Note: Totals may include rounding differences. Total amounts preceded by a double asterisk (**) are in millions ($MM). Unit values preceded by a single asterisk (*) are displayed in thousands (000s).

Area: GAS ENGINEERING & SYSTEM INTEGRITY

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GRC - RAMP Integration

GRC Workpaper	GRC Wkp Description	RAMP WKP	RAMP Wkp Description	RAMP Unit Measure	TOTAL (in 000s)							UNITS						
					2025	2026	2027	2028	2029	2030	2031	2025	2026	2027	2028	2029	2030	2031
2200-7001.000	DIMP SUPPORT FOR SDG&E - PROGRAM MANAGEMENT	2OR03C129	SCG-Risk-3 Medium Pressure Gas System Cathodic Protection System Improvement	No feasible units	5	9	9	10	10	10	10	0	0	0	0	0	0	0
2200-7001.000	DIMP SUPPORT FOR SDG&E - PROGRAM MANAGEMENT	2OR03C182	SCG-Risk-3 Medium Pressure Gas System Distribution Risk Evaluation & Monitoring System (DREAMS)	No feasible units	74	137	137	144	144	145	145	0	0	0	0	0	0	0
2200-7002.000	GSEP SUPPORT FOR SDG&E - PROGRAM MANAGEMENT	2OR02C013	SCG-Risk-2 High Pressure Gas System Gas Transmission Safety Rule - MAOP Reconfirmation	No feasible units	336	346	346	345	345	345	345	0	0	0	0	0	0	0
2EN002.000	PUBLIC AWARENESS (NON-SHARED)	2OR02C003	SCG-Risk-2 High Pressure Gas System Damage Prevention - Public Awareness	USA tickets	63	130	130	233	233	233	233	66,018	64,227	64,227	64,869	65,518	66,173	66,835

Note: Totals may include rounding differences. Total amounts preceded by a double asterisk (**) are in millions ($MM). Unit values preceded by a single asterisk (*) are displayed in thousands (000s).

Area: GAS ENGINEERING & SYSTEM INTEGRITY

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GRC - RAMP Integration

GRC Workpaper	GRC Wkp Description	RAMP WKP	RAMP Wkp Description	RAMP Unit Measure	TOTAL (in 000s)							UNITS						
					2025	2026	2027	2028	2029	2030	2031	2025	2026	2027	2028	2029	2030	2031
2EN002.000	PUBLIC AWARENESS (NON-SHARED)	2OR03 C003	SCG-Risk-3 Medium Pressure Gas System Damage Prevention - Public Awareness	USA tickets	977	2,020	2,020	3,625	3,625	3,625	3,625	*1,027	*999	*999	*1,009	*1,019	*1,029	*1,040
2EN002.001	DAMAGE PREVENTION STRATEGIES	2OR02 C001	SCG-Risk-2 High Pressure Gas System Damage Prevention Strategies	FTEs	68	68	68	68	84	99	107	1	1	1	1	1	1	1
2EN002.001	DAMAGE PREVENTION STRATEGIES	2OR02 C002	SCG-Risk-2 High Pressure Gas System Damage Prevention Activities - Gas	USA tickets	86	88	88	88	90	92	93	66,018	64,227	64,227	64,869	65,518	66,173	66,835
2EN002.001	DAMAGE PREVENTION STRATEGIES	2OR03 C001	SCG-Risk-3 Medium Pressure Gas System Damage Prevention Strategies	FTEs	1,066	1,066	1,066	1,066	1,305	1,546	1,666	9	9	9	9	11	13	14
2EN002.001	DAMAGE PREVENTION STRATEGIES	2OR03 C002	SCG-Risk-3 Medium Pressure Gas System Damage Prevention Activities - Gas	USA tickets	1,332	1,377	1,377	1,375	1,403	1,431	1,445	*1,027	*999	*999	*1,009	*1,019	*1,029	*1,040

Note: Totals may include rounding differences. Total amounts preceded by a double asterisk (**) are in millions ($MM). Unit values preceded by a single asterisk (*) are displayed in thousands (000s).

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Witness: Amy Kitson

GRC - RAMP Integration

GRC Workpaper	GRC Wkp Description	RAMP WKP	RAMP Wkp Description	RAMP Unit Measure	TOTAL (in 000s)							UNITS						
					2025	2026	2027	2028	2029	2030	2031	2025	2026	2027	2028	2029	2030	2031
2EN003.000	STORAGE INTEGRITY MANAGEMENT PROGRAM (SIMP) - PROGRAM MANAGEMENT	2OR04 C401	SCG-Risk-4 Gas Storage System Storage Integrity Management Program (SIMP)	Wells	7,116	10,753	9,517	9,444	9,442	9,440	9,440	0	0	0	0	0	0	0
2EN004.000	TRANSMISSION INTEGRITY MANAGEMENT PROGRAM (TIMP) - PROGRAM MANAGEMENT	2OR02 C171	SCG-Risk-2 High Pressure Gas System Integrity Assessments & Remediation	No feasible units	17,699	22,090	22,087	23,367	23,363	23,359	23,358	0	0	0	0	0	0	0
2EN005.000	DISTRIBUTION INTEGRITY MANAGEMENT PROGRAM (DIMP) - PROGRAM MANAGEMENT	2OR03 C120	SCG-Risk-3 Medium Pressure Gas System Distribution Riser Inspection Program (DRIP)	Inspections	4,411	4,845	4,689	4,169	4,168	4,566	4,566	0	0	0	0	0	0	0
2EN005.000	DISTRIBUTION INTEGRITY MANAGEMENT PROGRAM (DIMP) - PROGRAM MANAGEMENT	2OR03 C121	SCG-Risk-3 Medium Pressure Gas System Gas Infrastructure Protection Program (GIPP)	Mitigations	257	421	407	410	410	0	0	0	0	0	0	0	0	0

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Witness: Amy Kitson

GRC - RAMP Integration

GRC Workpaper	GRC Wkp Description	RAMP WKP	RAMP Wkp Description	RAMP Unit Measure	TOTAL (in 000s)							UNITS						
					2025	2026	2027	2028	2029	2030	2031	2025	2026	2027	2028	2029	2030	2031
2EN005.000	DISTRIBUTION INTEGRITY MANAGEMENT PROGRAM (DIMP) - PROGRAM MANAGEMENT	2OR03 C122	SCG-Risk-3 Medium Pressure Gas System Sewer Lateral Inspection Project (SLIP)	Inspections	4,600	5,389	5,215	5,250	5,249	5,254	5,254	0	0	0	0	0	0	0
2EN005.000	DISTRIBUTION INTEGRITY MANAGEMENT PROGRAM (DIMP) - PROGRAM MANAGEMENT	2OR03 C129	SCG-Risk-3 Medium Pressure Gas System Cathodic Protection System Improvement	No feasible units	63	109	106	111	111	115	115	0	0	0	0	0	0	0
2EN005.000	DISTRIBUTION INTEGRITY MANAGEMENT PROGRAM (DIMP) - PROGRAM MANAGEMENT	2OR03 C182	SCG-Risk-3 Medium Pressure Gas System Distribution Risk Evaluation & Monitoring System (DREAMS)	No feasible units	902	1,616	1,564	1,573	1,572	1,573	1,573	0	0	0	0	0	0	0
2EN006.000	NEW RULES AND REGULATIONS (GAS SAFETY ENHANCEMENT PROGRAM [GSEP])	2OR02 C013	SCG-Risk-2 High Pressure Gas System Gas Transmission Safety Rule - MAOP Reconfirmation	No feasible units	424	422	422	421	421	420	420	0	0	0	0	0	0	0

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GRC Workpaper	GRC Wkp Description	RAMP WKP	RAMP Wkp Description	RAMP Unit Measure	TOTAL (in 000s)							UNITS						
					2025	2026	2027	2028	2029	2030	2031	2025	2026	2027	2028	2029	2030	2031
2EN011.000	QUALITY MANAGEMENT - QUALITY & RISK	2OR02 C156	SCG-Risk-2 High Pressure Gas System Quality Assurance Transmission Assets	FTEs	157	167	167	167	167	167	167	1	1	1	1	1	1	1
2EN011.000	QUALITY MANAGEMENT - QUALITY & RISK	2OR03 C159	SCG-Risk-3 Medium Pressure Gas System Quality Assurance Gas Distribution Assets	FTEs	470	503	501	501	501	501	501	3	3	3	3	3	3	3

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SoCal Gas 2028 General Rate Case
Exhibit SCG-03.1 – Gas Engineering & System Integrity
Revision Log - September 30, 2026

PAGE	LINE / TABLE REFERENCE	REVISION DETAIL
x		Revised Summary Table: Total Non-Shared Services and Total O&M
2	TableAK-1	Revised Gas Engineering, Infrastructure Support Programs, Adaptation & Innovation Programs and Total
8	Table AK-2	Revised Gas Decarbonization and Total
11	TableAK-4	Revised Gas Decarbonization and Total
23	Table AK-9	Revised Gas Operations Training & Development and Total
25	Table AK-11	Revised Training Transmission/Stor/HP/M&R and Total
95	Table AK-35	Revised Engineering Program & Training and Total
100	Table AK-37	Revised Renewable Blending Research, Customer Solutions PD&D and Total
176	Table AK-81	Revised C002 Damage Prevention Activities (HP)
176	Table AK-81	Revised C171 Integrity Assessments & Remediation
176	Table AK-81	Revised C013 Gas Transmission Safety Rule Transmission Safety