



Risk Assessment and Mitigation Phase

(Chapter SCG-Risk-7)

Incident Involving a Contractor

May 17, 2021

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RISK: INCIDENT INVOLVING A CONTRACTOR

I. INTRODUCTION

The purpose of this Chapter is to present SoCalGas's risk control and mitigation plan for the Incident Involving a Contractor (Contractor Incident) 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 Settlement 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's Enterprise Risk Management (ERM) organization facilitates the Enterprise Risk Registry (ERR) process. The ERR process influenced how risks were selected for inclusion in this 2021 RAMP Report, consistent with the Settlement Decision's directives, as discussed in Chapter RAMP-C.

The RAMP Report's purpose is to present a current assessment of key safety risks and the proposed activities for mitigating those risks. The RAMP Report does not request funding. Any funding requests will be made in SoCalGas's General Rate Case (GRC) application. The costs presented in this 2021 RAMP Report are those costs for which SoCalGas anticipates requesting recovery in its Test Year (TY) 2024 GRC. SoCalGas's TY 2024 GRC presentation will integrate developed and updated funding requests from the 2021 RAMP Report, supported by witness testimony.² This 2021 RAMP Report is presented consistent with SoCalGas's GRC presentation, in that the last year of recorded data (2020) provides baseline costs and cost estimates are provided for years 2022-2024, as further discussed in Chapter RAMP-A. This 2021 RAMP Report presents capital costs as a sum of the years 2022, 2023, and 2024 as a three-year total; operations and maintenance (O&M) costs are only presented for TY 2024 (consistent with the GRC). Costs for each activity that directly address each risk are provided where those costs are available and within the scope of the analysis required in this RAMP Report.

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").

Throughout this 2021 RAMP Report activities are delineated between controls and mitigations, consistent with the definitions adopted in the Settlement Decision’s Revised Lexicon. A “control” is defined as a “[c]urrently established measure that is modifying risk.”³ A “mitigation” is defined as a “[m]easure or activity proposed or in process designed to reduce the impact/consequences and/or likelihood/probability of an event.”⁴ Activities presented in this chapter are representative of those that are primarily scoped to address SoCalGas’s Contractor Incident risk; however, many of the activities presented herein also help mitigate other areas.

As discussed in Chapters RAMP-A and RAMP-C, SoCalGas has endeavored to calculate an RSE for all controls and mitigations presented in Section V of this risk chapter.

A. Risk Overview

SoCalGas relies on support from its contractors to perform a significant amount of construction related work on its gas infrastructure assets located throughout its service territory, which encompasses parts of Central and Southern California. Such work is frequently performed in public space and exposed to external factors, such as vehicular traffic in populated areas. Contractors support SoCalGas during normal operating conditions as well as during emergency situations resulting from events, such as wildfires, mudslides, and earthquakes.

SoCalGas has many safety-related policies and procedures for contractors to follow. There are myriad instances that could implicate this risk, including:

- Failure of a contractor to adhere to a Company safety policy or procedure which could result in a safety-related event involving serious injuries and/or fatalities while conducting work on behalf of the Company.
- Contractors failing to report safety incidents, including serious near misses, and sharing lessons learned from such incidents with SoCalGas, can result in the incident occurring again with potentially more adverse results.
- Driving distractions due to increased vehicles on the road and/or use of mobile technology may result in more vehicle related incidents.
- Personnel turnover and movement within the contracting industry can impact availability of experienced workers with a resulting impact on safety.

³ *Id.* at 16.

⁴ *Id.* at 17.

- Pandemics and their potential recurrence may create additional work-related contractor illness cases and impact safety results (e.g., OSHA recordables, lost time incidents, etc.).

To address potential risk drivers and consequences, SoCalGas has implemented strong controls as part of its contractor safety oversight efforts. These include developing and implementing a Contractor Safety Manual, establishing a third-party vetting process requiring membership in ISNetworld, a vendor platform for contractor management services used to pre-qualify contractors on safety practices, and engaging with contractors to strengthen the sharing of best safety practices. SoCalGas plans to further expand its oversight over contractors by establishing an enterprise-wide audit function. The purpose of implementing strong controls and mitigations to oversee contractors is to enhance the safety of SoCalGas construction projects from inception to completion.

B. Risk Definition

For purposes of this RAMP Application, SoCalGas’s Contractor Incident risk is defined as the risk of an incident that threatens the safety of the contractor, SoCalGas employees, or the public caused by the contractor’s non-adherence to the Company’s and/or contractor’s policies, procedures, and programs, or by external factors. The risk definition captures an incident either caused by a contractor harming themselves and/or other employees/contractors and/or the public as well as external factors that would harm contractors.

C. Scope

Table 1 below provides what is considered in scope for the Contractor Incident risk in this RAMP Application.

Table 1: Risk Scope

In-Scope:	<p>The risk of a work-related safety incident, as defined by the Occupational Safety and Health Administration (OSHA), involving a Class 1 contractor(s), while conducting work on behalf of SoCalGas, which causes serious injuries or fatalities.</p> <p>SoCalGas focuses its Contractor Safety Program on Class 1 Contractors, which are defined as:</p> <p>“A Class 1 Contractor is a Contractor engaged by the Company to perform work that can reasonably be anticipated to expose the Contractor’s employees, subcontractors, SoCalGas employees, or the general public to one or more hazards that, if not properly mitigated, have the potential to result in Serious Safety Incident. Examples of a</p>
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	<p>Class 1 Contractor include contractors that are subject to and covered by the Operator Qualification Program and contractors performing construction, repair, or maintenance work on any aspects of SoCalGas’ natural gas pipeline system and appurtenances, including gas distribution, transmission, or storage systems or any building construction, repair, or maintenance work involving elevated work surfaces, confined space, energized equipment, hazardous chemicals, or other similar hazards.”⁵</p>
<p>Data Quantification Sources:</p>	<p>SoCalGas engaged internal data sources for the calculation surrounding risk reduction; however, if data was insufficient, Industry or National data was supplemented and adjusted to fit the risk profile associated with the operating locations and perimeter of the utilities. For example, when certain types of incident events have not occurred within the SoCalGas & SDG&E territory; therefore, expanding the quantitative needs to encompass industry data where said incident(s) have been recorded provide a proximate and is justified in establishing a baseline of risk and risk addressed by activities.</p> <p>See Appendix B for additional information.</p>

II. RISK ASSESSMENT

In accordance with the Settlement Decision,⁶ this section describes the risk bow tie, drivers/triggers, potential consequences, and the risk score for the Contractor Incident risk.

A. Risk Bow Tie and Risk Event Associated with the Risk

The risk bow tie is a commonly used tool for risk analysis, and the Settlement Decision⁷ instructs the utility to include a risk bow tie illustration for each risk included in RAMP. As illustrated in the risk bow tie shown below in Figure 1, the risk event (center of the bow tie) is a condition and/or activity that leads to the risk of a Contractor Incident, the left side of the bow tie illustrates drivers/triggers that lead to the condition and/or activity that leads to the risk of a Contractor Incident, and the right side shows the potential consequences of the condition and/or an activity that leads to the risk of a Contractor Incident. SoCalGas applied this framework to

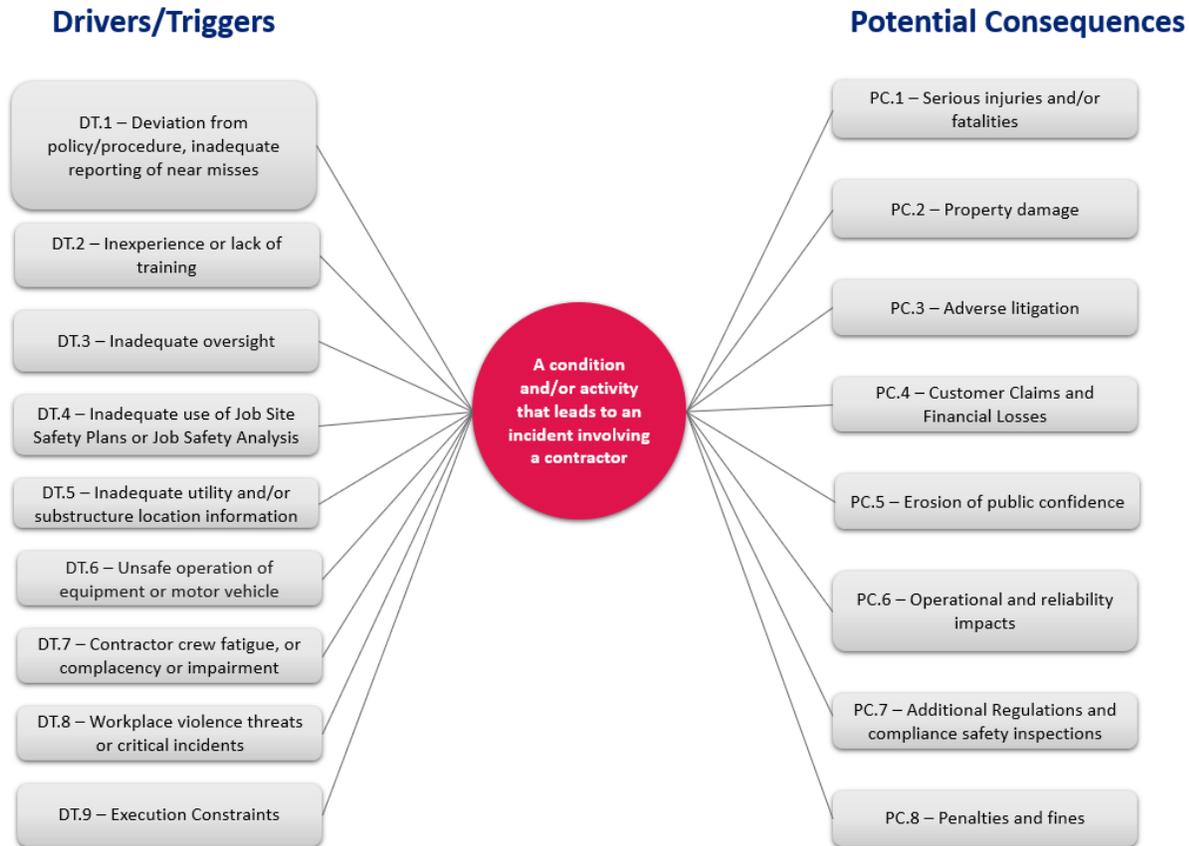
⁵ SoCalGas Company Operations Standard 167.04, Section 2.4.1.

⁶ D.18-12-014 at 33, and Attachment A, A-11 (“Bow Tie”).

⁷ *Id.* at Attachment A, A-11 (“Bow Tie”).

identify and summarize the information provided in Figure 1. A mapping of each Mitigation to the element(s) of the risk bow tie addressed is provided in Appendix A.

Figure 1: Risk Bow Tie



B. Cross-Functional Factors

There are two CFFs that impact the Contractor Incident risk. Safety Management System and Emergency Preparedness and Response and Pandemic are cross-functional factors. In addition, SoCalGas’s Safety Culture, addressed in RAMP D, is an overarching factor impacting this risk. A poor safety culture, safety management system, and/or emergency preparedness and response can become a potential driver adversely impacting the safety of contractors. On the other hand, a strong safety culture, safety management system, and/or emergency management and response can help in preventing and/or responding to incidents and improving the safety of contractors. As such, most if not all activities associated with the two CFFs are included in this risk, but by reference only, to avoid duplication. Similarly, most if not all activities, controls, and mitigations associated with the Contractor Incident risk are included in the safety

management system, and emergency management and response CFFs, again by reference only to avoid duplication.

C. Potential Drivers/Triggers⁸

The Settlement Decision⁹ instructs the utility to identify which element(s) of the associated risk bow tie each mitigation addresses. When performing the risk assessment for the Contractor Incident risk, SoCalGas identified potential indicators, referred to as Drivers or Triggers. These include, but are not limited to:

- **DT.1 – Deviation from policy/procedure, inadequate reporting of near misses:** SoCalGas has many safety-related policies and procedures for contractors to follow. Failure of a contractor to adhere to a Company safety policy or procedure could result in a safety-related event. In addition, contractors failing to report near misses and sharing lessons learned with SoCalGas can result in the incident occurring again with potentially more adverse results.
- **DT.2 – Inexperience or lack of training:** Contractors and sub-contractors used by SoCalGas are expected to hire experienced employees and provide adequate training personnel to perform the work required. Failure of contractors to hire experienced employees, as well as a failure to provide training for the jobs they are required to perform may lead to an increase in the occurrence of a safety-related event.
- **DT.3 – Inadequate oversight:** Oversight is an integral part of managing work performed by contractors, not only from a quality of work perspective, but also to verify that safe work practices are being followed. The lack or failure to engage in overseeing the work of a contractor can lead to departures from safe work practices that could result in a safety-related event.
- **DT.4 – Inadequate use of Job Site Safety Plans or Job Safety Analysis:** Insufficient knowledge of the work environment or improper planning for potential job hazards may lead to contractors sustaining a safety-related event while on the job.

⁸ An indication that a risk could occur. It does not reflect actual or threatened conditions.

⁹ D.18-12-014 at Attachment A, A-11 (“Bow Tie”).

- **DT.5 – Inadequate utility and/or substructure location information:** Contractors need to have proper information about the assets, systems, or infrastructure that are part of the SoCalGas facilities they are contracted to work on, but also the auxiliary substructures in the vicinity of their work activities. Inadequate or inaccurate utility and/or substructure information can lead to instances of serious injuries to contractors.
- **DT.6 – Unsafe operation of equipment or motor vehicle:** Contractors may utilize their own company vehicles/equipment or vehicles/equipment owned by SoCalGas. The unsafe operation of vehicles or equipment may lead to consequences, such as serious injuries or fatalities.
- **DT.7 – Contractor crew fatigue, complacency, or impairment:** Contractors working excessive hours can create unsafe work environments. Complacency may reduce the level of awareness to hazards, which can lead to a safety-related event. Also, factors such as heat, night work, high-risk work locations (*e.g.*, busy roadways), may make working conditions more difficult and increase the likelihood of a serious injury occurring.
- **DT.8 – Workplace violence threats or critical incidents:** Workplace violence incidents associated with SoCalGas projects involving contractors can increase the likelihood of contractors being seriously injured or killed.
- **DT.9 – Execution Constraints:** Events (excluding those covered by outside force damages) that impact the Company’s ability to perform as anticipated. Examples include, but are not limited to: materials and operational oversight, delays in response and awareness, resource constraints, and/or inefficiencies and reallocation of (human and material) resources, unexpected maintenance, or regulatory requirements.

D. Potential Consequences of Risk Event

Potential consequences¹⁰ are listed to the right side of the risk bow tie illustration provided above. If one or more of the drivers/triggers listed above were to result in an incident, the potential consequences, in a reasonable worst-case scenario, could include:

- PC.1 - Serious injuries and/or fatalities
- PC.2 - Property damage
- PC.3 - Adverse litigation
- PC.4 - Customer claims and financial losses
- PC.5 - Erosion of public confidence
- PC.6 - Operational and reliability impacts
- PC.7 - Additional regulations and compliance safety inspections
- PC.8 - Penalties and fines

These potential consequences were used in the scoring of the Contractor Incident risk that occurred during the development of SoCalGas’s 2020 Enterprise Risk Registry.

E. Risk Score

The Settlement Decision requires a pre- and post-mitigation risk calculation.¹¹ Chapter RAMP-C of this RAMP Report explains the Risk Quantitative Framework that underlies this Chapter, including how the Pre-Mitigation Risk Score, Likelihood of Risk Event (LoRE), and Consequence of Risk Event (CoRE) are calculated.

Table 2: Pre-Mitigation Analysis Risk Quantification Scores¹²

	LoRE	CoRE	Risk Score
Contractor Incident	144.77	3	469

¹⁰ D.18-12-014 at 16 and Attachment A, A-8 (“Identification of Potential Consequences of Risk Event”).

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

¹² The term “pre-mitigation analysis,” in the language of the S-MAP Settlement Agreement 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.

Pursuant to Step 2A of the Settlement Decision, the utility is instructed to use actual results, as well as available and appropriate data (e.g., Pipeline and Hazardous Materials Safety Administration data).¹³

For this risk, SoCalGas utilized a combination of internal and external data sources to develop the pre-mitigation risk score.

The evaluation of employees' injuries, illnesses, and fatalities utilized historical internal OSHA reportable contractor injury rates to estimate the likelihood of an event occurring. The safety consequence assessment utilized internal safety consequence data and severe injury report data from OSHA. The financial consequence assessment utilized data from the Center for Disease Control, National Safety Council.

The evaluation of vehicular incidents utilized historical internal vehicular incident rate data to estimate the likelihood of an event occurring and the financial assessment utilized internal financial consequence data.

The evaluation of workplace violence incidents utilized data from the Bureau of Labor Statistics to estimate the likelihood of an event occurring. The safety consequence assessment utilized data from the Federal Bureau of Investigation and the financial consequence assessment utilized data from the National Institute of Occupational Safety and Health.

See Appendix B for more information.

III. 2020 CONTROLS

The following section “[d]escribe[s] the controls or mitigations currently in place” as required by the Settlement Decision.¹⁴ The activities in this section were in place as of December 31, 2020. Controls that will continue as part of the risk mitigation plan are further addressed in Section IV.

A. Control 1 - Contractor Safety Oversight

SoCalGas's longstanding commitment to safety focuses on three primary areas: employee safety, customer safety, and public safety. This commitment to safety is embedded in all activities – from initial employee training, to the installation, operation, and maintenance of SoCalGas's infrastructure, to providing safe and reliable service to customers. When working on

¹³ *Id.* at Attachment A, A-8 (“Identification of Potential Consequences of Risk Event”).

¹⁹ *Id.* at Attachment A, A-14 (“Mitigation Strategy Presentation in the RAMP and GRC”).

SoCalGas projects, SoCalGas employees and contractors are expected to adhere to SoCalGas's commitment to safety.

SoCalGas's Contractor Safety Oversight consists of contractor safety program policies and procedures, the Contractor Safety Manual for Class 1 Contractors, field inspections and oversight, post-job safety evaluation, stop-the-job, near-miss and close-call reporting, internal audits, enforcement actions, and management of the pipeline safety risk by the pipeline safety oversight committee. The purpose of having these key controls in place is to enhance the safety of SoCalGas construction projects from inception to completion. Each specific aspect of this control is further described below:

Internal Contractor Safety Standard: SoCalGas has formalized its contractor safety program in the Company Operations Standard 167.04 – Contractor Safety Program. The standard is for internal use only and applies to SoCalGas employees who oversee Class 1 contractors and subcontractors on behalf of the Company. The standard establishes the policy, scope, and approach used by SoCalGas to manage contractor safety, requirements for pre-qualification of contractors, roles and responsibilities for various employees who work with contractors, and expectations on contractor oversight, periodic safety inspections, and investigations of contractor safety incidents.

Contractor Safety Manual for Class 1 Contractors: In 2017, SoCalGas issued a contractor safety manual for use by all Class 1 contractors. This manual consolidated in one place all the safety requirements and expectations SoCalGas has established for contractors working for SoCalGas. These include:

- The Contractor must comply with all applicable federal, state, regional, municipal, and local laws, ordinances, rules, codes, regulations, and executive orders, including all laws, ordinances, rules, codes, regulations, and executive orders applicable to health and safety, the SoCalGas Contractor Safety Manual, and all contract terms as set forth in the contract entered into with the Company, and must confirm that all employees and subcontractors working on Contractor's behalf meet or exceed these same requirements.
- Contractors must provide a safe working environment for their employees and subcontractors and make sure their operations do not adversely impact the safety

of SoCalGas employees or the public. Contractors are responsible for the personal safety of their employees and subcontractors.

- The Company reserves the right to take action, including, but not limited to, issue warnings, withhold payment, suspend work, require the removal of contractor personnel from the project, notify enforcement agencies, and terminate the contract if the Contractor does not comply with applicable laws, all site and system-related safety requirements, the SoCalGas Contractor Safety Manual, and all terms and conditions required by the contract entered into with the Company.
- A process for pre-qualification of contractors for safety, including a defined set of pre-qualification criteria as listed in the table below:

Criteria	Target	Below Target
3-Year TRIR (Total Recordable Incident Rate)	Equal to or less than BLS (Bureau of Labor Statistics) industry average for applicable NAICS (North American Industry Classification System) code	Greater than BLS industry average for applicable NAICS code
3-Year DART (Days Away Restricted/Transfer Rate)	Equal to or less than BLS industry average for applicable NAICS code	Greater than BLS industry average for applicable NAICS code
EMR (Experience Modification Rate) *	Equal to or less than 1.1	Greater than 1.1
5 -Year Fatality Data	Zero (0) fatalities within the last five (5) years	One (1) or more fatalities within the last five (5) years
5-Year Non-Fatal, Serious Safety Incident Data (<i>e.g.</i> , life altering/life threatening, including incidents affecting the public)	Zero (0) non-fatal, serious safety incidents within the last five (5) years	One (1) or more non-fatal, serious safety incidents within the last five (5) years
3-Year OSHA Serious, Willful, or Repeat Citations	Zero (0) serious, willful, or repeat OSHA citations within the last three (3) years	One (1) or more serious, willful, or repeat citations within the last three (3) years
3-Year OSHA Non-Serious Citations	Zero (0) non-serious OSHA citations within the last three (3) years	One (1) or more non-serious citations within the last three (3) years

Criteria	Target	Below Target
Written Safety Programs	Company has written safety programs that are in compliance with environmental, health, and safety laws and regulations and are specific to the hazards associated with the work to be performed.	Company does not have written safety programs that are in compliance with environmental, health, and safety laws and regulations and are specific to the hazards associated with the work to be performed.
Drug and Alcohol Plan	Company has a written drug and alcohol plan that is in compliance with applicable laws and regulations.	Company does not have a written drug and alcohol plan that is in compliance with applicable laws and regulations.
Subcontractor Management Plan	Company has a written plan to monitor subcontractors and hold them accountable for the same requirements as themselves.	Company does not have a written plan to monitor subcontractors and hold them accountable for the same requirements as themselves.
Employee Disciplinary Action Plan	Company has a written employee disciplinary action plan.	Company does not have a written employee disciplinary action plan.
Safety Culture Evaluation	Company has a positive safety culture that it is working to advance.	Company does not have a positive safety culture that it is working to advance.

* Experience Modification Rate (EMR) is a number insurance companies use to represent a business's prior workers' compensation claims and potential for future injuries.

In addition, the manual provides guidelines on the process to be followed in managing safety construction projects, including reviewing applicable compliance requirements, providing appropriate oversight on contractor work, and reporting safety incidents.

Construction Inspections and Contractor Performance Review: SoCalGas requires its representatives overseeing contractors to conduct documented job-site safety inspections of contractors working at a facility, property, or worksite owned, operated, or managed by the Company (including leased premises and rights-of-ways) on SoCalGas projects at a frequency of once per week per contractor. When there are multiple crews for a specific contractor working on similar projects, one safety inspection per contractor per week meets this requirement. The Construction Inspection Report, Company Form 2849, built in ISNetworld, is used for documenting such inspections.

The SoCalGas representative must also complete a post-job safety evaluation of Class 1 contractors at the completion of every contract or annually, whichever is earlier, including the

final at the end of the term for Master Services Agreements and multi-year contracts. Company Form Number 6350, Report of Contractor's Performance, built in ISNetwork, is used to appraise and document the safety performance of contractors performing work for the Company.

Finally, large capital projects have dedicated, full-time, on-site safety oversight provided by SoCalGas as well as the contractor(s) to ensure the safety of the project throughout its implementation and completion (*e.g.*, Blythe compressor station modernization project).

The inspections, evaluations, and on-site monitoring fulfill SoCalGas's oversight responsibilities and are designed to provide valuable feedback on contractors' overall performance on SoCalGas projects.

Corporate Safety Audits, Ad Hoc Contractor Audits, and Enforcement Activities:
SoCalGas utilizes mechanisms to monitor and evaluate safety requirements for Class 1 Contractors, including conducting formal safety audits, requiring contractors to conduct their own evaluations, and imposing corrective actions in response to safety issues identified as a result of its oversight activities. SoCalGas has implemented a Contractor Oversight Plan, managed by the Construction Operations group, to address enforcement actions when contractors are found to not meet SoCalGas's requirements. Under the Contractor Oversight Plan, a coordinated effort is put underway to inform and receive input from all stakeholders who use a particular contractor under scrutiny to ensure awareness and consistency in applying enforcement actions and reach appropriate decisions. For example, in 2018 and 2020, based on observing serious close-call incidents associated with a prime contractor, SoCalGas utilized several measures to address the risk of a potential serious injury or fatality. This included stopping the job, putting the contractor on probation, conducting an audit of its safety program, asking the contractor to evaluate its safety culture, and following up on all the corrective actions resulting from this effort to emphasize the importance of safety on SoCalGas projects.

More recently, additional safety-related incidents with contractors have resulted in contractors' suspensions, with a request that a safety culture evaluation by a third-party vendor specializing in safety analysis be conducted on each company, the results shared with SoCalGas, and any improvements deemed appropriate upon review of the results be completed before the contractor could be cleared to return to work for SoCalGas.

The results of these outside assessments helped the contractors gain awareness of potential gaps and areas of improvement in their internal operations, allowing them to

implement systematic fixes to their safety processes, as well as leading them to accelerate their push towards developing their own comprehensive safety management systems. Further, a new requirement has been added to SoCalGas's contracts with contractors and is discussed further in Control 2 below.

Pipeline Safety Oversight Committee: SoCalGas has established a high-level internal committee comprised of executives and directors to oversee pipeline safety programs and activities, including oversight over contractors. This committee meets periodically and reviews progress made in the contractor safety area and provides direction on steps needed to be taken to continue to reduce contractor safety risk. This committee and its oversight serve as a proactive approach to enable a senior level committee to oversee the development, implementation, and growth of the contractor safety program to address the overall safety risk associated with hiring contractors. The committee also serves to strengthen public trust.

Contractual Requirements: The contractual requirements control is in place to add appropriate language to contracts to hold Class 1 Contractors accountable to follow the Class 1 Contractor Safety Manual. All new and existing contracts and Master Service Agreements between SoCalGas and a primary contractor include Contractor Safety Program related requirements as part of the contract terms and conditions. Moreover, contractors are made aware of the Class 1 contractor safety requirements upfront during the Request for Proposal (RFP) bid process.

The requirement to perform Safety Culture Assessments, at the contractor's expense, has now been included in the new multi-year contracts being issued. The benefits of the enforcement actions taken that are discussed in Control 1 above have led SoCalGas to conclude that rather than only implementing this requirement as a punitive measure in situations where problems already exist, it would be in both the Company's and contractor's best interest if SoCalGas fosters the safety management system "Plan/Do/Check/Act" mentality and requires all contractors with multi-year contracts coming out of the current and future RFPs to arrange and pay for these studies at the onset and mid-point of their contracts to ensure their commitment to continuous safety improvement is strong.

Stop the Job/Near Miss/Close Call Reporting Program: SoCalGas requires all its Class 1 contractors to develop and implement a Stop the Job policy on SoCalGas projects. Stop the Job is a critical process and gives authority to everyone onsite to stop a job or task if an unsafe work

condition, behavior, or activity is identified. All work must immediately cease in the area of concern once the Stop the Job is declared until site supervision and the involved contractor(s) have done an investigation, the identified situation is abated, controlled, or otherwise determined to be safe, and the situation and outcome are explained to affected personnel. SoCalGas also encourages its contractors to report near miss or close calls or good catch incidents so that everyone can learn from these incidents and prevent injuries and/or reduce/eliminate safety risks on the job and to our pipeline delivery system. These incidents are shared with contractors so that SoCalGas and the contractors can learn from one another.

SoCalGas defines a Near Miss/Close Call as follows:

- Non-Serious Near Miss: A Work-Connected incident in which Property Damage is less than \$122,000 or an injury or illness (other than a Serious Safety Incident) could have occurred but did not.
- Serious Near Miss: A Work-Connected incident in which Property Damage, or a Spill/Release results in damages of \$122,000 or more, or a Serious Safety Incident could have occurred but did not.

B. Control 2 - Third-Party Administration Tools

SoCalGas utilizes three best-in-class third-party tools to manage various aspects of its contractor safety. These are discussed below.

ISNetwork: The purpose of the ISNetwork platform (created and managed by ISN) is to pre-qualify, vet, and monitor Class 1 contractors for safety. ISNetwork is an online contractor and supplier management platform of data-driven products and services that help manage risk through data collected across the contractors' operations nationally. ISNetwork helps reduce unnecessary duplication associated with traditional qualification processes. It streamlines the contractor pre-qualification process and is intended to improve workplace safety. Each Class 1 contractor currently performing or seeking to perform work for SoCalGas must have an ISN account. Before performing any work for SoCalGas, Class 1 contractors must upload the information specified in the SoCalGas Pre-Qualification Criteria to ISN. ISN's Review and Verification Services (RAVS) Team reviews self-reported information against regulatory requirements. ISN safety experts also review contractor safety compliance programs and validate accuracy and completeness. ISN uses an "A," "B," "C," and "F" grading system to measure contractors' safety performance against criteria established by SoCalGas. Contractors

who receive an “A” or “B” grade and continue to maintain an “A” or “B” grade, are deemed qualified and are approved to work for SoCalGas. Contractors who receive a “C” or “F” grade, and those whose grade changes from an “A” or “B” to a “C” or “F,” must be approved through SoCalGas’s Variance Request Process. Variances are approved at the director and officer levels. This process promotes the use of safer contractors by SoCalGas and thereby reduces the risk of safety incidents on SoCalGas projects.

Veriforce®: SoCalGas utilizes Veriforce® to centrally track records for covered task qualifications, along with related certifications and training. SoCalGas also utilizes Veriforce® to monitor contractors’ compliance with the Pipeline and Hazardous Materials Safety Administration/Department of Transportation (PHMSA/DOT) Drug and Alcohol (D&A) program requirements. Veriforce® delivers a comprehensive solution for D &A compliance, combining software with audit services to help streamline management of the contractor D&A compliance program and drive improvements that mitigate contractor risk. The purpose of utilizing the Veriforce® platform is to streamline Operator Qualification (OQ) program administration and facilitate compliance with PHMSA OQ Rule requirements for Class 1 contractors who work on safety sensitive tasks. Veriforce® delivers a comprehensive solution for DOT/PHMSA OQ Rule compliance that supports OQ processes from end to end, uniting software with audit, consulting, and training services to support the management of SoCalGas’s OQ program.

Gold Shovel Standard: Gold Shovel Standard (GSS) is a nonprofit organization committed to improving workforce and public safety and the integrity of buried infrastructure. GSS believes that greater transparency in all aspects of damage prevention among buried-asset operators, locators, and excavators is essential to drive continuous improvement, and vital to increasingly safe working conditions and communities. GSS works to prevent life-threatening damages, empower field teams to operate safely, and protect excavation crews and the public. SoCalGas utilizes the GSS platform to enhance excavation safety associated with its pipeline infrastructure projects. SoCalGas requires all of its prime gas infrastructure contractors to be members of the GSS and follow best practices in promoting excavation safety.

To obtain GSS Certification, an excavator must have a complete Damage Prevention-Safety Management System (DP-SMS). This includes:

- A leadership and management commitment to infrastructure damage prevention

- Requiring specific training for all workers on jobs with excavation
- Enforcing whistleblower and stop work responsibility for workers
- Maintaining a policy to adhere to specialized best practices of excavation operations
- Maintaining a policy to hire Gold Shovel Standard subcontractors with few exceptions
- Using thorough investigation and corrective action procedures
- Using specialized software to track and manage their operations to prevent damages

In the past, businesses often learned about potential excavation risks by their occurrence. A quality DP-SMS reveals risks before they happen, giving businesses the opportunity to improve without catastrophic catalysts.

C. Control 3 - Contractor Engagement

SoCalGas aims to reinforce its strong safety culture by engaging contractors in a variety of ways, including hosting an annual Contractor Safety Congress and three Quarterly Meetings with SoCalGas's Class 1 contractors.

SoCalGas's annual Contractor Safety Congress was initiated in 2015 to share safety best practices and learn from one another's experiences. The event is expected to continue to further strengthen SoCalGas and contractors' collective "safety culture" and provide a foundation for safety improvement. Attendees include representatives from a wide variety of contractors, including diverse business enterprises, and select representatives from SoCalGas who oversee contractors. The forum provides an opportunity for SoCalGas executives to share their safety vision and expectations with contractors and offers an opportunity for contractors to showcase their safety successes and challenges, as well as share serious safety incidents and lessons learned so others can benefit from their experience and improve their own safety performance.

The quarterly meetings, on the other hand, are limited to signatory contractors who perform the vast majority of pipeline construction work for the Company. These meetings are established as a forum to give contractors the opportunity to collaborate with SoCalGas on safety, share issues and challenges faced by contractors on SoCalGas projects, communicate new requirements, and foster an improved safety culture for contractors and the Company.

D. Control 4 – Construction Contractor Field Oversight

In order to develop a specialized team of professionals, the responsibility for contractor safety oversight moved to the Construction Operations organization in 2020. In 2020, additional employees were added to both the Construction Risk team and the Construction Contractor Management (CCM) team within the Construction Operations organization. The Construction Risk team is responsible for conducting documented field safety observations of contractor construction projects and the CCM advisors' responsibilities include analyzing the safety observation results to identify and address potential risks as well as enhance the effectiveness of the oversight element in its contractor safety program. SoCalGas's safety professionals select, on an annual basis, a representative number of large, medium, and small construction projects performed by Class 1 contractors throughout the Company's service territory, and perform detailed reviews of contractors' safety programs, audit pipeline contractors' field crews, oversee contractor safety incident investigations, and share corrective actions and lessons learned from incidents and audits within SoCalGas and with other SoCalGas contractors to promote continual risk reduction and improvement. As a result of this program, SoCalGas will be able to further assess contractors' adherence to SoCalGas's Contractor Safety Manual and contractual requirements, identify strengths and potential weaknesses in the contractors' safety programs, and assist with taking corrective actions to prevent incidents. This program will also benefit SoCalGas field supervisors who oversee contractors and manage construction projects to enable them to learn from the audits and integrate lessons learned into their routine oversight to prevent injuries associated with contractor construction projects. This audit program will utilize external vendor support for audit protocols and checklists covering construction safety, as well as for audit training and certifications to ensure consistency and effectiveness of the work performed. Expansion of the Company's Contractor Oversight Program is expected to result in a measurable impact on Class 1 contractor OSHA recordable injuries and would allow SoCalGas to effectively oversee all Class 1 contractor work and confirm compliance with the contractor safety program enterprise wide.

IV. 2022-2024 CONTROL & MITIGATION PLAN

This section contains a table identifying the controls and mitigations comprising the portfolio of mitigations for this risk.¹⁵ Controls and mitigations in the Contractor Incident risk have the same risk profile; thus, they are not further tranced.

Many of the activities discussed in Section III above are expected to continue during the TY 2024 GRC. For clarity, a current activity that is included in the plan may be referred to as either a control and/or a mitigation. For purposes of this RAMP, a control that will continue as a mitigation will retain its control ID unless the size and/or scope of that activity will be modified, in which case that activity's control ID will be replaced with a mitigation ID. The table below shows which activities are expected to continue.

Table 3: Control and Mitigation Plan Summary

Line No.	Control/Mitigation ID	Control/Mitigation Description	2020 Controls	2022-2024 Plan
1	C1	Contractor Safety Oversight	X	X
2	C2	Third-Party Administration Tools	X	X
3	C3	Contractor Engagement	X	X
4	C4	Construction Contractor Field Oversight	X	X

For activities SoCalGas plans to perform that remain unchanged, refer to the description in Section III. If changes to the various activities are anticipated, such modifications are further described in the section below.

A. Changes to 2020 Controls

As part of the Contractual Requirements, defined in Control 1 above, SoCalGas's contractors are now contractually responsible for conducting their own safety culture assessments. While the cost incurred to perform this activity is absorbed by the contracting agency, there is an associated incremental administrative cost that SoCalGas will incur.

¹⁵ See D.18-12-014, Attachment A at A-14 ("Mitigation Strategy Presentation in the RAMP and GRC")

All other controls are anticipated to function at a similar level on an ongoing basis.

B. 2022 – 2024 Mitigations

SoCalGas is currently not planning any new mitigations during the 2022 – 2024 period.

V. COST, UNITS, AND QUANTITATIVE SUMMARY TABLES

The tables in this section provide a summary of the risk control and mitigation plan, including the associated costs, units, and the RSEs, by tranche. SoCalGas does not account for and track costs by activity or tranche; rather, SoCalGas accounts for and tracks costs by cost center and capital budget code. The costs shown were estimated using assumptions provided by SMEs and available accounting data.

**Table 4: Risk Control and Mitigation Plan - Recorded and Forecast Dollars Summary¹⁶
(Direct After Allocations, In 2020 \$000)**

ID	Control/Mitigation Name	Recorded Dollars		Forecast Dollars			
		Capital ¹⁷	2020 O&M	2022-2024 Capital (Low)	2022-2024 Capital (High)	TY 2024 O&M (Low)	TY 2024 O&M (High)
C1	Contractor Safety Oversight	0	1,669	0	0	1,586	1,920
C2	Third-Party Administration Tools	0	49	0	0	47	57
C3	Contractor Engagement	0	11	0	0	10	13
C4	Construction Contractor Field Oversight	0	303	0	0	287	348

¹⁶ Recorded costs and forecast ranges are rounded. Additional cost-related information is provided in workpapers. Costs presented in the workpapers may differ from this table due to rounding. The figures provided are direct charges and do not include company loaders, with the exception of vacation and sick. The costs are also in 2020 dollar and have not been escalated to 2021 amounts. The capital presented is the sum of the years 2022, 2023, and 2024, or a three-year total. Years 2022, 2023 and 2024 are the forecast years for SDG&E’s Test Year 2024 GRC Application.

¹⁷ Pursuant to D.14-12-025 and D.16-08-018, the Company provides the 2020 “baseline” capital costs associated with Controls. The 2020 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.

Table 5: Risk Control & Mitigation Plan - Units Summary

ID	Control/Mitigation Name	Units Description		Recorded Units		Forecast Units			
		Capital	O&M	2020 Capital	2020 O&M	2022-2024 Capital (Low)	2022-2024 Capital (High)	TY 2024 (Low) O&M	TY 2024 (High) O&M
C1	Contractor Safety Oversight	FTE		0	2	0	0	2	2
C2	Third-Party Administration Tools	License		0	3	0	0	3	3
C3	Contractor Engagement	Events		0	5	0	0	5	5
C4	Construction Contractor Field Oversight	FTEs		0	4	0	0	4	4

**Table 6: Risk Control & Mitigation Plan - Quantitative Analysis Summary
(Direct After Allocations, In 2020 \$000)**

ID	Control/Mitigation Name	Forecast			
		LoRE	CoRE	Risk Score	RSE
C1	Contractor Safety Oversight	135	3.34	451	11
C2	Third-Party Administration Tools	140	3.29	460	182
C3	Contractor Engagement	144	3.25	467	202
C4	Construction Contractor Field Oversight	144	3.25	467	5

VI. ALTERNATIVES

Pursuant to D.14-12-025 and D.16-08-018, SoCalGas considered alternatives to the risk mitigation plan discussed in the prior section for the Contractor Incident risk. Typically, analysis of alternatives occurs when implementing activities to obtain the best result or product for the cost. The alternatives analysis for this plan also took into account modifications to the plan and constraints, such as budget and resources.

A. Alternative 1 - Use Internal Resources and Tools to Vet Contractors for Safety

This alternative would involve developing an in-house electronic platform using internal Information Technology (IT) resources customized for Company-specific needs. For example, third-party platforms are compliance driven and generally use lagging key performance indicators for contractor vetting purposes. An internally designed system can expand the focus to include leading key performance indicators, such as safety culture assessments. However, this alternative would result in substantial time delays to develop such a platform and require hiring several safety professionals (estimated at five FTEs) at a cost much greater than the subscription fees incurred for third-party services, like ISNetwork, to review contractor compliance programs on an ongoing basis for accuracy and completeness for meeting regulatory requirements. Based on experience of approximately four years with using ISNetwork, this alternative was judged to be not a cost-effective option.

B. Alternative 2 - Use a Different Third-Party Administration Tool to Vet Contractors for Safety

SoCalGas utilizes another third-party electronic platform, Veriforce®, for managing contractors for Operator Qualification and Drug & Alcohol program compliance. Veriforce® also has the ability to vet contractors for employee safety and recently has strengthened its offering by merging with PEC Safety, a service that provides services similar to ISNetworld. The cost of these third-party platforms is competitive, and SoCalGas ended up selecting ISNetworld in 2016 after a competitive bidding process. SoCalGas has had good experience and success with ISNetworld thus far, but as the landscape of third- party providers change, SoCalGas will consider this alternative through another round of competitive bidding process and make appropriate adjustments. As of now, switching to another provider may not save any money but may add costs to contractors for switching over to another platform. Should we ever plan to switch the platforms, it must be done with long lead time to make it efficient all around.

**Table 7: Alternative Mitigation Plan - Forecast Dollars Summary¹⁸
(Direct After Allocations, In 2020 \$000)**

ID	Alternative Mitigation Name	Forecast Dollars			
		2022-2024 Capital (Low)	2022-2024 Capital (High)	TY 2024 O&M (Low)	TY 2024 O&M (High)
A1	Use Internal Resources and Tools to Vet Contractors for Safety	0	0	499	604
A2	Use a Different Third-Party Administration Tool to Vet Contractors for Safety	0	0	29	36

¹⁸ Recorded costs and forecast ranges are rounded. Additional cost-related information is provided in workpapers. Costs presented in the workpapers may differ from this table due to rounding. The figures provided are direct charges and do not include Company loaders, with the exception of vacation and sick. The costs are also in 2020 dollar and have not been escalated to 2021 amounts. The capital presented is the sum of the years 2022, 2023, and 2024, or a three-year total. Years 2022, 2023 and 2024 are the forecast years for SoCalGas’s Test Year 2024 GRC Application.

Table 8: Alternative Mitigation Plan - Units Summary

ID	Alternative Mitigation Name	Units Description		Forecast Units			
		Capital	O&M	2022-2024 Capital (Low)	2022-2024 Capital (High)	TY 2024 (Low) O&M	TY 2024 (High) O&M
A1	Use Internal Resources and Tools to Vet Contractors for Safety	FTEs		0	0	5	5
A2	Use a Different Third-Party Administration Tool to Vet Contractors for Safety	Contractor		0	0	1	1

**Table 9: Alternative Mitigation Plan - Quantitative Analysis Summary
(Direct After Allocations, In 2020 \$000)**

ID	Alternative Mitigation Name	Forecast			
		LoRE	CoRE	Risk Score	RSE
A1	Use Internal Resources and Tools to Vet Contractors for Safety	140	3.29	460	97
A2	Use a Different Third-Party Administration Tool to Vet Contractors for Safety	143	3.26	466	17

APPENDIX A: SUMMARY OF ELEMENTS OF THE RISK BOW TIE

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Contractor Incident: Summary of Elements of the Risk Bow Tie

ID	Control/Mitigation Name	Elements of the Risk Bow Tie Addressed
C1	Contractor Safety Oversight	DT.1 – DT.9, PC.1 - PC.8
C2	Third-Party Administration Tools	DT.1 – DT.6, PC.1, PC.2 PC.4, PC.6, PC.8
C3	Contractor Engagement	DT.1 – DT.9, PC.1 – PC.8
C4	Construction Contractor Field Oversight	DT.1 – DT.9, PC.1 – PC.8

**APPENDIX B: QUANTITATIVE ANALYSES SOURCE
DATA REFERENCES**

APPENDIX B: QUANTITATIVE ANALYSES SOURCE DATA REFERENCES

The Settlement Decision directs the utility to identify potential consequences of a risk event using available and appropriate data.¹⁹ The list below provides the inputs used as part of this assessment.

OSHA Reportable Incident Rate and Safety Consequences
Source: Historic SoCalGas contractor injuries, fatalities

Vehicular Incident Rates and Claims
Source: Historic SoCalGas motor vehicle incident data

Workplace Violence Incident Rate
Agency: Bureau of Labor Statistics
Link: <https://www.bls.gov/iif/oshcfoi1.htm>

Workplace Violence Injuries and Fatalities
Agency: Federal Bureau of Investigation
Link: <https://www.fbi.gov/about/partnerships/office-of-partner-engagement/active-shooter-resources>

Medically Consulted Injury Financial Impact
Agency: National Safety Council
Link: <http://www.injuryfacts.nsc.org/work/costs/work-injury-costs/>

Serious Injury Associated Financial Impact
Agency: Center for Disease Control
Link: https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6438a5.htm?s_cid=mm6438a5_w

Emergency Department Injury Associated Financial Impact
Agency: Center for Disease Control
Link: <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6438a5.htm#Tab1>

Workplace Violence Associated Financial Impact
Agency: National Institute of Occupational Safety and Health
Link: <https://www.cdc.gov/niosh/index.htm>

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

¹⁹ D.18-12-014, Attachment A at A-8 (Identification of Potential Consequences of Risk Event).

Incident Rate for ISN Energy Customers

Agency: ISN

Link: <https://www.isnetworld.com/Publications/2017USEnergy.pdf>

Incident Rate for Energy Industry

Agency: Bureau of Labor Statistics

Link: <https://www.bls.gov/iif/oshwc/osh/os/ostb4753.pdf>