Company: San Diego Gas & Electric Company (U 902 M)
Proceeding: 2024 General Rate Case
Application: A.22-05-016
Exhibit: SDG&E-31-R-E

REVISED

PREPARED DIRECT TESTIMONY OF

KENNETH J. DEREMER

(SAFETY MANAGEMENT SYSTEM: SAFETY, RISK, & ASSET MANAGEMENT)

ERRATA

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

May 2023

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SUMMARY

SAFETY, RISK & ASSET MANAGEMENT PROGRAMS O&M COSTS In 2021 $ (000s)			
	2021 Adjusted-Recorded	TY2024 Estimated	Change
Non-Shared	12,074	15,109	3,035
Shared Services	1,023	1,239	216
Total O&M	13,097	16,348	3,251

SAFETY MANAGEMENT SYSTEM: SAFETY, RISK & ASSET MANAGEMENT PROGRAMS CAPITAL COSTS In 2021 $ (000s)			
	Estimated 2022	Estimated 2023	Estimated TY 2024
Total CAPITAL	2,200	2,373	2,372

Summary of Requests

San Diego Gas & Electric Company (SDG&E) is requesting the California Public Utilities Commission (CPUC or Commission) adopt its Test Year (TY) 2024 General Rate Case (GRC) forecast of $16.348 million for costs and activities spanning SDG&E's Safety Management, Risk Management, and Asset Management programs. These programs collectively comprise the key integrated components of SDG&E's Safety Management System. SDG&E is also requesting the Commission adopt SDG&E's forecast for capital expenditures in 2022, 2023, and 2024 of $2.200 million, $ 2.373 million, and $ 2.372 million respectively.

The forecast methodology used to project costs starts with Base Year (BY) 2021 then adjusts for incremental changes as appropriate. This methodology best represents the nature of these costs, as a significant portion of these programs are relatively new and/or still evolving in light of ongoing direction by the Commission for utilities to develop and deploy data-driven and risk-informed approaches to improving employee, public, and asset safety.

Safety Management Program – For TY 2024 SDG&E requests $4.536 million (an increase of $951 thousand above BY 2021 adjusted-recorded costs) for safety operations. The increase is due to the following factors:

- Integration of new technology, resources, and enhanced data analytic capabilities for implementation, sustainability, and continuous improvement of the Safety Management System;

- Expansion of the Contractor Safety Program to verify contractor employee training records and ensure timely incident reporting/communication;
- Dedicated resources to manage/support "Safety in Motion" program, focusing on sprain and strain injury prevention;
- Programs to monitor, test and provide more protective respiratory protection for wildfire smoke particulates to comply with Cal/OSHA's Wildfire Smoke Protection Program; and
- Additional resources to analyze safety data and enable predictive safety solutions.

Risk Management Program – For TY 2024 SDG&E requests $6.111 million (an increase of $636thousand above BY 2021 adjusted-recorded costs) for the Risk Management Program. The increase is due to the following factors:

- To enhance and further develop risk management capabilities and develop more forward-looking Company-wide risk-informed strategies.
- To increase the integration between risk management, safety management, and asset management through the linkage of risk assessments and risk treatments at an operating unit level.
- To further integrate data analytics and quantitative analysis to enable and advance risk-informed decisions across the Company.
- To develop a Compliance Governance Program to abide by the Commission's risk-informed regulatory requirements.

Asset Management Program – For TY 2024, SDG&E requests $ 4.462 million (an increase of $ 1.448 million above BY 2021 adjusted-recorded costs) for the Asset Management Program. The increase is due to:

- Advancement and sustainment of SDG&E's comprehensive Asset Management Program that aligns with the pillars of the safety management system, and comports to the provisions of International Organization of Standardization (ISO) 55000, with the goal of supporting business units in assessing and developing risk mitigation plans and prioritizing capital investments. This includes implementation of new enterprise investment

prioritization system to advance risk-informed and data-driven process for capital investment decision-making.

- Expansion of Asset Integrity Management Program's Operating Model activities to create cross-functional alignment and accountability between all applicable operating groups.
- Dedicated resources to support SDG&E's Risk Spend Accountability Reporting (RSAR), Risk Assessment Mitigation Phase (RAMP), and GRC filings, focused on process improvement and system enhancements that drive efficient management of business activities in a risk-informed manner and ensure compliance with the requirements of the Commission's Safety Model Assessment Proceeding (S-MAP) decision.

The activities in my testimony help to maintain the delivery of safe, reliable, and efficient service to SDG&E's customers.

REVISED PREPARED DIRECT TESTIMONY
OF KENNETH J. DEREMER
(SAFETY MANAGEMENT SYSTEM: SAFETY, RISK, AND ASSET MANAGEMENT)

I. INTRODUCTION

A. Summary of Safety Management, Risk Management, and Asset Management Operations and Maintenance Costs and Activities

My testimony supports the TY 2024 forecasts for operations and maintenance (O&M) costs for both non-shared and shared services, and the business justification for capital costs for the forecast years 2022, 2023, and 2024, associated with the Safety Management, Risk Management, and Asset Management areas for SDG&E. Table KD-1 summarizes my sponsored O&M costs.

TABLE KD-1
Test Year 2024 Summary of Total O&M Costs*

SAFETY, RISK & ASSET MANAGEMENT IN 2021 $ (000s)			
	BY 2021 Adjusted Recorded	TY 2024 Estimated	Change
Safety Management Program	3,585	4,536	951
Safety Management System	864	1,653	789
Safety	2,721	2,882	161
Enterprise Risk Management	5,475	6,111	636
Asset Management	3,014	4,462	1,448
Total Non-Shared	12,074	15,109	3,035
Safety	1,023	1,239	216
Total Shared	1,023	1,239	216
Total	13,097	16,348	3,251

* Numbers have been rounded, potentially resulting in slight variations among tables.

B. Capital Costs

Capital Costs for the forecast years, 2022, 2023 and 2024, represent costs for resources and information technology systems that support SDG&E's Safety Management program. (summarized in Table KD-2 below). The Capital Costs included within this chapter include the Contractor Field Safety Management Overhead Pool. Other Capital Costs are sponsored by the Information Technology (IT) testimony of William J. Exon (Exhibit (Ex.) SDG&E-25) and two

programs that are co-funded by the Wildfire Mitigation Program (WMP) as described in the Wildfire Mitigation and Vegetation Management testimony of Jonathon Woldemariam (Ex. SDG&E-13). However, I will be sponsoring in my testimony the operating need and business justification for these IT costs. Table KD-2 summarizes my sponsored Capital costs.

TABLE KD-2
TY 2024 Summary Capital Costs

SAFETY, RISK & ASSET MANAGEMENT CAPITAL COSTS In 2021 $ (000s)			
	2022 Estimate	2023 Estimate	2024 Estimate
Total Capital	2,200	2,373	2,372

C. SDG&E's Safety Management Program

Safety is a core value and SDG&E is committed to providing safe and reliable service to its customers. SDG&E's safety-first culture focuses on its employees, customers, and the public, and is embedded in every aspect of its work. SDG&E is committed to a culture where leadership sets the example and demonstrates safe behaviors expected of its employees and contractors. SDG&E's leadership team is committed to championing people, doing the right thing, shaping the future, and executing on operational excellence. SDG&E's safety efforts include developing a trained workforce, safely operating and maintaining its electric and gas infrastructure, and providing safe and reliable gas and electric service. Safety is never compromised for production, customer satisfaction, or any other goal, and no activity is so important that it should jeopardize safety. SDG&E's strong safety culture and commitment to further developing processes and programs is designed to manage safety risks and promote system reliability.

SDG&E takes a process-based approach to safety. SDG&E has processes, programs, and committees in place that encourage feedback on safety from employees and contractors on the management of risks and unsafe practices or incidents. To promote strong safety principles throughout the Company, and foster a culture of continuous safety improvement, SDG&E continuously strives for a work environment where employees at all levels can raise asset and system safety, public safety, customer safety, and employee safety concerns and offer suggestions for improvement. SDG&E encourages two-way formal and informal communication between the Company and the public, employees and management, and contractors and the Company, in order to identify and proactively manage safety risks before

incidents occur. The vision and emphasis on risk management begins at the top, with strong support for the risk management process.

D. SDG&E's Risk Management Program

The purpose of risk management is the creation and protection of value. It improves performance, encourages innovation, and supports the achievement of objectives. Risk management helps the Company to anticipate potential opportunities and consequences associated with risk and allows for better informed and effective decision making. SDG&E 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.

To mitigate identified risks, the Risk Management and Compliance Division leads several efforts to promote risk-informed decision making. These efforts include: analyzing enterprise risks to compile an Enterprise Risk Registry; working with operating groups to create an Operating Unit Risk Registry; leading various risk discussions to capture new and emerging risks; creating compliance trainings; and analyzing compliance policies. Additionally, the Risk Management and Compliance Division provides data analytics and quantitative analysis to assist the operating groups in making fully informed decisions. SDG&E is committed to advancing the Risk Management and Compliance Division that integrates with as well as provides support to operating units across the enterprise for the assessment and evaluation of risk.

E. SDG&E's Asset Management Program

SDG&E's Asset Management Program is dedicated to the safety and optimization of existing utility assets to enhance operational excellence and minimize utility risks. In collaboration with key operating groups, the Asset Management Program develops, implements, and enables strategies and solutions in the areas of regulatory compliance, business technology, data management and analysis, and integrated asset management in support of the safe, clean, and reliable delivery of energy to SDG&E customers.

Asset management closely integrates with safety management and risk management to identify, analyze, evaluate, and prioritize operating and enterprise level risks across the Company. The Operating Model outlines the capabilities required for SDG&E to efficiently and effectively manage risk, and continually improves upon all aspects of its safety performance. The Asset Management Program supports operating groups with capital investment decision-

making to enable SDG&E to prioritize and optimize its capital investment portfolio in a risk-informed manner.

To facilitate the decision-making process, the Asset Management Program provides operating groups centralized asset data, analytics, and technology solutions to assist in the assessment and development of projects and programs that mitigate identified risk(s). Asset management collaborates with operating groups to quantify the value and risk benefit associated with a proposed capital project/program, in order to assess its viability and optimize it amongst alternative capital projects.

F. SDG&E's Collective Safety, Risk and Asset Management within a Safety Management System

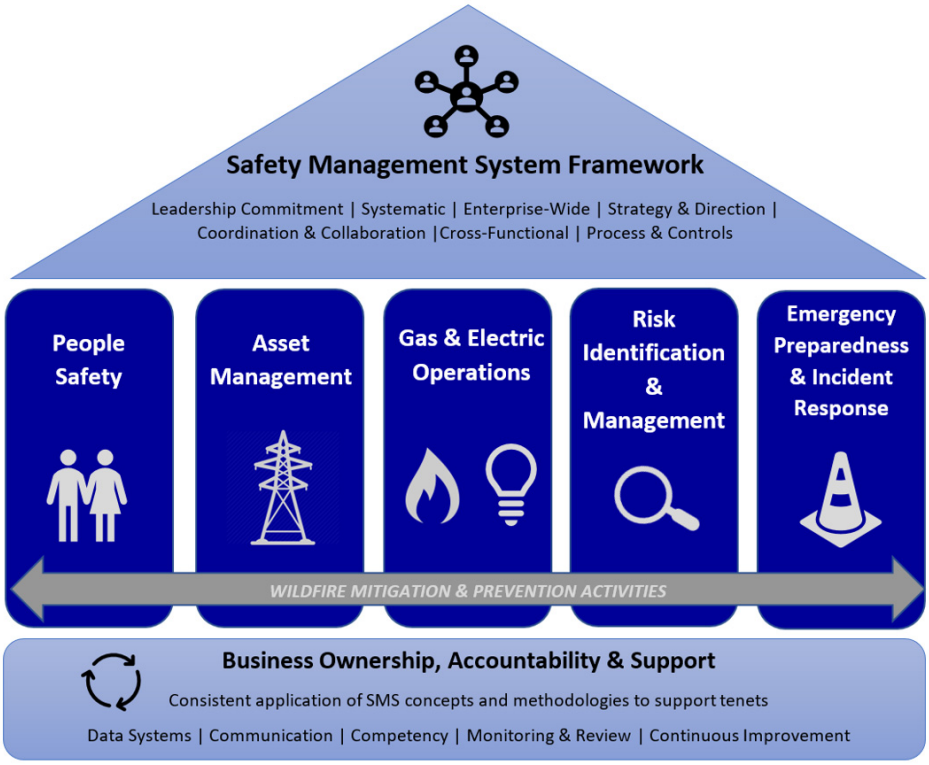
In 2020, SDG&E began operating within a Safety Management System (SMS) which further aligns and integrates safety management, risk management, and asset management across the entire Company. The SMS takes a holistic and integrative approach to safety and expands beyond "traditional" occupational safety principles to include public safety, asset safety, system safety, cyber safety, and psychological safety for improved safety performance and culture. SDG&E's safety management, risk management, and asset management efforts are not new; however, these programs were presented under separate witness areas in prior GRCs. With the development of its SMS, SDG&E presents its safety management, risk management, and asset management programs, activities, and associated costs within this single witness testimony chapter.

SDG&E's SMS is a systematic, enterprise-wide framework to collectively manage and reduce risk and promote continuous improvement in safety performance through deliberate, routine, and intentional processes. The SMS framework connects each of SDG&E's existing and future safety initiatives, better aligns the core operating units, and allows SDG&E to assess risk across the entire enterprise for continued improvement and enhanced safety performance.

SDG&E's enterprise-wide SMS is designed to enhance the Company's longstanding commitment to safety, which focuses on people safety (i.e., employee, contractor, customer, and public safety), asset safety (i.e., all Company infrastructure), gas and electric operations safety, risk identification and management, and emergency preparedness and incident response. See, Figure KD-1, below. This commitment to safety is embedded in all that SDG&E does and is the foundation for who SDG&E is – from initial employee training to the design, installation,

operation, and maintenance of SDG&E's utility infrastructure, to providing safe and reliable service to SDG&E's customers.

Figure KD-1
SDG&E SMS Framework



An effective SMS requires that all Five Pillars of Safety, as illustrated above, have a strong interdependence, each contributing a vital aspect across the SMS Framework for exemplary safety performance. Each pillar is defined below:

1. People Safety addresses the education of, communication to, effects on, and contributions of the people who comprise, support, or are otherwise impacted by the organization.
2. Asset Management considers the assets, systems, and equipment, their condition, maintenance, installation, prediction of failure, and how they affect worker and public safety.
3. Gas and Electric Operations provides practical input into the development of acceptable safety processes, practices, and standards, and promotes proper application of SMS tenets and processes in executing operations, maintenance, and construction activities to protect worker and public safety.

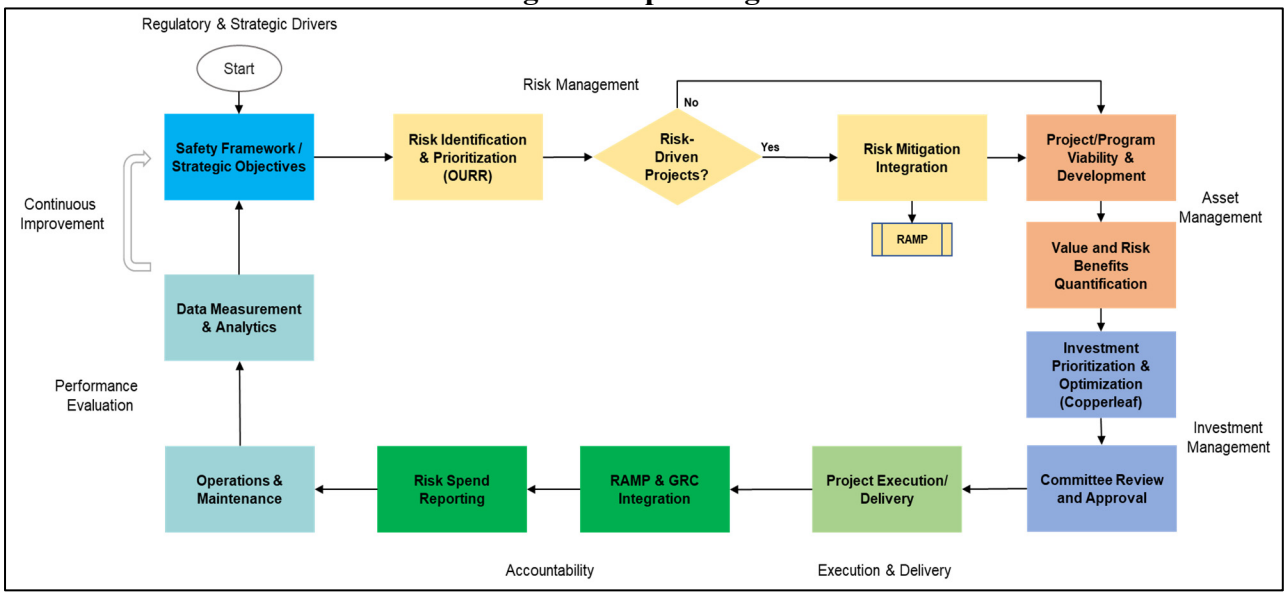
4. Risk Identification and Management proactively identifies safety risks, considers their likelihood and potential consequences, and identifies mitigations that reduce these risks to prevent safety incidents.

5. Emergency Preparedness and Incident Response focuses on utilizing leading practices for all responses, large and small, that support situational awareness, collaboration, coordination, and strong command and control to minimize worker risk and public exposure.

Business Ownership, Accountability, and Support provide the foundation for the Five Pillars of Safety within the SMS framework, as shown above in Figure KD-1. Critical common supporting elements that broadly apply to each of the pillars include data systems, communication, competency, monitoring and review, and continuous improvement.

The collective efforts at the business unit and enterprise levels are greater aligned, integrated, and systematic within the SMS framework. SDG&E's SMS provides a standardized approach for managing risk and safety across all assets and operations by implementing processes and risk assessment methodologies that can be consistently applied enterprise wide. The SMS framework creates an integrated approach and a Company-wide resource to guide SDG&E's actions, decisions, and behaviors, so that SDG&E efficiently and effectively manages risk and continually improves upon all aspects of its safety performance, as illustrated by the below graphic. See, Figure KD-2, below.

Figure KD-2
SDG&E Integrated Operating Model Workflow



The SDG&E Integrated Operating Model outlines the different capabilities needed to lead and facilitate the development of strategic documents that define program governance, overarching standards, and strategy for a sustainable safety and asset management system that aligns with guidelines and standards that are described in further detail in the following paragraph. The operating model harmonizes with current Company programs by aligning objectives and leadership support and promoting assurance through risk-informed performance evaluation for continual improvement. It focuses on safety reinforcement, risk mitigation, and responsible capital investment decision-making to safely and competently manage assets and optimize asset utilization value.

SDG&E's SMS aligns with the American Petroleum Institute's (API) Recommended Practice for Pipeline Safety Management System (API 1173). While API 1173 was developed for natural gas pipeline operators, SDG&E adapted this recommended practice for broader electric and gas utility application. Accordingly, absent an electric industry-equivalent, SDG&E applies this adapted version of API 1173 to its electric operations. For example, SDG&E added elements specific to wildfire mitigation that are not found in API 1173 throughout its SMS. SDG&E's SMS also incorporates elements of the following guidelines and standards:

- CPUC: Office of Safety Advocate 2018 Annual Report;
- International Standards Organization (ISO) 31000: Risk Management;
- ISO 55000: Asset Management: Overview, principles, and terminology;
- ISO 55001: Asset Management: Management systems – Requirements;
- ISO 22320 and the Incident Command System: Emergency Management; and
- OSHA Occupational Safety Standards: Employee and Contractor Safety.

These integrated elements together support the development of a comprehensive and proactive safety program that produces ever-improving levels of safety. The Commission's S-MAP Decision[1] directs SDG&E (and the other IOUs) to annually report on 26 safety performance metrics to measure achieved safety improvements. The S-MAP Decision requires the IOUs to include examples of how metrics are used to improve safety training, take corrective action, and support risk based decision-making. -SDG&E continues to see improved safety

[1] Decision (D.) 19-04-020, Phase Two Decision Adopting Risk Spending Accountability Report Requirements and Safety Performance Metrics.

performance as it moves forward on its journey of Target Zero.[2] SDG&E's SMS utilizes increased data and analytics with key leading and lagging performance indicators to measure and demonstrate program effectiveness and progress. Further, the SMS provides greater integration between the Risk Assessment Mitigation Phase (RAMP), GRC, and Risk Spending Accountability Report (RSAR) filings.

The Safety, Risk and Asset Management Program funding requested herein allows SDG&E to continue on its journey of Target Zero. With the enhanced alignment, coordination, and integration provided within the SMS framework, an incident free workplace is attainable. SDG&E has established strong goals to achieve top quartile and top decile safety performance over this GRC cycle and funding for the programs outlined within this testimony chapter will allow SDG&E to pursue those goals. In addition, the SMS provides increased review and measurement to demonstrate progress against these stated goals.

G. Support To/From Other Witnesses

SDG&E's Safety Management, Risk Management, and Asset Management programs support all aspects of the business, are integrated enterprise-wide, and are "cross-functional" in nature. Therefore, my testimony also references the testimony and workpapers of several other witnesses, either in support of their testimony or as referential support for mine. Those witnesses include:

- Bruce Folkmann, (Exhibit SDG&E-01, SDG&E, Overall Policy)
- Estela de Llanos (Exhibit SDG&E-02, Sustainability Policy)
- Michael M. Schneider (Exhibit SDG&E-03, Chapter 1, Risk Management Policy)
- Gregory S. Flores and R. Scott Pearson (Exhibit SCG-03/SDG&E-03, Chapter 2, RAMP to GRC Integration)
- L. Patrick Kinsella (Exhibit SDG&E-04, Gas Distribution)
- Wallace Rawls (Exhibit SDG&E-05, Gas System Staff & Technology)
- Rick Chiapa, Steve Hruby, and Aaron Bell (Exhibit SDG&E-06, Gas Transmission Operations)

[2] Refer to SDG&E's 2020 Safety Performance Metrics Report, as filed with the Commission on March 30, 2021, in proceedings Application (A.) 15-05-002 and A.17-10-007, cons. SDG&E's 2021 SPMR will be filed with the Commission on or before July 29, 2022.

- Norm Kohls (Exhibit SDG&E-08 Pipeline Safety Enhancement Plan - PSEP)
- Amy Kitson and Travis Sera (Exhibit SDG&E-09, Gas Integrity Management Programs)
- Christopher Summers (Exhibit SDG&E-10, Energy Procurement)
- Oliva Reyes (Exhibit SDG&E-11, Electric Distribution Capital)
- Tyson Swetek (Exhibit SDG&E-12, Electric Distribution O&M)
- Jonathan T. Woldemariam (Exhibit SDG&E-13, Wildfire Mitigation and Vegetation Management)
- Daniel S. Baerman (Exhibit SDG&E-14, Electric Generation)
- David H. Thai (Exhibit SDG&E-17, Customer Service Field)
- Sandra F. Baule (Exhibit SDG&E-18, Customer Service Office Operations)
- William J. Exon (Exhibit SDG&E-25, Chapter 1 and 2 Information Technology)
- Lance Mueller (Exhibit SDG&E-26, Cyber Security)
- Debbie S. Robinson (Exhibit SDG&E-29, Compensation and Benefits)
- Alexandra Taylor (Exhibit SDG&E-32, People and Culture)
- Angel N. Le and Paul D. Malin (Exhibit SDG&E-34, Shared Services)
- Steven P. Dais (Exhibit SDG&E-35, Rate Base)
- Dane A. Watson (Exhibit SDG&E-36, Depreciation)

H. Organization of Testimony

My testimony is organized as follows:

- Section I is the Introduction
- Section II describes the 2021 Risk Assessment Mitigation Phase (RAMP) Integration;
- Section III describes Sustainability and Safety Culture;
- Section IV describes non-shared SMS, Risk Management, and Asset Management expenses, including the forecasting methodology used for each cost category;
- Section V discusses shared SMS, Risk Management, and Asset management services and associated O&M expenses; and

- Section VI provides the business justification for Contractor and IT Capital projects related to Safety, Risk, and Asset Management.

II. RISK ASSESSMENT MITIGATION PHASE (RAMP) INTEGRATION

Certain costs supported in my testimony are driven by activities described in Southern California Gas Company's (SoCalGas) and SDG&E's respective 2021 Risk Assessment Mitigation Phase (RAMP) Reports (the 2021 RAMP Reports).[3] The 2021 RAMP Reports presented an assessment of the key safety risks for SoCalGas and SDG&E and proposed plans for mitigating those risks. As discussed in the testimony of the RAMP to GRC Integration witnesses R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2), the costs of risk mitigation projects and programs were translated from the 2021 RAMP Reports into the individual witness areas.

In the course of preparing the Safety, Risk, and Asset Management Systems GRC forecasts, SDG&E continued to evaluate the scope, schedule, resource requirements, and synergies of RAMP-related projects and programs. Therefore, the final presentation of RAMP costs may differ from the ranges shown in the 2021 RAMP Reports. Table KD-3 and Table KD-4 provide summaries of the RAMP-related costs supported in my testimony.

TABLE KD-3
Summary of RAMP Capital Costs

RAMP Report Chapter	2022 Estimated RAMP Total	2023 Estimated RAMP Total	2024 Estimated RAMP Total
RAMP Risks			
SDG&E-Risk 4-Incident Involving a Contractor	2,200	2,373	2,372
Sub-Total RAMP Risk Costs	2,200	2,373	2,372
RAMP CFFs[4]			
SDG&E-CFF-1 Asset Management	0	0	0
SDG&E-CFF-4/SCG-CFF-4 Foundational Tech Systems	0	0	0
Sub-Total RAMP CFF Costs	0	0	0
Total RAMP Capital Costs	2,200	2,373	2,372

[3] *See* Application (A.) 21-05-011/-014 (cons.) (RAMP Proceeding). Please refer to the RAMP to GRC Integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2) for more details regarding the 2021 RAMP Reports.

[4] CFF-related information, in accordance with the March 30, 2022, Assigned Commissioner Ruling, in A.21-05-011/-014 (cons.) is provided in the RAMP to GRC Integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

TABLE KD-4
Summary of RAMP O&M Costs

RAMP Report Chapter	BY 2021 Embedded Costs	TY 2024 Total	TY 2024 Estimated Incremental
RAMP Risks			
SDG&E-Risk-4 Incident Involving a Contractor	1,027	1,068	41
SDG&E-Risk-8 Incident Involving an Employee	836	1,084	248
Sub-Total RAMP Risk Costs	1,863	2,152	289
RAMP CFFs			
SDG&E-CFF-1 Asset Management	829	2,238	1,409
SDG&E-CFF-7 Safety Management System	718	1,508	790
Sub-Total RAMP CFF Costs	1,547	3,746	2,199
Total RAMP O&M Costs	3,410	5,898	2,488

A. RAMP Risk and Cross-Functional Factor Overview

As summarized in Table KD-3 and Table KD-4 above, my testimony includes costs to mitigate the safety-related risks and cross-functional factors included in the RAMP report.[5] These risks and factors are further described in Table KD-5 below:

TABLE KD-5
RAMP Risk and CFF Chapter Description

SDG&E RAMP Risk-1: Wildfires Involving SDG&E Equipment	The risk of catastrophic wildfire, especially those initiated by SDG&E equipment, resulting in fatalities, widespread property destruction, and multi-billion-dollar liability.
SDG&E RAMP Risk-4: Incident Involving a Contractor	The risk of a safety event, caused by a contractor or subcontractor not following safety standards and/or procedures, which results in serious injuries and/or fatalities while conducting work on behalf of the Company.
SDG&E RAMP Risk-8: Incident Involving an Employee	The risk of an incident, involving one or more on-duty employees, that causes serious injury or fatality (as defined by OSHA) to a company employee.
SDG&E RAMP CFF-1: Asset Management	Asset Management is an enterprise-wide framework that provides a standardized approach for managing risk and safety across

[5] Unless otherwise indicated, references to the 2021 RAMP Report refer to SDG&E's RAMP Report.

	assets and activities. The Asset Integrity Management (AIM) program, driven by the Asset Management Department, advances the development and implementation of a comprehensive, sustainable, and risk-informed Asset Management System (AMS), encompassing people, process, data, analytics, and technology.
SDG&E RAMP CFF-4: Foundational Technology Systems	Describes the need for developing and maintaining stable technology platforms. Foundational technology systems are used in every aspect of operations, customer engagement, and emergency response. Included are a significant portion of the Companies' software application systems, communication networks, monitoring systems, end-user systems, and hardware and software platforms hosted in the Companies' data centers and on internal and external cloud platforms.
SDG&E RAMP CFF-7: Safety Management System	The SMS is a systematic, enterprise-wide framework to collectively manage and reduce risk and promote continuous improvement in safety performance through deliberate, routine, and intentional processes. The SMS is the framework that ties together each of the existing and future safety initiatives, aligns the core operating units, integrates risk and safety, and allows us to assess risk across the entire enterprise for continued improvement and enhanced safety performance.

In developing my request, priority was given to these key safety risks to assess which risk mitigation activities SDG&E's Safety Management Systems currently performs and what incremental efforts are needed to further mitigate these risks. While developing the GRC forecasts, SDG&E evaluated the scope, schedule, resource requirement, and synergies of RAMP-related projects and programs to determine costs already covered in the base year and those that are incremental increases expected in the test year.

Messrs. Pearson and Flores (Ex. SCG-03/SDG&E-03, Chapter 2) discuss the risks and CFFs included in the 2021 RAMP Reports and the RAMP to GRC integration process.

B. GRC Risk and CFF Activities

Table KD-6 below provides a narrative summary of the forecasted RAMP-related activities that I sponsor in my testimony.

TABLE KD-6
Summary of RAMP Risk and CFF Activities

RAMP ID	Activity	Description
SDG&E-Risk-4-C01	Contractor Oversight Program	The Contractor Oversight Program is the overall program used by SDG&E to assess and educate contractors with respect to safety protocols. CSS's main objective is to ensure the Class 1 Contractors engaged with SDG&E are working safely and risk is being managed effectively.
SDG&E-Risk-4-C02	Field Safety Oversight	CSS oversees safety for all business units that use Class 1 Contractors. CSS's contracted safety professionals perform field level safety assessments on Class 1 Contractors who perform work on behalf of SDG&E.
SDG&E-Risk-4-C03	Contractor Safety Culture	SDG&E strives to ensure a positive safety culture with its contractors through outreach, education, and leading the way. SDG&E not only has established touchpoints throughout the year with the contractors but identifies items during the year where collaboration or improvement should be reviewed and implements mitigation measures for any identified potential gaps.
SDG&E-Risk-4-M01	Enterprise-Wide Contractor Incident and Schedule Management	Incident reporting has been moved to a single contact in Contractor Safety Services then communicated out to the enterprise, business units, and other parties as appropriate.
SDG&E-Risk-4-M02	Enhanced Verification of Class 1 Contractor Employee Specific Training	This activity encompasses developing a process to verify contractors are trained on specific safety programs according to their company specific requirements.
SDG&E-Risk-8-C01	Mandatory Employee Health and Safety Training Programs and Standardized Policies	SDG&E's employees receive extensive training because SDG&E believes safety starts with proactive upstream measures to reduce the likelihood of a safety incident from occurring. Much of the safety training is available on-line through the learning management system (LMS).
SDG&E-Risk-8-C02	Employee Drug and Alcohol Testing Program	SDG&E has implemented an employee drug and alcohol testing program managed in accordance with state and federal regulations. Sempra Energy's Substance Abuse and Testing (Fitness-For-Duty and Reasonable Cause) Policy (Substance Abuse Policy),

RAMP ID	Activity	Description
		which all SDG&E employees are responsible for knowing and complying with, prohibits, among other things, the use of drugs and/or alcohol during working hours and/or reporting to work in an unfit condition due to drugs and/or alcohol.
SDG&E-Risk-8-C03	Strong Safety Culture	To continuously strengthen SDG&E's safety culture, Company employees attend safety meetings, tailgates, congresses, and are surveyed every two years to solicit their candid feedback.
SDG&E-Risk-8-C04	Employee Behavioral Accident Prevention Process Program (BAPP)	The program provides a structured "process" for continuous safety improvements specific to the high-risk tasks and situations faced by front-line employees.
SDG&E-Risk-8-C05	Environmental & Safety Compliance Management Program	The Company implements annual periodic facility environmental and safety self-assessments and inspections, tracks corrective actions identified in these activities to closure, provides environmental and safety trainings to employees, tracks documentation of safety incidents and completion of incident-related corrective actions, and monitors completion of mandatory safety meetings
SDG&E-Risk-8-C06	Employee Safety Communications and Awareness Programs	It is important to provide employees with safety-related information in a timely manner regarding standards and safe work practices. Safety communications are a tool used to inform employees about safety hazards and exposures, hazard mitigation, rules, regulations, warnings, goals, and progress reports through an array of media.
SDG&E-Risk-8-C07	Employee Wellness Programs	Wellness Programs are designed to promote the physical and mental well-being of all Company employees, supporting SDG&E's commitment to providing quality health and wellness programs to motivate employees and promote safe and healthy lifestyles.
SDG&E-Risk-8-C08	OSHA Voluntary Protection Program	SDG&E participates in the Federal and California Voluntary Protection Program (Cal/VPP), which 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.
SDG&E-Risk-8-C09	Safe Driving Programs	This includes written policies and procedures, review of motor vehicle incidents, a department of motor vehicles license pull program to confirm that all

RAMP ID	Activity	Description
		employees driving on behalf of the Company or on Company property are properly licensed, safe driving training, and development of training materials available to reinforce safe driving principle.
SDG&E-Risk-8-C10	Personal Protective Equipment	The purpose of the PPE program is to protect employees from the risk of injury by creating a barrier against workplace hazards. PPE includes clothing and equipment designed to protect employees while performing their job (e.g., flame resistant clothing, gloves, protective eyewear).
SDG&E-Risk-8-C11	Jobsite Safety Programs	SDG&E has in place a range of safety programs designed to identify, address, mitigate, and communicate workplace risks and hazards, and to contribute proactively to overall workplace safety and employee awareness of safety issues and concerns.
SDG&E-Risk-8-C12	Utilizing OSHA and Industry Best Practices and Industry Benchmarking	SDG&E collaborates with high-performers in environmental, health and safety across industry sectors and regions of the world through the National Safety Council Campbell Institute, and benchmarking with other utilities, industries, and leaders in safety performance.
SDG&E-Risk-8-C13	Enhanced Mandatory Employee Training (OSHA): Certified Occupational Safety Specialist, Certified Utility Safety Professional; Certified Safety Professional	Mandatory employee training courses are those required by OSHA regulation or Company policy. Non-mandatory training courses are those not required by regulation or Company policy, but which shall be provided to employees to enhance a job skill or increase their abilities to perform their jobs safely.
SDG&E-Risk-8-C14	Enhanced Safety in Action Program	The enhanced Safety in Action (SIA) initiative approved by the executive team is a Serious Injury and Fatality Exposure Assessment Program designed for safety and field operations leaders, which provides SDG&E with the necessary tools to measure Serious Injury and Fatality (SIF) exposure, understand the Company's specific SIF precursors, and design effective steps to mitigate SIF exposure.
SDG&E-Risk-8-C15	Enhanced Employee Safe Driving Training	SDG&E has installed vehicle technology in its Company fleet. The technology allows SDG&E to develop safety metrics to provide a comprehensive view of the vehicle driver and fleet performance through data driven vehicle analytics.
SDG&E-Risk-8-C17	Employee Wildfire Smoke Protection –	In July 2019, an emergency regulation was passed by the California Occupational Safety and Health Standards Board requiring employers to provide

RAMP ID	Activity	Description
	Cal/OSHA emergency regulation	respirators to workers exposed to unhealthy air because of wildfire smoke.
SDG&E-Risk-8-M1	Purchasing and testing more protective respiratory protection for wildfire smoke particulates	Procuring and testing more protective respiratory protection will mitigate wildfire smoke exposure improper use.
SDG&E-Risk-8-M2	Purchasing break/rest trailers with filtered air systems to reduce wildfire smoke exposure	Protective measures, such as taking breaks in a vehicle or building with filtered air should be provided to reduce wildfire smoke exposures. Providing break/rest trailers with filtered air will provide relief for field employees engaged in wildfire response work.
SDG&E-Risk-8-M3	Automate notifications and employee communications when the Air Quality Index PM2.5 reaches specific thresholds during a wildfire in SDG&E's service territory	An automatic notification system would mitigate deviation from policies or procedures, exposure to wildfire smoke, not using appropriate personal protective equipment, employee fatigue or complacency, employees' impairment due to poor air quality, and lack of oversight of work.
SDG&E-Risk-8-M4	Instructional Designer support to update & convert safety curriculum to web based	Instructional designers will convert non-web-based safety training to web-based training. Modernized training will be customized to focus on the specific needs of each user group. E-learning capability will increase training efficiency by allowing timely instruction for new hires, transfers, and any others on a non-standard training timeline.
SDG&E-CFF-07-01	Development and implementation of an enterprise-wide Safety Management System	SDG&E established an enterprise-wide SMS and is currently in the process of implementing the processes, plans, and activities developed within the SMS framework.
SDG&E-CFF-07-02	Enhanced employee & stakeholder engagement, including SMS competence, awareness, survey, and training	SDG&E plans to develop and deliver SMS-specific training and create ways to measure and track such competencies. Creation of an employee engagement and training program is necessary to achieve full understanding and cultural adoption of SMS with its broader safety focus on all safety pillars: People Safety, Risk Identification & Management, Asset Safety, Gas & Electric Operations, and Emergency Preparedness/Incident Response.
SDG&E-CFF-07-03	Integration of new technology and enhanced data and analytics capabilities	SDG&E seeks to integrate new technology to enhance worker and/or system safety (e.g., data and analytic tools and communication tools) to measure the effectiveness of the SMS.

RAMP ID	Activity	Description
	for continuous safety improvement	
SDG&E-CFF-07-04	Enhanced Documentation and Recordkeeping Practices	As SDG&E continues to implement the SMS, it proposes to adopt enhanced documentation and recordkeeping practices to align document and recordkeeping processes to coordinate cross-functional access to support the SMS.
SDG&E-CFF-07-06	Enhanced stakeholder feedback and key performance indicator monitoring, tracking, and reporting	SDG&E proposes to expand processes for considering qualitative (e.g., subject matter expert feedback) and quantitative (e.g., KPIs and quality control results) to perform data analysis for trends and emergent issues to identify and mitigate new risks and to improve the SMS.
SDG&E-CFF-07-07	Development and implementation of a strong Management of Change (MOC) platform	The objective of this standardized MOC process is to reduce the possibility of introducing additional risk, or inadvertently increasing the risk, to public or employee health and safety, the environment, or the community as the result of a change.
SDG&E-CFF-07-08	SMS program benchmarking, measurement and maturity assessment for continuous improvement	Applying multiple layers of safety assurances demonstrates a commitment to improved performance and effective risk management. These safety assurances, coupled with regular review, assessment, and audit, help evaluate quality and completeness of programs and confirm that risk management processes are systematic and disciplined.
SDG&E-CFF-01-01	Asset Investment Prioritization	Throughout the next couple of years, SDG&E's intends to mature its Asset Investment Prioritization development and extend the software solution implementation across the enterprise, including Gas, IT, and Fleet assets, starting with a gap assessment of existing plans and processes.
SDG&E-CFF-01-02	Asset Data Systems & Records Management	The key objectives are to continue alignment and integration of asset information across various functional areas to enable data-driven, risk-informed initiatives, supporting capital investment priorities, and advance asset data intelligence, integration, and analytics.
SDG&E-CFF-01-03	Enterprise Asset Management Data Integration	The initiative includes identifying critical asset data from multiple disparate source systems and integrating the information into a single platform. The objective is to continue expanding the initiative across the Company to assess health and risk of critical assets, and provide a tool for decision support of capital investment and Operations & Maintenance

RAMP ID	Activity	Description
		(O&M) strategies, including health scores, criticality, probability of failure, risk, and visualization.
SDG&E-CFF-01-04	Data Governance and Records Management	This includes the efforts to create asset information traceability and establish records management processes to identify data gaps, validate data quality, and perform data remediation. Asset data governance will also include the development of asset data maturity metrics. Asset data maturity metrics will support the monitoring, controlling, and reporting of data sets and will measure how data quality progresses to an advanced state, for reporting purposes.

These activities are discussed further below in the cost sections of my testimony, as well as in my workpapers. For additional information and a roadmap, please refer to Appendix B, RAMP Activity Forecast by Workpaper, which contains a comprehensive table identifying the TY 2024 forecast dollars associated with activities in the 2021 RAMP Report that are discussed in this testimony.

The RAMP risk mitigation efforts are associated with specific actions, such as programs, projects, processes, and utilization of technology. For each of these mitigation efforts, an evaluation was made to determine the portion, if any, that was already performed as part of historical activities (i.e., embedded base costs) and the portion, if any, that was incremental to base year activities. Furthermore, for the incremental activities, a review was completed to determine if any portion of incremental activity was part of the workgroup's base forecast methodology. The result is what SDG&E considers to be a true representation of incremental increases over the base year.

My incremental request supports the ongoing management of these risks that could pose significant safety, reliability, and financial consequences.

C. Changes from RAMP Report

As discussed in more detail in the RAMP to GRC Integration testimony of Messrs. Pearson and Flores (Ex. SCG-03/SDG&E-03, Chapter 2), in the RAMP Proceeding, the Commission's Safety Policy Division (SPD) and intervenors provided feedback on the Companies' 2021 RAMP Reports. Appendix B in Ex. SCG-03/SDG&E-03, Chapter 2 provides a complete list of the feedback and recommendations received and the Companies' responses.

Other than as discussed below, the RAMP-related activities described in my GRC testimony are consistent with the activities presented in the 2021 RAMP Report. General changes to risk scores or Risk Spend Efficiency (RSE) values are primarily due to changes in the Multi-Attribute Value Framework (MAVF) and RSE methodology, as discussed in the RAMP to GRC Integration testimony.

Changes from the 2021 RAMP Report presented in my testimony, including updates to forecasts and the amount and timing of planned work, are summarized as follows:

- The SMS CFF chapter of SDG&E's 2021 RAMP Report included an expanded quality management program focused on asset safety. While SDG&E is still moving forward with this proposed risk mitigation activity, SDG&E is not separately seeking funding within this GRC testimony chapter as the costs to implement an expanded quality management program are captured within the overall SMS program management dedicated support forecast.

III. SUSTAINABILITY AND SAFETY CULTURE

Sustainability, safety, and reliability are the cornerstones of SDG&E's core business operations and are central to SDG&E's GRC presentation. SDG&E is committed to not only deliver clean, safe, and reliable electric and natural gas service, but to do so in a manner that supports California's climate policy, adaptation, and mitigation efforts. In support of the legal and regulatory framework set by the state, SDG&E has set a goal to reach Net Zero greenhouse gas (GHG) emissions by 2045, adopted a Sustainability Strategy to facilitate the integration of GHG emission reduction strategies into SDG&E's day-to-day operations and long-term planning, and published an economy-wide GHG Study[6] that recommends a diverse approach for California leveraging clean electricity, clean fuels, and carbon removal to achieve the 2045 goals through the lens of reliability, affordability, and equity. As a "living" strategy, SDG&E will continue to update the goals and objectives as technologies, policies, and stakeholder preferences change. See the Sustainability Policy testimony of Estela de Llano, Exhibit SDG&E-02.

In this GRC, SDG&E focuses on three major categories that underpin the Sustainability Strategy: mitigating climate change, adapting to climate change, and transforming the grid to be

[6] SDG&E, *The Path to Net Zero: A Decarbonization Roadmap for California* (April 2022), *available at* https://www.sdge.com/sites/default/files/documents/path_to_net_zero.pdf.

the reliable and resilient catalyst for clean energy. SDG&E's goal is to contribute to the decarbonization of the economy by way of diversifying energy resources, collaborating with regional partners, and providing customer choice that enables an affordable, flexible, and resilient grid.

The Safety, Risk, and Asset Management Systems described in this testimony provide for critical and foundational data, as well as processes and tools that will enable SDG&E to advance the state's climate goals and align with SDG&E's Sustainability Strategy. The expansion of safety and asset data capture, quality, and integration provide SDG&E engineering and operating organizations the ability to develop critical analysis, evaluation and measurement of projects and initiatives to advance Climate Adaptation, Climate Mitigation, and/or Grid Modernization. This is accomplished through the ability to join asset climate adaptation, sustainability, and demographics developed to targeted programs to address reliability, environmental risks, and reliability equity. The development and deployment of a risk-informed investment decision-making tool enables SDG&E to evaluate investments through a multi-attribute value risk-mitigation framework that not only incorporates the key strategic tenants of safety and reliability but will also reflect other important drivers under the sustainability umbrella. To continue to advance these important objectives, SDG&E needs to create and evolve its asset management program, leveraging data and technology tools as enablers for the broader operating organizations to develop and deploy their sustainability solutions now and in the future.

Safety is a core value and SDG&E is committed to providing safe and reliable service to all its stakeholders. This safety-first culture is embedded in every aspect of the Company's work. In 2020, SDG&E commenced development and deployment of a Safety Management System (SMS), which better aligns and integrates safety, risk, asset, and emergency management across the entire organization. The SMS takes a holistic and pro-active approach to safety and expands beyond "traditional" occupational safety principles to include asset safety, system safety, cyber safety, and psychological safety for improved safety performance and culture. SDG&E's SMS is a systematic, enterprise-wide framework that utilizes data to collectively manage and reduce risk and promote continuous learning and improvement in safety performance through deliberate, routine, and intentional processes. Please see section III.B.1 – Safety Management System - below for additional detail on SDG&E's SMS.

SDG&E promotes open communication between employees and their supervisors. In addition to these culture-based items, there are formal programs designed to encourage employees to speak up if they see unsafe behaviors, such as "Stop the Job." SDG&E promotes a learning environment where Near Misses, stopped work, and safety incidents are recognized and shared as opportunities for continued safety improvement. If an employee does not feel comfortable reporting unsafe behaviors and incidents through the above-mentioned avenues, there are anonymous means to do so, including Near Miss Reporting, the Ethics & Compliance Hotline, employee engagement surveys, and the National Safety Council Culture Survey. SDG&E remains focused on identifying and implementing the most cost-effective solutions with the potential to make the greatest impact on reducing GHG emissions, while maintaining a safe and reliable energy system. SDG&E believes that safety, reliability, and sustainability are inextricably linked and fundamental to the Company's ability to continue to successfully operate. Please see the Sustainability Policy testimony of Estela de Llanos (Ex. SDG&E-02) for additional detail on SDG&E's Sustainability Strategy and the body of this testimony for additional detail of SDG&E's Safety Policy.

IV. NON-SHARED O&M COSTS

A. Introduction

"Non-Shared Services" are activities that are performed by a utility solely for its own benefit. Corporate Center provides certain services to the utilities and to other subsidiaries. For purposes of this GRC, SDG&E treats costs for services received from Corporate Center as Non-Shared Services costs, consistent with any other outside vendor costs incurred by the utility. Table KD-7 summarizes the total non-shared O&M forecasts for the listed cost categories.

TABLE KD-7
Non-Shared O&M Summary of Costs

SAFETY, RISK & ASSET MANAGEMENT In 2021 $ (000s)			
	BY 2021 Adjusted Recorded	TY 2024 Estimate	Change
Safety Management	3,585	4,536	951
Enterprise Risk Management	5,475	6,111	636
Asset Management	3,014	4,462	1,448
Total Non-Shared Services	12,074	15,109	3,035

The following testimony describes the Companies' non-shared O&M costs in the Safety Management, Risk Management, and Asset Management Departments, as reflected in table KD-7 above. These costs are reasonable and support SDG&E's mission of providing safe and reliable service.

B. Safety Management Program

My testimony supports the TY 2024 forecasts for O&M non-shared costs associated with effective safety management. Table KD-8 below details SDG&E's Safety Management Program O&M requests of $4.536 million for TY 2024, which is an additional $951 thousand compared to the 2021 adjusted-recorded. Details supporting this request are included in each of the six workpaper sections, described below.

TABLE KD-8
Non-Shared O&M Summary of Safety Management Program Costs
In 2021 $000s*

Workpaper Number	Description	BY 2021 Adjusted Recorded	TY 2024 Estimate	Change
1SM001.000	Safety Management System	864	1,653	789
1SM002.000	Employee Safety Programs & Oversight	665	488	(-177)
1SM002.001	Safety Compliance Activities	651	919	267
1SM002.002	Contractor Safety Services	1,249	1,290	41
1SM000.003	Electric and/or Magnetic Fields	156	186	30
Total		3,585	4,536	950

*Numbers have been rounded, potentially resulting in slight variations among tables.

SDG&E's centralized Safety department currently consists of 26 employees who support the below-listed programs and activities at SDG&E. The Safety department includes employees who provide management and oversight of SDG&E field safety activities, overall compliance with safety and health Cal/OSHA regulations, contractor safety services program, and the safety management system. The Safety department currently reports to SDG&E's Chief Safety Officer and Chief Operating Officer. SDG&E's Chief Safety Officer is responsible for the oversight,

leadership, and execution of all SDG&E's safety programs and activities and to drive the safety culture across all SDG&E operating groups.[7] In addition to the centralized Safety department, safety-dedicated personnel reside within the operational organizations.

Safety is a core value and SDG&E's safety performance measures have shown consistent improvement overall year over year,[8] which demonstrates a strong safety culture dedicated to continuous improvement. SDG&E's safety program includes the below discussed longstanding activities with demonstrated effectiveness in improving safety. My testimony outlines each of these activities and also highlights new or enhanced programs where SDG&E is requesting incremental costs.

Additional detail on SDG&E's safety programs can be found in the accompanying work papers.

1. Safety Management System (Workpaper 1SM001.000)

Table KD-9 below summarizes the total non-shared O&M forecasts for the listed cost categories, each of which will be described more fully below.

TABLE KD-9
Non-Shared O&M Summary of Safety Management System Costs

SAFETY, RISK & ASSET MANAGEMENT In 2021 $ (000s)			
	BY 2021 Adjusted Recorded	TY 2024 Estimate	Change
1SM001.000 – Safety Management System	864	1,653	789
Total	864	1,653	789
FTEs	2.9	4.9	2

a. Description of Costs and Activities

The Safety Management System (SMS) workpapers include costs for implementation, management, ongoing review, assessment, and continuous improvement of SDG&E's company-wide SMS. Recorded costs include internal labor for two dedicated FTEs to manage the program and external third-party consulting fees for program development and design. Incremental costs

[7] Refer to Appendix C, SDG&E Safety Management System Governance Organizational Structure, KD-C.

[8] Refer to SDG&E's 2020 Safety Performance Metrics Report, as filed with the Commission on March 30, 2021, in proceedings A.15-05-002 and A.17-10-007 (cons.). SDG&E's 2021 SPMR will be filed with the Commission on or before July 29, 2022.

presented here include additional technology and resources to fully deploy and maintain the enterprise-wide SMS for improved safety performance and safety culture.

SDG&E's Safety Management System workpapers are comprised of the following activities:

SMS Dedicated Support:

In 2020, SDG&E hired two full-time dedicated employees (FTEs) to manage the development and implementation of the SMS. SDG&E's SMS framework adopted a de-centralized organizational structure, but a small team of dedicated support is needed to effectively manage the program. As the SMS matures, evolves, grows, and produces increased data, analytics, stakeholder engagement, and feedback; the need for additional support will continue to increase during the forecast period. Therefore, SDG&E is seeking incremental funding for two additional full-time employees dedicated to the implementation, data analysis, ongoing management and review, and continuous improvement of the SMS. These positions will focus on operationalizing the developed SMS processes across the Company, collecting data and feedback, measuring program effectiveness, and identifying opportunities for continuous safety improvement.

Enhanced Employee & Stakeholder Engagement, Including SMS Competence, Awareness, Survey, and Training:

An effective SMS requires extensive, on-going employee awareness and engagement efforts. SDG&E plans to continually enhance and deliver SMS-specific training and create ways to measure and track such competencies. Creation of an employee engagement and training program is necessary to achieve full understanding and cultural adoption of SMS with its broader safety focus on all safety pillars: People Safety, Risk Identification & Management, Asset Safety, Gas & Electric Operations, and Emergency Preparedness/Incident Response.

Integration of New Technology and Enhanced Data and Analytics Capabilities for Continuous Safety Improvement:

SDG&E plans to assess the use of an electronic platform or an application that manages large amounts of safety and operational data, hazards, errors, observations, and key performance indicators (KPIs) from people, assets, programs, processes, and operations, and to use artificial intelligence for predictive analysis of potential issues. This effort will be executed by consultants and require the purchase of licensed products. Given that an SMS is based on a continuous improvement framework, SDG&E seeks incremental funding to integrate new

technology to enhance worker and/or system safety (e.g., data and analytic tools and communication tools) to measure the effectiveness of the SMS. In order to have an effective SMS, SDG&E will need to make an intentional and deliberate effort to reveal risks within its business operations, evaluate multiple risks and threats using "what if" scenarios, and predict potential failures that may occur in its infrastructure system. An effective SMS needs to be integrated with new technology so that it continues to evolve with the changing business environment.

Enhanced Documentation and Recordkeeping Practices:

Procedures and work practices must be documented. Strong documentation and recordkeeping practices lead to greater certainty that the electric and gas systems will perform as expected. This element of the SMS demonstrates commitment and discipline. Work products of each SMS element become essential records. As SDG&E continues to implement the SMS, incremental funding is requested to adopt enhanced documentation and recordkeeping practices to enhance alignment and to coordinate cross-functional access to support the SMS, which will result in incremental costs. Enhanced documentation that is widely accessible to employees will allow for the sharing of best practices, findings, and lessons learned. These efforts will improve safety and also provide ample opportunity for increased efficiencies.

Enhanced Stakeholder Feedback and Key Performance Indicator Monitoring, Tracking, and Reporting:

Stakeholder engagement and feedback are essential elements of an effective SMS and are integrated into the SMS's continuous improvement framework. Additionally, the SMS will undergo regular review to measure its effectiveness. Incremental funding is requested for SDG&E to expand processes for considering qualitative (e.g., subject matter expert feedback) and quantitative (e.g., KPIs and quality control results) to perform data analysis for trends and emergent issues to identify and mitigate new risks and to improve the SMS. SDG&E will use data and information from the implementation of the reporting and feedback system to identify new and emerging risks for future risk evaluation and to evaluate performance of risk mitigation measures.

Development and Implementation of a Strong Management of Change Platform:

Management of Change (MOC) is also an essential element of SDG&E's SMS and aligns with the Operational Controls tenet of API 1173. SDG&E currently has several existing MOC processes and procedures. As part of SDG&E's process development efforts for its SMS,

SDG&E has developed an MOC process that can be applied enterprise-wide to identify the risks associated with changes to technology, equipment, procedures, or organization, so that impacted stakeholders are prepared to safely handle changes. The objective of this standardized MOC process is to reduce the possibility of introducing additional risk, or inadvertently increasing the risk, to public or employee health and safety, the environment, or the community as the result of a change. Under normal (non-emergency) circumstances, the MOC process requires that technical, procedural, organizational, and operational changes and the associated risks are reviewed, assessed, documented, and communicated prior to implementation, and that impacted stakeholders in the Company are informed accordingly. When circumstances dictate preservation of health and safety of the public, employee, community, electric system, or pipeline system (*e.g.*, emergency situations), then a change may be implemented prior to the MOC review. While the MOC process has been developed, successful implementation will require additional tools, resources, and a strong electronic platform.

Incremental funding is requested for SDG&E to further develop its existing MOC processes and procedures under the SMS framework and to consolidate the various MOC processes into one electronic platform. This will provide consistency and rigor for managing changes throughout the Company. In addition, a centralized MOC process would establish minimum requirements for Company-wide operations. Furthermore, the MOC process would identify the types of changes that must be managed, the levels within the organization that have the authority to approve the changes, a threshold for changes that would need to go through the MOC process, and the likelihood and consequence of the change, considering safety, reputational, financial, legal, strategic, and operational impacts. The centralized MOC process will also help facilitate communications and sharing of approved changes with impacted organizations.

SMS Program Benchmarking, Measurement, and Maturity Assessment for Continuous Improvement:

Applying multiple layers of safety assurances demonstrates a commitment to improved performance and effective risk management. These safety assurances, coupled with regular review, assessment and audit, help evaluate quality and completeness of programs and confirm that risk management processes are systematic and disciplined. SDG&E believes that its SMS should cultivate a culture of trust and openness, which is vital to an enhanced safety culture. To measure this, SDG&E seeks incremental funding to review, survey, benchmark, measure,

validate, and/or audit its SMS program effectiveness for continuous improvement no less than bi-annually.

Pipeline Safety and Compliance (2100-3942)

In addition to the Safety Management System programs described above, this workpaper also captures costs for the single SDG&E employee within the shared Pipeline Safety and Compliance group. The Pipeline Safety and Compliance (PS&C) group is the lead for the Commission's Safety & Enforcement Division (SED) audits, inspections, investigations, communications, and other inquiries. PS&C serves as a centralized gas compliance information center for SoCalGas and SDG&E in collecting, reporting, trending, assessing, analyzing, investigating, communicating, and providing process improvement guidance for pipeline safety and compliance related issues.

The PS&C group supports both SDG&E and SoCalGas given the shared natural gas pipeline infrastructure. There is a single SDG&E-dedicated employee within the PS&C group (2100-3942) whose costs are captured within this workpaper. PS&C is the primary point of contact with SED during audits, inspections, investigations, for various reports and for formal and informal data requests. The group coordinates the fifteen or more weeks of scheduled audits conducted by SED throughout the year, of each operational area, and special audits, such as Distribution Integrity Management Program (DIMP), Transmission Integrity Management Program (TIMP), Emergency Response Plan, Public Awareness Program, Drug and Alcohol Program, and Operator Qualifications Program, and others, as well as manages responses to various related SED inquiries. The group responds to and provides all pre & post-audit data requests and prepares formal responses to audit letters and closure letters. In 2021, PS&C developed a response platform for streamlining the final response process; the application has helped the Company ensure review and approval of responses to its regulatory agencies within the required timeframe, thus enhancing its enterprise Safety Values. The team also works with the departmental personnel being audited to prepare for the audit and help facilitate an efficient inspection.

In 2021, SDG&E began the internal PS&C self-assessment program, which entails performing internal mock-inspections of various areas or specialized programs. This team also monitors and reports incidents to the Pipeline and Hazardous Materials Safety Administration (PHMSA) and SED, as required by 49 C.F.R. and G.O. 112, and coordinates incident site visits

by SED, when requested. Each incident has follow-up reports and data requests that the group prepares and submits per the time requirements of the specific regulation. The group is further responsible for submitting quarterly and annual reports to PHMSA and SED, per the regulations previously mentioned, as well as mandated reports of certain new construction, rehabilitation and replacement of specific facilities, safety related conditions, Maximum Allowable Operating Pressure (MAOP) Exceedances, and others. PS&C plays an active role in frequent Internal Gas Standard Reviews as well as coordinating responses to SED customer complaints. The group also provides advice, guidance, and information to Engineering and Gas Operations groups on pipeline safety issues relative to CPUC and 49 CFR regulations. A fundamental tenet of Pipeline Safety and Compliance is to fully meet the expectations set by PHMSA and the Commission.

i. RAMP Activities

RAMP-related costs for the Safety Management System Workpaper 1SM001.000 include the costs for the following activities within SDG&E's SMS CFF RAMP Chapter – SDGE-CFF-07: (1) SMS dedicated support; (2) enhanced employee & stakeholder engagement, including SMS competence, awareness, survey, and training; (3) integration of new technology and enhanced data and analytics capabilities for continuous safety improvement; (4) enhanced documentation and recordkeeping practices, (5) enhanced stakeholder feedback and key performance indicator monitoring, tracking and reporting; (6) development and implementation of a strong MOC platform; and (7) SMS program benchmarking, measurement, and maturity assessment for continuous improvement. These activities are discussed above.

Given that SDG&E's SMS is an enterprise-wide framework providing a standardized approach for managing risk and safety across all assets and activities, the SMS is cross-functional in nature and helps mitigate all of SDG&E's RAMP risks. The SMS continuous improvement framework and Plan-Do-Check-Act cycle can be applied to mitigations and programs identified within each RAMP risk chapter of SDG&E's May 17, 2021, RAMP Report. SDG&E's risk mitigation and safety programs are guided by the elements of the SMS and subject to on-going assessments to evaluate the health of the programs and identify areas for continuous improvement. Taking a systematic approach to safety, assessing risk across the entire enterprise, enhancing the communication, collaboration, feedback, and documentation, and using data and analytics to regularly measure effectiveness and make continuous improvements will help make each risk mitigation and safety programs more effective.

Leadership is a key component of the SMS Framework. SDG&E adopted a cross-functional SMS Governance structure and a de-centralized organizational structure. SMS Governance is led by SDG&E's Chief Safety Officer and Chief Compliance Officer. The Chief Safety Officer and Chief Compliance Officer are the SMS executive co-sponsors, are responsible for the activities performed within the SMS, and provide guidance and leadership, setting the tone and direction of the entire organization.[9] The SMS framework is then applied to the strategies used throughout the Company to reduce risk, improve safety performance and safety culture, and positively impact customers, employees, contractors, and the public.

Table KD-10 below provides the RAMP activities and their respective cost forecasts for this workpaper. For additional details on these RAMP activities, please refer to my workpapers 1SM001.000.

Table KD-10
RAMP Activity O&M Forecasts by Workpaper
In 2021 $ (000s)

Workpaper	RAMP ID	Description	BY2021 Embedded Base Costs	TY2024 Estimated Total	TY2024 Estimated Incremental	GRC RSE*
1SM001.000	SDG&E-CFF-7-1	Development and Implementation of an Enterprise-Wide SMS	718	621	(97)	0
1SM001.000	SDG&E-CFF-7-2	Enhanced Employee and Stakeholder Engagement, including SMS Competence, Awareness, Survey and Training	0	100	100	0
1SM001.000	SDG&E-CFF-7-3	Integration of New Technology and Enhanced Data and Analytics Capabilities for Continuous	0	212	212	0

[9] Refer to Appendix C, KD-C.

Workpaper	RAMP ID	Description	BY2021 Embedded Base Costs	TY2024 Estimated Total	TY2024 Estimated Incremental	GRC RSE*
		Safety Improvement				
1SM001.000	SDG&E-CFF-7-4	Enhanced Documentation and Recordkeeping Practices	0	100	100	0
1SM001.000	SDG&E-CFF-7-6	Enhanced Stakeholder Feedback and Key Performance Indicator Monitoring, Tracking, and Reporting	0	200	200	0
1SM001.000	SDG&E-CFF-7-7	Development and Implementation of a Strong Management of Change Platform	0	75	75	0
1SM001.000	SDG&E-CFF-7-8	SMS Program Benchmarking, Measurement, and Maturity Assessment for Continuous Improvement	0	200	200	0

* An RSE was not calculated for this activity.

b. Forecast Method

The forecast method developed for this cost category is base year with incremental increases. For labor and non-labor, the base year provides an appropriate baseline in comparison to future targets for the enterprise. Incremental labor increases from the base year are requested in order to complete the initiatives described above. SDG&E's Safety Management System is new to the current Safety organizational structure - SMS development began in 2020 - thus there are not a full five years of historical costs to reference. Therefore, use of the base year forecast method with proposed incremental initiatives included is representative of the expectations for the 2024 Test Year. This method is most appropriate because it is indicative of the current organizational structure and planned initiatives. Use of alternate forecast method(s) or certain

historical data is not appropriate because they do not represent the current and future structure of this organization and its planned risk mitigation activities.

c. Cost Drivers

The cost drivers behind this forecast support the continued implementation, ongoing management, review, and continuous improvement of SDG&E's Safety Management System. Specifically, the cost drivers include:

- Two additional SMS-dedicated FTEs to support the continued implementation and ongoing management of an enterprise-wide Safety Management System. SDG&E utilized third-party consulting services in 2020 and 2021 during its SMS development. Third-party support ceased in 2021 and the SMS is managed internally. SDG&E is seeking incremental funding for two additional full-time employees dedicated to the implementation, data analysis, ongoing management and review, and continuous improvement of the SMS. These positions will (1) focus on operationalizing the developed SMS processes across the Company, and (2) lead the data collection and analysis efforts for early risk identification, measure program effectiveness, and identify opportunities for continuous safety improvement.
- Development and deployment of enhanced SMS-specific training programs. Creating and deploying enhanced SMS training is necessary to achieve full understanding and cultural adoption of SMS with its broader safety focus. SDG&E is seeking incremental funding for third party development costs to build out a SMS training program to be deployed Company-wide.
- Development and integration of new technology for enhanced data analytics capabilities for early risk identification and ability to measure program effectiveness. SDG&E is in the early stages of its SMS implementation and seeks incremental funding for software licensing to deploy new or enhanced technology to allow for deeper data analytics as additional leading safety performance and safety culture performance indicators are collected.
- Development and deployment of enhanced technology to support process automation, increased two-way communication, and continuous safety

improvement. SDG&E has developed SMS processes and is seeking incremental funding for technology enhancements to facilitate process automation for program efficiency, effectiveness, and sustainability, and to allow for two-way safety communications to proactively deploy safety messaging to targeted employees and gather input on risk and safety concerns. The incremental funding request would support technology/application development and/or software licensing fees.

- Conducting stakeholder survey and benchmarking. SDG&E seeks incremental funding to conduct independent, third-party assessments to review, survey, benchmark, measure, validate, and/or audit its SMS program effectiveness for continuous improvement no less than bi-annually.

2. Employee Safety Programs & Oversight (Workpaper 1SM002.000)

Table KD-11 below summarizes the total non-shared O&M forecasts for the listed cost categories, each of which will be described more fully below.

TABLE KD-11
Non-Shared O&M Summary of Safety Employee Safety Programs & Oversight Costs

SAFETY, RISK & ASSET MANAGEMENT In 2021 $ (000s)			
	BY 2021 Adjusted Recorded	TY 2024 Estimate	Change
Employee Safety Programs & Oversight (Workpaper 1SM002.000)	665	488	(177)
Total	665	488	(177)
FTEs	2.7	2.7	0

a. Description of Costs and Activities

Employee Safety Programs & Oversight workpaper 1SM002.000 is comprised of the following activities:

Employee Behavioral Accident Prevention Process Program:

SDG&E's Behavioral Accident Prevention Process (BAPP®), formerly referred to as the Behavior Based Safety (BBS) Process, is a partnership between management and volunteers, front-line employees (employee led and management supported). The program provides a structured "process" for continuous safety improvements specific to the high-risk tasks and situations faced by front-line employees. BAPP volunteers rely on hazard and risk assessment

checklists, developed from historical injury analytics, to perform observations focused on key areas of "critical risk." They conduct on the spot accountability conversations, defining "Safe" and "At Risk" behaviors, and also collect safety data. This data is further analyzed and utilized to identify and further act on undiagnosed risk exposure. The BAPP teams work with leadership to drive hazard and risk removal and mitigation efforts.

As part of SDG&E's long-term safety strategy, SDG&E will continually improve its BAPP safety employee-led process. SDG&E utilizes a BBS Specialist, a professionally trained resource, dedicated solely to improving the BAPP process. The BBS Specialist performs periodic assessments of the BAPP teams and leadership to identify growth opportunities and leadership support needs. In 2021, SDG&E focused on using the assessment results to further improve the process. One example is better defined roles and responsibilities for each level of the process, including for volunteer participants, the supporting leadership teams, or the front-line workers. The BAPP safety observations provide key leading indicator data. The BAPP program enables SDG&E to continually strengthen its safety culture, identify, recognize, and shape safe behaviors, as well as identify at risk behaviors to coach and take proactive actions to prevent future incident or injury.

Employee Safety Communications and Awareness Program:

It is important to provide employees with safety-related information in a timely manner regarding standards and safe work practices. Safety communications are a tool used to inform employees about safety hazards and exposures, hazard mitigation, rules, regulations, warnings, goals, and progress reports through an array of media. SDG&E communicates information through safety bulletins, emails, newsletters, electronic bulletin boards (e.g., digiboards), posted signage throughout the workplace, tailgate meetings, and reports.

OSHA and Industry Best Practices and Industry Benchmarking:

SDG&E collaborates with high-performers in environmental, health, and safety across industry sectors and regions of the world through the National Safety Council Campbell Institute, and benchmarking with other utilities, industries, and leaders in safety performance. SDG&E 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.

SDG&E participates in safety benchmarking forums to compare the Company's health and safety processes, assess performance against other participants to learn how to reduce incidents, improve compliance, and discuss best management practices to improve the Company's safety health. SDG&E's end goal is to send every employee home safely every day by targeting zero safety incidents. Some of the key organizations SDG&E is involved with are the Edison Electrical Institute, American Gas Association, Campbell Institute, and the Bureau of Labor Statistics.

Additionally, SDG&E attends the California Investor-Owned Utility and Municipality bi-annual meeting to discuss employee and contractor safety. This dedicated forum is a utility benchmarking initiative which addresses new regulations, legislation, best management practices, and other safety topics of interest.

Enhanced Safety in Action (SIF Exposure) Program:

The Serious Injury and Fatality Exposure Assessment Program was designed for safety and field operations leaders, which provides SDG&E with the necessary tools to measure Serious Injury and Fatality (SIF) exposure, understand the Company's specific SIF precursors, and design effective steps to mitigate SIF exposure. The SIF assessment project was completed in 2020 and SDG&E received executive approval to move forward with implementing the SIF program in 2021. The 2020 SIF assessment project consists of defining a SIF definition for SDG&E, developing a SIF decision tree, determining SIF metrics (leading and lagging), and incorporating a precursor analysis tool to reduce SIF exposure. A SIF Governance has been developed with clear objectives for the SIF program that demonstrates a forward-moving effort to improve safety.

ii. RAMP Activities

RAMP-related costs for Employee Safety Program and Oversight include the costs for SDG&E's Enhanced Safety in Action Program, which is described above.

Table KD-12 below provides the RAMP activities, their respective cost forecasts, and the RSEs for this workpaper. For additional details on these RAMP activities, please refer to my workpapers 1SM002.000.

Table KD-12
RAMP Activity O&M Forecasts by Workpaper
In 2021 $ (000s)

Workpaper	RAMP ID	Description	BY2021 Embedded Base Costs	TY2024 Estimated Total	TY2024 Estimated Incremental	GRC RSE*
1SM002.000	SDG&E-Risk-8 - C14	Enhanced Safety in Action Program	177	0	-177	0

* An RSE was not calculated for this activity.

b. Forecast Method

The forecast method developed for the Safety Management Program cost category is base year with incremental increases to account for program enhancements and decreases to account for ceased programs. For labor and non-labor, the base year provides an appropriate baseline in comparison to future targets for the enterprise. Incremental labor increases from the base year are requested in order to continue effective safety programs and complete additional initiatives. Therefore, Employee Safety Programs & Oversight use of the base year forecast method is representative of the expectations for the 2024 Test Year. This method is most appropriate because it is indicative of the current organizational structure, current safety management programs, and planned initiatives. Use of alternate forecast method(s) or certain historical data is not appropriate because they do not represent the current and future structure of this organization and its planned risk mitigation activities.

c. Cost Drivers

The cost drivers are prescribed regulatory requirements, Cal OSHA regulations, and activities designed for improved safety performance. SDG&E's funding request for safety management programs and activities within this workpaper support the ongoing management of risks and exposures that could pose significant safety consequences to its employees, contractors, and the public. These activities/programs, as included in the 2021 RAMP Report, are designed to mitigate risk and reduce exposures for public, employee, and contractor safety. The cost drivers behind this forecast include a reduction in non-labor costs from what was incurred in the Base Year to implement an enhanced Safety in Action Program. This program ended in 2021 and was replaced by the Enhanced Safety in Action (SIF Exposure) Program, described above.

3. Safety Compliance Activities (Workpaper 1SM002.001)

Table KD-13 below summarizes the total non-shared O&M forecasts for the listed cost categories, each of which will be described more fully below.

TABLE KD-13
Non-Shared O&M Summary of Safety Compliance Activities Costs

SAFETY, RISK & ASSET MANAGEMENT In 2021 $ (000s)			
	BY 2021 Adjusted Recorded	TY 2024 Estimate	Change
Safety Compliance Activities (1SM002.001)	651	919	268
Total	651	919	268
FTEs	3.8	3.9	0.1

a. Description of Costs and Activities

Safety Compliance Activities workpaper 1SM002.001 is comprised of the following activities:

Mandatory Employee Health and Safety Training Programs and Standardized Policies:

SDG&E's employees receive extensive training because SDG&E believes safety starts with proactive upstream measures to reduce the likelihood of a safety incident from occurring. Much of the safety training is available on-line through the learning management system (LMS). Online training refers to a course, education materials, or program delivered online via the intranet or through SDG&E's LMS. Training courses are accessible at any time, from any location, and performed at the user's convenience. Additionally, completion of the training is tracked in SDG&E's LMS system to confirm compliance.

SDG&E's employee health and safety training programs comprise the following elements:

Injury Illness Prevention Program (IIPP):

In California, every employer is required by law to provide a safe and healthful workplace for its employees. Further, Title 8 of the California Code of Regulations requires every employer to have an effective IIPP. SDG&E's IIPP is a written plan for preventing injury and illness that includes the following elements:

- Management commitment/assignment of responsibility;
- Safety communication system with employees;

- System for assuring employee compliance with safe work practices;
- Scheduled inspections/evaluation system;
- Accident and illness investigation;
- Procedures for correcting unsafe or unhealthy conditions;
- Safety and health training instruction; and
- Recordkeeping and documentation.

Employee Safety Handbook/Standards:

SDG&E's employee safety handbook is a collection of information, instructions, policies, and procedures intended to provide guidance on safe work practices. These standards establish the framework and guidance for employee safety performance. Standards are reviewed and updated at least every five years or when regulatory or procedural changes are implemented, whichever comes first.

Industrial Hygiene Program:

SDG&E 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 procedures to confirm compliance with the applicable regulations, and managing Company-wide implementation of key industrial hygiene programs, such as Hazard Communication, Hearing Conservation, Respiratory Protection, Wildfire Smoke Protection, and Asbestos and Lead Exposure Management.

Arc Flash Hazard Assessment Training:

This training teaches SDG&E's employees how to properly assess electric arc and flash hazards, how to evaluate the types of hazards, and how to determine the level of protection needed. Initial training is mandatory for employees who may work on or near low-or high-voltage lines or equipment and as needed thereafter. The objectives of training are to identify:

- Hazards of electric arcs associated with energized lines and equipment;
- Safety practices and protective measures including flame-resistant/arc-rated clothing; and
- Regulations and Company policy/procedures.

Confined Space Training:

Confined Space Training is mandatory for employees who may: (1) enter or have the need to enter confined spaces; and/or (2) encounter confined spaces in the course of Company

business. The objectives of the training are to: (1) identify characteristics of permit-required confined spaces and associated hazards; (2) understand the roles and responsibilities of each entry team; (3) demonstrate how to manage, control, and eliminate hazards; (4) perform safe entry procedures; and (5) understand how to read a permit-required entry permit.

A Comprehensive Environmental & Safety Compliance Management Program:

SDG&E uses an Environmental and Safety Compliance Management Program (ESCMP) to address compliance requirements, awareness, goals, monitoring, and verification related to all applicable environmental, health and safety laws, rules and regulations, training, and Company standards, in accordance with the internationally accepted standard, ISO 14001. With ESCMP, the Company implements annual periodic facility environmental and safety self-assessments and inspections, tracks corrective actions identified in these activities to closure, provides environmental and safety trainings to employees, tracks documentation of safety incidents and completion of incident-related corrective actions, and monitors completion of mandatory safety meetings. The objectives are to identify, correct, and remediate workplace hazards, confirm employee accomplishment of compliance training, and develop lessons learned to share with employees, with the ultimate goal to reduce injuries and illnesses.

The year-end 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 check list and a facility-based checklist.

- Employee-based checklist: Addresses safety and environmental training, awareness, and other safety and environmental employee-based concerns.
- Facility-based checklist: Addresses safety and environmental permitting, spill reporting, and other safety and environmental facility-based compliance concerns.

The Environmental Department and Safety Departments review submittals in the online system and confirm all required inspections were completed, assigned training was done, and all corrective actions were addressed. The annual reviews create an opportunity to identify gaps in compliance and implement corrective action.

Personal Protective Equipment (PPE):

The purpose of SDG&E's PPE program is to protect employees from the risk of injury by creating a barrier against workplace hazards. PPE includes clothing and equipment designed to protect employees while performing their job (e.g., flame resistant clothing, gloves, protective eyewear). All employees who are required to use PPE are trained on when PPE is necessary, which PPE is necessary, how to properly don/remove/adjust/wear PPE, limitations of PPE and the proper care/maintenance/life/disposal of PPE.

Employee Wildfire Smoke Protection –Cal/OSHA:

In July 2019, an emergency regulation was passed by the California Occupational Safety and Health Standards Board requiring employers to implement controls to protect employees from wildfire smoke, including providing respirators to workers exposed to unhealthy air because of wildfire smoke. The regulation became permanent in February 2021. California employers are required to protect workers from hazards like unhealthy air, but the new requirement seeks to shore up requirements specifically addressing fine particulate matter from wildfires, which can reduce lung function and worsen heart and respiratory conditions.

Purchasing and Testing More Protective Respiratory Protection for Wildfire Smoke Particulates:

The Cal/OSHA regulation requires a protective respirator be worn, such as Powered Air Purifying Respirators (PAPRs) if the Air Quality Index for PM2.5 concentration equivalent exceeds 550 ug/m3 during wildfire response work. Prior to purchasing, arc testing and electric shock testing of the PAPRs should be conducted.

Procuring and testing more protective respiratory protection will mitigate wildfire smoke exposure, improper use of personal protective equipment, and employees' impairment due to poor indoor air quality. If these drivers are not mitigated, serious illnesses or fatalities and penalties may be incurred for non-compliance.

Purchasing Break/Rest Trailers with Filtered Air Systems to Reduce Wildfire Smoke Exposure:

Protective measures, such as taking breaks in a vehicle or building with filtered air should be provided to reduce wildfire smoke exposures. At SDG&E, 82% of the Company's vehicles do not have cabin air filters and for most vehicles, modifications are not possible. Providing break/rest trailers with filtered air will provide relief for field employees engaged in wildfire response work.

Crews may be engaged in wildfire restoration work where there is a potential for wildfire smoke exposure for extended periods of time. Providing filtered air rest or break trailers will mitigate wildfire smoke exposure, employee fatigue or complacency, and employees' impairment due to poor indoor air quality. If these drivers are not mitigated, serious illnesses or fatalities may result.

Instructional Designer Support to Update & Convert Safety Training Curriculum to Web Based:

SDG&E has a list of 25 prioritized safety trainings which need to be updated and converted to web-based. Instructional designers will convert non-web-based safety training to web-based training. Modernized training will be customized to focus on the specific needs of each user group. E-learning capability will increase training efficiency by allowing timely instruction for new hires, transfers, and any others on a non-standard training timeline. Providing SDG&E's workforce with the education to safely perform required job functions is critical to proper safety management. This workpaper in its entirety, aligns with RAMP activities.

Table KD-14 below provides the RAMP activities, their respective cost forecasts, and the RSEs for this workpaper. For additional details on these RAMP activities, please refer to my workpapers 1SM002.001.

Table KD-14
RAMP Activity O&M Forecasts by Workpaper
In 2021 $ (000s)

Workpaper	RAMP ID	Description	BY2021 Embedded Base Costs	TY2024 Estimated Total	TY2024 Estimated Incremental	GRC RSE
1SM002.001	SDG&E-Risk-8 - C01	Mandatory Employee Health and Safety Training Programs and Standardized Policies	496	554	58	0*
1SM002.001	SDG&E-Risk-8 - C13	Enhanced Mandatory Employee Training (OSHA):	6	6	0	1996.76

Workpaper	RAMP ID	Description	BY2021 Embedded Base Costs	TY2024 Estimated Total	TY2024 Estimated Incremental	GRC RSE
		Certified Occupational Safety Specialist, Certified Utility Safety Professional; Certified Safety Professional				
1SM002.001	SDG&E-Risk-8 - C17	Employee Wildfire Smoke Protection – Cal/OSHA emergency regulation	15	16	1	0*
1SM002.001	SDG&E-Risk-8 - M01	Respiratory protection for wildfire smoke particulates	0	2	2	58.73
1SM002.001	SDG&E-Risk-8 - M02	Break/rest trailers with filtered air systems	0	150	150	19.97
1SM002.001	SDG&E-Risk-8 - M04	Designer support to update & convert safety training	0	28	28	0*

*An RSE was not calculated for this activity.

b. Forecast Method

The forecast method developed for the Safety Management Program cost category is base year with incremental increases. For labor and non-labor, the base year provides an appropriate baseline in comparison to future targets for the enterprise. Incremental labor increases from the base year are requested in order to complete additional initiatives. Therefore, Safety Compliance Activities use of the base year forecast method is representative of the expectations for the 2024 Test Year. This method is most appropriate because it is indicative of

the current organizational structure, current safety management programs, and planned initiatives. Use of alternate forecast method(s) or certain historical data is not appropriate because they do not represent the current and future structure of this organization and its planned risk mitigation activities.

c. Cost Drivers

The cost drivers are prescribed regulatory requirements, Cal OSHA regulations, and activities designed for improved safety performance. SDG&E's incremental funding request for safety management programs and activities support the ongoing management of risks and exposures that could pose significant safety consequences to its employees, contractors, and the public. These activities/programs, as included in the 2021 RAMP Report, are designed to mitigate risk and reduce exposures for public, employee and contractor safety. The cost drivers behind this forecast include:

- Purchasing and testing more protective respiratory protection for wildfire smoke particulates.
- Purchasing break/rest trailers with filtered air systems to reduce wildfire smoke exposure.
- Adding an instructional designer support to update and convert safety training curriculum to web based.

4. Contractor Safety Services (Workpaper 1SM002.002)

Table KD-15 below summarizes the total non-shared O&M forecasts for the listed cost categories, each of which will be described more fully below.

TABLE KD-15
Non-Shared O&M Summary of Safety Contractor Safety Services Costs

SAFETY, RISK & ASSET MANAGEMENT In 2021 $ (000s)			
	BY 2021 Adjusted Recorded	TY 2024 Estimate	Change
Contractor Safety Services (1SM002.002)	1,249	1,290	41
Total	1,249	1,290	41
FTEs	8.8	9.4	0.6

a. Description of Costs and Activities

Contractor Safety Services workpaper 1SM002.002 is comprised of the following activities:

Contractor Oversight Program:

The Contractor Oversight Program is the overall program used by SDG&E to assess and educate contractors with respect to safety protocols. This program is primarily managed by SDG&E's Contractor Safety Services (CSS) Department. The Contractor Oversight Program includes both O&M and capital costs. O&M costs (i.e., internal labor) are included within this workpaper. Capital costs are captured in the Contractor Safety Overhead Pool, as described below in Section VI - Capital. CSS's main objective is to confirm the Class 1 Contractors engaged with SDG&E are working safely and risk is being managed effectively. The CSS team is made up of both internal and contracted resources to support the various activities to ensure contractors are working safely. SDG&E operating groups also have field safety oversight responsibilities for all construction work being performed by Class 1 Contractors working for their respective groups (see description of Contractor Safety Field Oversight, below).

With respect to internal resources, SDG&E institutes a number of safeguards that all contracted work is performed in accordance with SDG&E standards, OSHA regulations, applicable laws, Commission Orders (such as General Order (GO) 95, Rules for Overhead Electric Line Construction, and GO 128 Rules for Construction of Underground Electric Supply and Communications Systems. The safeguards include:

1. Adherence to the Contractor Safety Program Standard for SDG&E, and the Class 1 Contractor's Safety manual for contractors to ensure each group is adhering to the same requirements and/or standards.
2. Administrative activities associated with Class 1 work such as education on the program requirements to contractors and internal resources, assisting in obtaining program compliance, and following up with contractors that fall out of compliance.
3. Pre-qualification of all Class 1 Contractors according to SDG&E's Contractor Safety program.
4. Requiring Pre-Work Safety Meeting Notices and Acknowledgement Forms. Notifications to contractors of known hazards, followed by meetings with contractors to discuss hazards and mitigations that are jointly acknowledged before performing work.

5. All new and existing contracts and Master Service Agreements (MSAs) between SDG&E and a primary contractor includes a reference to SDG&E's Class 1 Contractor Safety Manual and states it is a requirement to follow as part of the contract terms and conditions.

SDG&E currently uses certain third-party administration tools to verify that contractors comply with SDG&E's established safety requirements according to the Class 1 Contractor Safety Manual and the contractual requirements. SDG&E currently uses Predictive Solutions for safety observations and Veriforce for gas operator qualifications as third-party software administration tools to monitor risk in a more cost-effective manner than has been found utilizing an internal workforce.

Veriforce is a third-party vendor that offers comprehensive solutions for Operator Qualifications (OQ), Drug & Alcohol (D&A), Training, Auditing, and Consulting programs to operators and contractors nationwide. Some key features of using the Veriforce system are: the ability for contractors to have proof of qualifications on the job site, the ability to track qualification failures, and visibility of the D&A status of each contractor company and its employees.

SDG&E partnered with Veriforce in response to increased scrutiny and auditing by internal and/or external parties of the OQ and D&A programs which revealed inconsistencies among contractors. Veriforce provided SDG&E with solutions to address these audit findings and improved the OQ and D&A programs by implementing an electronic platform for testing and an electronic database for tracking this data. The Veriforce platform also allows for portability of qualifications between SDG&E and SoCalGas.

SDG&E uses a third-party administrator, ISNetworld, to house and verify the established SDG&E pre-qualification requirements for Class 1 Contractors. It contains historical safety related performance for all Class I contractors who perform work for SDG&E. ISNetworld also gives SDG&E a place to communicate with contractors. ISNetworld monitors new and changing OSHA requirements and verifies SDG&E's Class 1 Contractors meet minimum OSHA requirements for written safety programs for the work performed and grades Class 1 Contractors according to the pre-qualification criteria SDG&E establishes. The nationwide-level data captured by the third-party administration program is reviewed by SDG&E to standardize the pre-qualification process as well as for selection of Class 1 Contractors.

Contractor Field Safety Oversight:

SDG&E's CSS oversees safety for all operating groups that use Class 1 Contractors. Additional contracted resources have been added to the Contractor Oversight Program to support the additional data received by new Class 1 Contractors and business units in order to pre-qualify, process, track, trend, and communicate safety data. These additional resources are a non-labor cost that will be added to the Contractor Safety Overhead Pool. CSS's contracted safety professionals perform field level safety assessments on Class 1 Contractors who perform work on behalf of SDG&E.

Duties of CSS with respect to field safety oversight include but are not limited to:

- Safety inspections/observations: This is a proactive measure to observe contractors are working in accordance with appropriate work methods. If at-risk behaviors are identified they are documented, tracked, and corrected.
- Incident/Near Miss response, review, and investigation: When an incident occurs, a CSS Team Lead dispatches the appropriate individual to document the incident initial findings. Initial findings are used in conjunction with reviewing contractors' incident reports to ensure accuracy.
- Pre-work safety meetings: Contracted safety professionals perform jobsite reviews with all parties involved to identify and agree with potential hazards and mitigations prior to work starting and also review site specific safety plans when SDG&E requires contractors to submit them.
- Post-Job evaluations: SDG&E construction team conducts post major project or annual jobsite performance reviews of contractors. This review has the ability to affect a contractor's qualification status and ability to continue working with SDG&E.

Additionally, SDG&E has a variety of administration tools and programs to support the safety oversight of Class 1 Contractors as described below.

1. Administration and Tools – Predictive Solutions is used by SDG&E as the primary software application for safety observations of Class 1 Contractors. Predictive Solutions allows SDG&E to easily collect safety observations, track and trend, then communicate the results of observations in a clear format so SDG&E can potentially mitigate at-risk behaviors or incidents.

2. Stop the Job – The Stop the Job (STJ) Process is a protocol SDG&E has established for all contractors. It gives authority to everyone onsite to stop a job or task if an unsafe work condition or activity is identified. All work must immediately cease in the area of concern once the STJ 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 effected personnel.

3. Near Miss/Close Call Reporting Program – SDG&E requires its contractors to report all incidents per the Class 1 Contractor Safety Manual including Near Miss/Close Call incidents immediately, then monthly in a report. This information is then tracked and used during SDG&E's Class 1 Contractor safety observations and also communicated out to contractors, if applicable.

Promoting a Strong Contractor Safety Culture:

SDG&E strives to ensure a positive safety culture with its contractors through outreach, education, and leading the way. SDG&E's drive to improve starts with its Company culture and the way it does business. SDG&E not only has established touchpoints throughout the year with contractors but identifies items during the year where collaboration or improvement should be reviewed and implements mitigation measures for any identified potential gaps. The Annual Contractor Safety Summit and Contractor Safety Quarterly Meetings are particular events that create a forum to share industry leading best practices with contractors, communicate new requirements, gives contractors the opportunity to collaborate with SDG&E on safety, and foster an improved safety culture for contractors and SDG&E. The Contractor Safety Summit is a broad-scoped meeting with focused attendance from SDG&E and Class 1 Contractor Executives and Management. The quarterly safety meetings are attended by SDG&E and Class 1 Contractor Executives and Management, but field-level personnel are also encouraged to attend.

SDG&E engages its internal workforce and Class 1 Contractors with periodic safety culture assessments to better gauge where it is with the safety culture and maturity of the Contractor Safety Program. The results of these assessments are used for action planning and upcoming initiatives targeted to improve safety and cultural gaps.

Enterprise-Wide Contractor Incident and Schedule Management:

During the expansion of the SDG&E Contractor Safety Program it was determined that certain business units that used Class 1 Contractors did not have enough work to support having a dedicated resource to manage contractor incidents or schedules. Because of the number of business units with this same gap, SDG&E decided to have that function brought into the Contractor Safety Services Department where this work scope could be performed for multiple organizations within the Company. Incident reporting would be moved to a single contact in Contractor Safety Services then communicated out to the enterprise, business units, and other parties as appropriate. Requiring all Class 1 Contractors to submit a schedule to a single source in Contractor Safety Services would be a benefit to the Company. The tool would provide a view of all Class 1 Contractors that are working for SDG&E that Contractor Safety Services and the business units using the contractors could access. This would improve tracking of incidents, hours worked, and scheduling safety observations. The additional non-labor cost for these third-party individuals to support this effort will be added to the Contractor Safety Overhead Pool.

Enhanced Verification of Class 1 Contractor Employee Specific Training:

This activity encompasses developing a process to verify contractors are trained on specific safety programs according to their company specific requirements (i.e., OSHA, SDG&E). SDG&E will perform field visits to identify contractor employees' specific work scope in order to follow up with contractors to verify specific training requirements. Documentation will be reviewed specific to each contractor employee and training programs will be reviewed. Once this program framework is developed, additional third-party support will be required to support this effort. The additional non-labor cost for these third-party individuals to support this effort will be added to the Contractor Safety Overhead Pool.

i. RAMP Activities

RAMP-related costs for Contractor Safety Services include the costs for the Contractor Oversight Program, discussed above. Table KD-16 below provides the RAMP activities, their respective cost forecasts, and the RSEs for this workpaper. For additional details on these RAMP activities, please refer to my workpapers 1SM002.002.

Table KD-16
RAMP Activity O&M Forecasts by Workpaper
In 2021 $ (000s)

Workpaper	RAMP ID	Description	BY2021 Embedded Base Costs	TY2024 Estimated Total	TY2024 Estimated Incremental	GRC RSE
1SM002.002	SDG&E-Risk-4 - C01	Contractor Oversight Program	1,027	1,068	41	283

b. Forecast Method

The forecast method developed for the Safety Management Program cost category is base year with incremental increases. For labor and non-labor, the base year provides an appropriate baseline in comparison to future targets for the enterprise. Incremental labor increases from the base year are requested in order to complete additional initiatives. Therefore, Contractor Safety Services use of the base year forecast method is representative of the expectations for the 2024 Test Year. This method is most appropriate because it is indicative of the current organizational structure, current safety management programs, and planned initiatives. Use of alternate forecast method(s) or certain historical data is not appropriate because they do not represent the current and future structure of this organization and its planned risk mitigation activities.

c. Cost Drivers

The cost drivers are prescribed regulatory requirements, Cal OSHA regulations, and activities designed for improved safety performance. SDG&E's incremental funding request for safety management programs and activities support the ongoing management of risks and exposures that could pose significant safety consequences to its employees, contractors, and the public. These activities/programs, as included in the 2021 RAMP Report, are designed to mitigate risk and reduce exposures for public, employee, and contractor safety. The cost drivers behind this forecast include the administration tools and programs to support the safety oversight of Class 1 Contractors.

5. Electric and/or Magnetic Fields (Workpaper 1SM002.003)

Table KD-17 below summarizes the total non-shared O&M forecasts for the listed cost categories, each of which will be described more fully below.

TABLE KD-17
Non-Shared O&M Summary of Electric and/or Magnetic Fields Costs

SAFETY, RISK & ASSET MANAGEMENT In 2021 $ (000s)			
	BY 2021 Adjusted Recorded	TY 2024 Estimate	Change
EMF (1SM002.003)	156	186	30
Total	156	186	30
FTEs	0	0	0

a. Description of Costs and Activities

Electric and/or Magnetic Fields (EMF) workpaper 1SM002.003 is comprised of the below activities. Although recognizing that no conclusive research exists that EMFs pose a health hazard, the Commission has directed the utilities to nonetheless take a number of steps to address the public's concerns. SDG&E's EMF Safety Program, developed in accordance with D.93-11-013 and D.06-01-042, includes the following:

- Maintaining a staff of informed representatives available to talk with customers and employees about EMF issues;
- Providing magnetic field measurements for customers requesting the service;
- Providing objective EMF health information to the public and notifying customers of research milestones as this information becomes available;
- Providing employee education on EMF issues;
- Supporting, funding, and monitoring EMF research;
- Implementing low-cost and no-cost measures, where appropriate, to reduce fields associated with new construction projects; and
- Participating in communication forums and regulatory proceedings to remain current on all EMF-related issues.

b. Forecast Method

The forecast method developed for the Safety Management Program cost category is base year with incremental increases. For labor and non-labor, the base year provides an appropriate baseline in comparison to future targets for the enterprise. Incremental labor increases from the base year are requested in order to complete additional initiatives. Therefore, Electric and/or Magnetic Fields use of the base year forecast method is representative of the expectations for the 2024 Test Year. This method is most appropriate because it is indicative of

the current organizational structure, current safety management programs, and planned initiatives. Use of alternate forecast method(s) or certain historical data is not appropriate because they do not represent the current and future structure of this organization and its planned risk mitigation activities.

c. Cost Drivers

The cost drivers are prescribed regulatory requirements, Cal OSHA regulations, and activities designed for improved safety performance. SDG&E's incremental funding request for safety management programs and activities support the ongoing management of risks and exposures that could pose significant safety consequences to its employees, contractors, and the public. The incremental cost request allows SDG&E to maintain a staff to provide EMF-related services to its employees and customers.

C. Risk Management

My testimony supports the TY 2024 forecasts for O&M non-shared costs associated with the Risk Management and Compliance Division of SDG&E. My testimony sponsors $6.111M in non-shared O&M expenses at SDG&E. Table KD-18 below details the Enterprise Risk Management, the Vice President of Risk and Compliance, and the Energy Risk O&M requests of $6.114M for TY 2024, which is an additional $636 thousand compared to the 2021 adjusted-recorded.

TABLE KD-18*
Non-Shared O&M Summary of Risk Management Total Costs
In 2021 $000s

Workpaper Number	Description	BY 2021 Adjusted Recorded	TY 2024 Estimate	Change
1SM005.000	Enterprise Risk Management	3,692	4,220	525
1SM000.000	Sub Workpaper - VP Vice President of Risk Management and Chief Compliance Officer	417	418	1
1SM006.000	Sub Workpaper - Energy Risk Management	1,360	1,473	113
	Total	5,472	6,111	636
	FTEs	20.6	26	5.4

* Numbers have been rounded, potentially resulting in slight variations among tables.

SDG&E is committed to continue developing risk management by incorporating risk into the decision-making process. This includes reviewing and evaluating enterprise level risks, operating unit level risks, and effective mitigations. The Risk Management and Compliance Division is responsible for interacting with business units throughout the Company to identify risks that have the potential to impact safety, reliability, and sustainability. The goal is to integrate risk management practices into all appropriate areas of the Company and to continue exceeding expectations related to risk-informed decision making. To do so, the Risk Management and Compliance Division intends to add 5.4 additional FTEs to advance risk analytics, data science, credit analysis, and records/information governance and management to advance SDG&E's overall risk management platform and comply with new and/or evolving regulatory and compliance initiatives. I am sponsoring the forecasts on a total-incurred basis. These costs are presented in workpapers 1SM000.000, 1SM005.000, and 1SM006.000.

The TY 2024 GRC testimony of SDG&E Risk Management policy witness Mr. Schneider (Ex. SDG&E-03, Ch. 1) describes how SDG&E has continued to build on the work accomplished during the prior GRC cycle, and the benefits of new commitments to further develop the Risk Management framework for future GRC cycles. SDG&E manages risks across the enterprise through a structured, data-driven approach that continuously identifies threats, systemically measures risk, and assesses the effectiveness of risk mitigations. Mr. Schneider's testimony provides a summary of the process used by the Risk Management and Compliance Division to effectively inform asset and safety management decisions across the enterprise.

1. Description of Costs and Activities

The Risk Management and Compliance Division is comprised of five non-shared cost centers:1) the Vice President of Risk Management and Chief Compliance Officer, 2) Enterprise Risk Management, 3) SDG&E Affiliate Compliance and Records Management, 4) Quantitative Risk and Controls, and 5) Energy Risk Management. The Enterprise Risk Management, SDG&E Affiliate Compliance and Records Management, and the Quantitative Risk and Controls teams are part of the Risk and Compliance Department within the Risk Management and Compliance Division at SDG&E.

a. Vice President of Risk Management and Chief Compliance Officer (Workpaper 1SM000.00)

The Vice President of Risk Management and Chief Compliance Officer supports the Company's goals of continuing to expand the implementation of risk management practices. The

Vice President of Enterprise Risk Management and Chief Compliance Officer is committed to expanding the implementation of risk management practices and is responsible for implementing risk management policies and integrating risk management with the safety and asset management processes. The Risk Management and Compliance Division influences Company operations by encouraging risk-informed decision making at all levels and informs SDG&E's commitment to continue developing a leading set of risk, safety, and asset management policies and practices. These responsibilities strengthen SDG&E's commitment to safety, reliability, and sustainability and influence the Company's operations and decision making. The Vice President of Risk Management and Chief Compliance Officer also oversees the Asset Management department, providing the additional benefit of aligning and integrating asset management strategies into the overall risk management platform.

b. Enterprise Risk Management (Workpaper 1SM005.000)

The Enterprise Risk Management team is a part of the Risk and Compliance Department within the Risk Management and Compliance Division. The Enterprise Risk Management team supports the Company's goal of implementing risk-informed decision making. This team has the responsibility for developing risk frameworks to identify, analyze, and evaluate emerging risks, facilitating the annual refresh of the Enterprise Risk Registry, and working with individual operating groups to develop Operating Unit Risk Registries. The development of the Operating Unit Risk Registries (OURRs) was initially part of the Safety Management System development referenced above in the Safety Management Section. The OURRs continue to be a priority for the Enterprise Risk Management team, an initiative that is focused on gathering granular risk information and assessing potential mitigations. The OURRs are a bottom-up approach to analyzing risk as opposed to the Enterprise Risk Registry, which is top-down. Together, the two methods allow SDG&E to link risk assessments with risk treatment decisions, which leads to risk-informed investment prioritization. The Enterprise Risk Management team continues to educate and grow the risk culture by conducting risk workshops and risk webinars with various operating groups. Additionally, the Enterprise Risk Management team performs ad-hoc risk analysis of emerging risks and leads both formal and informal risk-related meetings to support risk owners and managers. These responsibilities work cohesively to promote risk-informed thinking in each department across the Company while strengthening the overall risk management process.

The Enterprise Risk Management team also provides risk-informed guidance to support asset management and safety management initiatives by focusing investments on risk reducing projects. The Enterprise Risk Management team uses the Enterprise Risk Registry and OURRs to rank risks across the enterprise as well as track proposed mitigations which can be taken into consideration when discussing funding for risk reducing projects. In addition to the responsibilities listed above, this department is also responsible for providing guidance on enterprise risk management, as well as assisting in the coordination and compilation of information for risk related regulatory proceedings by reviewing Commission Reports, assisting with drafting responses, and working with the impacted operating groups to compile the necessary data. The risk related regulatory proceedings include: the Safety Model Assessment Plan (S-MAP), the Risk Assessment Mitigation Phase (RAMP), the Safety Performance Metrics Report (SPMR), and Risk Spend Accountability Report (RSAR), each of which are co-led by the Enterprise Risk Management and Regulatory Departments.[10]

c. SDG&E Affiliate Compliance and Records Management (Workpaper 1SM005.000)

The SDG&E Affiliate Compliance and Records Management team is part of the Risk and Compliance Department. The activities associated with the SDG&E Affiliate Compliance and Records Management team are reflected in the Enterprise Risk Management workpaper. The SDG&E Affiliate Compliance and Records Management team is responsible for utilizing data governance practices to ensure Company-wide compliance. This department is responsible for keeping the Company apprised of changing laws and regulations related to affiliate compliance, implementing records management policies, checking that employees are trained in compliance responsibilities, developing compliance monitoring frameworks, and tracking how compliance issues are managed and reported where necessary. To facilitate compliance, this department

[10] *See* R.13-11-006, Order Instituting Rulemaking to Develop a Risk-Based Decision-Making Framework to Evaluate Safety and Reliability Improvements and Revise the Rate Case Plan for Energy Utilities (Risk Rulemaking); Application (A.) 15-05-002 et al., the Safety Model Assessment Proceeding (S-MAP); D.14-12-025; D.18-12-014, Phase Two Decision Adopting Safety Model Assessment Proceeding (S-MAP) Settlement Agreement with Modifications; D.18-12-014 (adopts a Risk-Based Decision-Making Framework (RDF) and provided the requirement for the utilities to use to assess and rank safety risks, assess, and rank potential safety mitigations, and undertake other steps in order to prepare and file Risk Assessment Mitigation Phase (RAMP) applications); SMAP OIR Rulemaking (R.) 20-07-013, Rulemaking to Further Develop a Risk-Based Decision-Making Framework (RDF) for Electric and Gas Utilities (RDF Rulemaking).

works closely with Records and Affiliate Compliance coordinators across the Company to provide training, oversee records cleanup, and conduct assessments. Also included in this department is the responsibility of periodically updating, reviewing, and opining on utility policies to promote consistency with industry standards, internal policies, and the parent company, Sempra Energy.

In addition, this department is responsible for completing the Commission's bi-annual compliance audit of the Affiliate Transaction Rules[11] and coordinating compliance frameworks that address compliance responsibilities for applicable departments within SDG&E. The SDG&E Affiliate Compliance and Records Management team manages a Company-wide compliance governance and oversight program, which includes enhancing records. These responsibilities strengthen SDG&E's culture of compliance while demonstrating the Company's commitment to safety, reliability, and sustainability.

d. Quantitative Risk and Controls (Workpaper 1SM005.000)

The Quantitative Risk and Controls team is part of the Risk and Compliance Department. The activities associated with the Quantitative Risk and Controls team are reflected in the Enterprise Risk Management workpaper. The Quantitative Risk and Controls team supports the Company's goals of assessing risks and measuring results of risk mitigations by using quantitative processes.

The Quantitative Risk and Controls team is responsible for increasing the application of advanced data analytics by advising other operating groups throughout the Enterprise on data science applications, advanced analytics best practices, and cloud migration. The team works alongside the wildfire mitigation team to provide modeling methodologies and direction on implementation and assists in developing models to assess asset health and prioritize maintenance and replacement efforts focused on wildfire mitigation. The Quantitative Risk and Controls team advises and collaborates with operating groups on advanced analytical models, machine learning, and artificial intelligence projects that inform decision-making with the goal of optimization and risk mitigation. This oversight and input supports data analytics across the Company, including Asset Management focused technology implementations: Enterprise Asset

[11] D.97-12-088 Affiliate Transaction Rules.

Management Platform (EAMP), Wildfire Mitigation Plan (WMP),[12] and Intelligent Image Processing (IIP).

The Quantitative Risk and Controls team is also responsible for utilizing quantitative processes to measure risk mitigation efforts for both SDG&E and SoCal Gas. The team provides quantitative support to operating groups during regulatory reporting requirements as directed by S-MAP, RAMP, and the GRC decisions. To provide quantitative support, the Quantitative Risk and Controls team completes and provides risk spend efficiency (RSE) calculations and assists the Company in the strategic considerations around managing risks. The Quantitative Risk and Controls team allows the Company to have a greater understanding of the threats to the enterprise and how to better address and apportion funds. In addition to providing support to the Company through the initial collection of data and submission of the regulatory reports listed above, the Quantitative Risk and Controls team provides support to business units responding to data requests.

e. Energy Risk Management (Workpaper 1SM006.000)

The Energy Risk Management Department oversees all risks associated with Electric & Fuel Procurement (E&FP), including identifying, managing, monitoring, and reporting on market, credit, financial, and operational risks. Additionally, Energy Risk Management includes Major Market Credit risk analysis and functions for the entire Company, which includes credit reviews of major end-users and risk reviews of commercial contracts prior to execution. Energy Risk Management is an independent group reporting to the Risk & Compliance division to promote impartial risk, compliance, and control activity in E&FP.

Energy Risk Management conducts daily reviews of E&FP's commodity procurement activities including physical and financial positions, trader authority limits, counterparty credit risk positions, and compliance with financial liquidity and margin requirements. To comply with Commission approved risk metrics[13] and internal policies, the Energy Risk Management Department reviews daily market pricing data, forward price curves, volatilities, and correlations used for the evaluation and measurement of portfolio risk. On an ongoing basis, Energy Risk Management performs hedging portfolio analysis and assists E&FP in the development of

[12] San Diego Gas & Electric Company 2020-2022 Wildfire Mitigation Plan (February 5, 2021) *available at,* Microsoft Word - SDGE 2021 WMP Update DRAFTv2.

[13] D.12-01-033; D.15-10-031.

procurement and hedge plans, consistent with the Commission approved Bundled Procurement Plan,[14] and monitors E&FP's compliance with approved plans. Energy Risk Management develops, maintains, and supports all trading and risk management models and applications, including modeling new technologies and facilities and enforcement of operational risk controls related to the execution, recording, and valuation of trades. Energy Risk Management is also responsible for compliance with Dodd-Frank requirements, Sarbanes-Oxley (SOX) 404 compliance, and FERC-required reporting of fixed price transactions to index publishers. Energy Risk Management also assesses credit exposure for various contracts and transactions, including long-term PPAs, RA transactions, contract amendments, and other negotiated contracts. The group works with E&FP to determine credit terms and conditions to protect utility customers and the Company.

In addition to providing E&FP with independent risk management as described above, Energy Risk Management also conducts Major Market Credit risk analysis and functions for the broader Company. These activities include establishing credit lines for counterparties, mitigating credit risk, maintaining collateral, negotiating contract credit terms, and monitoring accounts receivables as is related to commercial contracts and SDG&E's major end users. This includes the review of contracts and tariffs that require credit provisions as well as the review of the Company's use of various credit instruments such as parental guarantees, letters of credit, surety bonds, and other credit mitigation agreements. Currently, some of the responsibilities related to the Major Market Credit functions are fulfilled by other members of Energy Risk Management as their time permits. However, the work performed by others within the group is limited due to availability and the specific expertise required to perform the credit function. The resource constraint is causing delay of credit reviews related to a subset of counterparties and end users and raising the threshold for who qualifies as a major end user.

2. RAMP Activities

RAMP-related costs for Risk Management include the costs for the following activity: AIMDAT (Data Analytics). As described in Table KD-6 above, AIMDAT (Data Analytics) includes predictive machine learning models and asset health. Risk scores will continue to be developed for additional electric system assets and will be used to prioritize maintenance and

[14] 2014 Long Term Procurement Plan + Draft Resolution E-5196 (Pending Approval).

replacement activities to stay informed on situations that might lead to potential outages or failures.

Table KD-19 below provides the RAMP activity and the respective cost forecast for this workpaper. For additional details on these RAMP activities, please refer to my workpaper SDG&E-Enterprise Risk Management-WP 1SM005.000.

TABLE KD-19
RAMP Activity O&M Forecasts by Workpaper
In 2021 Dollars ($000)

Workpaper	RAMP ID	Description	2021 Embedded Recorded	TY 2022 Estimated	Change	GRC RSE*
1SM005.000	SDG&E-CFF-1--4	AIMDAT (Data Analytics)	156	183	27	0

*An RSE was not calculated for this activity.

3. Forecast Method

The forecast method developed for the Risk Management and Compliance Division is base year plus incremental increases. For labor and non-labor, the base year provides an appropriate baseline in comparison to future targets for the department. Incremental labor increases from the base year are requested to address new and evolving initiatives. The scope of work performed by the Risk Management and Compliance Division has expanded in recent years, with greater integration with both SMS and Asset Management, as well as the undertaking of additional functional areas including the risk analytics team. The base year forecast method is representative of the expectations for TY 2024. This method is most appropriate because it is indicative of the current risk management structure, which was re-organized in recent years. Use of an average forecast methodology is not appropriate because the historical costs do not represent the current and future structure of this department and its planned risk mitigation activities.

4. Cost Drivers

The cost drivers behind this forecast are integral to furthering SDG&E's commitment to safety, reliability, and sustainability. As seen in Table KD-19, the increase in funding will be primarily used to expand the Risk Management and Compliance Division and enhance the risk management framework by identifying, monitoring, and reporting on new risks within the Safety

Management System framework. The Risk Management and Compliance Division needs to expand to provide further support for the initiatives listed above and for the new activities being performed in alignment with the Commission's directives to advance risk-informed decision-making.

The additional 2.2 FTEs will allow the Enterprise Risk Management and SDG&E Affiliate Compliance and Records Management teams to enhance their risk management policies and procedures by continuing to develop the risk assessment process, with a focus on further developing the operating unit risk registries, and by strengthening its risk monitoring capabilities with the increased use of quantification, as well as the effectiveness of proposed mitigations, which allows for better informed funding allocations. The Risk Management and Compliance Division will be dedicated to compliance from a risk standpoint with the increasing number of Commission required regulatory filings, including RAMP, GRC, WMP, and S-MAP by developing additional metrics, performing additional risk spend efficiency calculations, additional modeling, and providing an increased number of risk effectiveness assessments.

The Quantitative Risk and Controls team must perform highly technical and complex risk assessments and mitigations, which require highly educated and specially trained staff to utilize sophisticated systems to conduct quantitative analysis. The 2 additional FTEs in the Quantitative Risk and Controls team will enhance risk assessments supporting RAMP, WMP, engineering/operations, Asset Management and investment prioritization, while further developing the data science culture, critical to fulfilling the mission of the Analytics Community of Excellence (ACE), which seeks to build a community of data ambassadors who actively exchange knowledge about data analytics to benefit the Company. These initiatives also strengthen the relationship between Risk Management and Wildfire Mitigation and Vegetation Management, for which the Risk Management Department will create models for Public Safety Power Shut Offs (PSPS) and the Wildfire Ignition Next Generation System (WiNGS). Please see Wildfire Mitigation and Vegetation Management testimony of Jonathan T. Woldemariam for additional information (Ex. SDG&E-13).

The current resource constraint in the Energy Risk Management team has led to a selective prioritization and raising of the threshold for who qualifies as a major end user and a postponement of select credit reviews to focus on the higher risk counterparties. The one additional FTE will aid Energy Risk Management's depth and frequency of credit analysis and

play a role in a more forward-looking and strategic strategy in expanding risk-informed support to the broader Enterprise as the California energy markets and responsibilities of the utilities continue to rapidly evolve. These functions are critical to protect the interests of the Company's customers and itself.

The functions performed by the Risk Management and Compliance Division are critical for expanding the risk-informed thinking framework and establishing a data science culture across the Company.

D. Asset Management

My testimony supports the TY 2024 forecasts for O&M non-shared costs associated with the Asset Management Department at SDG&E. Table KD-20 below details the Asset Management Program and Business Technology Solutions O&M requests of $4,462M for TY 2024, which is an additional $1,449M compared to the 2021 adjusted recorded.

TABLE KD-20
Non-Shared O&M Summary of Asset Management Total Costs
In 2021 $ ($000)

Workpaper Number	Description	2021 Adjusted - Recorded	TY 2024 Estimated	Change
1SM003.000	Asset Management Program	693	2,077	1,384
1SM004.000	Business Technology Solutions	2,320	2,385	65
	Total	3,013	4,462	1,449
	FTEs	12.6	19.8	7.2

The Asset Management Department develops, implements, and enables strategies and solutions in the areas of asset compliance, business technology, data management, and integrated asset management to support the safe, clean, and reliable delivery of energy to SDG&E customers. The department encompasses Asset Integrity Management (AIM), the comprehensive asset management program that aligns with SDG&E's enterprise safety and risk management programs, and advances and evolves risk management and asset safety across business functional areas. The Asset Management program links the management of asset activities holistically, in addition to supporting risk management and new regulatory requirements associated with risk-based decision making. The Asset Management department directly supports and charges time to several information technology capital projects included within the testimony of William J. Exon. My testimony reflects the portion of Asset Management costs and dedicated FTEs accounted for as O&M.

1. Description of Costs and Activities

The Asset Management Department is comprised of the following teams: (1) The Director of Asset Management, (2) Asset Data Systems & Records Management, (3) Asset Integrity Management, (4) Asset Risk & Accountability Reporting, (5) Business Technology Solutions, and (6) Transmission & Distribution Technical Assessment and Management. Descriptions of the costs and activities in these groups are outlined below, apart from Transmission & Distribution Technical Assessment and Management activities, which are contained in the Electric O&M witness testimony (Ex. SDG&E-12, Electric Distribution O&M).

a. Director of Asset Management (2100-4040)

The Director of Asset Management is responsible for implementing asset management policies and strategies and integrating asset management with SDG&E's safety and risk management processes.

b. Asset Data Systems and Record Management (2100-4060)

The Asset Data Systems and Records Management (ADS&R) team manages the development, implementation, and integration of enterprise asset data systems and tools that support the objectives of the broader Asset Integrity Management (AIM) program, including measuring asset performance and enabling data-driven, risk-informed decision making. Integrating asset data into a central data repository enables access to the best quality and consistent data available with a common platform. The platform provides a holistic view of each asset that incorporates tabular data and imagery, which enables the measurement of current asset performance and allows business users within engineering and operations to understand risk at the asset level. AIM employees work closely with business stakeholders in engineering and operations and are dedicated to maximizing business value. Activities within ADS&R are encompassed within the following programs:

i. Asset Data Foundation

The Asset Data Foundation program focuses on the consolidation of asset data across enterprise systems, including GIS, maintenance and inspection records, outage records, and weather data into a central data repository. A unique identifier is assigned to each asset to allow business stakeholders to analyze an individual asset, whether it be an active or replaced asset.

The Asset Data Foundation program utilizes advanced analytics, including machine learning to develop asset specific health models that can predict asset condition and asset

impact/risk. The program also develops asset specific reports and dashboards that offer intuitive user interfaces with dynamic data that allows end engineering, operational and data science users to easily interpret and analyze the data.

ii. Intelligent Image Processing

The Intelligent Image Processing (IIP) program supports asset management objectives by collecting high-resolution imagery to inform asset analysis and decision-making. The imagery is then leveraged to validate, improve, and augment existing source system data. The program develops analytics models to validate tabular data in Company source systems of record, primarily GIS. Another asset management application of the imagery is utilizing advanced analytics, including machine learning techniques to enable failure identification on overhead assets. The metadata and analytics models are ensembled with the Asset Data Foundation to provide a holistic view of the performance of overhead electric distribution assets. SDG&E is using this technology to support the advancement of risk-informed asset management strategies in key areas, including inspections, damage detection, and third-party communication equipment identification.

iii Data Governance

The Data Governance program is responsible for implementing roles and responsibilities, along with processes and controls to manage critical asset data more effectively across SDG&E. To advance asset data governance, the program has developed processes and tools to define data quality of individual asset types integrated into the Asset Data Foundation. These processes include measuring the current state of the data in source systems, creating targets for improvement, and defining future opportunities of continuous improvement in the areas of data capture and data management within and across different source systems.

To date the Asset Data Systems & Records Management group has delivered consolidated data models for critical assets within distribution and transmission. The team has also built advanced analytical models for select critical distribution assets. Work will continue through 2024 to build additional advanced analytical models for critical assets within distribution and transmission.

A data governance framework was started in 2021 with a target implementation within the electric distribution, transmission, and substation groups before 2024. The Asset Data

Systems & Records Management team will expand into new operating groups in support of the overall AIM timeline with enterprise adoption targeted for 2027.

c. Asset Integrity Management Program (2100-4064)

The SDG&E Asset Integrity Management (AIM) team advances the development and implementation of a comprehensive, integrated, and risk-informed Asset Management System (AMS), encompassing people, process, data, analytics, and technology. The AIM program links the management of asset activities holistically and supports regulatory requirements associated with risk-based decision making. More specifically, AIM directly links to risk mitigation by using identified and prioritized enterprise risks to inform asset management strategic and long-term risk planning.

The AIM team is building the AMS to comport to the provisions of International Organization of Standardization (ISO) 55000 to support regulatory direction on safety, wildfire mitigation, and electric system resilience and to reinforce an integrative approach to electric assets for governance, strategy, analytics, and continuous improvement. Conforming with ISO 550000 is in alignment with the Commission's Safety and Enforcement Division (SED) recommended ISO 55000 compliance as part of SDG&E's plans for maturing its risk management program. This demonstrates SDG&E's continued commitment to maturing its risk, asset, and investment management integration by enabling an asset-level risk model approach.

The centralized AIM group within Asset Management is crucial to implementing, enhancing, and sustaining the overall framework of the AIM program to reduce safety risk for SGD&E's most critical assets. These resources are essential to the broader SDG&E enterprise, in that they:

- Provide oversight on the sustainable implementation of the AMS governance framework, support capabilities, tools, and insight to enable electric operating units to plan for long-term, effective, and sustainable management of assets and asset-related risk mitigations.
- Leverage best practices across the enterprise.
- Integrate asset data throughout the asset lifecycle.
- Develop consistent policy, Asset Management Plans (AMPs) and strategies, and procedures.

- Establish consistent performance evaluation, analytics, and reporting business processes.
- Drive continuous improvement.

Thus far, SDG&E has been focused on setting the groundwork for organizational change and establishing the AMS foundation to integrate ISO 55000 principles across electric operating units. The Asset Management Department continues to advance the AMS through key AIM program initiatives, including the Integrated Operating Model, Asset Management Plan alignment, and Investment Prioritization.

i. Integrated Operating Model

As referenced in Figure KD-2 above, the Integrated Operating Model provisions a cross-functional collaboration and harmonizes with current Company programs across operating groups. As it pertains to the AIM program, the Integrated Operating Model promotes a sustainable asset management system and integrated asset management plan implementation in alignment with the ISO 55000 standard. It assists in the strategic development of asset strategies that promote cross-functional alignment, consistency and/or an integrative approach with engineering and operating groups, the Wildfire Mitigation Program, and the Asset Management, Enterprise Risk Management (ERM), and Capital Portfolio Management organizations as they relate to regulatory filings.

To further operationalize the AMS, the AIM program is also focusing on developing the other key integrated Operating Model capabilities, including performance evaluation, internal audit, and continuous improvement of the AMS. The performance evaluation capability will create business processes around identifying objectives and key performance indicators, determining action plans to monitor the effectiveness of the AMS, and documenting performance for management reporting. The management audit capability will establish business processes of verifying the effectiveness of the AMS and reporting on recommended corrective or improvement actions. The continuous improvement capability will produce business processes on developing the approach and collaboration to address the recommended corrective or improvement actions. The efforts dedicated to developing these capabilities further reinforce the alignment with the enterprise SMS framework.

To date, the Integrated Operating Model has been reviewed and agreed upon by relevant cross-functional operating units. The capabilities around performance evaluation, internal audit,

and continuous improvement have been defined. Next, the business processes to tactically execute those capabilities and determine the various interactions by relevant operating groups will need to be developed and implemented.

ii. Asset Management Plan Alignment

The AMP is a governance document that provides a present-day overview of an asset class and its life cycle. The AMP provides transparency in identifying critical assets and replacement strategies and addresses performance and risk. Additionally, it captures the capital and operating expenses required in sustaining asset performance for electric assets. In future iterations as part of continuous improvement, the AMPs will serve as operational plans for risk and life-cycle management of the electric system assets. To date, overhead and underground AMPs for electric transmission, substation and distribution asset classes have been completed and are in place. As an enhancement, electric distribution underground cable AMP is developed as a pilot AMP by asset type to place more emphasis on understanding the key risk factors and determining the optimal risk-informed and proactive asset strategies specific to managing electric distribution underground cables. Future plans for developing AMPs for other major asset types are being evaluated for its practicality and optimal risk mitigation benefits. Business processes documenting the development and maintenance of these AMPs have been drafted in alignment to the requirements set forth by ISO 55000 and are ready for implementation.

The AIM program implements and socializes the Integrated Operating Model and AMPs that align the various functional areas of risk, electric planning and operations, financial planning, asset management, and portfolio management.

iii. Asset Investment Prioritization

Investment Prioritization is a cross-functional initiative that streamlines the end-to-end process on investment prioritization and allocation using an objective, risk-informed value framework. The initiative focuses on risk-based decision making where risk and safety are prioritized. Dedicating resources to sound investment prioritization processes helps SDG&E improve safety overall by taking a consistent methodological, risk-based approach.

The Asset Management organization has been working with the relevant operating groups on building the governance process, resource allocation methodology, and enabling tools to support the creation of long-term and short-term plans for capital investment, operation & maintenance, and asset retirement. Developing technologies that can lead to a transparent and

risk-informed capital investment prioritization process will play a central role in SDG&E's decarbonization strategies. By building the right tools, the Company will be positioned to mitigate GHG emissions through operational efficiency, enhance adaptation efforts by responding quicker to extreme events, and enable a modernization of the grid by digitizing information and data to the benefit of network operators and customers.

A software solution is in progress for implementation at SDG&E to improve risk-informed investment prioritization capabilities. The value framework is the mechanism behind the software solution that evaluates the risk reduction benefits and costs of capital projects in terms of Safety, Reliability, and Financial and other applicable strategic value attributes. This solution is consistent with and will enhance SDG&E's efforts to quantify RAMP risks and RSE scores.

The initial value framework for electric system capital investments was completed in 2022 for electric transmission, substation, and system protection asset investments. This value framework serves as a foundation to build upon for other asset-intensive capital investments and eventually evolve to enterprise-wide value framework. To date, the software solution is programmed with the value framework designed for electric transmission, substation, and system protection asset investments, and in service.

The Asset Management organization will continue to facilitate business adoption of the software solution through development and maintenance of governance, training and capital investment business processes, and upkeep of the value framework methodology with electric transmission, substation, and system protection asset investments to stay consistent with regulatory changes. The same development and maintenance activities used in adopting the software solution and value framework methodology has commenced for electric distribution asset investments. The costs associated with the design, build and implementation of the Investment Prioritization tool are outlined in the capital testimony, under section E. Asset Investment prioritization and the ongoing maintenance and support of the tool will be owned by the AIM program team.

iv. Future AIM Program Scope

The AIM Program will continue implementation of the asset management system for electric transmission, substation, and distribution operating units through the end of 2023. The AIM Program will expand the implementation of the integrated Operating Model activities to

encompass the Gas, Information Technology (IT) and Fleet assets, creating cross-functional alignment between the respective accountable operating groups such as ERM, Asset Management, Engineering and Operations and Capital Portfolio Management as they relate to the Wildfire Mitigation Plan and/or other regulatory filings.

The Asset Management Plans will expand to include Gas, IT, and Fleet asset management capturing the capital and operating expenses required in sustaining asset performance.

For Investment Prioritization, the focus is the next phase of the software solution and process implementation and adoption across the different electric system projects in SDG&E's portfolio. Subsequently, other assets supporting the electric system infrastructure will be included in the multi-year phased implementation to achieve enterprise-wide investment prioritization and optimization.

v. Asset Risk and Accountability Reporting

The Asset Risk and Accountability Reporting group was established in August 2021 to improve efficiency of processes and systems used for SDG&E's RSAR, integration of RAMP and GRC filings and providing greater visibility of risk-based decision-making attributes in SDG&E's various planning, accounting, and regulatory systems. This work will enable more effective forecasting, tracking, and reporting of units and costs associated with risk activities, allowing SDG&E to more efficiently manage business activities in a risk-informed manner and comply with requirements of the Commission's S-MAP decisions[15] for risk-informed decision making.

vi. Fulfilling Regulatory Reporting Requirements

Prior to the establishment of the Asset Risk and Accountability Reporting group, new compliance requirements were addressed on an individual basis, relying heavily on manual processes, and using legacy system and data. The increased frequency and complexity of regulatory reporting has necessitated improvements to processes and systems used to gather and consolidate the data that drives risk-informed decisions and the reporting associated with these activities.

The Asset Risk and Accountability Reporting group will lead the process implementation and reporting efforts for SDG&E's RAMP and RSAR filings, focusing on improving the

[15] D.14-12-025; D.18-12-014; D.19-04-020.

processes, procedures, and systems needed to comply with the latest regulatory requirements. The newly formed Asset Risk and Accountability Reporting group benefits ratepayers in that it will facilitate reporting efficiencies and reduce potential human error, to minimize the impact on SDG&E's core operations and build in agility to address changing regulatory requirements.

The benefits of these process improvements will allow SDG&E to:

- Strengthen risk-informed budgeting and reporting processes;
- Forecast activity metrics and units in GRC filings;
- Track risk mitigation activities (costs and metrics or units) within accounting systems; and
- Automate systems to support forecasting and reporting of RAMP and safety metrics.

The strategic aspirations of the Asset Risk and Accountability reporting group are to:

- Improve SDG&E's risk-informed decision-making processes, procedures, and technology;
- Align SDG&E's business, financial and strategic objectives with the Company's regulatory risk-informed decision-making process; and
- Cultivate broad organizational engagement and support.

Implementing a risk-informed decision-making process that connects accounting, planning, reporting, and risk management processes, strategies, and systems will allow SDG&E to efficiently support risk-informed funding authorization and allocation, and accountability reporting of costs and metrics.

d. Business Technology Solutions

The Business Technology Solutions team is responsible for the development, deployment, and maintenance of technology solutions utilized by approximately 2,000 operational and field users. Business Technology partners with utility operational clients and Information/Technology project teams develop and translate business needs into practical technology solutions, which includes the deployment and support of a diverse array of technology applications utilized for critical field and operational purposes.

i. Asset Management Services (2100-4063)

The Asset Management Services team provides operational technology support to key operational teams including Construction Planning and Design, Telecommunications Asset

Management (TAMS), Pole Loading, Document Management, Vender Billing, and Geographic Information Systems (GIS) Mobile/Desktop/Web/Portal Application Design and Support. This includes providing functional support for systems, requirements development, change management planning, facilitation of business domain testing, application and data development and design, coordination of software or application release testing, post implementation/storm support, and training.

GIS Services focus on the following business operations: Land, Environmental, Electric Transmission, Substation, Electric Distribution, and Telecommunication. Services also include the management of GIS interfaces with other major and mission critical systems: OMS/NMS – Outage Management System/Network Management System (GIS Electric Distribution Network Models), GEARS – Environmental System (GIS Polygon Layers), SAP Work Management (GIS Electric Distribution Assets), EDW –Engineering Data Warehouse (GIS Electric Distribution Assets & Network Models), Synergi – Power Flow System (GIS Electric Distribution Network Models), and Smart Meter Operations Center (SMOC). More recently, the GIS Services team has played a critical role in the support of SDG&E's response during emergency events, Red Flag events, and other operational critical activities. The team provides key geo-spatial data and reporting to both internal operational clients as well as external public safety stakeholders and regulators. The team also supports key regulatory filings, such as wildfire mitigation, and responds to numerous Commission data requests as needed.

ii. Project Engagement Services (2100-4061)

The Project Engagement Services team provides technology project management leadership, support, and services on behalf of SDG&E operations and field personnel, including project concept and business case development, business requirements development, system, and user acceptance testing, change management planning and facilitation, coordination of software release activities, and post implementation/storm support.

Project Engagement Services acts as the Asset Management Project Management Office (PMO) arm of the organization, and in collaboration with the key operational and IT business units, develops, implements, and enables strategies and solutions in the areas of regulatory compliance, process improvements, business technology, data management and integrated asset management, which supports the safe, clean, and reliable delivery of energy to SDG&E's customers.

The Project Engagement Services team in collaboration with IT PMOs, leads IT Capital technology projects, developing and implementing technology strategies to resolve current issues and enhance overall user experience, optimize hardware and software utilization, and advance overall IT innovation platform. Project engagement team members serve as product owners, understanding the vision of the customer, end user, and stakeholder perspective, managing the backlog, ensuring the business value of the product, refining the activities, prioritizing workload, acting as advisor to the team, and driving stakeholder alignment. The Project Engagement Services team has a specific focus on stakeholder and operating group engagement, communication, governance, and relationship management.

iii. Field and Dispatch Services (2100-4062)

The Field and Dispatch Services team provides an array of direct computer hardware and software support for SDG&E electric and gas field operations, including Electric Distribution and Transmission Work Management (applications include Click, EPOCH, Contractor Mobility, Automated Roster Call Out System (ARCOS) Callout, ARCOS Crew Manager, Service Order Routing Technology (SORT) and Vegetation Work Management.

This team is responsible for the administration and critical technical hardware/software support of 15 field technology applications utilized by over 2,000 essential SDG&E field personnel, operations, and management teams across the service territory. Field personnel, which includes SDG&E employees and applicable contractors, rely upon these critical systems to work safely and efficiently. Services include first and second-level technical hardware and application support and troubleshooting for all computing devices in the field. Field Technology Solutions, along with IT and PMO, also supports deployment of new or enhanced technology projects, developing and implementing strategies for training, resolving current issues, enhancing overall user experience, optimizing hardware and software utilization, and advancing the IT innovation platform.

2. RAMP Activities

RAMP-related costs for Asset Management include the costs for the following activities: (1) AIM (Gov, Strat, AIP), (2) Asset Data Syst & Rec Mgt (Gov, Quality, Rec Mgt), and (3) Asset Data Syst & Rec Mgmt (Data Integration). The Asset Integrity Management (AIM) program advances the development and implementation of a comprehensive, sustainable and risk informed Asset Management System (AMS), which encompasses people, process, data,

analytics, and technology. The AIM program's Integrated Operating Model and Asset Management Plan alignment establish systematic and coordinated activities and practices through which the Company optimally sustains the asset systems and their associated performance, risks, and expenditures over their life cycles to effectively allocate resources.

Within Asset Data Systems & Records Management, activities include the formation of a governing structure to oversee, monitor, and control the management of asset information. The governing structure is focused on establishing records management processes to identify data gaps, validate data quality, and perform data remediation.

The Enterprise Asset Management Data Integration activity involves the access to and integration of data throughout the asset life cycle, to develop asset health and risk indices for critical assets, which supports risk-informed decision making and advances SDG&E maturity from performing descriptive analytics to more predictive.

These RAMP activities are also discussed in the capital cost section below (Section VI, Part E).

Table KD-21 below provides the RAMP activities, and their respective cost forecasts for this workpaper. For additional details on these RAMP activities, please refer to my workpaper SDG&E-Asset Management-WP 1SM003.000.

TABLE KD-21
RAMP Activity O&M Forecasts by Workpaper
In 2021 Dollars ($000)

Workpaper	RAMP ID	Description	2021 Embedded Recorded	TY 2022 Estimated	Change	GRC RSE*
1SM003.000	SDG&E-CFF-1-1	AIM (Gov, Strat, AIP)	$524	$1,544	$1,020	0
1SM003.000	SDG&E-CFF-1-2	Asset Data Syst & Rec Mgt (Gov, Quality, Rec Mgt)	$0	$58	$58	0
1SM003.000	SDG&E-CFF-1-3	Asset Data Syst & Rec Mgmt (Data Integration)	$149	$453	$304	0

*An RSE was not calculated for this activity.

3. Forecast Method

The forecast method developed for the Asset Management cost category is base year recorded plus incremental increases. For labor and non-labor, the base year provides an

appropriate baseline in comparison to future targets for the organization. Incremental labor increases from the base year are requested to complete additional initiatives. This method was used, as opposed to historical averages, due the evolving nature of the Asset Management department and to specifically account for increased FTEs needed to support increased workload due to the expanding scope of the Asset Management organization. The base year forecast method is therefore representative of the expectations for the 2024 Test Year.

4. Cost Drivers

Below is a summary of cost drivers for individual groups within Asset Management, which reflects increasing business demands, as discussed above.

Asset Integrity Management (within Asset Management Program) requests 1.6 new Asset Strategy Advisor FTEs to perform integrated asset management evaluation, analysis and governance for key operational support assets including Gas, Facilities, Information Technology, Fleet, Customer Operations and other developing asset areas, such as energy storage and clean transportation. These advisors will support the ongoing maintenance of the Investment Prioritization software solution and associated processes with the previously mentioned operating groups and incremental support by expanding the software solution adoption to these emerging lines of business. These advisors will be dedicated to implement the Integrated Operating Model and new Asset Management Plans for these emerging assets in alignment with the various functional areas of risk, electric planning and operations, financial planning, asset management and portfolio management, and will monitor the Asset Management System (AMS) enterprise adoption for continual improvement. To date, the costs associated with Asset Integrity Management have been primarily allocated to capital (as well as WMP) to support the development and deployment of new tools and technology that are capitalized. As these functions become more mature, the activities are expected to transition more into a sustainment and maintenance mode, requiring a shift more to O&M work. This cost transition is reflected in the 2024 forecast for this area.

Asset Data Systems & Records Management (within Asset Management Program) requests 1.2 new FTE. This includes the O&M percentage of two Data Product Owner resources to further develop and implement asset data aggregation, integration and asset health models for an expanded scope of assets within Gas, Smart Meter, Facilities, Information Technology, and emerging lines of business. The development of these data repositories supports the overall

objectives of the broader Asset Integrity Management (AIM) program. The workgroup also requests additional O&M dollars dedicated to one Senior Data Analyst to develop and maintain asset management related data governance activities, including the addressing the recent focus directed by the Commission on advancing asset data accessibility, including wildfire risk proceedings, microgrids and electric pole database rulemakings.

The newly formed Asset Risk & Accountability Reporting workgroup (within Asset Management Program) requests adding 3.6 FTEs to lead and manage SDG&E's annual Risk Spend Accountability Report (RSAR) process. This includes one RSAR Manager (hired in the second half of 2021), one Project Manager, and two Business Analysts. These FTEs will be dedicated to optimizing technology to minimize manual processes and improve information (data/records) management to comply with RSAR accountability reporting, RAMP to GRC integration, visibility of risk-informed decision-making attributes throughout the various management information systems, and implementing overall process improvements with a particular focus on forecasting and recording units of work performed, per RAMP and RSAR requirements. The cost drivers for this forecast are the increased frequency and complexing of regulatory reporting requirements related to utility risk spending, the need to improve organizational efficiency to support the additional regulatory compliance requirements, and the need for greater management visibility of risk-based decision-making attributes to align visibility in the primary management systems with these relatively new regulatory compliance requirements.

Business Technology Solutions requests an additional 0.8 FTEs. This includes the O&M percentage for GIS Business Solutions Business Analyst and a Field Computing Analyst. The Business Analyst will support the expanded wildfire safety and regulatory scope of the group, which includes requirements to provide greater data portal access during weather emergency events and other regulatory proceedings. The need for GIS utility knowledge, operational training, Emergency Operations Center management activities, and IT capital projects with GIS demands have greatly increased. The Field Computing Analyst will provide iOS and Hardware support for field employees. The cost drivers behind this forecast are the increasing number of field users, the addition of the use of iOS devices in the workforce to improve user experience and efficiency, and the increasing complexities of field technology requirements. These drivers are supported by the need to ensure timely support and response to clients who require hardware

to safely and efficiently complete duties, including, compliance inspections, emergency response, customer service appointments, and daily activities.

V. SHARED COSTS

As described in the Shared Services testimony of Paul Malin, (Ex. SDG&E-34), shared services are activities performed by a utility shared services department (i.e., functional area) for the benefit of: (i) SDG&E or SoCalGas, (ii) Sempra Energy Corporate Center, and/or (iii) any affiliate subsidiaries. The utility providing Shared Services allocates and bills incurred costs to the entity or entities receiving those services.

Table KD-22 summarizes the total shared O&M forecasts for the listed cost categories.

TABLE KD-22
Shared O&M Summary of Costs
In 2021 $000s

Description	2021 Adjusted-Recorded	TY2024 Estimated	Change
A. Safety	1,023	1,239	216
Total Shared Services	1,023	1,239	216

My testimony supports the TY 2024 forecasts for Shared O&M on a total incurred basis, as well as the shared services allocation percentages related to those costs. Those percentages are presented in my workpapers, along with a description explaining the activities being allocated. See Ex. SDG&E-31-WP-Kenneth Deremer - Safety, Risk & Asset Management. The dollar amounts allocated to affiliates are presented in Mr. Malin's Shared Services testimony (Ex. SDG&E-34)

E. SDG&E Field Safety (Workpaper 2100-0414.000)

1. Description of Costs and Underlying Activities

SDG&E's Field Safety workpaper 2100-0214.000 is comprised of the following activities:

Field Safety Advisors:

SDG&E's Field Safety Advisors are required to attend meetings, perform training, deliver safety tailgate messages, and perform Field Safety Officer duties during emergency events, incidents and/or Emergency Operations Center activations in the field throughout SDG&E's service territory. These activities require the use of an assigned Company truck. SDG&E requests incremental funding for two additional trucks to perform field safety activities.

Safety in Motion (SIM) Program:

. SIM is an as-needed body mechanics education program to inform employees about body positioning to help prevent injury from, for example, sprains, strains, and tears. It is designed to equip each field employee with a consistent process for approaching each job safely by enhancing knowledge and skills and the ability to identify and use the best body positioning. This program provides customized training based on known risk factors such as intensity of effort (e.g., jackhammering), awkward posture (e.g., working on a pole or digging), and/or repetition (e.g., wrenching) with the objective of providing employees with alternatives to decrease injury potential. SIM's overall goal is to reduce unnecessary strain on the body through use of engineering controls, tools, and physical techniques that allow employees to "work smarter not harder."

Promoting a Strong Safety Culture:

SDG&E is committed to a strong safety culture and places the highest priority on employee, customer, and public safety. To continuously strengthen its safety culture, Company employees attend safety meetings, tailgates, congresses, and are surveyed every two years to solicit their candid feedback, as further detailed below. SDG&E's efforts to establish a strong safety culture and further employee safety initiatives include:

- Safety Stand-downs: A Safety Stand-down is a voluntary event for supervisors 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.
- 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 to a specific upcoming task and the safe way to do a job. Tailgate talks also serve as important safety reminders, provide awareness about unrecognized or emerging hazards, and establish the supervisor's credibility and conscientiousness about his/her oversight role.
- Safety Meetings: The main objectives of safety meetings are to remind employees of safe practices and to introduce and build awareness of new risks, hazards, techniques, equipment, or regulations that must be observed.

Safety meetings occur every 10 days for employees engaged in field construction or construction associated activities and monthly for employees involved in operations, maintenance, or other manual work (employees who spend at least 50% of their time in the field).

- Executive Safety Council (ESC) Team Meeting Dialogs: The ESC is the governing body for all safety committees. Led by SDG&E's Chief Operations Officer and Director – Safety, the ESC advances Company safety culture and addresses enterprise-wide safety strategy. The meeting dialogs are held at Company locations (or on virtual Teams meetings during the pandemic) and integrate employee and supervisor dialog sessions so that employees have an opportunity to share safety experiences with Company leadership.
- Field and Office Site Safety Committees: These site-specific committees are actively engaged in safety awareness through education, promoting a healthy lifestyle, encouraging work-life balance, and always maintaining a safe work environment. To keep the committees connected, quarterly meetings are held with committee chairpersons and co-chairpersons. During these meetings safety updates are shared, training is provided, and action planning steps identified.
- Electric Safety Subcommittee (ESS): This committee brings management and electric front-line people together to discuss safety concerns from the perspective of those closest to the risks. The objectives are to make a lasting difference in reducing unnecessary risk, resolve division-wide safety issues/concerns, and have front-line employees bring information to their respective workgroups.
- Gas Safety Subcommittee (GSS): This committee brings management and gas operations front-line people together to discuss safety concerns from the perspective of those closest to the risks. The objective is to reduce unnecessary risk, resolve gas safety issues/concerns, and communicate information back to front-line employees.
- Office Safety Director Committee: This committee develops and shares best practices for SDG&E office employees. The committee initiates projects,

initiatives, and action plans to reduce and eliminate office injuries at Company facilities and identifies and monitors leading indicators.

- Biennial Safety Culture Survey: Every two years, SDG&E employees take a Safety Barometer Survey and share their candid insights on safety in six critical areas: Management Commitment, Supervisor Engagement, Employee Involvement, Safety Support Activities, Safety Support Climate, and Organizational Climate. The Safety Barometer Survey is provided by the National Safety Council (NSC), an independent non-profit organization that has advocated for employee and public safety for over 100 years. The NSC compares SDG&E's survey results to those of other participating companies in their survey database (currently, 580). The results of SDG&E's 2020 survey placed SDG&E in the 98th percentile and in the top 2 percent of the 580 organizations in the NSC database who participated in the survey in 2020. The overall score for SDG&E increased by 8 points from the 2018 survey. Action plans based on the 2020 NSC survey results will be developed and executed.
- Annual Safety Congress & Leadership Awards: Since 2002, this event has been held annually. It provides a forum for safety committee members, safety leaders, and others to share and exchange information and ideas through networking and workshops. Safety leaders are recognized for living by the Company's safety vision, turning that vision into action, embracing the SDG&E safety culture, and demonstrating safety leadership.

Incident Investigation

As part of improving its safety culture, SDG&E's Safety Department has established a comprehensive and robust incident investigation standard and reporting process. Applying this process uniformly across the Company will result in more consistent investigations and will allow lessons learned to be shared broadly. In addition, regular training is provided for those conducting incident investigations to confirm consistency and more thorough investigations.

Emergency Action Plan (EAP)

All Company facilities must have an EAP for the purpose of communicating to employees their responsibilities during an emergency. The plans include, but are not limited to

communication strategies, evacuation routes, and procedures for accounting for employees. The safety of all employees is the primary goal during a workplace emergency. SDG&E's EAP procedures are taught through web-based, in-person, and/or classroom training. Training is mandatory for employees designated to assist with emergency evacuations and all employees are trained on the EAP when they are hired, transferred, when the plan is changed, and when an employee is transferred to a new work area or when new hazards are introduced to an existing work area. Additionally, an evacuation drill is held annually.

Certified Safety Professionals:

A new requirement effective in 2020, Senior Safety Advisors are required to have specific training and minimum certification including Certified Safety Professional (CSP), Certified Industrial Hygienist, or Certified Occupational Safety Specialist (CUSP) certifications. All Safety Services management team and Safety Advisors are Federal Emergency Management agency (FEMA) ICS 100, 200 and 775 certified.

In 2020, the Safety Services management team expanded its role in Emergency Operations Center (EOC) activations during red flag warnings and other emergency conditions by staffing the Safety Officer position in the EOC, deploying field safety officers to the impacted workgroup staging areas, and regularly communicating safety messages through safety bulletins and jobsite safety support.

Many of SDG&E executive and leadership employees have successfully completed a 10-hour Occupational Safety and Health Training Course in General Industry Safety and Health OSHA to further their safety education and create an environment to support a positive safety culture.

Safe Driving Programs:

SDG&E's 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, SDG&E is driving a safety culture committed to safe driving. This commitment includes written policies and procedures, review of motor vehicle incidents, a department of motor vehicles license pull program to confirm that all employees driving on behalf of the Company or on Company property are properly licensed, safe driving training, and development of training materials available to reinforce safe driving principles.

Smith System® Defensive Driving Program:

Smith System® was founded on the principle that most crashes are preventable if the right driving habits are learned, practiced, and applied consistently. Smith System® combines classroom and behind the wheel instruction as a way to increase an experienced driver's safety awareness and change poor driving habits.

Close Quarter Maneuvering Drivers Training:

This SDG&E course was customized from the Smith System Advanced Backing, Parking, and Close Quarters Maneuvering course. During this in-house training, advanced backing and close quarter maneuvering are learned/practiced during 30-minute classroom discussion and a 2.5-hour driving course using the vehicle driven for work. The driving course includes blind spot identification, and serpentine and diminishing cone courses. This training focuses on developing and/or improving skills and techniques to maneuver safely in challenging driving environments.

National Safety Council Defensive Driving Training Modules:

Employees can access online driving training modules on specific topics such as backing, close quarter maneuvering, and other driving topics to educate themselves on driving best practices.

Jobsite Safety Programs:

SDG&E has in place a range of safety programs designed to identify, address, mitigate, and communicate workplace risks and hazards, and to contribute proactively to overall workplace safety and employee awareness of safety issues and concerns. These programs include:

- Facilities Maintenance Program: Facilities capital projects are designed to make workspaces safer. Facilities maintenance programs are preventative, predictive, and corrective. Some examples include structural changes, asbestos inspection and abatement, and parking lot safety amenities.
- Traffic control for employee, contractor, and public safety at worksites: SDG&E, when performing work on, or adjacent to, a roadway, is responsible for installing and maintaining such devices which are necessary to provide safe passage for the public traveling through the work area and for the safety of the workers on the site. SDG&E uses both internal and external resources to fulfill this responsibility.

- Work Methods and Standards: Business functions related to developing and maintaining construction standards, standards practices, and system design for electric service, primary and secondary systems.

Enhanced Employee Safe Driving Training (Vehicle Technology Programs):

In 2021, SDG&E employees drove approximately 16.5 million miles. In order to further reduce and prevent motor vehicle incidents, SDG&E has installed vehicle technology in its Company fleet. The technology allows SDG&E to develop safety metrics to provide a comprehensive view of the vehicle driver and fleet performance through data driven vehicle analytics. This data-enables SDG&E to provide coaching and specific driver training to employees to reinforce safe driving habits. This technology will help improve employee safety by providing information on vehicle location, providing opportunity for driver feedback, discouraging risky driving behaviors, and detecting engine issues and fault codes so they can be corrected.

Automated Extended Defibrillators (AED) Maintenance:

AEDs are available at all SDG&E work locations and are on crew vehicles with two or more employees. Designated employees are trained on the use of AEDs as well as general first aid, cardiopulmonary resuscitation (CPR), and bloodborne pathogens. With simple audio and visual commands, SDG&E's AEDs are designed to be simple to use for the layperson.

2. RAMP Activities

RAMP-related costs for SDG&E Field Safety Oversight include the costs for SDG&E's Safety Culture and Safe Driving Programs, described in Table KD-6.

Table KD-23 below provides the RAMP activities, their respective cost forecasts, and the RSEs for this workpaper. For additional details on these RAMP activities, please refer to my workpapers 2100-0414.000.

TABLE KD-23
RAMP Activity O&M Forecasts by Workpaper
In 2021 $000s

Workpaper	RAMP ID	Description	2021 Embedded Recorded	TY 2022 Estimated	Change	GRC RSE*
2100-0414.000	SDGE-08-C3	Promoting a Strong Safety Culture	52	237	185	0
2100-0414.000	SDGE-08-C9	Safe Driving Programs	90	91	1	0

* An RSE was not calculated for this activity.

3. Forecast Method

The forecast method developed for the Safety Management Program cost category is base year with incremental increases. For labor and non-labor, the base year provides an appropriate baseline in comparison to future targets for the enterprise. Incremental labor increases from the base year are requested in order to complete additional initiatives. Therefore, Field Safety Services' use of the base year forecast method is representative of the expectations for the 2024 Test Year. This method is most appropriate because it is indicative of the current organizational structure, current safety management programs, and planned initiatives. Use of alternate forecast method(s) or certain historical data is not appropriate because they do not represent the current and future structure of this organization and its planned risk mitigation activities.

4. Cost Drivers

The cost drivers are prescribed regulatory requirements, Cal OSHA regulations, and activities designed for improved safety performance. SDG&E's incremental funding request for safety management programs and activities support the ongoing management of risks and exposures that could pose significant safety consequences to its employees, contractors, and the public. These activities/programs, as included in the 2021 RAMP Report, are designed to mitigate risk and reduce exposures for public, employee and contractor safety. The cost driver behind this forecast includes increased AED maintenance costs.

VI. CAPITAL

My testimony supports the TY 2024 forecasts for Capital costs associated with the Contractor Field Safety Management Overhead Pool. Table KD-24 below details the requests of $2,200, $2,373, and $2,372 in 2022, 2023 and 2024, respectively. In addition, my testimony describes the operational need for seven information technology systems that support the SMS

organization for the forecast years 2022, 2023 and 2024. The basis for these costs is justified by other witnesses as specified below.

TABLE KD-24
Summary of Capital Costs

SAFETY MANAGEMENT SYSTEMS In 2021 $ (000s)				
Categories of Management	2021 Adjusted-Recorded[16]	Estimated 2022	Estimated 2023	Estimated 2024
A. Safety	1,415	2,200	2,373	2,372
Total	1,415	2,200	2,373	2,372

A. Contractor Field Safety Management Overhead Pool

1. Description

SDG&E forecasts $2,200, $2,373, and $2,372 in 2022, 2023 and 2024 respectively, Capital costs for its Contractor Field Safety Management Overhead Pool. Contractors working for SDG&E are required to comply with all federal, state, and local laws, ordinances, and regulations and ensure the safety and environmental compliance of their employees, as well as ensuring their operations do not compromise the safety of SDG&E employees and the public. For consistency and alignment of safety initiatives, SDG&E developed a Contractor Safety Services (CSS) Department that oversees all internal and external Class 1 contractors. The CSS team's main objective as part of the Contractor Oversight Program is to confirm the Class 1 Contractors engaged in work on behalf of SDG&E are working safely and risk is being managed effectively. The CSS team is made up of both internal and contracted resources to support the various activities to confirm contractors are working safely.

SDG&E has developed an Overhead Pool for Contractor Field Safety Management to more accurately track and manage costs to perform Class 1 Contractor safety oversight. In previous GRCs, these costs have been captured and supported within each Business Unit or project. SDG&E's CSS department manages the Contractor Safety Program and performs

[16] $1,415 represents the costs currently tracked within existing Contract Admin Pool and is only a portion of Contractor Safety costs. The totality of the Contractor Field Safety advisors' historical costs cannot be captured with a meaningful level of accuracy as these costs are embedded in the overall costs of a multitude of capital projects. Adoption of a Contractor Field Safety Management Overhead Pool will allow these costs to be tracked and managed within the Contractor Safety group going forward. Incremental costs for 2022, 2023, and 2024 include 3-4 additional contracted employees to perform Contractor Safety program oversight.

contractor safety oversight for all business units and projects enterprise-wide. In an effort to more transparently track, analyze, and report these costs, SDG&E is capturing these costs, other than those direct charged to SDG&E's largest major projects, in the Contractor Field Safety Management Overhead Pool.

The incremental funding request includes additional contracted resources that will be added to SDG&E's Contractor Oversight Program to support the additional data received by new Class 1 Contractors and business units in order to pre-qualify, process, track, trend, and communicate safety data. These additional resources are a non-labor cost that will be added, tracked, and reported within the Contractor Field Safety Overhead Pool.

2. Forecast Method

The forecast method is zero based. This is appropriate because this is a new method for tracking and allocating contractor field safety oversight costs. While these costs were previously charged, they were not organized or integrated within a single pool and cannot be identified or separated from other historical operating costs. Therefore, costs developed for the Contractor Field Safety management Pool were forecasted as zero-based to most accurately reflect the activities in the forecast years.

3. Cost Drivers

The cost drivers are prescribed regulatory requirements, Cal OSHA regulations, and activities designed for improved safety performance. SDG&E's incremental funding request for safety management programs and activities support the ongoing management of risks and exposures that could pose significant safety consequences to its employees, contractors, and the public. These activities/programs, as included in the 2021 RAMP Report, are designed to mitigate risk and reduce exposures for public, employee and contractor safety. The cost drivers behind this forecast include:

- Expanded Contractor Safety Oversight Program with third-Party safety observer funds as a result of expanded oversight into other Business Units and new contracts with higher rates.
- Non-labor purchase of new enterprise-wide schedule software system.
- Additional contractors needed to verify contractor employee training records and manage schedules and software.

B. Information Technology (IT) Projects

1. Description

Capital costs for the forecast years 2022, 2023, and 2024 for information technology systems that support Safety, Risk, and Asset Management operations (Table KD-25 below) are sponsored by Mr. Exon (Ex. SDG&E 25-CWP). The purpose of this section of the testimony is to describe the business justification for these costs. Refer to Mr. Exon's capital workpapers, Ex. SDG&E 25-CWP-William J. Exon-Information Technology, for the basis for the costs. Additionally, two of the projects (asterisked in the table below) are co-funded by the IT organization and the Wildfire Mitigation Program (WMP). Refer to the testimony of Mr. Woldemariam (Ex. SDG&E-13) and Mr. Woldemariam's workpapers (SDG&E-13-CWP-Jonathon Woldemariam). Table KD-26 summarizes the total capital forecasts for 2022, 2023, and 2024.

TABLE KD-25
Summary of Total Capital Costs

SAFETY, RISK & ASSET MANAGEMENT CAPITAL COSTS In 2021 $ (000s)				
Capital Workpaper Group	Project Name	2022 Estimated	2023 Estimated	2024 Estimated
00921N*	a. Engineering & Construction Doc Centralization and Compliance	597	608	608
208910#	b. EAMP Asset Data Foundation	2,363	2,298	1,264
00920BM*	b. EAMP Asset Data Foundation	4,389	4,269	2,347
b. Subtotal		6,752	6,567	3,610
218770#	c. Asset Investment Prioritization (AIP) *	1,784	3,066	2,009
00920E*	c. Asset Investment Prioritization (AIP) *	1,873	5,502	9,256
00920BL*	c. Asset Investment Prioritization (AIP) *	3,314	5,694	3,731
c. Subtotal		6,971	14,262	14,996
00920AH*; 00920F*	d. Work Management Enhancements	1,743	1,643	1,971
00920AM*; 00920H*	e. Field Hardware Replacement	4,713	3,989	3,544

00920AW*; 00920M*	f. GIS Modernization	1,734	2,344	324
00920AS*	g. Field Mobility Development	1,835	$0	$0
	Total	24,345	29,413	25,053

* These workpapers appear in the Information Technology testimony of William J. Exon (Exhibit SDG&E-25, Chapter 2).
# These workpapers appear in the Wildfire Mitigation and Vegetation Management testimony of Jonathan T. Woldemariam (Ex. SDG&E-13).

C. Engineering and Construction Document Centralization and Compliance

1. Description

The forecast for Engineering and Construction Document Centralization and Compliance project for 2022, 2023, and 2024 are $597, $608, and $608, respectively. SDG&E intends to build and place in service Engineering and Construction Document Centralization and Compliance by 2024. The project will centralize key engineering and construction documents and records onto one electronic platform that currently exist across multiple platforms and in hard copy, thereby, reducing the costs of third-party document storage maintenance costs and eliminating additional and ongoing storage costs for documents and files. These forecasted capital expenditures support the Company's goals of innovation and sustainability. This project will centralize document storage and will reduce the amount of waste by using electronic repositories for engineering files rather than disposal into landfills, thus supporting SDG&E's sustainability goals.

Refer to Mr. Exon's capital workpapers, Ex. SDG&E 25-CWP-William J. Exon-Information Technology, for the basis for the costs.

D. Enterprise Asset Management Platform (EAMP) Asset Data Foundation

1. Description

The forecast for Enterprise Asset Management Platform (EAMP) Asset Data Foundation project for 2022, 2023, and 2024 will be jointly sponsored by the Wildfire Mitigation Program and Information Technology witness areas. The forecast for project costs sponsored by The Wildfire Mitigation Program for 2022, 2023 and 2024 are $2,363, $2,298, and $1,264, respectively. The forecast for project cost forecast sponsored by Information Technology for 2022, 2023 and 2024 are $4,389, $ 4,269, and $2,347, respectively. SDG&E plans to expand upon and place in service the EAMP Asset Data Foundation by 2024.

The project consolidates asset data across disparate Company systems, creates asset health and risk/impacts indices at an individual asset level, and develops dashboards for users to

interact with the data. The EAMP project is a RAMP related activity and is a cross-functional factor. See SDG&E-CFF-1 Asset Management from 2021 RAMP Report (A.21-05-011).

These forecasted capital expenditures support the Company's goals of safety, reliability, and risk reduction through the enablement of data-driven, risk-informed decision making, specifically the creation of Asset Management Plans which house maintenance and replacement strategies. This is done by understanding current performance through the creation of consolidated data models, asset health and probability of failure (PoF) calculations as well as consequence of failure (CoF)/impact predictions at the individual asset level. Additionally, the aggregation of this data will be used to support the evaluation and analysis of SDG&E's sustainability goals and investment decision-making process as described in Section III above.

The solution supports the 2020-2022 Wildfire Mitigation Plan[17] under the Data Governance category as part of the Wildfire Mitigation Programs, supports regulatory requirements for data-driven risk quantification and conforms to ISO 55000 standards and recommendations.

These costs are identified for the Wildfire Mitigation Program. Refer to Mr. Exon's capital workpapers, Exhibit SDG&E-21-CWP William J. Exon – Information Technology, and to Mr. Woldemariam's capital workpapers, Ex. SDG&E-13-CWP-Jonathan Woldemariam-Electric Distribution-Wildfire Mitigation, for the basis for these costs. This budget code in its entirety, aligns with a RAMP activity.

TABLE KD-26
RAMP Activity Capital Forecasts by Workpaper
In 2021 Dollars ($000s)

Workpaper	Risk Chapter	ID	Description	2022 Estimated RAMP Total	2023 Estimated RAMP Total	2024 Estimate RAMP Total	GRC RSE*
208910	SDG&E-CFF-1	2b	Asset Data Syst & Rec Mgmt (Data Integration)	2,363	2,298	1,264	0
00920BM	SDG&E-CFF-1	2b	Asset Data Syst & Rec Mgmt (Data Integration)	4,389	4,269	2,347	0

* An RSE was not calculated for this activity.

[17] 2020-2022 Wildfire Mitigation Plan at 301, Section 7.3.7., *available at:* https://www.sdge.com/sites/default/files/regulatory/SDG%26E%202021%20WMP%20Update%2002-05-2021.pdf.

E. Asset Investment Prioritization (AIP)

1. Description

The forecast for the Asset Investment Prioritization project for 2022, 2023, and 2024 is jointly sponsored by the Wildfire Mitigation Program and Information Technology witness areas. The forecast for project costs sponsored by the Wildfire Mitigation Program for 2022, 2023 and 2024 are $1,784, $3,066, and $2,009, respectively. The forecast for project costs sponsored by Information Technology for 2022, 2023 and 2024 are $5,187, $11,196, and $12,987, respectively. SDG&E has commenced the development of an Asset Investment Prioritization software and expects to place in service for electric transmission and distribution operating units by 2023.

The first phase of the AIP project has been in progress since early 2020. This next phase will expand the implementation of the Copperleaf C55 as "Software as a Service" (SaaS) solution for Gas Distribution, IT, Fleet and Facilities, while continuing the business adoption of this software solution with Electric Transmission, Substation, System Protection, and Distribution group. The current investment prioritization tool lacks the capability to meet the more rigorous and complex regulatory reporting requirements mandated in S-MAP decisions[18]. These requirements include forecasting, tracking, and reporting of units and costs associated with risk activities that drive SDG&E's risk-informed decision-making process. Regulatory agencies are requesting more transparency and accountability in capital spending; therefore, replacing the current system with Copperleaf C55 will provide the necessary data-driven, risk informed, transparent, and consistent value-based capital investment prioritization and support RAMP, RSAR and GRC reporting requirements.

The AIP project is a RAMP related activity and is a cross-functional factor. See SDG&E's 2021 RAMP Report (A.21-05-011).

These forecasted capital expenditures support the Company's long-term goals and strategic plan by providing business units, including but not limited to, SDG&E's Enterprise Risk Management and Electric Operating departments, with a risk-informing software solution that can assist in their asset investment decision-making and provides a common value framework for appraising capital investments at the enterprise level. It also allows process repeatability and responsible stewardship to regulatory outcomes, financial performance, and

[18] *See* D.14-12-025; D.18-12-014; D.19-04-020.

service levels. Provision of this software solution also adheres to ISO 55000 standards and recommendations.

The Asset Investment Prioritization also supports the 2020-2022 Wildfire Mitigation Plan under Resource Allocation Methodology as part of the Wildfire Mitigation Programs. The software solution enables the simplification and standardization of project appraisal based on risk reduction benefits and costs and enhances the Company's ability to cross-prioritize across portfolio, including wildfire-driven projects, and optimize capital spend for effective use of ratepayer funds.

e. RAMP Activities

RAMP related costs for Asset Investment Prioritization include the costs for the following activity: (1) AIM (Gov, Strat AIP). The Asset Integrity Management (AIM) program advances the development and implementation of a comprehensive, sustainable and risk informed Asset Management System (AMS), which encompasses people, process, data, analytics, and technology.

Within the AIM program, the Asset Investment Prioritization (AIP) project incorporates an enterprise-wide, multi-attribute value framework methodology and an enabling software solution to demonstrate appraisal of capital investments in a consistent, transparent, repeatable, and standardized manner through data-driven, quantitative risk-informed and safety-based lens with the appropriate committee reviews and approvals. It allows for risk mitigations prioritization; the calculation of capital investment RSEs through risk reduction benefits over cost; and aids to effectively select and implement the right mitigations and controls to address the operating unit risks. It utilizes the Company's strategic values and determines standardized value-based metrics to quantitatively compare various projects, and thereby enhance the Company's ability to cross-prioritize across portfolio and optimize capital spend and effective use of ratepayer funds.

Table KD-27 below provides the RAMP activities and their respective cost forecasts for this workpaper. For additional details on these RAMP activities, please refer to Mr. Exon's capital workpapers, Ex. SDG&E-25-CWP William J. Exon—Information Technology, and to Mr. Woldemariam's capital workpapers, Ex. SDG&E-13-CWP-Jonathan Woldemariam-Electric Distribution-Wildfire Mitigation.

TABLE KD-27
RAMP Activity Capital Forecasts by Workpaper
In 2021 Dollars ($000s)

Workpaper	Risk Chapter	ID	Description	2022 Estimated RAMP Total	2023 Estimated RAMP Total	2024 Estimated RAMP Total	GRC RSE*
218770	SDG&E-CFF-1	1	AIM (Gov, Strat, AIP)	1,784	3,066	2,009	0
920BL	SDG&E-CFF-1	1	AIM (Gov, Strat, AIP)	3,314	5,694	3,731	0

* An RSE was not calculated for this activity.

F. Work Management Enhancements

1. Description

The forecast for the Work Management Enhancements project for 2022, 2023, and 2024 are $-1,743, $1,643, and $1,971, respectively. SDG&E plans to develop and place the Work Management Enhancements in service by 2024. The project will result in the improved usability of Construction Planning & Design (CPD) and SAP systems, data accuracy, and reporting for work management systems in construction management, ERO (Electric Regional Operations), engineering, reliability, and accounting across the organization.

These forecasted capital expenditures support the Company's goals of innovation, safety, and reliability. This project's developers are innovative in enhancing current systems to provide field needs. Their goal is to increase safety and reliability through better reporting capability and data entry functions. This will, in turn, increase user experience and reduce the need for manual processes.

Refer to Mr. Exon's capital workpapers, Exhibit SDG&E 25-CWP-William J. Exon-Information Technology, for the basis for the costs.

G. Field Hardware Replacement

5. Description

The forecast for the Field Hardware Replacement initiative for 2022, 2023, and 2024 are $4,713, $3,989, and $3,544, respectively. Field hardware devices are a critical component of SDG&E's ability to deliver and utilize technology in field operations to safely, reliably, and effectively serve our customers. It is important that the hardware devices can comport and configure with SDG&E's technology infrastructure, cybersecurity requirements and critical software applications that enable field and operational employees to plan, schedule, dispatch and

execute their work. As part of our ongoing maintenance and replacement field hardware program, SDG&E expects to replace 1,800 mobile units in total and 600 units annually across the organization over the next three years. The replacement also includes hardware preparation, implementation activities, deployment of devices, and labor of resources.

These forecasted capital expenditures support the Company's goals of safety and reliability. Replacing the mobile devices will improve the functionality related to computing hardware performance and usability and increase productivity. It is of utmost importance to replace outdated and broken technology that is utilized by field personnel to continue to provide reliable service to customers. The field personnel rely on this technology for routing, work management, and maintenance. They utilize the devices for situational awareness, not only during routine replacement of electric or gas assets but also during major emergency incidents, including Emergency Operations Center and Public Safety Power Shutoff Events, that require optimal technology and wireless network capability.

Refer to Mr. Exon's capital workpapers, Ex. SDG&E 25-CWP-William J. Exon-Information Technology, for the basis for the costs.

Field Hardware Replacement aligns with a RAMP activity. Field Hardware Replacement falls under the Electric Operations Systems Resiliency RAMP CFF 4 Foundational Technology Systems Activity. The RAMP mitigation maintains and enhances resiliency through electric system application upgrade and lifecycle management activities, allowing the Company to manage and operate its systems. This includes the replacement, enhancement, or upgrade of critical applications that are used in daily operations on the electric system. GIS mobile application replacements, enhancements, and upgrades is one of these activities.

Table KD-28 below shows the TY 2024 forecast dollars and RSE associated with the activities in the 2021 RAMP Report.

TABLE KD-28
RAMP Activity Capital Forecasts by Workpaper
In 2021$ (000s)

Workpaper	Risk Chapter	ID	Description	2022 Estimated RAMP Total	2023 Estimated RAMP Total	2024 Estimated RAMP Total	GRC RSE*
00920AM; 00920H	SDG&E-CFF-4	04	Replacement Field Mobility; Field Mobile Hardware Replacement	4,713	3,989	3,544	0

* *An RSE was not calculated for this activity.*

H. GIS Modernization

1. Description

The forecast for the GIS Modernization project for 2022, 2023, and 2024 are $1,734, $2,344, and $324, respectively. SDG&E plans to develop and place in service GIS Modernization by 2024. The project will primarily focus on GIS desktop, spatially enabled databases, and ArcGIS portal web-based application and integrations between GIS and mission critical systems.

These forecasted capital expenditures support the Company's goals of innovation, safety, and reliability. This project's developers and analysts are innovative in creating new applications and/or enhancing existing applications to meet business needs across the organization. This includes providing critical support in the regulatory space and in the Emergency Operations Center, specifically for Public Safety Power Shutoffs and Curtailments. The applications and integrations created during GIS Modernization project will increase safety, situational awareness and reliability for internal and external customers during these events.

Refer to Mr. Exon's capital workpapers, Ex. SDG&E 25-CWP William J. Exon-Information Technology, for the basis for the costs.

GIS Modernization aligns with a RAMP activity. GIS Modernization falls under the Electric Operations Systems Resiliency RAMP CFF 4 Foundational Technology Systems Activity. The RAMP mitigation maintains and enhances resiliency through electric system application upgrade and lifecycle management activities, allowing the Company to manage and operate its systems. This includes the replacement and enhancement of critical applications that

are used in daily operations on the electric system. GIS is used to identify location and assets installed in the field, which reduces the possibility of incorrect identification and operation. GIS is used within mobile, desktop, and web applications to provide internal and external clients near real-time awareness, including during emergency events such as public safety power shutoffs.

Table KD-29 below shows the TY 2024 forecast dollars and RSE associated with the activities in the 2021 RAMP Report.

TABLE KD-29
RAMP Activity Capital Forecasts by Workpaper
In 2021$ (000s)

Workpaper	Risk Chapter	ID	Description	2022 Estimated RAMP Total	2023 Estimated RAMP Total	2024 Estimated RAMP Total	GRC RSE*
00920AW; 00920M	SDG&E-CFF-4	04	Electric GIS Modernization Project; GIS Modernization	1,734	2,344	324	0

* An RSE was not calculated for this activity.

I. Field Mobility Development

1. Description

The forecast for the Field Mobility Development project for 2022, 2023, and 2024 are $1,835, $0, and $0, respectively. SDG&E plans to build and place in service the Field Mobility Development project by 2024. The project will primarily focus on developing new electric and gas fielding applications to enable users to receive work packages, enter required documentation, sync completed details to SAP, improve GIS functions, and initiate job notifications.

These forecasted capital expenditures support the Company's goals of innovation, safety, and reliability. This project's developers are innovative in creating new applications to meet business needs across the organization. The automation and reduction of manual steps will lead to workflow optimization and streamlined processes in the electric and gas organizations. Data quality, reduction in job cancellations, accuracy, and user experience will also be enhanced. These benefits will lead to increased safety and reliability for the organization.

Refer to Mr. Exon's capital workpapers, Ex. SDG&E-25-CWP-William J. Exon-Information Technology, for the basis for the costs.

VII. CONCLUSION

The total TY 2024 O&M expense for the Safety, Risk Management, and Asset Management departments described in this exhibit total $17.2 million. The increase of 31% over BY 2021 is attributable to new and/or evolving regulatory directives to enhance safety, mitigate risks, improve accountability reporting, increase accessibility and analysis of asset data and health, and advance risk-informed decision making tools and processes. This includes the full implementation and oversight of our Safety Management System, continued development and integration of our asset data platform to evaluate asset health and risk, an increased focus on data analytics to quantify risk, and advancement in our asset management system that aligns to the tenets of ISO 55000. The cost forecasts included in this exhibit are just and reasonable and should be approved by the commission.

This concludes my prepared direct testimony.

VIII. WITNESS QUALIFICATIONS

My name is Kenneth J. Deremer, and my business address is 8330 Century Park Court, San Diego, California 92123. I am currently employed by SDG&E as the Director of Asset Management. My current responsibilities include the development, implementation and oversight of SDG&E's asset management policies, procedures, and plans. I assumed my current position in June 2017. Prior to this, I served as the Director of Financial Planning and Regulatory Accounts where I was responsible for the preparation, analysis, and oversight of SDG&E's multi-year financial planning process and regulatory account and cost recovery mechanisms since May 2011. Previously, I served as Director of Financial Analysis since January 2009, where my responsibilities included overseeing the financial evaluation of major projects, the development and implementation of financing strategies, and the oversight of regulatory account and cost recovery mechanisms for SDG&E and SoCalGas. Previously, I was the Director of Tariffs and Regulatory Accounts since May 2007, where my responsibilities included the implementation and oversight of the utilities' tariffs and regulatory compliance process. Prior to May 2007, I served as the Regulatory Accounts Manager since April 2002. In that position, I managed the process for implementing and maintaining regulatory accounts.

Over the past years, I have served testimony in several regulatory proceedings, including the General Rate Case, Cost of Capital and Electric Commodity Cost Recovery.

I have been employed by SDG&E and Sempra Energy since 1991. In addition to my work experience described above, I worked from 1999 through 2002 as a Regulatory Tariff Administrator and held various positions in the Financial Reporting Department. I received a Bachelor's of Science in Business Administration from the University of California, Riverside in June 1987. I also received a Master's in Business Administration, with an emphasis in Finance, from the University of California, Riverside in December 1989. I have previously testified before this Commission.

APPENDIX A

GLOSSARY OF TERMS

APPENDIX A
Glossary of Terms

Acronym	Definition
ACE	Analytics Community of Excellence
ADS&R	Asset Data Systems and Records Management
AED	Automated Extended Defibrillators
AIM	Asset Integrity Management
AMPs	Asset Management Plans
AMS	Asset Management System
API	American Petroleum Institute
ARCOS	Automated Roster Call Out System
BAPP	Behavioral Accident Prevention Process
BBS	Behavior Based Safety
BY	Base Year
CCS	Contractor Safety Services
CDC	Commercial Driver's License
CFF	Cross Functional Factor
CMV	Commercial Motor Vehicle
CoF	Consequence of Failure
CPD	Construction Planning and Design
CPR	Cardiopulmonary Resuscitation
CPUC or Commission	California Public Utilities Commission
CSP	Certified Safety Professional
CSS	Contractor Safety Services
CUSP	Certified Occupational Safety Specialist
DART	Days Away Restricted or Transfer Rate
D&A	Drug and Alcohol
DIMP	Distribution Integrity Management Program
DMV	Department of Motor Vehicles
E&FP	Electric and Fuel Procurement
EAMP	Enterprise Asset Management Platform
EAP	Emergency Action Plan
EDW	Engineering Data Warehouse
EMF	Electric and/or Magnetic Field
EMR	Experience Modification Rate
EOC	Emergency Operations Center
EPN	Employer Pull Notice
ERM	Enterprise Risk Management
ERO	Electric Regional Operations
ESC	Executive Safety Council
ESCMP	Environmental & Safety Compliance Management Program
ESS	Electric Safety Subcommittee
FEMA	Federal Emergency Management Agency

Acronym	Definition
FERC	Federal Energy Regulatory Commission
FTE	Full-time Dedicated Employee
GEARS	Geographic Environmental Analysis & Reporting System
GHG	Greenhouse Gas
GIS	Geographical Information System
GRC	General Rate Case
GSS	Gas Safety Subcommittee
IIP	Intelligent Image Processing
IIPP	Injury Illness Prevention Program
IOUs	Investor-Owned Utilities
ISO	International Organization of Standardization
IT	Information Technology
KPI	Key Performance Indicator
LMS	Learning Management System
MAOP	Maximum Allowable Operating Pressure
MAVF	Multi Attribute Value Function
MER	Medical Examiner Certificate
MOC	Management of Change
MVI	Motor Vehicle Incident
NMS	Network Management System
NSC	National Safety Council
O&M	Operations and Maintenance
OMS	Outage Management System
OQ	Operator Qualifications
OURR	Operating Unit Risk Registry
PAPRS	Powered Air Purifying Respirators
PHMSA	Pipeline and Hazardous Materials Safety Administration
PMO	Project Management Office
PoF	Probability of Failure
PPE	Personal Protective Equipment
PS&C	Pipeline Safety and Compliance
PSPS	Public Safety Power Shut-off
RAMP	Risk Assessment Mitigation Phase
RSAR	Risk Spend Accountability Reporting
RSE	Risk Spend Efficiency
SaaS	Software as a Service
SCG	Southern California Gas Company
SDG&E	San Diego Gas & Electric
SED	Safety Enforcement Decision
SIF	Serious Injury and Fatality
SIM	Safety in Motion
SMOC	Smart Meter Operations Center
SMS	Safety Management System

Acronym	Definition
S-MAP	Safety Model Assessment Proceeding
SORT	Service Order Routing Technology
SOX	Sarbanes-Oxley
SPD	Safety Policy Division
SPMR	Safety Performance Metrics Report
SSI	Serious Safety Incidents
STJ	Stop the Job
TAMS	Telecommunication Asset Management System
TIMP	Transmission Integrity Management Program
TRIR	Total Recordable Incident Rate
TY	Test Year
VPP	Voluntary Protection Program
WiNGS	Wildfire Ignition Next Generation System
WMP	Wildfire Mitigation Plan

APPENDIX B

SAFETY MANAGEMENT SYSTEMS

RAMP ACTIVITY O&M FORECASTS BY WORKPAPER (IN 2021 $)

APPENDIX B

SAFETY MANAGEMENT SYSTEMS RAMP Activity O&M Forecasts by Workpaper (In 2021 $)						
Workpaper	**RAMP ID**	**Description**	**BY2021 Embedded Base Costs (000s)**	**TY2024 Estimated Total (000s)**	**TY2024 Estimated Incremental (000s)**	**GRC RSE***
1SM001.000	SDG&E-CFF-7 - 1	Development and Implementation of an Enterprise-Wide SMS	718	821	103	0
1SM001.000	SDG&E-CFF-7 - 2	Enhanced Employee and Stakeholder Engagement, including SMS Competence, Awareness, Survey and Training	0	100	100	0
1SM001.000	SDG&E-CFF-7 - 3	Integration of New Technology and Enhanced Data and Analytics Capabilities for Continuous Safety Improvement	0	437	437	0
1SM001.000	SDG&E-CFF-7 - 4	Enhanced Documentation and Recordkeeping Practices	0	100	100	0
1SM001.000	SDG&E-CFF-7 - 6	Enhanced Stakeholder Feedback and Key Performance Indicator Monitoring, Tracking, and Reporting	0	200	200	0
1SM001.000	SDG&E-CFF-7 - 7	Development and Implementation of a Strong	0	300	300	0

SAFETY MANAGEMENT SYSTEMS RAMP Activity O&M Forecasts by Workpaper (In 2021 $)						
Workpaper	**RAMP ID**	**Description**	**BY2021 Embedded Base Costs (000s)**	**TY2024 Estimated Total (000s)**	**TY2024 Estimated Incremental (000s)**	**GRC RSE***
		Management of Change Platform				
1SM001.000	SDG&E-CFF-7 - 8	SMS Program Benchmarking, Measurement, and Maturity Assessment for Continuous Improvement	0	200	200	0
1SM002.000	SDG&E-Risk-8 - C14	Enhanced Safety in Action Program	177	0	-177	0
1SM002.001	SDG&E-Risk-8 - C01	Mandatory Employee Health and Safety Training Programs and Standardized Policies	496	554	58	0
1SM002.001	SDG&E-Risk-8 - C13	Enhanced Mandatory Employee Training (OSHA): Certified Occupational Safety Specialist, Certified Utility Safety Professional; Certified Safety Professional	6	6	0	1997
1SM002.001	SDG&E-Risk-8 - C17	Employee Wildfire Smoke Protection – Cal/OSHA emergency regulation	15	16	1	0
1SM002.001	SDG&E-Risk-8 - M01	Respiratory protection for wildfire smoke particulates	0	2	2	59.00

SAFETY MANAGEMENT SYSTEMS RAMP Activity O&M Forecasts by Workpaper (In 2021 $)						
Workpaper	**RAMP ID**	**Description**	**BY2021 Embedded Base Costs (000s)**	**TY2024 Estimated Total (000s)**	**TY2024 Estimated Incremental (000s)**	**GRC RSE***
1SM002.001	SDG&E-Risk-8 - M02	Break/rest trailers with filtered air systems	0	150	150	20.00
1SM002.001	SDG&E-Risk-8 - M04	Designer support to update & convert safety training	0	28	28	0
1SM002.002	SDG&E-Risk-4 - C01	Contractor Oversight Program	1,027	1,068	41	283.000
1SM003.000	SDG&E-CFF-1 - 1	AIM (Gov, Strat, AIP)	524	1,544	1,020	0
1SM003.000	SDG&E-CFF-1 - 2	Asset Data Syst & Rec Mgt (Gov, Quality, Rec Mgt)	0	58	58	0
1SM003.000	SDG&E-CFF-1 - 3	Asset Data Syst & Rec Mgt (Data Integration)	149	453	304	0
1SM005.000	SDG&E-CFF-1 - 4	AIMDAT (Data Analytics)	156	183	27	0
2100-0214.000	SDG&E-Risk-8 - C03	Strong Safety Culture	52	237	185	379.00
2100-0214.000	SDG&E-Risk-8 - C09	Safe Driving Programs	90	91	1	165.00
Total			**3,410**	**6,548**	**3,138**	

*An RSE was not calculated for activities with a 0 value.

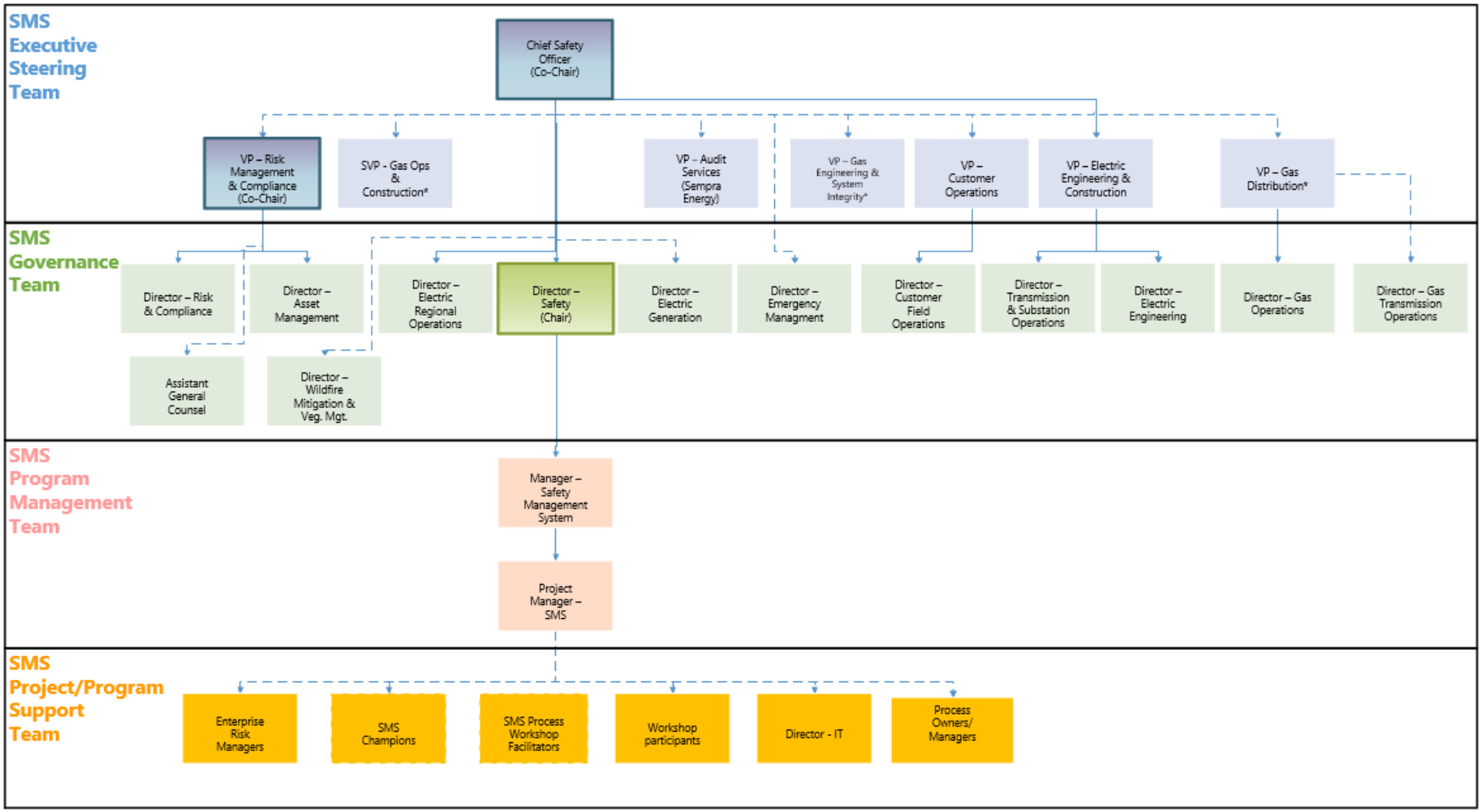
APPENDIX C

SDG&E SAFETY MANAGEMENT SYSTEM GOVERNANCE ORGANIZATION STRUCTURE

APPENDIX C

SDG&E Safety Management System Governance Organization Structure

SDG&E's Safety Management System (SMS) Governance Organization Structure identifies teams specifically responsible, accountable, and assigned to the development, implementation, ongoing management, and continuous improvement of an enterprise-wide SMS. SDG&E's SMS is governed by cross-functional Executive Steering and Governance Teams and managed by the SMS Program Management Team with assistance from an enterprise-wide SMS Support Team as depicted below.



* SoCalGas – SDG&E Shared Officer

Governance Relationship Only ----------
Normal Reporting Relationship _____

SDG&E Safety Management System Governance Roles & Responsibilities

SMS Executive Sponsors:

The SMS Executive Sponsors are SDG&E's Chief Safety Officer and Vice President – Risk Management & Compliance.

SDG&E's Chief Safety Officer (CSO) is ultimately responsible for the SMS and provides the necessary support and resources to implement, manage and continually improve the program. The CSO is accountable for SDG&E's safety culture and safety performance. The CSO promotes safety Company-wide by sending weekly safety messaging via e-mail to all Company employees, facilitating monthly safety incident review meetings, participating in electric and gas safety subcommittee meetings, and is a member of SDG&E's Executive Safety Council where key Company leaders solicit input and feedback directly from operational employees and supervision.

The CSO has designated the Vice President – Risk Management & Compliance as the SMS Executive Co-sponsor who confirms that effective risk management and asset management practices are integrated across the Company, validates SMS processes are established, implemented, and maintained, reports to top management on the performance of the SMS and specific areas in need of improvement, and helps support and promote awareness of the SMS throughout the organization.

The SMS Executive Sponsors are dedicated to promoting the growth of a positive safety culture.

SMS Executive Steering Team:

The role of the SMS Executive Steering Team is to provide strategic, enterprise-wide direction, decision-making, guidance, support, and resources based on input and recommendations from the SMS Governance Team. The SMS Executive Steering Team will provide timely resolution of issues, strategic direction and decision making for continued and successful implementation of the SMS implementation plan and schedule.

The SMS Executive Steering Team confirms that SMS is central to SDG&E safety culture, policy, activities, and results. The SMS Executive Steering Team is central to the "Leadership & Management Commitment" tenet of governance, responsibility, accountability, and authority. The SMS Executive Steering Team is comprised of SDG&E key leaders and decision-makers spanning and representing all lines of business.

The SMS Executive Steering Team has the overall authority, accountability, and responsibility to provide leadership and commitment in support of SMS. This team also has the responsibility to direct and/or approve high-level performance measures to help assess the effectiveness of SMS and to conduct the annual management review of SMS.

SMS Governance Team:

The role of the SMS Governance Team is to communicate with and represent their respective safety pillars and/or department(s), working together to create and maintain a comprehensive

SMS that informs consistent, effective, and appropriately adapted practices across the enterprise. As leaders for each of their respective organizations, the SMS Governance Team shall serve as a representative on behalf of their employees. Therefore, SMS Governance Team members shall solicit feedback from their employees and present such feedback and raise issues of concern to the SMS Governance Team. The SMS Governance Team members will then communicate and/or support organizational leadership in communicating decisions and feedback back to their respective organizations.

The SMS Governance Team represents centralized authority, accountability, and responsibility to support the execution of a SMS throughout the organization, including designing, developing, implementing, and continuously improving SMS.

SMS Program Management Team:

The role of the SMS Program Management Team is to develop, manage, communicate, and execute the SMS implementation plan and schedule. The SMS Program Management Team will seek employee feedback and lead employee awareness and change management efforts. The SMS Program Management Team will work to achieve stated goals and objectives, adhere to project schedule, and raise issues to the SMS Governance Team for remediation.

During the implementation phase, the SMS Program Management Team is responsible for managing and executing the overall SMS implementation plan and schedule. Once the SMS is fully implemented, the SMS Program Management Team is responsible for the ongoing management and administration of the program.

SMS Project/Program Support Team:

The role of the SMS Project/Program Support Team is to aid the SMS Program Management Team in achieving stated goals and objectives and works alongside the SMS Program Management Team on specific tasks and/or parallel initiatives in furtherance of a SMS. The SMS Project/Program Support Team will provide feedback, assist in documentation gathering, facilitate workshops, and assist in specific tasks per direction from the SMS Program Management Team.

Historical SMS Development & Planned SMS Implementation Timeline