Risk Assessment Mitigation Phase

(SCG RAMP-B)

Enterprise Risk Management Framework

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RAMP B: ENTERPRISE RISK MANAGEMENT FRAMEWORK

I. INTRODUCTION

This Chapter discusses the enterprise risk management framework for Southern California Gas Company (SoCalGas or Company). For purposes of RAMP, SoCalGas integrates the directives established in Decision (D.) 18-12-014 and the Settlement Agreement adopted therein (the Settlement Decision) into the Company's enterprise risk management (ERM) framework. This Chapter describes the ERM framework utilized by the Company.

II. ENTERPRISE RISK MANAGEMENT FRAMEWORK

As described in the direct testimony of Risk Management and Policy witness Diana Day in the Test Year (TY) 2019 General Rate Case,[1] the Company's risk framework:

> is modeled after ISO [International Organization for Standardization] 31000, an internationally recognized risk management standard. This framework consists of an enterprise risk management governance structure, which addresses the roles of employees at various levels ranging up to the Companies' Board of Directors, as well as risk processes and tools. One such process is the six-step enterprise risk management process.

Figure 1 below depicts SoCalGas's ERM process, by which the Company identifies, manages, and mitigates enterprise risks and aims to provide consistent, transparent, and repeatable results.

Figure 1: Enterprise Risk Management Process

[1] A.17-10-007/-008 (cons.), Exhibit (Ex.) 03 (SCG/SDG&E Day/Flores/York Revised Direct) at DD-8.

The process illustrated in Figure 1 aligns with Cycla Corporation's 10-step evaluation method, which was adopted by the Commission in 2016 "as a common yardstick for evaluating maturity, robustness, and thoroughness of utility Risk Assessment and Mitigation Models and risk management frameworks."[2] While the lexicon used by Cycla differs slightly from that of the Company, the content is largely aligned. Table 1 below provides a side-by-side comparison of the steps in the Company's ERM process to the corresponding steps in the Cycla method.

Table 1: ERM Process Alignment with the Cycla Method

Cycla Ten-Step Method	Corresponding Risk Steps in SoCalGas Enterprise Risk Management Process
Step 1: Identify Threats	1. Risk Identification
Step 2: Characterize Sources of Risk; Step 3: Identify Candidate Risk Control Measures (RCMs)	2. Risk Analysis
Step 4: Evaluate the Anticipated Risk Reduction for Identified RCM	3. Risk Evaluation & Prioritization
Step 5: Determine Resource Requirements for Identified RCMs; Step 6: Select RCMs Considering Resource Requirements and Anticipated Risk Reduction	4. Risk Mitigation Plan Development & Documentation
Step 7: Determine Total Resource Requirement for Selected RCMs; Step 8: Adjust the Set of RCMs to be Presented in Rate Case Considering Resource Constraints; Step 9: Adjust RCMs for Implementation following CPUC Decision on Allowed Resources	5. Risk Informed Investment Decisions and Risk Mitigation Implementation
Step 10: Monitor the Effectiveness of RCMs	6. Monitoring and Review

[2] D.16-08-018 at 195 (Ordering Paragraph [OP] 4).

SoCalGas performs an enterprise risk assessment annually, resulting in an enterprise risk registry (ERR). The ERR identifies and prioritizes each of the Company's enterprise-level risks. Each risk is assigned to one or more risk owner(s), a member of the senior management team responsible and accountable for the risk, and one or more risk manager(s) responsible for ongoing risk assessments and overseeing the implementation of risk plans. The ERM organization facilitates sessions amongst the Company's risk owners to identify, evaluate, and prioritize risks, and review mitigation plans and consider how investments align with risk priorities.

As Ms. Day explained: "The enterprise risk management process is both a 'bottom-up' and 'top-down' approach, by taking input from the risk managers and the risk owners to ultimately finalize the risk registry. As with any useful risk assessment, the enterprise risk registry is not intended to be static; it must be refreshed on an annual basis. Risks are dynamic; risks that were consolidated together may be separated out, new risks may appear, and the level of the risk may change over time."[3]

Each of the steps in the ERM process is discussed further below.

A. Risk Identification

Risk identification is the process of finding, recognizing, and describing risks. As the first step in the risk management process, the ERM organization works with various business units to update existing risk information and identify enterprise-level risks that have emerged or accelerated since the prior assessment. This part of the process also includes the identification of risk events, their causes, and potential consequences. Figure 2 below provides a depiction of the risk bow tie, which is a commonly-used tool for risk analysis. The risk bow tie is a way to systematically and consistently evaluate the drivers/triggers, possible outcomes, and potential consequences of a risk event. As the sample risk bow tie (Figure 2 below) illustrates, the left side of the risk bow tie identifies potential drivers and/or triggers that may lead to a risk event (center of the risk bow tie), and the right side shows the potential consequences of a risk event. Drivers/triggers are denoted as "DT" and potential consequences are denoted as "PC."

[3] Ex. 03 (SCG/SDG&E Day/Flores/York Revised Direct) at DD-9.

Figure 2: Risk Bow Tie

Each risk in the RAMP Report includes a risk bow tie similar to that in Figure 2 above. Generally, the drivers/triggers identified in the RAMP risk Chapters are specific to the risk event. However, many of the potential consequences are common across the RAMP risks. Potential consequences that can be in the RAMP risk Chapters are described below:

- **Serious injuries and/or fatalities:** Refers to physical trauma to the body.
- **Property damage:** The potential to cause property damage which typically involves physical damage to tangible property.
- **Operational and reliability impacts:** Effects to utility operations.
- **Penalties and fines:** The risk of a compliance (*e.g.*, regulatory) failure, which results in potential penalties/fines or sanctions.
- **Adverse litigation:** Refers to litigation risk, which is the possibility that legal action will be taken because of an individual's or corporation's actions, inaction, products, services, or other events. Corporations generally employ some type of litigation risk analysis and management to identify key areas where the litigation risk is high and thereby take appropriate measures to limit or eliminate those risks**.**

- **Erosion of public confidence:** A risk event causing a potential loss to financial capital, social capital, and/or market share resulting from damages to a firm's reputation.

B. Risk Analysis

Risk analysis is the process of understanding the risk and the degree of risk. Risk analysis provides a basis for risk evaluation and decisions about risk mitigation. Risk analysis is undertaken using varying methodologies, depending on the risk and the availability of data and resources. The Company utilizes a combination of qualitative (*e.g.*, calibrated subject matter expertise) and quantitative analyses (including external data) to analyze its risks.

C. Risk Evaluation and Prioritization

Using the information from the previous steps, an evaluation and prioritization are performed. The result of this step is pre-mitigation risk scores for each risk in the ERR and a relative ranking reflecting consensus around risk priorities. This step involves a discussion of each ERR risk, including changes in the risk frequency or impact, challenges, and elements of the previous assessment's implementation of mitigants. Arriving at risk prioritization is an iterative process; risks that may be very different are compared to one another to determine a relative ranking (for example, evaluating an IT risk in comparison with a customer service risk).

In 2020, the Company completed its ERR before year-end, following the issuance of the Settlement Decision. The Settlement Decision that was adopted in December 2018 provides, among other things, a methodology to be used as the basis for this RAMP Report. In particular, the Settlement Decision established a multi-attribute value function (MAVF).[4] SoCalGas incorporated the MAVF methodology into its evaluation and prioritization process to develop its 2020 ERR. For purposes of this RAMP Report, the Company continued to refine its application of the MAVF consistent with the Settlement Decision, which resulted in revised pre-mitigation risk scores. This process, methodology, and calculations for the pre-mitigation risk scores are further discussed in Chapter RAMP-C.

D. Risk Mitigation Plan Development & Documentation

Based on the analysis and evaluation of risks in the prior steps, risk owners and managers develop and document risk mitigation plans to capture the state of the risk given current control

[4] D.18-12-014 at Attachment A, A-8 (Risk Assessment).

activities and any additional mitigations. On an annual basis, the ERM organization facilitates a risk mitigation planning session where risk owners present their key risk mitigation plans and alternatives considered to the senior management team and discuss the feasibility and prudence of those plans. This risk mitigation planning session helps shape the Company's priorities going into the annual investment planning process and helps identify gaps and/or areas of overlap in risk mitigation plans.

E. Risk-Informed Investment Decisions and Risk Mitigation Implementation

The capital planning process is the Company's annual process for prioritizing funding based on risk-informed priorities and input from operations. The capital allocation planning sessions begin with input from functional capital committees that comprise subject matter experts who perform high-level assessments of the capital requirements based on achieving the highest risk mitigation at the lowest attainable costs. These requirements are presented to a cross-functional team representing each functional area with capital requests. This committee reviews the resource requirement submissions from all functional areas, and projects are evaluated against priority by assessing a variety of metrics, including safety, cost-effectiveness, reliability, security, environmental, strategic, and customer experience. Recommendations for capital spending are then presented to an executive committee for approval. Once the capital allocations are approved, each individual operating organization is chartered to manage their respective capital needs within the capital allotted by the plan. This includes re-prioritization as necessary to address imminent safety concerns as they arise. Similar to the Company's risk evaluation processes, the capital planning process is evolving as the Company endeavors to achieve a more quantitative determination of the risk reduction per dollar invested.

F. Monitoring and Review

Monitoring and reviewing the aspects of risk management supports the Company's efforts to continuously improve its risk management practices. Periodic reviews of the ERR are performed to keep the register current and facilitate discussions on emerging risks that the Company could face. In addition to using risk scores to monitor changes in risks, the Company leverages risk metrics similar to those identified in the Phase Two S-MAP Decision 19-04-020 to hold parties accountable and improve risk oversight.

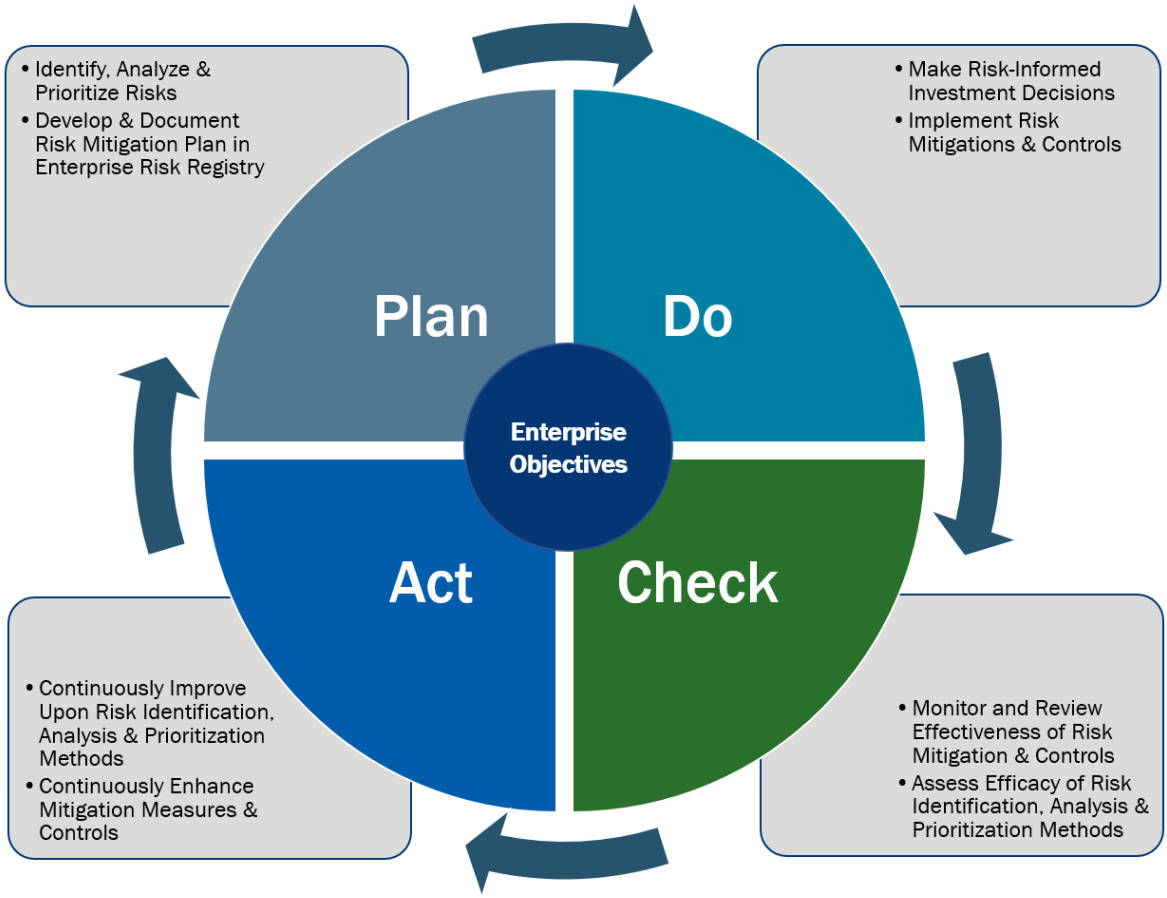
III. CONTINUOUS IMPROVEMENT OF RISK MANAGEMENT PRACTICES

SoCalGas manages risk through a structured, increasingly data-driven approach that identifies threats and hazards, assesses and prioritizes risks, implements mitigation efforts, and engages in assessments and reviews to understand risk mitigation effectiveness. The Company's risk management practices continue to mature and improve. The TY 2019 GRC Application presented a strategic planning trajectory related to integrating risk, asset, and investment management to be accomplished over future GRC cycles.[5] SoCalGas is moving on that trajectory, further integrating risk, asset, and investment management into the Company's culture.

As discussed in SMS Cross-Functional Factor Chapter, CFF-6, SoCalGas implements a comprehensive Safety Management System (SMS) to continually enhance the safety of its operations, strengthen safety culture, and improve overall safety performance. Continuous improvement is a foundational value of both the SoCalGas SMS framework and the ERM framework. With respect to continuous improvement of the ERM, SoCalGas follows the "Plan-Do-Check-Act" cycle depicted in Figure 3 below.

[5] Ex. 03 (SCG/SDG&E Day/Flores/York Revised Direct) at DD-25 (Figure DD-4).

Figure 3: ERM Plan, Do, Check, Act Cycle



Continuous improvement efforts are currently focused on more closely aligning risks with asset management practices, enhancing the Company's integration of data and metrics into its risk-informed decision-making processes, and broadening the scope of risks evaluated as part of the annual Enterprise Risk Registry development process.

Following the Plan, Do, Check, Act model for continuous improvement, SoCalGas continually seeks to implement informative metrics into its risk-based decision-making processes. Risk metrics span risk, asset, and investment management, in that they help evaluate and monitor asset health and potentially inform and demonstrate progress related to investments. D.19-04-020 approved safety performance metrics, which are reportable on an annual basis beginning in March 2020. The Company's data collection efforts and the metrics themselves will continue to support risk-based decision-making. Further, metrics help to inform investments, and the Company will provide an explanation in its annual Risk Spending Accountability Reports of how the reported safety metric data reflects progress against the safety

goals in the Company's RAMP and GRC. In addition to CPUC-reportable metrics, the Company is in the process of identifying ways in which to quantify and track effectiveness related to its mitigations from this 2021 RAMP Report, as discussed in Chapter RAMP-E.

Finally, SoCalGas and SDG&E also communicate regularly with risk management representatives at Pacific Gas and Electric Company and Southern California Edison Company to discuss and share best practices, address trends and emerging issues, and to improve risk management practices, such as managing the COVID-19 pandemic from a risk perspective.

IV. SELECTION OF RAMP RISKS

As discussed in Section II above, the Company's ERM process includes an annual ERR development process. For this RAMP Report, the Company began with the risks identified in the 2020 ERR. Using the updated Risk Quantification Framework described in Chapter RAMP-C, the Company then scored each of its 2020 ERR risks solely utilizing the safety attribute and sorted the risks in descending order by the safety risk score. For the top 40% of ERR risks with a safety risk score greater than zero, the Company then calculated a risk score using all its attributes in the Risk Quantification Framework (*i.e.*, beyond the safety attribute). The Company reviewed the outputs of this process and developed a preliminary list of RAMP risks to present at a pre-filing workshop, consistent with Settlement Decision.[6] The Company selected the preliminary list of RAMP risks based on the initial safety risk scores (*i.e.*, those top 40% of ERR risks with a safety risk score greater than zero) and added additional enterprise risks deemed to be a top priority to the Company.

As discussed in Chapter RAMP-A, pre-filing RAMP workshops were held on October 15, 2020, and January 27, 2021. Per the Settlement Decision,[7] SoCalGas determines the final list of risks to be addressed in the RAMP based on the input received from the Commission's Safety Policy Division and other interested parties. There was no opposition to the risks presented during the pre-filing workshops. Therefore, the preliminary list of RAMP risks remains unchanged and is final.

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[6] D.18-12-014 at Attachment A, A-8 (Risk Assessment).

[7] *Id.* at Attachment A, A-10 (Risk Selection Process for RAMP).

In addition to the RAMP risks, SoCalGas's RAMP Report includes cross-functional factors. Because the cross-functional factors are not "risks," they are not addressed in this chapter. (Please refer to Chapter RAMP-A for a discussion of cross-functional factors.)

V. EVOLUTION OF RISKS PRESENTED IN THE 2021 RAMP REPORT AS COMPARED TO THE 2020 ERR AND 2019 RAMP REPORT

The Settlement Decision requires that the RAMP Report highlight changes to the ERR from previous RAMP or GRC filings.[8] Pursuant to this requirement, Table 2 sets forth a comparison of the risks in this 2021 RAMP Report compared to those that were identified in the 2020 ERR and those presented in the Company's 2019 RAMP Report.

As shown in Table 2 below, there were limited changes in the scope of the risks and some slight changes to the risks' naming convention. Additionally, for this 2021 RAMP Report, some risks from the Company's prior RAMP Reports are no longer presented as distinct risk chapters.

[8] *Id.* at Attachment A, A-7 (Risk Identification and Definition).

Table 2: Comparison of 2021 RAMP Risks to the 2020 ERR and the 2019 RAMP Risks

2021 RAMP Risks	2020 ERR	2019 RAMP Risks
Excavation Damage (Dig-In) on the Gas System	Dig-in on the Distribution System	Third Party Dig-in on a Medium Pressure Pipeline
	Dig-in on the Transmission System	Third Party Dig-in on a High Pressure Pipeline
Incident Related to the High Pressure System (Excluding Dig-In)	Incident Related to the Transmission System (Excluding Dig-In)	High Pressure Gas Pipeline Incident (Excluding Dig-in)
Incident Related to the Medium Pressure System (Excluding Dig-In)	Incident Related to the Distribution System (Excluding Dig-In)	Medium Pressure Gas Pipeline Incident (Excluding Dig-in)
		Customer and Public Safety*
Incident Related to the Storage System (Excluding Dig-in)	Incident Related to the Storage System (Excluding Dig-In)	Storage Well Integrity Event
Incident Involving an Employee	Incident Involving Employee	Employee Safety
Incident Involving a Contractor	Incident Involving Contractor	Contractor Safety
Cybersecurity	Cybersecurity	Cybersecurity
	Inability to Recovery Critical Technology and Applications	
	Energy System Resiliency	
	Insufficient Supply to the Natural Gas System	
	Consumer Privacy	
	Capacity Restrictions or Disruptions to the Natural Gas Systems	
	Environmental Compliance	

* Customer and Public Safety merged into Medium Pressure Gas Pipeline Incident following the 2019 RAMP.

The remainder of this Section discusses changes (if any) in scope related to the risks shown in Table 2 above.

Excavation Damage (Dig-In) on the Gas System

Excavation Damage (Dig-In) on the Gas System has evolved from: (a) Dig-in on the Gas Distribution System, and (b) Dig-in on the Gas Transmission System in the 2020 ERR. In the 2019 RAMP, Dig-in on the Gas Distribution System was referred to as *Third Party Dig-in Medium Pressure* and Dig-in on the Gas Transmission System was referred to as *Third Party Dig-in High Pressure*.

Incident Related to the High Pressure System (Excluding Dig-In)

Incident Related to the High Pressure System (Excluding Dig-In) has evolved from Incident Related to the Gas Transmission System (Excluding Dig-In) in the 2020 ERR. In the 2019 RAMP, the risk was referred to as *High Pressure Gas Pipeline Incident*.

Incident Related to the Medium Pressure System (Excluding Dig-In)

Incident Related to the Medium Pressure System (Excluding Dig-In) has evolved from Incident Related to the Distribution System (Excluding Dig-In). In the 2019 RAMP, the Incident Related to the Distribution System (Excluding Dig-In) was referred to as *Medium Pressure Gas Pipeline Incident (Excluding Dig-In)* and *Customer and Public Safety*. Customer and Public Safety merged into in Medium Pressure Gas Pipeline Incident following the 2019 RAMP.

Incident Related to the Storage System (Excluding Dig-In)

The 2019 RAMP risk scope was defined as "the risk of an uncontrolled release of gas that occurs over an extended period due to a storage well structural integrity issue that requires complex well control operations resulting in gas reliability issues, extensive customer impacts, injuries and/or fatalities."[9] In the 2021 RAMP, the risk scope was broadened to include the risk of damage caused to the storage system, including wellheads, reservoirs, and surface equipment, at SoCalGas's four Storage Fields of Aliso Canyon, Honor Rancho, La Goleta, and Playa del Rey.

Incident Involving an Employee

Incident Involving an Employee has evolved from Employee Safety in the 2020 ERR. In the 2019 RAMP, the risk was referred to as *Employee Safety*.

Incident Involving a Contractor

Incident Involving a Contractor has evolved from Contractor Safety in the 2020 ERR. In the 2019 RAMP, the risk was referred to as *Contractor Safety*.

[9] 2019 SoCalGas RAMP, Chapter SCG-8 at SCG 8-2 (*available at https://www.socalgas.com/regulatory/documents/i19-11-010/SCG-8_RAMP_2019_SoCalGas_Storage_Risk_Chapter_Final-11-27-19.pdf*).