



**Risk Assessment Mitigation Phase
(Chapter SCG-2)
Employee Safety**

November 27, 2019

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Risk: Employee Safety

I. INTRODUCTION

The purpose of this chapter is to present the Risk Mitigation Plan for Southern California Gas Company's (SoCalGas' or Company's) Employee Safety risk. Each chapter in this Risk Assessment Mitigation Phase (RAMP) Report contains the information and analysis that meets the requirements adopted in Decision (D.) 16-08-018 and D.18-12-014 and the Settlement Agreement included therein (the SA Decision).¹

SoCalGas has identified and defined RAMP risks in accordance with the process described in further detail in Chapter RAMP-B of this RAMP Report. On an annual basis, SoCalGas' Enterprise Risk Management (ERM) organization facilitates the Enterprise Risk Registry (ERR) process, which influenced how risks were selected for inclusion in this 2019 RAMP Report, consistent with the SA Decision's directives.

The purpose of RAMP is not to request funding. Any funding requests will be made in SoCalGas' General Rate Case (GRC). The costs presented in this RAMP Report are those costs which SoCalGas anticipates requesting recovery in its Test Year (TY) 2022 GRC. SoCalGas' TY 2022 GRC presentation will integrate developed and updated funding requests from the 2019 RAMP Report, supported by witness testimony.² For this 2019 RAMP Report, the baseline costs are the costs incurred in 2018, as further discussed in Chapter RAMP-A. This 2019 RAMP Report presents capital costs as a sum of the years 2020, 2021 and 2022 as a three-year total; whereas, O&M costs are only presented for TY 2022.

Costs for each activity that directly addresses each risk are provided where those costs are available and within the scope of the analysis required in this RAMP Report. Throughout this 2019 RAMP Report, activities are delineated between controls and mitigations, which is

¹ D.16-08-018 also adopted the requirements previously set forth in D.14-12-025. D.18-12-014 adopted the Safety Model Assessment Proceeding (S-MAP) Settlement Agreement with modifications and contains the minimum required elements to be used by the utilities for risk and mitigation analysis in the RAMP and GRC.

² See, D.18-12-014 at Attachment A, A-14 ("Mitigation Strategy Presentation in the RAMP and GRC").

consistent with the definitions adopted in the SA Decision’s Revised Lexicon. A “Control” is defined as a currently established measure that is modifying risk. A “Mitigation” is defined as a measure or activity proposed or in process designed to reduce the impact/consequences and/or likelihood/probability of an event. Activities presented in this chapter are representative of those that are primarily scoped to address SoCalGas’ Employee Safety risk; however, many of the activities presented herein also help mitigate other risk areas as outlined in Chapter RAMP-A.

As discussed in Chapter RAMP-D, Risk Spend Efficiency (RSE) Methodology, no RSE calculation is provided where costs are not available or not presented in this RAMP Report (including costs for activities that are outside of the GRC and certain internal labor costs). Additionally, SoCalGas did not perform RSE calculations on mandated activities. Mandated activities are defined as activities conducted in order to meet a mandate or law, such as a Code of Federal Regulation (CFR), California Code of Regulations (CCR), Public Utilities Code, or General Order. Activities with no RSE score presented in the 2019 RAMP Report are identified in Section VI, below.

SoCalGas has also included a qualitative narrative discussion of certain risk mitigation activities that would otherwise fall outside of the RAMP Report’s requirements to aid the Commission and stakeholders in developing a more complete understanding of the breadth and quality of SoCalGas’ mitigation activities. These distinctions are discussed in the applicable control/mitigation narratives in Section V, below. Similarly, a narrative discussion of certain “mitigation” activities and their associated costs is provided for certain activities and programs that may indirectly address the risk at issue, even though the scope of the risk as defined in the RAMP Report may technically exclude the mitigation activity from the RAMP analysis. This additional qualitative information is provided in the interest of full transparency and understandability, consistent with guidance from Commission Staff and stakeholder discussions.

A. Risk Definition

For purposes of this RAMP Report, SoCalGas’ Employee Safety risk is defined as the risk of an employee safety incident that causes serious injuries³ or fatalities while on duty.

³ As defined by Cal/OSHA, as “any injury or illness occurring in a place of employment or in connection with any employment which requires inpatient hospitalization for a period in excess of 24

B. Summary of Elements of the Risk Bow Tie

Pursuant to the SA Decision,⁴ for each mitigation presented herein, SoCalGas has identified which element(s) of the Risk Bow Tie the mitigation addresses. Below is a summary of these elements.

Table 1: Summary of Risk Bow Tie Elements

ID	Description of Driver/Trigger/Potential Consequence
DT.1	Employees deviate from company policies or procedures
DT.2	Hazards in the work environment or within the pipeline system
DT.3	Drug/alcohol use or undisclosed prescriptions or medical restrictions
DT.4	Non or improper use of personal protective equipment
DT.5	Employees are not prepared to respond to emergencies
DT.6	Effective corrective actions are not instituted following an incident to prevent reoccurrence
DT.7	Unsafe operation of equipment or motor vehicles
PC.1	Serious injuries ⁵ and/or fatalities
PC.2	Property damage
PC.3	Operational and reliability impacts
PC.4	Adverse litigation
PC.5	Penalties and fines
PC.6	Erosion of public confidence

hours for other than medical observation or in which an employee suffers a loss of any member of the body or suffers any serious degree of permanent disfigurement, but does not include any injury or illness or death caused by the commission of a Penal Code violation, except the violation of Section 385 of the Penal Code, or an accident on a public street or highway.”⁸ California Code of Regulations (CCR) § 330(h).

⁴ *Id.* at Attachment A, A-11 (“Bow Tie”).

⁵ 8 CCR § 330(h).

C. Summary of Risk Mitigation Plan

Pursuant to the SA Decision,⁶ SoCalGas has performed a detailed pre- and post-mitigation analysis of controls and mitigations for the risks included in RAMP, as further described below. SoCalGas’ baseline controls for this risk consist of the following programs/activities:

Table 2: Summary of Controls

ID	Control Name
SCG-2-C1	Mandatory employee health and safety training programs and standardized policies
SCG-2-C2	Drug and alcohol testing program
SCG-2-C3	Employee wellness programs
SCG-2-C4	Employee safety training and awareness programs
SCG-2-C5	Safe driving programs
SCG-2-C6	Personal protection equipment (PPE)
SCG-2-C7	Near Miss, Stop the Job and jobsite safety programs
SCG-2-C8	Safety culture
SCG-2-C9	Utilizing Occupational Safety and Health Administration (OSHA) and industry best practices and industry benchmarking

SoCalGas will continue the baseline controls identified above and puts forth additional projects and/or programs (*i.e.*, mitigations) as follows:

Table 3: Summary of Mitigations

ID	Mitigation Name
SCG-2-M1	OSHA 30-hour construction certification training

⁶ D.18-12-014 at Attachment A, A-11 (“Definition of Risk Events and Tranches”).

SCG-2-M2	Industrial hygiene program refresh
SCG-2-M3	Establish proactive monitoring for indoor air quality and chemicals of concern
SCG-2-M4	Creation of a safety video library
SCG-2-M5	Expanded Safety Congress and expanded Executive Safety Council
SCG-2-M6	Expanded Safety Culture Assessments

Finally, pursuant to the SA Decision,⁷ SoCalGas presents considered alternatives to its Risk Mitigation Plan for the Employee Safety risk and summarizes the reasons that the alternatives were not included into the Risk Mitigation Plan in Section VIII.

II. RISK OVERVIEW

At SoCalGas, the safety of employees is a core value. SoCalGas’ approach to safety is built on our tradition of providing safe and reliable service for 150 years and is summarized in our Commitment to Safety statement, which is embraced and endorsed by every member of our senior management team:

SoCalGas’ longstanding commitment to safety focuses on three primary areas – employee/contractor safety, customer/public safety and the safety of gas delivery system. This safety focus is embedded in what we do and is the foundation for who we are – from initial employee training, to the installation, operation and maintenance of our utility infrastructure, and to our commitment to provide safe and reliable service to our customers.⁸

To promote these principles throughout, and to foster a culture of continuous safety improvement, “[t]he company continuously strives for a work environment where employees at all levels . . . can raise pipeline infrastructure, customer safety, and employee safety concerns and offer suggestions for improvement.”⁹ SoCalGas encourages two-way formal and informal

⁷ *Id.* at 33.

⁸ Southern California Gas Company, SoCalGas’ Natural Gas System Operator Safety Plan (March 15, 2019) at 6, available at https://www.socalgas.com/regulatory/documents/r-11-02-019/2019_SoCalGas_Gas_Safety_Plan-FINAL.pdf.

⁹ *Id.*

communication between its employees and management, and in order to identify and manage safety risks before incidents occur, as further described below in SCG-2-C8 and Chapter RAMP-F. SoCalGas endeavors to foster a work environment where employees are focused on and engaged in sustaining a culture that emphasizes safety and encourages its employees at all levels to raise pipeline infrastructure, customer safety, and employee safety concerns and to offer suggestions for improvement.

The Employee Safety risk was included in SoCalGas' 2018 ERR and is defined as the risk of an employee safety incident that causes serious injuries or fatalities while on duty. This Employee Safety risk chapter focuses on mitigations that address safety, education, training, and other internal procedural enhancements. This safety focus is embedded in what we do and is the foundation for who we are. Our safety efforts start at the top with appropriate safety governance. SoCalGas' board includes senior officers with extensive operational and safety experience specific to a natural gas utility and provides oversight at the highest level. At SoCalGas, each officer and director is responsible for safety. As further described below, SoCalGas has an Executive Safety Council (ESC), which is chaired by the Chief Operating Officer, who is also the Chief Safety Officer. The ESC sets goals and direction, provides resources, and reviews results of direct feedback from the frontline employees.

While the Employee Safety risk scope is limited for purposes of this Chapter, it is important to note that the operational risks addressed in this RAMP Report¹⁰ can result in an incident where an employee is seriously injured, or a fatality occurs. The risk mitigation activities presented in other Chapters of this RAMP Report also address the Employee Safety risk.¹¹ Following the SA Decision and our risk methodology, a potential risk scenario of SoCalGas' Employee Safety risk is an employee not following a company policy or procedure being severely injured and causing a disruption of service to a small number of customers.

¹⁰ See, SCG-1, Medium Pressure Gas Pipeline Incident (Excluding Dig-in); SCG-5, High Pressure Gas Pipeline Incident (Excluding Dig-in); SCG-6, Third Party Dig-in on a Medium Pressure Pipeline; and SCG-7, Third Party Dig-in on a High Pressure Pipeline. See also, Appendix A-3 to Chapter RAMP-A.

¹¹ *Id.*

In addition to promoting employee safety within the Company, SoCalGas also seeks to supplement its workforce by using contractors who are also committed to safety and employ numerous mitigation measures to protect the safety of SoCalGas' customers and the public at large. The contractor safety and customer and public safety mitigations are discussed in the separate, respective chapters of this RAMP report. While this chapter focuses on Employee Safety risk, many of the activities described herein also help to mitigate these other risks.

III. RISK ASSESSMENT

In accordance with the SA Decision,¹² this section describes the Risk Bow Tie, possible Drivers/Triggers, and Potential Consequences of the Employee Safety risk.

A. Risk Bow Tie

The Risk Bow Tie shown in Figure 1 below is a commonly used tool for risk analysis. The left side of the Risk Bow Tie illustrates the Drivers/Triggers that lead to a risk event and the right side shows the Potential Consequences of a risk event. SoCalGas applied this framework to identify and summarize the information provided above. A mapping of each Control/Mitigation to the element(s) of the Risk Bow Tie addressed is provided in Appendix A.

¹² D.18-12-014 at 33 and Attachment A, A-11 (“Bow Tie”).

Figure 1: Risk Bow Tie



B. Asset Groups or Systems Subject to the Risk

The SA Decision¹³ directs the utilities to endeavor to identify all asset groups or systems subject to the risk. This is a “cross-cutting” risk and therefore is associated with human systems, rather than particular asset groups.

C. Risk Event Associated with the Risk

The SA Decision¹⁴ instructs the utility to include a Risk Bow Tie illustration for each risk included in RAMP. As illustrated in the above Risk Bow Tie, the risk event (center of the Bow Tie) is an employee safety event that results in any of the Potential Consequences listed on the right. The Drivers/Triggers that may contribute to this risk event are further described in the section below.

¹³ *Id.* at Attachment A, A-11 (“Definition of Risk Events and Tranches”).

¹⁴ *Id.* at Attachment A, A-11 (“Bow Tie”).

1. Potential Drivers/Triggers¹⁵ of Risk Event

The SA Decision¹⁶ instructs the utility to identify which element(s) of the associated bow tie each mitigation addresses. When performing the risk assessment for Employee Safety, SoCalGas identified potential leading indicators, referred to as drivers. These include, but are not limited to:

- **DT.1 - Employees deviate from company policies or procedures:** SoCalGas' Company policies and procedures are defined in Gas Standards. Similarly, the Company's general safety rules are defined in the Employee Responsibilities section of the Illness and Injury Prevention Program (IIPP). An employee not adhering to such Company safety policies and procedures could result in a safety-related event.
- **DT.2 - Hazards in the work environment or within the pipeline system:** Unsafe work environments, including work locations, roadways and parking places, customer premises, gas equipment condition, lead from paint, asbestos, fumigation chemicals, for example, could lead to a safety event.
- **DT.3 - Drug/alcohol use or undisclosed prescriptions or medical restrictions:** Unknown drug/alcohol use while on the job or medical restrictions can impede the safe conduct of work which could lead to a safety event.
- **DT.4 – Non-use or improper use of personal protective equipment:** Safety equipment serves to protect employees and contractors from avoidable injuries. Failure to wear personal protection and safety equipment can lead to a safety incident.
- **DT.5 – Employees are not prepared to respond to emergencies:** Failure to respond accordingly during an emergency may increase the likelihood of serious injuries and/or fatalities.

¹⁵ An indication that a risk could occur. It does not reflect actual or threatened conditions.

¹⁶ D.18-12-014 at Attachment A, A-11 ("Bow Tie").

- **DT.6 – Effective corrective actions are not instituted following an incident to prevent a reoccurrence:** Lessons learned, and the appropriate follow-up actions or training, can help prevent future safety events from occurring. The failure to implement corrective actions following an event can lead to the recurrence of safety events.
- **DT.7 – Unsafe operation of equipment or motor vehicles:** Non-adherence to motor vehicle laws or not utilizing equipment according to safety standards could result in serious injuries and/or fatalities.

2. Potential Consequences of Risk Event

Potential Consequences are listed to the right side of the Bow Tie illustration provided above. If one of the drivers listed above were to result in an incident, the Potential Consequences, in a reasonable worst-case scenario, could include:

- Serious injuries and/or fatalities;
- Property damage;
- Operational and reliability impacts;
- Adverse litigation;
- Penalties and fines; and
- Erosion of public confidence.

These Potential Consequences were used in the scoring of Employee Safety that occurred during the development of SoCalGas' 2018 ERR.

IV. RISK QUANTIFICATION

A. Summary

The SA Decision sets minimum requirements for risk and mitigation analysis in RAMP,¹⁷ including enhancements to the Interim Decision 16-08-018.¹⁸ SoCalGas used the guidelines in the SA Decision as a basis for analyzing and quantifying risks, as shown below.

¹⁷ *Id.* at Attachment A.

¹⁸ *Id.* at 2-3.

Chapter RAMP-C of this RAMP Report explains the Risk Quantitative Framework which underlies this Chapter, including how the Pre-Mitigation Risk Score, Likelihood of Risk Event (LoRE), and Consequence of Risk Event (CoRE) are calculated.

Table 4: Pre-Mitigation Analysis Risk Quantification Scores¹⁹

Employee Safety	Low Alternative	Single Point	High Alternative
Pre-Mitigation Risk Score	117	1112	2771
LoRE	1.5		
CoRE	80	765	1907

B. Risk Scope and Methodology

The SA Decision requires a pre- and post-mitigation risk calculation.²⁰ The below section provides an overview of the scope and methodologies applied for the purpose of risk quantification.

Table 5: Risk Quantification Scope

In-Scope for purposes of risk assessment:	The risk of an employee safety incident that causes serious injuries or fatalities while on duty.
Out-of-Scope for purposes of risk assessment:	The risk of a safety incident (outside of OSHA regulation; not work-related) involving an employee that causes injuries or fatalities while <u>not</u> on duty.

Pursuant to Step 2A of the SA Decision, the utility is instructed to use actual results, available and appropriate data (*e.g.*, Pipeline and Hazardous Materials Safety Administration

¹⁹ The term “pre-mitigation analysis,” in the language of the SA Decision (Attachment A, A-12 (“Determination of Pre-Mitigation LoRE by Tranche,” “Determination of Pre-Mitigation CoRE,” “Measurement of Pre-Mitigation Risk Score”)), refers to required pre-activity analysis conducted prior to implementing control or mitigation activity.

²⁰ D.18-12-014 at Attachment A, A-11 (“Calculation of Risk”).

data).²¹ SoCalGas' safety risk assessment primarily utilized data from the Bureau of Labor Statistics (BLS), OSHA, and the Department of Labor (DOL).

Calculating serious injury and fatality incidence rates required data on total employment by sector. The BLS Employment and Earnings data was used to determine total employment by sector. The data was filtered on NAICS (North American Industry Classification System) subsector code "2212 Natural Gas Distribution" to represent SoCalGas.

Injuries, Illnesses, and Fatalities Program (IIF) historical data from the BLS was used to determine the serious injury and the fatality incidence rates per year. From this data, for the serious injury rate, it was calculated that 0.5% of recordable incidents are serious injuries for gas-related employees. This serious injury assumption is calculated as the ratio of serious injuries to recordable incidents during 2015-2016, by sector.

The OSHA Enforcement Data from the DOL was used to determine the distribution of injuries or fatalities resulting from a single employee safety incident. The data was supplemented with data from OSHA Severe Injury Reports. The NAICS code structure used in the data from the BLS is consistent with the NAICS codes in the OSHA enforcement data used for determining the distribution.

A Monte Carlo simulation was used to yield the probabilistic safety and financial consequences. The safety consequence scoring was based on a publication from the Federal Aviation Administration (FAA): a fatality is represented by 1.000 and a serious injury is represented by 0.253. Internal SME input was provided to estimate the financial consequence of employee safety incident. Based on SME input, reliability is not impacted by employee safety.

C. Sources of Input

The SA Decision²² directs the utility to identify Potential Consequences of a Risk Event using available and appropriate data. The below provides a listing of the inputs utilized as part of this assessment.

- Injuries:

²¹ *Id.* at Attachment A, A-8 ("Identification of Potential Consequences of Risk Event").

²² *Id.* at Attachment A, A-8 ("Identification of the Frequency of the Risk Event").

- Agency: Bureau of Labor Statistics- Injuries, Illnesses, and Fatalities Program (IIF)
- Link: https://www.bls.gov/iif/oshsum.htm#15Summary_Tables
- Report Title: TABLE Q1. Incidence rates of total recordable cases of nonfatal occupational injuries and illnesses by quartile distribution and employment size, 2009-2016, All establishment sizes

- Fatalities:
 - Agency: Bureau of Labor Statistics- Injuries, Illnesses, and Fatalities Program (IIF)
 - Link: <https://www.bls.gov/iif/oshcfoi1.htm#2015>
 - Report Title: Census of Fatal Occupational Injuries-TABLE A-3. Fatal occupational injuries to private sector wage and salary workers, government workers, and self-employed workers by industry, all United States

- Distribution Fitting Data:
 - Agency: Department of Labor (DOL)
 - Link: https://enforcedata.dol.gov/views/data_catalogs.php
 - Report Title: OSHA Enforcement Data: osha_accident, osha_accident_injury, osha_inspection

- Severe Injury Assumption:
 - Agency: Occupational Safety and Health Administration (OSHA)
 - Link: <https://www.osha.gov/severeinjury/index.html>
 - Report Title: Severe Injury Reports

- Support Data:
 - Agency: Bureau of Labor Statistics- Office of Publications & Special Studies
 - Link: <https://www.bls.gov/opub/ee/archive.htm>
 - Report: Employment & Earnings- Table B-1b. Employees on nonfarm payrolls by industry sector and selected industry detail, not seasonally adjusted, 2011-2016

- North American Industry Classification System - NAICS
 - Agency: US Census Bureau
 - Link: https://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart_code=22&search=2017%20NAICS%20Search

V. RISK MITIGATION PLAN

The SA Decision requires a utility to “clearly and transparently explain its rationale for selecting mitigations for each risk and for its selection of its overall portfolio of mitigations.”²³ This section describes SoCalGas’ Risk Mitigation Plan by each selected Control and Mitigation for this risk, including the rationale supporting each selected Control and Mitigation.

As stated above, SoCalGas’ Employee Safety risk is defined as the risk of a work-related employee safety incident that causes serious injuries or fatalities. The Risk Mitigation Plan discussed below includes both Controls that are expected to continue and Mitigations for the period of SoCalGas’ TY 2022 GRC cycle.²⁴ The controls are those activities that were in place as of 2018 to address this risk (most of which have been developed over many years) and include work to comply with laws that were in effect at that time.

SoCalGas’ Employee Safety risk encompasses the Drivers/Triggers outlined above that result in a safety-related incident. The baseline controls discussed below include the current evolution of SoCalGas’ risk management of its employee safety risk. These baseline controls have been developed over many years to address this risk. As further described below, SoCalGas’ current controls include provisions to comply with laws and regulations currently in effect and, in some instances, go above and beyond mandated compliance in line with industry best practices (*e.g.*, safety culture assessments, safety congresses, executive safety council) to further reduce employee safety risk.

SoCalGas’ Safety and Wellness department, which is part of the Safety Management Systems organization, is responsible for positioning SoCalGas employees to lead healthy, safe, and productive lives. The services provided by the department include but are not limited to: physical and mental wellness education; safety and industrial hygiene education and compliance; and incident prevention, analysis and reporting. There are two distinct work units within SoCalGas’ Safety and Wellness department – 1) Health and Safety, and 2) Employee Assistance

²³ *Id.* at Attachment A, A-14 (“Mitigation Strategy Presentation in the RAMP and GRC”).

²⁴ *Id.* at 16 and 17. A “Control” is defined as a currently established measure that is modifying risk. A “Mitigation” is defined as a measure or activity proposed or in process designed to reduce the impact/consequences and/or likelihood/probability of an event.

Program (EAP) and Wellness. The Health and Safety group is responsible for ensuring SoCalGas is, at a minimum, in compliance with all required health and safety regulations (e.g., Department of Transportation (DOT) and OSHA regulations) and is responsible for positively influencing the SoCalGas safety culture and working closely with SoCalGas personnel to provide education and training that can result in an incident-free workplace. The Health and Safety group reviews incidents and shares lessons learned with management, safety committees, and other departments within SoCalGas to prevent incidents and injuries from occurring. The staff also provides safety leadership training to frontline supervisors to make the safety culture more relevant and effective, benchmarks its safety practices against those of other companies in the industry, and identifies improvement potential. The Health and Safety work unit also participates in incident analysis and reporting and facility inspections and administers numerous facets of the SoCalGas occupational health and safety program. The work unit oversees the DOT-required programs of SoCalGas contractors to verify they are also in compliance with the DOT drug and alcohol testing regulations and submits annual contractor drug testing program statistical reports to federal agencies, as required by DOT regulations.

The EAP and Wellness group promotes adoption of a safe and healthy lifestyle to employees and their families by promoting health and wellness, substance abuse education and intervention, and mental health programs. The work unit educates the SoCalGas workforce and works to motivate employees to make positive behavioral changes to improve their health, safety, and well-being through onsite wellness events and programs, and regular distribution of educational tips and resources. The EAP and Wellness staff:

- Educates employees in topics such as proper hydration, nutrition, sleep, and activities that can contribute to preventing workplace injuries;
- Manages and administers the Company's non-regulated and DOT-regulated drug and alcohol testing programs and EAP;
- Provides oversight and administration of pre-employment, random, reasonable cause and other DOT required drug and alcohol testing of employees in safety sensitive positions, regulated by the Pipeline Hazardous Materials Safety Administration (PHMSA) and Federal Motor Carrier Safety Administration (FMCSA) drug and alcohol testing program regulations;

- Refers employees to substance abuse treatment for drug and alcohol testing violations, and case manages these and other unique and sometimes complex employee issues (*i.e.*, mental health behaviors affecting job performance, workplace violence threats or critical incidents requiring EAP or other intervention); and
- Provides guidance and support to HR departments, employees, supervisors, and managers regarding employee substance abuse, mental health and workplace violence issues, and supports organizational safety events and meetings with coordination of wellness services (*i.e.*, health screenings, flu shots, health fairs, educational presentations).

SoCalGas establishes leading indicators to support injury prevention. An example of a program that captures leading indicators is the Safety Barometer Survey SoCalGas performs to assess the overall health of our safety climate and identify areas of opportunity that can help eliminate injuries and improve our focus and commitment to safety. Periodic application of the survey allows SoCalGas to compare results between different time periods and assess areas experiencing progress or a need for improvement. The goal of this assessment is to increase employee participation in, and contribution to, SoCalGas' ongoing efforts to continually improve its safety performance. The Safety Services department:

- Interprets and advises field operations regarding safety-related rules and regulations;
- Provides review and analysis of potential legislation that would impact the Company and develops policies to enforce them;
- Provides operational support by conducting compliance audits, sponsoring company-wide safety programs, developing and conveying safety communications, managing incidents, and performing statistical analysis;
- Conducts job observations, incident investigation and root cause analysis;
- Promotes defensive driver training, body mechanics training, and ergonomics training;

- Works with field operations to prevent incidents, perform self-audits; identify corrective actions following incidents, and conduct safety training;
- Is responsible for compliance with safety regulations, as well as establishing and managing programs, policies, and guidelines for the safety of employees; and
- Manages company-wide Occupational Health Nurse (OHN) services. The OHN is a specialty practice that delivers health and safety programs and services to employees. The practice focuses on promotion and restoration of health, prevention of illnesses and injuries, and protection from work-related and environmental hazards.

As discussed in Chapter RAMP-A, certain internal labor costs are not reflected in Section VII, below. While the costs presented herein may therefore appear lower than those presented in SoCalGas' TY 2019 RAMP Report, it is important to note that this does not reflect a drop in SoCalGas' employee safety risk mitigation efforts. The costs associated with these internal labor activities are not captured in this chapter because SoCalGas does not currently track labor in this manner. Therefore, in order to aid RAMP to GRC integration efforts, and Risk Spending Accountability Reporting requirements, SoCalGas has not captured certain internal labor costs (e.g., time spent to attend training) in this 2019 RAMP Report but continues to perform these risk mitigation activities as described herein.

A. SCG-2-C1: Mandatory Employee Health and Safety Training Programs and Standardized Policies

Our employees receive extensive training because we believe safety starts with proactive upstream measures to prevent a safety incident from occurring. SoCalGas' Mandatory Employee Health and Safety Training Programs and Standardized Policies comprise the following elements, as required by the California Code of Regulations (CCR) and/or Cal/OSHA:

Injury Illness Prevention Plan (IIPP): In California, every employer is required by law to provide a safe and healthful workplace for its employees.²⁵ Further, Title 8 of the California

²⁵ Cal. Labor Code § 6400.

Code of Regulations²⁶ requires every employer to have an effective IIPP. SoCalGas' IIPP is a written plan for preventing injury and illness that includes procedures. The elements included in SoCalGas' IIPP are:

- Management commitment/assignment of responsibility;
- Safety communication system with employees;
- System for assuring employee compliance with safe work practices;
- Scheduled inspections/evaluation system;
- Accident investigation;
- Procedures for correcting unsafe or unhealthy conditions;
- Safety and health training instruction;
- Recordkeeping and documentation; and
- Safety programs.

Employee Safety Standards: The employee safety standards are a collection of information, instructions, policies, and procedures intended to promote safe work practices. The purpose of the Health and Safety policies and procedures is to guide and direct all employees to work safely and prevent injury to themselves and others.

Safety standards are specifications designed to promote the safety of work activities or processes. Standards are rules that describe the methods that employers use to protect their employees from hazards. They are used to communicate policy to the workforce as well as key stakeholders and others at SoCalGas.

Industrial Hygiene Program: SoCalGas has a robust Industrial Hygiene program in compliance with Cal/OSHA regulations. Industrial Hygienists are responsible for monitoring changes in employee safety and health regulations, developing internal safety policies and procedures to promote compliance with the applicable regulations, and managing company-wide implementation of key industrial hygiene programs, such as Hazard Communications, Hearing Conservation, Respiratory Protection, Mold, Asbestos, and Lead Exposure Management.

²⁶ 8 CCR § 8350.

B. SCG-2-C2: Drug and Alcohol Testing Programs

SoCalGas has implemented an employee drug and alcohol testing program managed in accordance with state and federal regulations. SoCalGas' Substance Abuse Prevention policy prohibits the use and/or possession of alcohol during working hours or reporting to work with alcohol, illegal drugs, or impairing prescribed controlled substances in their system. All employees are responsible for knowing and complying with Company policy. Violations are cause for disciplinary action up to and including termination of employment.

In compliance with the Drug-Free Workplace Act of 1988²⁷ (which requires SoCalGas, as a federal contractor and grant recipient, to implement a comprehensive drug and alcohol-free workplace policy (DAFWP)), SoCalGas has a longstanding commitment to provide a safe and productive work environment for our employees, and safe and efficient service for our customers and the public. Because alcohol and drug abuse pose a threat to the health and safety of SoCalGas employees and the public and to the security of the Company's equipment and facilities, SoCalGas is committed to providing a drug and alcohol-free workplace. The use of illegal drugs, impairing prescribed controlled substances, and the misuse of alcohol is contrary to these high standards. All employees in non-safety-sensitive and safety-sensitive positions are subject to the Company's DAFWP. Testing under this policy is limited to only Pre-employment and Reasonable Cause, Return-to-duty, and Follow-up testing (when applicable). Under the DAFWP, SoCalGas tests for additional (*e.g.*, generally prescribed) impairing drugs not tested for under the DOT testing program. This Policy also requires employees to pre-duty disclose their use of impairing medications that may affect their ability to safely perform safety-sensitive duties.

In addition, SoCalGas also complies with the DOT drug and alcohol program requirements²⁸ and implemented a Drug and Alcohol Misuse Prevention Plan and Policy (DAMPPP) for employees in safety-sensitive positions, subject to these regulations and testing requirements. The purpose of the DAMPPP is to reduce accidents and injuries that may result

²⁷ 41 United States Code Service (U.S.C.) § 81.

²⁸ 49 CFR Part 40.

from the use of illegal drugs, impairing prescribed controlled substances, and misuse of alcohol, thereby reducing fatalities, injuries and property damage, and to comply with federal and state regulations. To comply with the DOT regulations, the Company implemented two random testing pools as required by 49 CFR Part 199 (Drug and Alcohol Testing Procedures and regulations for PHMSA-covered employees) and Part 382 (Drug and Alcohol Testing Procedures for FMCSA-covered employees (applicable to Commercial Motor Vehicle Drivers)). PHMSA-covered employees are those employees who perform operations, maintenance, or emergency response functions associated with gas pipeline or LNG facilities and regulated by 49 CFR Part 192, 193 and 195. FMCSA-covered employees are commercial motor vehicle drivers required to hold a commercial Class A, Class B, or commercial C driver's license. Each of these agencies established its own additional testing policies and regulations to comply with the 49 CFR Part 40 testing procedures and set their testing rates annually. For example: PHMSA only requires random testing for drugs (current annual test rate for 2019 is 50% of the pool), while FMCSA requires testing for both drugs and alcohol (current annual test rate for 2019 is 25% of the pool for drugs and 10% for alcohol). In addition to random testing, both agencies require testing (as needed) for: Pre-employment/Pre-Assignment, Reasonable Cause, Post-Accident, Return-to-Duty and Follow-up testing, and require a drug and alcohol background history check be conducted prior to placing employees in safety-sensitive functions.

C. SCG-2-C3: Employee Wellness Programs

SoCalGas' Employee wellness program objectives are to design comprehensive "Wellbeing" programs that reflect the Company's commitment to employees and their social communities. Further, it builds a culture of health and safety at work and in personal life that has a positive impact on our medical plan populations' morbidities and creates an understanding of the incremental impact that a collective wellbeing program presence can have on helping SoCalGas continue its high performance and achievement of organizational goals.

SoCalGas' Wellbeing Program goals are to:

- increase employee awareness of personal health and safety;
- empower and educate employees about making healthy lifestyle choices; and

- improve employee and their social communities' quality of living.

According to the CDC, preventable chronic conditions are a major contributor to the costs of insurance premiums and employee medical claims and lost productivity. Effective worksite wellness programs can result in significant, positive outcomes such as:

- Better employee health;
- Less absenteeism and sick leave;
- Higher job performance and productivity;
- Lower health insurance costs;
- Fewer safety incidents and workers' compensation claims; and
- Happier, more satisfied employees.
- The Company Wellbeing programs strive to offer programs under the following wellness pillars:
 - Move More (Physical Fitness and Activity);
 - Eat Right (Healthy Eating and Weight Management);
 - Prevent It. Manage It. (Disease Prevention and Mgmt., Biometric Screenings);
 - Stress Less. Focus More. (Mental/Emotional Wellbeing);
 - My Money (Financial Wellbeing and Saving);
 - My Community (Giving Back – Engagement, Volunteerism and Awareness);
 - At Your Fingertips (Interactive Tools, Guides & Resources); and
 - Achieve It! (Incentives and recognition).

In addition, based on medical plan utilization and experience, our educational programs target the following areas:

- Diabetes;
- Cancer;
- Heart Disease;
- Obesity;
- Stress;
- Coronary Arterial Disease (CAD);
- Asthma and Chronic Obstructive Pulmonary Disease (COPD); and

- Tobacco Cessation.

D. SCG-2-C4: Employee Safety Training and Awareness Programs

Training, education and awareness are elements of a strong Injury and Illness Prevention Program. As stated above in SCG-2-1, our employees receive extensive training because we believe safety starts with proactive upstream measures to prevent a safety incident from occurring. Front-line employees are trained in behavior-based safety programs. At SoCalGas, safety is a core value, so we provide all employees with the training necessary to safely perform their job responsibilities.

A strong safety culture requires the right people at the right job with the right skills. The Human Resources function, with support from the operating organizations and the Safety Management Systems (SMS) organization at SoCalGas, supports the safety culture by attracting, developing, training and retaining employees who have the skills and abilities to perform their jobs safely and operate and maintain a safe and reliable system. To achieve the accountability of enhancing the safety culture, the SMS organization, the operating organizations, and the Human Resources function are responsible for performance management, organizational effectiveness and safety. SoCalGas develops training plans by job classification that include courses required to perform certain work, meet company objectives, and satisfy required compliance training. Training plans are maintained in SoCalGas' Learning Management System (cornerstone) and accessed by supervisors and employees through the MyInfo application. Each department is responsible for maintaining training plans and ensuring employees complete initial and periodic refresher training requirements. Contractor compliance, maintenance of DOT-required programs, improving driver safety via training, and in-vehicle instruction are also top priorities for SoCalGas.

SoCalGas deploys a "Safety Essentials for Supervisors" training program which is a 1-day workshop developed for new and existing supervisors to provide a comprehensive understanding about safety culture and leadership for supervisors to effectively manage safety programs at their respective work location. This training is mandatory for all new supervisors and is offered as a refresher to existing supervisors. Safety and Wellness execute these programs to maintain employee safety.

SoCalGas also has a Safety-First program. This program involves the rollout of safety committee member training to prepare safety committee members to better influence the safety culture. The focus of this training is to enhance the skills of safety committee members, so safety improvement projects and person-to-person interaction are more effective. SoCalGas seeks to enhance the mindset that employees are “one-another’s keeper” when it comes to safety. SoCalGas provides initial and refresher safety leadership training to safety committee members. The safety committee members include Union employees, and in the operating organizations, the safety committees typically consist of mostly Union employees. The training is available to all job classifications. These individuals are safety advocates and are in safety leadership roles. They help define and instill the safety culture at their respective work location.

SoCalGas uses an Environmental and Safety Compliance Management Program (ESCMP) to track and document completion of the above-noted training courses, as well as compliance requirements, awareness, goals, monitoring, and verification related to all applicable environmental, health and safety laws, rules and regulations, and Company standards. SoCalGas’ annual ESCMP certification process involves submittal of information into a database used to collect and record employee and facility compliance. For this submittal, two types of checklists are available and completed in the online system: An employee-based checklist and a facility-based checklist. Through this process, the Environmental and Safety departments can review submittals in the online system and confirm all required inspections were completed, assigned training was done, and all corrective actions were addressed.

E. SCG-2-C5: Safe Driving Programs

SoCalGas’ safe driving programs aim to increase a driver’s safety awareness to prevent and minimize the risk of motor vehicle incidents. With senior management’s commitment and employee involvement, SoCalGas is driving a safety culture committed to safe driving. This commitment includes written policies and procedures and the following program elements:

Alert Driving Program: FleetDefense® by AlertDriving is a state-of-the-art online Driving Safety Program designed to increase skills that will help keep employees safe and reduce traffic incidents. The FleetDefense web-based training uses targeted defensive driving courses to assess employees' safe driving behaviors and evaluate drivers' defensive skills using actual

footage of near-collision situations. The training features an online hazardous driving assessment called the Hazard Perception Evaluation (HPE). Once the HPE is completed, each driver is assigned monthly online training modules.

DMV Drivers' License Pull Program: The California DMV Pull Notice Program allows SoCalGas to monitor driver's license records of employees who drive on the Company's behalf. SoCalGas is enrolled in the Class A Pull Notice Program, which also enrolls the employee in the random alcohol and drug testing program, per Company policy, which is managed by the Employee Care Services department.

The ability to monitor driving records assists the Company in improving employee and public safety and helps minimize overall risk and liabilities. The Program automatically sends a notice when an employee has an action against their license, such as a suspension or a DUI. This information also helps to reveal problem drivers or driving behavior with notice of accidents and failures to appear.

Commercial Drivers' License Program: In accordance with the FMCSA Drug and Alcohol Testing Regulations,²⁹ SoCalGas' EAP and Wellness department must subject the Company's commercial drivers who operate a commercial motor vehicle (*i.e.*, vehicles with a GVWR of 26,001+ pounds, or are placarded for hazardous materials) to random drug and alcohol testing. Details of this program are outlined under the Drug and Alcohol Testing section above (*see*, SCG-2-C2). To manage this pool, the EAP and Wellness department collaborates with the Gas Systems Integrity Staff and Programs department (who manages the DMV Pull Notice Program) to determine that each commercial driver in the random testing pool has a valid commercial driver's license and medical card. In addition, this group also provides the information on new drivers that need to be added to the pool, or inactive drivers that need to be removed from the pool. The EAP and Wellness team closely monitors this pool by gathering driver data monthly, from the DMV Pull Notice department, and prior to the next month's random selection, to determine that the pool is not diluted with inactive drivers and/or that new employees are promptly added to the pool. EAP and Wellness also conducts required DOT drug and alcohol history background checks for all new drivers that enter the CMV driver pool.

²⁹ 49 CFR Part 382.

Effective January 4, 2020, FMCSA will require that the Company also register with their FMCSA Driver National Clearinghouse. The EAP and Wellness team will now be required to check the Clearinghouse for drug and alcohol violations prior to hiring new drivers, and thereafter on an annual basis. The team must also report violations to this Clearinghouse within three days of any driver drug and alcohol program violations.

F. SCG-2-C6: Personal Protective Equipment (PPE)

The purpose of SoCalGas' PPE Program is to protect employees from the risk of injury by creating a barrier against workplace hazards. The PPE Program addresses eye, face, head, foot, and hand protection. OSHA standards require employers to conduct and certify workplace hazard assessments for the use of PPE at facility locations that are representative of the types of ongoing work operations. SoCalGas does not have to perform a hazard assessment at each location, but if a hazard assessment is performed, for example, at a transmission facility, then that assessment is representative of other similar transmission facilities and would also apply to those locations. SoCalGas provides its employees with the PPE required to safely perform work (e.g., flame-retardant suits, eye protection, and gloves). The Company maintains processes and procedures so that employee hearing and respiratory functions are not impaired due to exposure to harmful environmental conditions. When work is performed that could expose customers or the public to injury, controls are implemented to mitigate risk. The costs associated with equipment and specific occupational safety programs are included in this category.

G. SCG-2-C7: Near Miss, Stop the Job and Jobsite Safety Programs

All SoCalGas employees, regardless of rank or title, are given the authority to “stop a job” at any time if they identify a safety hazard and are encouraged to raise a red flag whenever they feel it is needed. SoCalGas recognizes the importance of learning from close calls and near-misses to reduce the potential for a serious incident or injury in the future.³⁰ We encourage employees to report close calls. The information is submitted to Safety Services for review and may be shared with other employees, so they understand and benefit from lessons learned.

³⁰ The National Safety Council describes a close call or near-miss as an unplanned event that did not result in injury, illness, or damage, but had the potential to do so.



Front-line employees are trained to “Stop the Job,” a SoCalGas safety best practice that empowers anyone to stop the job at any time, without fear of retaliation, if they see a condition that might be unsafe. Following invocation of “Stop the Job,” the job can only resume once all concerns have been addressed and safety precautions have been taken.

SoCalGas maintains a Quality Assurance (QA) program to assess the work quality of many of its field personnel. Job observations and field rides are conducted by management personnel based upon Behavior Based Safety (BBS) principles. SoCalGas’ BBS program is a proactive approach to safety and health management, focusing on principles that recognize at-risk behaviors as a frequent cause of both minor and serious injuries. The purpose of the job observation and field ride process is to reduce the occurrence of at-risk behaviors by modifying an individual's actions through observation, feedback, and positive interventions aimed at developing safe work habits. Employees are also provided feedback and coaching so that their work conforms to policy and procedure.

H. SCG-2-C8: Safety Culture

SoCalGas promotes a vigilant focus among all employees by investing in regular events on safety issues and facilitating discussion of safety practices. Safety meetings are important to SoCalGas and, therefore, are scheduled on a regular basis. These meetings include: weekly reviews of relevant policies and procedures; safety tailgates to discuss workplace hazards, work plans, and responsibilities; safety stand-downs to discuss safety incidents, close calls, bulletins or other safety topics; safety committee meetings to develop and present material on various safety topics; annual safety stand-downs at its operating districts; annual safety congresses for employees and contractors; and dialogue meetings with Company and department leadership.

Since 1999 SoCalGas has held annual Safety and Health Congresses to provide a forum for local safety committee members (composed of represented employees) to share and exchange safety information and ideas. Recipients of the Individual and Committee Safety Excellence Awards are announced at the events, recognizing safety stand-outs who embrace the safety culture and demonstrate safety leadership.

Safety Culture Survey: SoCalGas regularly assesses its safety culture and encourages two-way communication between employees and management as a means of identifying and



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managing safety risks. SoCalGas conducts and invites/encourages all employees to participate in the National Safety Council (NSC) Barometer Survey every two to three years (Safety Culture Survey). The first survey was conducted in 2013, followed by two more surveys in 2016 and 2018. Safety Culture Survey results are shared with all employees, improvement opportunities are identified, corrective actions implemented, and progress measured by comparing results from survey to survey. We look to continually improve our safety program and culture using a variety of means, including using the Safety Culture Surveys.

Safety Stand-downs: A Safety Stand-down is a voluntary event for employers to talk directly to employees about safety. These events provide an opportunity to discuss hazards, protective methods, and the company's safety policies, goals and expectations. SoCalGas has about five dozen operating districts and each district typically conducts a safety stand-down every year. The purpose of these safety stand-downs is to bring district employees together to raise awareness about safety, health and wellness. Local management and the local safety committees select topics of interest to the district and the topics change from year to year. This practice has been in place for more than a decade.

Safety Congress and Leadership Awards: Since 2002 this event has been held annually, providing a forum for safety committee members, safety leaders, and others to share and exchange information and ideas through networking and workshops. At this event, safety leaders are recognized for living by the company's safety vision, turning that vision into action, embracing the SoCalGas safety culture, and demonstrating safety leadership.

Safety Tailgates: Safety tailgate talks are short informational meetings held with employees to discuss work-site related safety. The purpose of a tailgate is to inform employees of specific hazards associated with a task and the safe way to do a job. Tailgate talks also serve as a reminder to employees of what they already know while establishing the supervisor's credibility and conscientiousness about his role related to safety and work oversight.

Safety Meetings: The main objective of a safety meeting is to remind employees of safe practices they have already learned or to introduce and build awareness of new techniques, new equipment, or new regulations that must be observed.



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I. SCG-2-C9: Utilizing OSHA and Industry Best Practices and Industry Benchmarking

SoCalGas collaborates with high-performers in environmental, health and safety across industry sectors and regions of the world through the Campbell Institute at the NSC, benchmarking with other utilities, industries, and leaders in safety performance. SoCalGas benefits from building relationships with other safety leaders, accessing best practices on employee and contractor safety, and benchmarking on leading indicators and key safety program elements.

SoCalGas participates in safety benchmarking forums to compare our health and safety processes, performance against others to learn how to reduce incidents, improve compliance, and discuss best management practices as efforts to improve the safety health of our organization. Our end goal is to send every employee home safely every day by targeting zero. Some of the key organizations the Company benchmarks against are the American Gas Association (AGA), the Campbell Institute, the Bureau of Labor Statistics, and other partners.

Additionally, SoCalGas attends the California Independently Owned Utility (IOU) and Municipality bi-annual meeting to discuss employee and contractor safety. This dedicated forum is a utility benchmarking initiative addressing new regulations, legislation, best management practices, and other safety topics of interest.

Of equal importance are outreach activities with local first responder agencies, county coordinators (emergency management), and other public officials which occur on a yearly basis, focusing on how the Company can partner during an emergency incident response, including a review of infrastructure location information, hazard awareness and prevention, leak recognition and response, emergency preparedness and communications, damage prevention and integrity management. In addition, SoCalGas partners with these stakeholders throughout the year on joint drills, exercises, tabletops, and preparedness fairs to enhance our coordination and response during emergencies. SoCalGas has also established liaisons with appropriate fire, police, and other public officials across its service territory, which includes over 100 fire agencies. Recently, SoCalGas deployed emergency response services to northern and southern California following weather-related events, and also sent assistance to the Boston area following a pipeline overpressure occurrence.

J. SCG-2-M1: OSHA 30-hour Construction Certification Training

The OSHA 30-hour construction training is part of OSHA's Outreach Training Program, which is a voluntary training program started by OSHA in 1971. According to OSHA, its purpose is to promote workplace safety and health and to make workers more knowledgeable about workplace hazards and their rights. The OSHA Outreach Training Program alone does not, however, fulfill the training requirements found in OSHA standards. For example, there are separate OSHA standards for energy isolation programs (*i.e.*, Lock-out and Tag-out programs), the confined space program, the lead standard, and the asbestos standard. There are specific compliance training requirements for employees who are involved in these activities. The Outreach 30-hour training covers many of those hazards, but it is considered non-mandatory training and is over and above the compliance training mandated by OSHA standards.

Therefore, employers are responsible for providing additional training for their employees on the specific hazards of their job, as noted in many OSHA standards. OSHA's Outreach Training Program provides training on the recognition, avoidance, abatement, and prevention of workplace hazards. Through its national network of OSHA Training Institute (OTI) Education Centers, qualified individuals become authorized OSHA Outreach trainers and deliver 30-hour outreach classes to workers. According to OSHA, between FY 2012 and FY 2016, more than 3.94 million workers were trained in job hazard recognition and avoidance through the program.

SoCalGas plans to add this new training for employees involved in construction jobs. This mitigation would provide the 30-hour training to all field supervisors and field employees involved in construction and operations activities (*e.g.*, Gas Operations, Gas Transmission Operations, Customer Services Field, Storage Operations, Construction Projects/Programs (like PSEP, MHP, PI, and TIMP)). The purpose of providing employees with this new training is to further enhance their skills in hazard identification and help them gain certification that is recognized by regulatory agencies nationwide. By becoming better at identifying hazards, employees are expected to contribute to reducing the risk of injuries.

K. SCG-2-M2: Industrial Hygiene Program Refresh

An important component of the industrial hygiene program is to conduct exposure assessments for issues of concern to employee health and safety and to establish appropriate

mitigation measures and controls. SoCalGas has been conducting such assessments for over three decades, in conjunction with the various industrial hygiene programs, to promote employee health and safety as well as compliance with various Cal/OSHA regulations.

An important component of conducting exposure assessments is to review these assessments and periodically refresh or update them to confirm that they still support the decisions made on mitigation controls to promote employee health and safety. There are no specific regulatory requirements defining a frequency at which the initial assessments should be reviewed and updated, except when the conditions of exposure have significantly changed. SoCalGas recognizes the need to review all past records and identify records that are older than 10 years or more to assess whether those assessments need to be refreshed and updated.

SoCalGas plans to take a proactive approach in conducting additional assessments in areas where regulations may become more stringent in the future and gradually work towards achieving compliance prior to new requirements coming into play.

For example, noise generating equipment and machinery at many facilities have changed since SoCalGas originally conducted noise surveys for employees to assure compliance with the Hearing Conservation Program. Obtaining more current data through implementation of this program will help to document the noise levels for employee job tasks and alert SoCalGas to any new areas of concern. It should also be noted that noise dosimetry monitoring technology has also significantly advanced, improving the accuracy of the data collected and method of documentation. Implementation of this program will include a re-sampling that will assist us in ensuring our data has been collected and documented in sync with best practices.

Cal/OSHA is proposing regulation changes for occupational lead exposure. One of the changes will be a lower Permissible Exposure Limit (PEL): down to 10 ug/m³ from 50 ug/m³, and a lower Action Limit (AL): down to 2 ug/m³ from 30 ug/m³. Most of our industrial hygiene exposure assessment data for lead removal tasks was gathered before 2012 and was based on complying with the current exposure limits. Employee tasks will need to be monitored again to determine if they can comply with the proposed lower exposure limits. The tasks may need to be modified or deleted depending on the air monitoring results.

L. SCG-2-M3: Establish Proactive Monitoring for Indoor Air Quality and Chemicals of Concern

SoCalGas historically has addressed indoor air quality (IAQ) issues when they are raised by employees as safety concerns. Such issues have been brought up typically at large headquarters facilities. Most recently in 2019, a concern was brought up regarding mold at the Compton headquarters facility. The issue was resolved by abating the areas contaminated by mold growth and conducting a thorough IAQ investigation, which created a lot of anxiety amongst several hundred employees working at the facility. One of the biggest takeaways from the incident was to consider a proactive approach to evaluating IAQ on a routine basis at a representative number of SoCalGas office-type facilities where employees work indoors on a full-time basis. Thus, SoCalGas is proposing to begin this new Proactive Monitoring program to conduct annual IAQ assessments at the six large headquarters facilities in its service territory. This mitigation measure, in combination with other existing and new mitigation measures, is expected to reduce SoCalGas' occupational injury rates based on the last five years' historical trend.

M. SCG-2-M4: Creation of a Safety Video Library

SoCalGas has a safety video library comprised of training videos on a variety of safety topics. The collection consists of several hundred titles covering around 50 primary safety topics, with typically a single copy available for physical checkout by SoCalGas employees. The collection is outdated with virtually all titles available only in a format that is no longer useful, and the video check-out and check-in process is cumbersome, disincentivizing its use.

To streamline the library, SoCalGas plans to subscribe to a third-party online streaming service provider to get access to the latest safety training materials from a reputable training source. This will tremendously help our employees and supervisors to have 24/7 ready access to the relevant and most updated safety training materials to use during their safety stand-downs, daily morning safety meetings, daily tailgate meeting for field crews, and other safety events.



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N. SCG-2-M5: Expanded Safety Congress and Expanded Safety Council

As stated above, since 1999, SoCalGas has held annual Safety and Health Congresses to provide a forum for safety committee members (composed of represented employees) to share and exchange safety information and ideas. Recipients of the Individual and Committee Safety Excellence Awards are announced at the events, recognizing safety stand-outs who embrace the safety culture and demonstrate safety leadership. There are two congress events scheduled every year principally benefiting the transmission, distribution, customer services, underground and aboveground storage and other operating organizations.

Beginning in 2019, SoCalGas added an additional safety congress event for the benefit of the multitude of staffing/office organizations located at SoCalGas' Gas Company Tower in Los Angeles. This milestone event took place in Sept. 2019. This expansion is expected to further improve the safety awareness and ownership amongst office employees and help reduce ergonomic and other office related injuries and incidents. This mitigation measure, in combination with other existing and new mitigation measures, is expected to reduce SoCalGas' occupational injury rates based on the last 5 years' historical trend.

SoCalGas Executive Safety Council (ESC) has been in place for well over a decade and its purpose is to provide safety oversight and executive interactions with employees over safety matters. The ESC is led by the Chief Safety Officer of SoCalGas and includes all executives with operations responsibilities. The ESC meets on a quarterly basis at various operating locations to engage with represented employees, supervisors, and managers associated with an operating district or a region. Unique and separate employee dialogue sessions are held to provide a forum for employees to share their candid feedback on what is going well in safety and what needs to be improved. Issues brought up are discussed and resolved during the dialogue session or carried forward as action items for later resolution. These sessions, which have been well-received by employees, enable executives and employees to share their perspectives on safety successes, challenges, and opportunities.

Beginning in 2019, SoCalGas expanded the frequency of these interactions from quarterly to monthly to enable reaching out to more operating districts and more employees in the Company. The four quarterly sessions will continue as is, but the supplemental monthly

sessions will be less structured and more integrated with local safety stand-downs managed by each operating district. In the monthly sessions, executives actively participate in the operating district's routine safety stand-down activities. The primary goal with the monthly interactions is to demonstrate support by executives for our front-line employees (management and represented) and local safety committees to learn how executives can better support safety.

O. SCG-2-M6: Expanded Safety Culture Assessments

As stated above (SCG-2-C8), since 2013, SoCalGas has retained the NSC to use its Safety Barometer Survey to engage our employees to provide input on safety, gain benchmarking insight, and identify improvement opportunities (Safety Culture Survey). SoCalGas has now completed three cycles of the Safety Culture Survey (2013, 2016, and 2018) and has ranked consistently high, above the 90th percentile of 580 similarly surveyed companies. More important than the ranking, the Safety Culture Survey has helped to identify safety areas of alignment and strength as well as opportunities for potential improvement.

Moving forward, SoCalGas plans to expand the assessments to include focus group discussions, employee interviews and field observations of employee job activities to view safety culture in action and further supplement the feedback received from the Safety Culture Surveys. SoCalGas also plans to tap into grass-roots activities of its local safety committees and integrate that insight into safety culture assessment. The purpose of these additional methods and approaches is to gain further insight in areas of success and potential weakness within the safety management system or programs and identify more relevant and specific opportunities of improvement. This mitigation measure, in combination with other existing and new mitigation measures, is expected to reduce SoCalGas' occupational injury rates based on the last five years' historical trend.

VI. POST-MITIGATION ANALYSIS OF RISK MITIGATION PLAN

As described in Chapter RAMP-D, SoCalGas has performed a Step 3 analysis where necessary pursuant to the terms of the SA Decision. SoCalGas has not calculated an RSE for activities beyond the requirements of the S-MAP SA Decision but provides a qualitative description of the risk reduction benefits for each of these activities in the section below.

A. Mitigation Tranches and Groupings

The Step 3 analysis provided in the SA Decision³¹ instructs the utility to subdivide the group of assets or the system associated with the risk into tranches. As defined in the SA Decision, a tranche is “a logical disaggregation of a group of assets (physical or human) or systems into subgroups with like characteristics for purposes of risk assessment.”³² Therefore, risk reduction from controls and mitigations and RSEs are determined at the Tranche level. For purposes of the risk analysis, each Tranche is considered to have homogeneous risk profiles (*i.e.*, the same LoRE and CoRE).

SoCalGas’ comprehensive Employee Safety program consists of training courses, policies, programs, and efforts aimed to reduce risk of injury or fatality to employees while on duty. Given the vast number of activities SoCalGas performs to mitigate Employee Safety risk, SoCalGas grouped similar activities with similar risk profiles into mitigation programs. Since each of SoCalGas’ Employee Safety risk mitigations have the same goal of reducing employee risk of injury or fatality, all controls and mitigations have the same risk profile and are not further tranced.

B. Post-Mitigation/Control Analysis Results

For this post-mitigation and post-control analysis, SoCalGas evaluated the historical safety performance results and the improvements year-over-year to calculate an overall risk reduction benefit of performing these activities. Historically, SoCalGas has routinely improved existing mitigations and/or added new mitigations to continue enhancing safety. As such, for existing and new programs, we expect to get similar level of reduction (3.33% per year) based on the last 5 years (2014 through 2018) of historical trend in OSHA recordable injury rates. This equates to 10% reduction over the 3-year GRC cycle. This 10% reduction, when equally allocated to each of the controls identified below, results in a 0.33% annual risk reduction benefit over the 3-year GRC cycle by continuing the activities. For SoCalGas’ new programs/activities

³¹ D.18-12-014 at Attachment A, A-11 (“Definition of Risk Events and Tranches”).

³² *Id.* at A-4.

(*i.e.*, mitigations), SoCalGas has applied an incremental effectiveness of 0.06% annual risk reduction benefit.

1. SCG-2-C1: Mandatory employee health and safety training programs and standardized policies

a. Description of Risk Reduction Benefits

Safety programs and standards help decrease employee safety risk by providing information in policy and procedure formats used to guide and direct all employees to work safely and prevent injury, to themselves and others. Injury and illness prevention programs can substantially reduce the number and severity of workplace injuries and illnesses while reducing costs to employers. OSHA mandatory employee health and safety training programs and standardized policies help reduce SoCalGas employee risk by providing a framework for working safely while addressing safety and health issues in the workplace. They serve as a proactive approach to manage workplace safety and health by educating employees and at times the public (*e.g.*, SoCalGas informs employees and the public about natural gas leak abatement). These guidelines recognize that finding and correcting hazards before an injury or illness occurs is far more effective than an after-the-fact response.

Industrial hygiene programs anticipate, recognize, evaluate and correct workplace conditions that may cause workers' injury or illness. These programs include, but are not limited to Hearing Conservation, Respiratory, Hazard Communication – Chemical, and Asbestos/lead/mold Abatement. Industrial hygiene programs use environmental monitoring and analytical methods to detect the extent of worker exposure and employ engineering, work practice controls, and other methods to control potential health hazards. Developing and complying with mandatory occupational safety and health standards involves determining the extent of employee exposure to hazards and deciding what is needed to control these hazards, thereby protecting the workers. Industrial hygienists, or IHS, are trained to anticipate, recognize, evaluate, and recommend controls for environmental and physical hazards that can affect the health and well-being of workers.

SoCalGas has not performed a Risk Spend Efficiency Evaluation on SCG-2-C1 because the program elements are mandated by law and/or regulation.³³ SoCalGas must comply with all applicable laws/regulations, and thus it is not feasible for SoCalGas to stop performing this activity or calculate the risk reduction benefits received for performing this activity.

b. Elements of the Risk Bow Tie Addressed

SCG-2-C1 addresses several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. This well-established program serves as a proactive approach to address potential workplace safety and health hazards and therefore reduce Potential Consequences by identifying potential hazards and developing training, policies and programs designed to avoid those hazards. SoCalGas' mandatory health and safety training programs and standardized policies therefore address the following elements of the left side of the Risk Bow Tie: Employees deviating from company policies or procedures (DT.1); hazards in the work environment or within the pipeline system (DT.2); non or improper use or undisclosed prescriptions or medical restrictions (DT.4); employees not prepared to responds to emergencies (DT.5); effective corrective actions are not instituted following an incident to prevent reoccurrence (DT.6); and unsafe operation of equipment or motor vehicles (DT.7). These programs aim to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1); and property damage (PC.2). As stated above, this program is mandated by state and federal regulation. SoCalGas complies with all applicable laws and regulations and implements the various elements of this program in aim to reduce its Employee Safety risk.

2. SCG-2-C2: Drug and Alcohol Testing Program

a. Description of Risk Reduction Benefits

Drug testing and substance abuse prevention training in the workplace connects to occupational safety as a key component in protecting the safety, health, and welfare of employees and the public. Drug testing programs can contribute to the reduction of employee injury- and illness-related by providing a powerful deterrent to on-the-job drug use. Employers

³³ Cal. Labor Code § 6400; *see also* 8 CCR § 8350.

who are drug testing are committed to having sober employees in the workplace, thereby reducing occupational injuries and illnesses and to sending a clear signal they care about their employees. In addition, reasonable suspicion drug testing is a critical safety measure. An employee that may be impaired while working and must be taken out of his or her work position; the drug and/or alcohol test will verify that the employee may have used drugs or alcohol while at work or before coming to work, which in turn decreases the likelihood of an at work injury.

SoCalGas has not performed a Risk Spend Efficiency Evaluation on SCG-2-C2 because the program elements are mandated by law and/or regulation.³⁴ SoCalGas must comply with all applicable laws/regulations, and thus it is not feasible for SoCalGas to stop performing this activity or calculate the risk reduction benefits received for performing this activity.

b. Elements of the Risk Bow Tie Addressed

SCG-2-C2 addresses several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. This program represents both a proactive approach (*e.g.*, policy, procedures, training) and a reactive approach (*e.g.*, post-accident testing, disciplinary action) to address potential safety hazards related to the potential for employee drug and/or alcohol use. SoCalGas' drug and alcohol testing program therefore addresses the following elements of the left side of the Risk Bow Tie: Employees deviating from company policies or procedures (DT.1); drug/alcohol use or undisclosed prescriptions or medical restrictions (DT.3); employees not prepared to responds to emergencies (DT.5); effective corrective actions are not instituted following an incident to prevent reoccurrence (DT.6); and unsafe operation of equipment or motor vehicles (DT.7). These programs aim to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1); property damage (PC.2); operational and reliability impacts (PC.3); adverse litigation (PC.4); penalties and fines (PC.5); and erosion of public confidence (PC.6). While this risk is covered in this Employee Safety chapter, this program also provides risk benefit to SoCalGas' Customer and Public Safety risk (SCG-4).

³⁴ 41 U.S.C. § 81; 49 CFR Parts 40, 192, 193, 195, 199 and 382.

3. SCG-2-C3: Employee Wellness Programs

a. Description of Risk Reduction Benefits

Comprehensive wellness programs that encourage healthy lifestyles and provide wellness resources help employees reduce health risks and promote disease management and decrease distraction that can lead to injury. SoCalGas' approach to a healthy workplace has evolved from solely the physical work environment (primarily on-the-job safety concerns) to a more holistic concept that encompasses psychosocial and personal health factors. This focus is comprehensive in scope, encompassing assessment of employees' overall well-being in addition to injury prevention. It includes an increasing emphasis on programs supporting safety that is inclusive of physical, mental, and social well-being.

With an integrated program in place that encompasses health promotion, occupational health and safety, the Company can break down silos to promote a healthy workplace. For example, if musculoskeletal disorders are occurring among employees, SoCalGas can examine the ergonomics of the work process/station and correct any hazardous physical conditions.

For purposes of RSE analysis, SoCalGas applied a 0.33% annual risk reduction benefit to the RSE formula. SoCalGas' health and safety subject matter experts reviewed historical data, trends and averages to derive this 0.33% reduction for continuous implementation of this activity. As a current control, SoCalGas expects to receive a reduction in further risk benefit for continuing this activity but also took into account the expected rise in health and safety incidents if this activity was no longer performed.

b. Elements of the Risk Bow Tie Addressed

SCG-2-C3 addresses several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. SoCalGas' wellness programs serve as a proactive approach to identify and address potential workplace safety and health hazards and therefore avoid Potential Consequences. SoCalGas' employee wellness programs therefore address the following elements of the left side of the Risk Bow Tie: Hazards in the work environment or within the pipeline system (DT.2); and drug/alcohol use or undisclosed prescriptions or medical restrictions (DT.3). These programs aim to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1).

c. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1.453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1.4577	
	CoRE	80.246	765.29	1907.02
	Risk Score	116.97	1115.54	2779.81
	RSE	0.12	1.10	2.75

4. SCG-2-C4: Employee Safety Training and Awareness Programs

a. Description of Risk Reduction Benefits

At SoCalGas, safety starts with the individual. Accordingly, the Company trains and equips every employee to work safely, respond during an emergency and live a healthy lifestyle. SoCalGas believes that making sure employees have information, tools and training to do their jobs safely will reduce the potential for injury. Training includes safety hazard identification and mitigation for the various job activities employees perform. Lack of training may result in employees not understanding safety hazards of their work environment and increase the likelihood of injury. With safety as the core value of its operations, SoCalGas chooses to integrate these fundamentals into the Company’s safety programs and worksites.

Each Director and Manager who reports to a Vice President (VP) or Senior VP (SVP) is assigned the role of “Responsible Person” (RP) for an Employee-Based Checklist as part of SoCalGas’ Environmental and Safety Compliance Management Program (ESCMP). A RP is tasked with entering ESCMP information into the online system and submitting the checklist electronically to his/her VP/SVP for approval. This process provides oversight to verify that applicable safety compliance requirements are completed by employees.

SoCalGas has not performed a Risk Spend Efficiency Evaluation on SCG-2-C2 because the program elements are mandated by law and/or regulation.³⁵ SoCalGas must comply with all applicable laws/regulations, and thus it is not feasible for SoCalGas to stop performing this activity or calculate the risk reduction benefits received for performing this activity.

b. Elements of the Risk Bow Tie Addressed

SCG-2-C4 addresses several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. SoCalGas' employee safety training and awareness programs aim to proactively train employees on topics necessary to safely perform their job and communicate topics of importance for safety best practices. These programs are a proactive approach aimed to minimize and help prevent Potential Consequences, including serious injury or fatality. SoCalGas' employee safety training and awareness testing programs therefore address the following elements of the left side of the Risk Bow Tie: Employees deviating from company policies or procedures (DT.1); hazards in the work environment or within the pipeline system (DT.2); drug/alcohol use or undisclosed prescriptions or medical restrictions (DT.3); non or improper use of personal protective equipment (DT.4); employees not prepared to respond to emergencies (DT.5); and unsafe operation of equipment or motor vehicles (DT.7). These programs aim to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1).

5. SCG-2-C5: Safe Driving Programs

a. Description of Risk Reduction Benefits

Implementation of driver safety programs helps SoCalGas keep employees safe by educating them on driving techniques and principles that decrease the risk of motor vehicle incidents, collisions, and traffic violations. These programs teach drivers to improve their driving skills by reducing their driving risk by anticipating situations and making informed decisions. The Department of Motor Vehicle (DMV) Drivers' License (DL) Employer Pull Notice (EPN) program allows SoCalGas to electronically receive employees' driving records of employees who drive on behalf of our organization and are subject to Department of

³⁵ 29 CFR § 1910 *et. seq.*

Transportation regulations. The monitoring allows SoCalGas to determine if each driver has a valid drivers' license, reveal problem drivers or driving behavior, and improve public safety. The EPN automatically generates a driver record when there is a conviction, failure to appear, accident, driver license suspension or revocations, or any other actions taken against the driving privilege added to an employee's drivers record. These notifications allow SoCalGas to stay up-to-date with drivers' records and reduce the likelihood of accidents by monitoring the status/validity of current licenses and provides information about potential issues that may need to be reviewed for action.

For purposes of RSE analysis, SoCalGas applied a 0.33% annual risk reduction benefit to the RSE formula. SoCalGas' health and safety subject matter experts reviewed historical data, trends and averages to derive this 0.33% reduction for continuous implementation of this activity. As a current control, SoCalGas expects to receive a reduction in further risk benefit for continuing this activity but also took into account the expected rise in health and safety incidents if this activity was no longer performed.

b. Elements of the Risk Bow Tie Addressed

SCG-2-C5 addresses several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. SoCalGas' safe driving programs serve as a proactive approach to identify and address potential workplace safety and health hazards and therefore avoid Potential Consequences. SoCalGas' safe driving programs therefore address the following elements of the left side of the Risk Bow Tie: Employees deviating from company policies or procedures (DT.1); hazards in the work environment or within the pipeline system (DT.2); drug/alcohol use or undisclosed prescriptions or medical restrictions (DT.3); effective corrective actions are not instituted following an incident to prevent reoccurrence (DT.6); and unsafe operation of equipment or motor vehicles (DT.7). These programs aim to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1); property damage (PC.2).

c. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1.453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1.4577	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.97	1115.54	2779.81
	RSE	0.41	3.90	9.72

6. SCG-2-C6: Personal Protection Equipment (PPE)

a. Description of Risk Reduction Benefits

Controlling exposures to occupational hazards is the fundamental method of protecting workers. These controls include elimination, substitution, engineering and can be administrative in an effort to minimize hazard exposures in the workplace. When such controls are not practical or applicable, PPE is employed to reduce or eliminate personnel exposure to hazards. PPE is worn to minimize exposure to hazards that cause serious workplace injuries and illnesses. These injuries and illnesses may result from contact with chemical, physical, mechanical, or other workplace hazards. SoCalGas' PPE program, together with employee safety training, reduces risk to employees by ensuring the proper use and fitting of PPE.

Per OSHA standards,³⁶ prior to requiring employees to wear PPE, SoCalGas is required to:

- Perform hazard assessments and determine the PPE needed to protect workers;
- Provide training on the proper use of PPE for working on or near exposed energized parts;
- Discuss PPE needs during required job briefings; and

³⁶ *Id.* at § 1910.269.

- Inspect and test certain PPE to determine that they are not damaged or defective and will provide the needed protection.

SoCalGas has not performed a Risk Spend Efficiency Evaluation on SCG-2-C2 because the program elements are mandated by law and/or regulation.³⁷ SoCalGas must comply with all applicable laws/regulations, and thus it is not feasible for SoCalGas to stop performing this activity or calculate the risk reduction benefits received for performing this activity.

b. Elements of the Risk Bow Tie Addressed

SCG-2-C6 addresses several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. Mandatory use of PPE aims to keep employees safe and prevent Potential Consequences from workplace hazards possibly resulting in serious injury or fatality. SoCalGas' required use of PPE therefore addresses the following elements of the left side of the Risk Bow Tie: Hazards in the work environment or within the pipeline system (DT.2); non or improper use of personal protective equipment (DT.4). This program aims to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1).

7. SCG-2-C7: Near Miss, Stop the Job and Jobsite Safety Programs

a. Description of Risk Reduction Benefits

Near-miss reporting helps prevent incidents by alerting the Health and Safety department of an event that did not result in injury, illness, or damage but had the potential to do so. This program allows potential hazards to be investigated, mitigated, and communicated. Reporting near-misses also reduces risk by promoting a culture of safety and establishing opportunities to review safety systems and hazard controls and share lessons learned.

Every employee at SoCalGas has the authority to stop the job or stop a task that they believe is unsafe or requires a pause for clarification, regardless of level. This action is supported by management, the union, and the Health and Safety department.

Jobsite safety programs are about an understanding of the work being performed and potential hazard exposure. Planning and understanding the work being performed are key to

³⁷ *Id.* at § 1910 *et. seq.*

understanding and mitigating the risks associated with job site safety. Jobsite safety programs define the task and hazard descriptions, how risk exposure can arise, contributing factors, consequences, and hazard controls.

A job hazard analysis (JHA) or job safety analysis (JSA) is a technique used to identify the hazards/dangers of specific tasks in order to reduce the risk of injuries to workers. It focuses on the relationship between the worker, the task, tools, and work environment. Simply put, a hazard is the potential for harm often associated with a condition or activity that, if left uncontrolled, could result in injury or illness. Identifying hazards, eliminating them, or controlling them as early as possible will help prevent injuries and illnesses.

In addition to eliminating, controlling, and preventing hazards in the workplace, JHAs are a valuable tool for training employees about the steps required to perform their jobs safely. JHAs are often done for jobs with the highest injury or illness rates, jobs with the potential to cause severe incidents, jobs where one human error could lead to a serious incident or fatality, jobs that are new to the operation, or changed and complex jobs.

It is important to review JHAs when jobs change or if an incident occurs, so that the JHA can be updated to prevent injuries. When changes are made, or the JHA is affected by new job methods, equipment, or procedures, for example, updates should be made, and training should be given to all employees affected by the changes.

For purposes of RSE analysis, SoCalGas applied a 0.33% annual risk reduction benefit to the RSE formula. SoCalGas' health and safety subject matter experts reviewed historical data, trends and averages to derive this 0.33% reduction for continuous implementation of this activity. As a current control, SoCalGas expects to receive a reduction in further risk benefit for continuing this activity but also took into account the expected rise in health and safety incidents if this activity was no longer performed.

b. Elements of the Risk Bow Tie Addressed

SCG-2-C7 addresses several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. SoCalGas' Near Miss, Stop the Job, and jobsite safety programs serve as a proactive approach to identify and address potential workplace safety and health hazards and therefore avoid Potential Consequences. SoCalGas' jobsite safety programs

therefore address the following elements of the left side of the Risk Bow Tie: Employees deviating from company policies or procedures (DT.1); hazards in the work environment or within the pipeline system (DT.2); drug/alcohol use or undisclosed prescriptions or medical restrictions (DT.3); non or improper use of personal protective equipment (DT.4); effective corrective actions are not instituted following an incident to prevent reoccurrence (DT.6); and unsafe operation of equipment or motor vehicles (DT.7). These programs aim to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1); property damage (PC.2).

c. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1.453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1.4577	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.97	1115.54	2779.81
	RSE	1.31	12.48	31.10

8. SCG-2-C8: Safety Culture

a. SoCalGas-2-C8-T1

i. Description of Risk Reduction Benefits

Governed by the Executive Safety Counsel and led by SoCalGas’ Chief Operating Officer, who is also the Chief Safety Officer, SoCalGas’ various safety committees help inform and educate employees about safety and health issues throughout all levels of the Company and set meaningful and attainable safety goals throughout the organization. Safety committees provide the following benefits:

- support a positive safety culture;
- reduce the risk of workplace injuries and illnesses;
- encourage employees to participate in the Company safety programs;
- confirm compliance with state and federal health and safety regulations;

- provide feedback on safe work practices;
- develop safety programs tailored to individual departments;
- lead safety training;
- communicate about safety and health issues; and
- provide a forum where employees and company leadership can discuss, identify and collaborate on safety solutions.

For purposes of RSE analysis, SoCalGas applied a 0.33% annual risk reduction benefit to the RSE formula. SoCalGas' health and safety subject matter experts reviewed historical data, trends and averages to derive this 0.33% reduction for continuous implementation of this activity. As a current control, SoCalGas expects to receive a reduction in further risk benefit for continuing this activity but also took into account the expected rise in health and safety incidents if this activity was no longer performed.

b. Elements of the Risk Bow Tie Addressed

SCG-2-C8 addresses several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. SoCalGas' safety culture initiatives create constant awareness, dialog, and means for employees to express questions, concerns and lessons learned. Though these activities, SoCalGas encourages two-way formal and informal communication between employees to identify and manage safety risks before incidents occur. Employee feedback from these meetings/events help lead constant improvement across the company. SoCalGas' safety culture programs therefore address the following elements of the left side of the Risk Bow Tie: Employees deviating from company policies or procedures (DT.1); effective corrective actions are not instituted following an incident to prevent reoccurrence (DT.6). These programs aim to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1); property damage (PC.2); and erosion of public confidence (PC.6) by raising questions, addressing issues, communicating safety issues, and demonstrating SoCalGas' safety-first culture.

c. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1.453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1.4577	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.97	1115.54	2779.81
	RSE	0.70	6.69	16.66

9. SCG-2-C9: Utilizing OSHA and Industry Best Practices and Industry Benchmarking

a. Description of Risk Reduction Benefits

Benchmarking allows SoCalGas to capture views from a wide range of industries that provide insight about programs that allow the Company to identify strengths and opportunities and compare SoCalGas’ safety programs against others. This provides an opportunity for SoCalGas to review its programs, reassess or confirm its approach to safety and review programs from others to continue moving our safety culture and programs forward. For example, comparing our safety performance (lagging safety indicators) with that of other companies helps identify what areas should be targeted for improvement. Another example is the benefit of using the AGA peer review program for the experts from other companies to come in and critically review safety programs and identify strengths and potential weaknesses resulting in enhancing safety programs and contributing to injury reductions.

For purposes of RSE analysis, SoCalGas applied a 0.33% annual risk reduction benefit to the RSE formula. SoCalGas’ health and safety subject matter experts reviewed historical data, trends and averages to derive this 0.33% reduction for continuous implementation of this activity. As a current control, SoCalGas expects to receive a reduction in further risk benefit for continuing this activity but also took into account the expected rise in health and safety incidents if this activity was no longer performed.

b. Elements of the Risk Bow Tie Addressed

SCG-2-C9 addresses several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. Utilizing OSHA and industry best practices and industry benchmarking helps SoCalGas learn how to reduce incidents, improve the safety health of our organization and therefore reduce Potential Consequences. SoCalGas’ use of best practices and industry benchmarking therefore addresses the following elements of the left side of the Risk Bow Tie: Hazards in the work environment or within the pipeline system (DT.2). This program aims to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1); and erosion of public confidence (PC.6).

c. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1.453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1.4577	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.97	1115.54	2779.81
	RSE	0.33	3.15	7.85

10. SCG-2-M1: OSHA 30-hour Construction Certification Training

a. Description of Risk Reduction Benefits

Providing and requiring health and safety training helps develop a positive health and safety culture, keeps safety professionals up-to-date on regulatory safety changes, and imparts knowledge about safety systems and processes. Training is important to building a knowledge set required for employees and management to identify safe and at-risk behaviors. Additionally, it helps in risk management, enhances innovation, and allows employees to acquire and sharpen skill sets. Regular education and training provide employees with the skills needed to do their work and creates an awareness and understanding of workplace hazards and how to identify, report, control and mitigate them. SoCalGas believes that being educated, making sure employees have information, tools and training to do their jobs safely will reduce the potential

for injury. As stated above in Section V, the purpose of providing employees with this additional 30-hour construction certification training is to further enhance employee skills in hazard identification. By becoming better at identifying hazards, employees are expected to contribute to reducing the risk of injuries.

This mitigation measure, in combination with other existing controls and new mitigation measures, is expected to reduce SoCalGas’ occupational injury rates based on the last five years’ historical trend. For purposes of RSE analysis, SoCalGas applied a 0.06% annual risk reduction benefit to the RSE formula. SoCalGas’ health and safety subject matter experts reviewed historical data, trends and averages to derive this 0.06% reduction for implementation of this incremental activity into its overall risk mitigation portfolio. As an incremental mitigation, SoCalGas expects to receive a reduction in further risk benefit by implementing this activity.

b. Elements of the Risk Bow Tie Addressed

Implementation of SCG-2-M1 would address several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. An enhanced OSHA construction training program would aim to further educate and inform our employees, in order to reduce Potential Consequences. SoCalGas’ OSHA 30-hour construction certification training would therefore address the following elements of the left side of the Risk Bow Tie: Employees deviating from company policies or procedures (DT.1); and hazards in the work environment or within the pipeline system (DT.2). This program would aim to reduce the following Potential Consequences identified in the right side of the Bow Tie: serious injuries or fatalities (PC.1).

c. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1.453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1.4520	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.52	1111.21	2769.04
	RSE	0.68	6.47	16.13

11. SCG-2-M2: Industrial Hygiene Program Refresh

a. Description of Risk Reduction Benefits

Like SoCalGas' current industrial hygiene programs, the aim of the Industrial Hygiene Program Refresh is controlling workplace conditions that may cause workers' injury or illness. This program will review and analyze data collected by SoCalGas to update and improve the current programs. Further developing and complying with mandatory occupational safety and health standards involves determining the extent of employee exposure to hazards and deciding what is needed to control these hazards, thereby protecting workers. Industrial hygienists are trained to anticipate, recognize, evaluate, and recommend controls for environmental and physical hazards that can affect the health and well-being of workers. This mitigation measure, in combination with other existing and new mitigation measures, is expected to reduce SoCalGas' occupational injury rates based on the last five years' historical trend.

This mitigation measure, in combination with other existing controls and new mitigation measures, is expected to reduce SoCalGas' occupational injury rates based on the last five years' historical trend. For purposes of RSE analysis, SoCalGas applied a 0.06% annual risk reduction benefit to the RSE formula. SoCalGas' health and safety subject matter experts reviewed historical data, trends and averages to derive this 0.06% reduction for implementation of this incremental activity into its overall risk mitigation portfolio. As an incremental mitigation, SoCalGas expects to receive a reduction in further risk benefit by implementing this activity.

b. Elements of the Risk Bow Tie Addressed

Implementation of SCG-2-M2 would address several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. An Industrial Hygiene program refresh would allow SoCalGas to proactively address regulation changes and monitor and implement findings to further protect employees from acute and long-term injuries or illnesses. SoCalGas' Industrial Hygiene Program refresh program would therefore address the following element of the left side of the Risk Bow Tie: Hazards in the work environment or within the pipeline system (DT.2). This program would aim to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1); adverse litigation (PC.4); and penalties and fines (PC.5).

c. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1.453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1.4520	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.52	1111.21	2769.04
	RSE	0.19	1.80	4.48

12. SCG-2-M3: Establish Proactive Monitoring for Indoor Air Quality and Chemicals of Concern

a. Description of Risk Reduction Benefits

Implementation of a proactive program for indoor air quality and chemicals of concern would allow SoCalGas to reduce the potential for employee injury or illness. As stated above, a mold concern has been raised just this year. Implementation of a proactive program to address findings would further protect employees, especially those who work indoors on a full-time basis, from acute and long-term injury or illness.

This mitigation measure, in combination with other existing controls and new mitigation measures, is expected to reduce SoCalGas’ occupational injury rates based on the last five years’ historical trend. For purposes of RSE analysis, SoCalGas applied a 0.06% annual risk reduction benefit to the RSE formula. SoCalGas’ health and safety subject matter experts reviewed historical data, trends and averages to derive this 0.06% reduction for implementation of this incremental activity into its overall risk mitigation portfolio. As an incremental mitigation, SoCalGas expects to receive a reduction in further risk benefit by implementing this activity.

b. Elements of the Risk Bow Tie Addressed

Implementation of SCG-2-M3 would address several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. Establishing proactive monitoring for IAQ would allow SoCalGas to proactively monitor and implement findings to

further protect employees from acute and long-term injuries or illness. SoCalGas’ program to establish proactive monitoring for IAQ and chemicals of concern would therefore address the following element of the left side of the Risk Bow Tie: Hazards in the work environment or within the pipeline system (DT.2). This program would aim to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1); adverse litigation (PC.4); and penalties and fines (PC.5).

c. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1.453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1.4520	
	CoRE	80.246	765.29	1907.02
	Risk Score	116.52	1111.21	2769.04
	RSE	1.02	9.71	24.19

13. SCG-2-M4: Creation of a Safety Video Library

a. Description of Risk Reduction Benefits

Safety training in general has a large impact on employee safety risk reduction efforts. Implementing a program to allow for SoCalGas’ safety video library to be accessible to more employees would provide further risk reduction benefits. This mitigation would greatly help our employees and supervisors to have 24/7 ready access to the relevant and most updated safety training materials to use during their safety stand-downs, daily morning safety meetings, daily tailgate meeting for field crews, and other safety events.

This mitigation measure, in combination with other existing controls and new mitigation measures, is expected to reduce SoCalGas’ occupational injury rates based on the last five years’ historical trend. For purposes of RSE analysis, SoCalGas applied a 0.06% annual risk reduction benefit to the RSE formula. SoCalGas’ health and safety subject matter experts reviewed historical data, trends and averages to derive this 0.06% reduction for implementation of this

incremental activity into its overall risk mitigation portfolio. As an incremental mitigation, SoCalGas expects to receive a reduction in further risk benefit by implementing this activity.

b. Elements of the Risk Bow Tie Addressed

Implementation of SCG-2-M4 would address several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. Creation of an electronic video library would provide employees with greater access to safety training and therefore would aim to further educate and inform our employees, to reduce Potential Consequences. SoCalGas’ program presented herein to create an electronic safety video library would therefore address the following elements of the left side of the Risk Bow Tie: Employees deviating from company policies or procedures (DT.1); and hazards in the work environment or within the pipeline system (DT.2). This program would aim to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1).

c. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1.453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1.4520	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.52	1111.21	2769.04
	RSE	1.22	11.65	29.03

14. SCG-2-M5: Expanded Safety Congress and Expanded Executive Safety Council

a. Description of Risk Reduction Benefits

SoCalGas believes that its Safety Congress and Executive Safety Council provides significant benefits to employees and help reduce employee safety risk. As such, an expanded Safety Congress and expanded Safety Council would result in greater communication and safety messaging to employees. Enhancing SoCalGas’ safety culture by this expanded program would

provide employees with more safety-related contact and communication and therefore would aim to further educate and inform our employees, to reduce Potential Consequences.

This mitigation measure, in combination with other existing controls and new mitigation measures, is expected to reduce SoCalGas' occupational injury rates based on the last five years' historical trend. For purposes of RSE analysis, SoCalGas applied a 0.06% annual risk reduction benefit to the RSE formula. SoCalGas' health and safety subject matter experts reviewed historical data, trends and averages to derive this 0.06% reduction for implementation of this incremental activity into its overall risk mitigation portfolio. As an incremental mitigation, SoCalGas expects to receive a reduction in further risk benefit by implementing this activity.

b. Elements of the Risk Bow Tie Addressed

Implementation of SCG-2-M5 would address several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. An expanded Safety Congress and expanded Safety Council would result in greater communication and safety messaging to employees. Enhancing SoCalGas' safety culture by this expanded program would provide employees with more safety-related contact and communication and therefore would aim to further educate and inform our employees, to reduce Potential Consequences. SoCalGas' expansion of its Safety Congress and Executive Safety Council would therefore address the following elements of the left side of the Risk Bow Tie: Hazards in the work environment or within the pipeline system (DT.2); and effective corrective actions are not instituted following an incident to prevent reoccurrence (DT.6). This program would aim to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1); property damage (PC.2); and erosion of public confidence (PC.6).

c. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1.453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1.4520	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.52	1111.21	2769.04
	RSE	1.74	16.64	41.46

15. SCG-2-M6: Expanded Safety Culture Assessments

a. Description of Risk Reduction Benefits

The purpose of expanded safety culture assessments is to gain further insights in areas of potential weaknesses within the safety management system or programs and identify more relevant and specific opportunities of improvement. This mitigation measure, in combination with other existing and new mitigation measures, is expected to reduce SoCalGas’ occupational injury rates based on the last five years’ historical trend. Enhancing SoCalGas’ safety culture by this program expansion would provide SoCalGas with additional areas on which to focus in an effort to further reduce risk and potential consequences.

This mitigation measure, in combination with other existing controls and new mitigation measures, is expected to reduce SoCalGas’ occupational injury rates based on the last five years’ historical trend. For purposes of RSE analysis, SoCalGas applied a 0.06% annual risk reduction benefit to the RSE formula. SoCalGas’ health and safety subject matter experts reviewed historical data, trends and averages to derive this 0.06% reduction for implementation of this incremental activity into its overall risk mitigation portfolio. As an incremental mitigation, SoCalGas expects to receive a reduction in further risk benefit by implementing this activity.

b. Elements of the Risk Bow Tie Addressed

Implementation of SCG-2-M6 would address several Drivers/Triggers and Potential Consequences as outlined above in Figure 1 and in Appendix A. An expanded safety culture



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assessment would allow for further follow-up and action as a result of employee feedback. Enhancing SoCalGas’ safety culture by this expanded program would therefore aim to further educate and inform our employees, in order to reduce Potential Consequences. SoCalGas’ expansion of its Safety Culture assessments would therefore address the following element of the left side of the Risk Bow Tie: Effective corrective actions are not instituted following an incident to prevent reoccurrence (DT.6) and aim to reduce the following Potential Consequences identified in the right side of the Risk Bow Tie: serious injuries or fatalities (PC.1); property damage (PC.2); and erosion of public confidence (PC.6).

c. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1.453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1.4520	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.52	1111.21	2769.04
	RSE	1.22	11.65	29.03

VII. SUMMARY OF RISK MITIGATION PLAN RESULTS

SoCalGas’ Risk Mitigation Plan takes into account recent data and trends related to Employee Safety, affordability impacts, possible labor constraints and the feasibility of mitigations. SoCalGas has performed RSEs, in compliance with the S-MAP decisions, but ultimate mitigation selection can be influenced by other factors, including funding, labor resources, technology, planning, compliance requirements, and operational and execution considerations.

Table 6 below provides a summary of the Risk Mitigation Plan, including controls and mitigations activities, associated costs, the RSEs by tranche. SoCalGas does not account for and track costs by activity; rather SoCalGas accounts for and tracks costs by cost center and capital budget code. The costs shown in Table 6 were estimated using assumptions provided by SMEs and available accounting data.

Table 6: Risk Mitigation Plan Summary³⁸
(Direct 2018 \$000)³⁹

ID	Mitigation/Control	Tranche	2018 Baseline Capital ⁴⁰	2018 Baseline O&M	2020-2022 Capital ⁴¹	2022 O&M ⁴²	Total ⁴³	RSE ⁴⁴
SCG-2-C1	Mandatory employee health and safety training programs and standardized policies	T1	0	740	0	700-810	700-810	-
SCG-2-C2	Drug and alcohol testing program	T1	0	630	0	600-710	600-710	-
SCG-2-C3	Employee wellness programs	T1	0	2,230	0	3,000-3,500	3,000-3,500	0.12 – 2.75

³⁸ Recorded costs and ranges were rounded. Additional cost-related information is provided in workpapers. Costs presented in the workpapers may differ from this table due to rounding.

³⁹ The figures provided are direct charges and do not include company loaders, with the exception of vacation and sick. The costs are also in 2018 dollars and have not been escalated to 2019 amounts.

⁴⁰ Pursuant to D.14-12-025 and D.16-08-018, the Company provides the 2018 “baseline” capital costs associated with Controls. The 2018 capital amounts are for illustrative purposes only. Because capital programs generally span several years, considering only one year of capital may not represent the entire activity.

⁴¹ The capital presented is the sum of the years 2020, 2021, and 2022, or a three-year total. Years 2020, 2021 and 2022 are the forecast years for SoCalGas’ Test Year 2022 GRC Application.

⁴² As previously stated, internal labor (e.g., employee time spent to complete training courses, employee time spent to perform inspections) are not included in some of SoCalGas’ risk mitigation activity O&M cost forecasts since these costs would rely on cost assumptions (e.g., number of employees, x length of training course, x average hourly wage). Further, SoCalGas does not currently track labor in this manner and thus would not be able to include such internal labor costs in future spending accountability reports.

⁴³ Total = 2020, 2021 and 2022 Capital + 2022 O&M amounts.

⁴⁴ The RSE ranges are further discussed in Chapter RAMP-C and Section VI above.

ID	Mitigation/Control	Tranche	2018 Baseline Capital ⁴⁰	2018 Baseline O&M	2020-2022 Capital ⁴¹	2022 O&M ⁴²	Total ⁴³	RSE ⁴⁴
SCG-2-C4	Employee safety training and awareness programs	T1	0	7,370	0	7,900 – 8,900	7,900 – 8,900	-
SCG-2-C5	Safe driving programs	T1	0	900	0	850 - 980	850 - 980	0.41 – 9.72
SCG-2-C6	Personal Protection Equipment (PPE)	T1	0	1,170	0	1,200-1,400	1,200-1,400	-
SCG-2-C7	Near Miss, Stop the Job and jobsite safety programs	T1	0	280	0	270-310	270-310	1.31 – 31.10
SCG-2-C8	Safety Culture	T1	0	520	0	500-570	500-570	0.70 – 16.66
SCG-2-C9	Utilizing OSHA and industry best practices and industry benchmarking	T1	0	1,110	0	1,100 – 1200	1,100-1,200	0.33 – 7.85
SCG-2-M1	OSHA 30-hour construction certification training	T1	0	0	0	90-110	90-110	0.68 – 16.13
SCG-2-M2	Industrial Hygiene Program refresh	T1	0	0	0	290-390	290-390	0.19 – 4.48

ID	Mitigation/Control	Tranche	2018 Baseline Capital ⁴⁰	2018 Baseline O&M	2020-2022 Capital ⁴¹	2022 O&M ⁴²	Total ⁴³	RSE ⁴⁴
SCG-2-M3	Establish proactive monitoring for indoor air quality and chemicals of concern	T1	0	0	0	50-70	50-70	1.02 – 24.19
SCG-2-M4	Creation of a safety video library	T1	0	0	0	50-60	50-60	1.22 – 29.03
SCG-2-M5	Expanded Safety Congress and expanded Executive Safety Council	T1	0	0	0	30-40	30-40	1.74 – 41.46
SCG-2-M6	Expanded Safety Culture Assessments	T1	0	0	0	50-60	50-60	1.22 – 29.03
TOTAL COST			0	15,000	0	17,000 – 19,000	17,000 – 19,000	-

It is important to note that SoCalGas is identifying potential ranges of costs in this Risk Mitigation Plan and is not requesting funding herein. SoCalGas will integrate the results of this proceeding, including requesting approval of the activities and associated funding, in the next GRC.

SoCalGas notes that there are activities related to this Employee Safety risk that will be carried over to the GRC for which the costs are primarily internal labor (*e.g.*, employee time spent for internal training, performing inspections or monitoring). The costs associated with these internal labor activities are not captured in this chapter because SoCalGas does not currently track labor in this manner. The inclusion of these internal labor costs in SoCalGas' 2016 RAMP Report required the use of assumptions. Additionally, since these costs are not tracked, it would impede SoCalGas' ability to report in future spending accountability reports. These activities are continuing to be performed but, as a result of the exclusion of internal labor, forecasted costs for these activities may appear lower in this RAMP Report. The activities related to this risk that have not captured internal labor costs are:

- SCG-2-C1: OSHA mandatory employee health and safety training programs and standardized polices;
- SCG-2-C4: Employee safety training and awareness programs;
- SCG-2-C5: Safe driving programs; and
- SCG-2-C7: Near Miss, Stop the Job and jobsite safety programs.

While all the controls, mitigations, and respective costs presented in Table 6 mitigate Employee Safety risk, some of these activities also mitigate other risks presented in this RAMP Report, including: Contractor Safety, Customer and Public Safety, Catastrophic Damage Involving High-Pressure Pipeline Failure and Catastrophic Damage Involving Medium-Pressure Pipeline Failure. Employee Safety is a “cross-cutting” risk that impacts employees across the entire business. While the controls and mitigations identified herein may provide risk reduction benefits to other RAMP risks, where employee safety is the primary driver of a given activity, it may be referenced elsewhere in this RAMP filing, but the control/mitigation and associated costs and RSE analysis are captured within this chapter.

SoCalGas has not calculated RSEs on the following activities:

Table 6: Summary of RSE Exclusions

Control/Mitigation ID	Control/Mitigation Name	Reason for No RSE Calculation
SCG-2-C1	OSHA mandatory employee health and safety training programs and standardized policies	Mandated compliance activity per Cal. Labor Code § 6400, 8 CCR § 8350
SCG-2-C2	Drug and alcohol testing program	Mandated compliance activity per 41 USC § 81, 49 CFR Parts 40, 192, 193, 195, 199 and 382
SCG-2-C4	Employee Safety Training and Awareness Programs	Mandated compliance activity per 29 CFR Part 1910 <i>et. seq</i>
SCG-2-C6	Personal Protection Equipment (PPE)	Mandated compliance activity per 29 CFR Part 1910 <i>et. seq</i>

VIII. ALTERNATIVE ANALYSIS

Pursuant to D.14-12-025 and D.16-08-018, SoCalGas considered alternatives to the Risk Mitigation Plan for the Employee Safety risk. Typically, analysis of alternatives occurs when implementing activities to obtain the best result or product for the cost. The alternatives analysis for this Risk Mitigation Plan also took into account modifications to the plan and constraints, such as budget and resources.

A. SCG-2-A1 – Develop internal expertise for expanded safety culture assessment

As an alternative to the mitigation included in SoCalGas’ Risk Mitigation Plan (SCG-2-M6), SoCalGas considered adding two full-time internal resources to conduct periodic safety culture assessments as an alternative to utilizing a third-party consulting firm. SoCalGas has concluded that the alternative of adding professionals with specialized expertise is just as expensive as our current option of using the National Safety Council but comes with less credibility and independence and lack of benchmarking abilities. SoCalGas also considered utilizing vendors other than the National Safety Council who are generally competitive in their costs and concluded that the benefit of using the non-profit and nationally renowned National Safety Council with their extensive benchmarking capabilities outweighs the potential benefits of using other similar assessment methodologies. Therefore, SoCalGas is not seeking additional

internal resources to conduct Safety Culture Surveys at this time but will continue to evaluate the cost and effectiveness of the use of the National Safety Council.

1. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1.453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1.4520	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.51	1111.16	2768.91
	RSE	0.30	2.89	7.21

B. SCG-2-A2: OSHA Voluntary Protection Program

The Federal and California Voluntary protection programs (Cal/VPP) is a labor-management-government cooperative program designed to recognize workplaces that manage outstanding health and safety management systems for protection of workers and go beyond minimal compliance with the Federal and Cal/OSHA Title 8 California Code of Regulations. OSHA’s Voluntary Protection Programs⁴⁵ (VPP) recognize employers who have implemented effective safety and health management systems and maintain injury and illness rates below national BLS averages for their respective industries. In VPP, management, labor, and OSHA work cooperatively and proactively to prevent fatalities, injuries, and illnesses through a system focused on: hazard prevention and control; worksite analysis; training; and management commitment and worker involvement. To participate, employers must submit an application to OSHA and undergo a rigorous onsite evaluation by a team of safety and health professionals. VPP participants are re-evaluated every three to five years to remain in the programs.

Implementation of an OSHA VPP serves as a proactive approach to identify and address potential workplace safety and health hazards and therefore avoid Potential

⁴⁵ United States Department of Labor, *Voluntary Protection Programs*, available at <https://www.osha.gov/dcsp/vpp/>.

Consequences. OSHA’s VPP assessments are a proactive way to identify strengths and opportunities for enhancing safety. VPP physical inspections, document reviews, and interviews are components in this process. Sites with VPP work together in partnership with Federal OSHA and Cal/OSHA to systematically identify and correct hazards. VPP assessments provide insight into baseline safety and health hazards to establish initial levels of exposures for comparison to future levels so change can be identified. Implementing findings/results and acting on results helps move safety from its current “as is” state to the desired future state.

SoCalGas is not proposing implementation of a VPP program as part of its Risk Mitigation Plan included herein but may present this program in a future GRC. SoCalGas is in the initial stages of its assessment of this program and will weigh the anticipated costs and benefits before deciding to move forward with implementation of this program.

1. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1.453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1.4520	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.51	1111.16	2768.91
	RSE	0.19	1.81	4.51

C. SCG-2-A3: Additional Industrial Hygienist

SoCalGas considered the alternative of adding an industrial hygienist to support the Industrial Hygiene program refresh (SCG-3-M2) included as part of SoCalGas’ Risk Mitigation Plan. This alternative would include adding another internal resource to support the industrial hygiene data refresh initiative and take on new industrial hygiene issues. Recently, there have been industrial hygiene issues identified which add to the existing workload of the industrial hygiene staff. However, SoCalGas is not proposing this alternative in its Risk Mitigation Plan because it is currently premature to judge the need of a full-time staff position being added. We

may still include this proposal in SoCalGas’ GRC as more insight is gained and if the long-term need of an additional industrial hygienist internal resource is recognized.

1. Summary of Results

		Low Alternative	Single Point	High Alternative
Pre-Mitigation	LoRE		1,453	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.58	1111.83	2770.58
Post-Mitigation	LoRE		1,4520	
	CoRE	80.25	765.29	1907.02
	Risk Score	116.51	1111.16	2768.91
	RSE	0.63	6.03	15.02

Table 7: Alternative Mitigation Summary
(Direct 2018 \$000)⁴⁶

ID	Mitigation	2020-2022 Capital ⁴⁷	2022 O&M	Total	RSE ⁴⁸
SCG-2-A1	Develop internal expertise for expanded safety culture assessment	0	200-250	200-250	0.30 – 7.21
SCG-2-A2	OSHA Voluntary Protection Program	0	300-400	300-400	0.19 – 4.51
SCG-2-A3	Additional Industrial Hygienist	0	80-120	80-120	0.63 – 15.02

⁴⁶ The figures provided are direct charges and do not include company loaders, with the exception of vacation and sick. The costs are also in 2018 dollars and have not been escalated to 2019 amounts.

⁴⁷ The capital presented is the sum of the years 2020, 2021, and 2022, or a three-year total.

⁴⁸ The RSE ranges are further discussed in Chapter RAMP-C and Section VI above.

APPENDIX A: SUMMARY OF ELEMENTS OF THE RISK BOW TIE ADDRESSED

ID	Control/Mitigation Name	Elements of the Risk Bow Tie Addressed
SCG-2-C1	Mandatory employee health and safety training programs and standardized policies	DT.1, DT.2, DT.4, DT.5, DT.6, DT.7 PC.1, PC.2
SCG-2-C2	Drug and alcohol testing program	DT.1, DT.3, DT.5, DT.6, DT.7 PC.1, PC.2, PC.3, PC.4, PC.5, PC.6
SCG-2-C3	Employee wellness programs	DT.2, DT.3 PC.1
SCG-2-C4	Employee safety training and awareness programs	DT.1, DT.2, DT.3, DT.4, DT.5, DT.7 PC.1
SCG-2-C5	Safe driving programs	DT.1, DT.2, DT.3, DT.6, DT.7 PC.1, PC.2
SCG-2-C6	Personal protection equipment (PPE)	DT.2, DT.4 PC.1
SCG-2-C7	Near Miss, Stop the Job and jobsite safety programs	DT.1, DT.2, DT.3, DT.4, DT.6, DT.7 PC.1, PC.2
SCG-2-C8	Safety culture	DT.1, DT.6 PC.1, PC.2, PC.6
SCG-2-C9	Utilizing Occupational Safety and Health Administration (OSHA) and industry best practices and industry benchmarking	DT.2 PC.1, PC.6
SCG-2-M1	OSHA 30-hour construction certification training	DT.1, DT.2 PC.1
SCG-2-M2	Industrial hygiene program refresh	DT.2 PC.1, PC.4, PC.5
SCG-2-M3	Establish proactive monitoring for indoor air quality and chemicals of concern	DT.2 PC.1, PC.4, PC.5
SCG-2-M4	Creation of a safety video library	DT.1, DT.2 PC.1
SCG-2-M5	Expanded Safety Congress and expanded Executive Safety Council	DT.2, DT.6 PC.1, PC.2, PC.6
SCG-2-M6	Expanded Safety Culture Assessments	DT.6 PC.1, PC.2, PC.6