



2020 GAS SAFETY PLAN



MARCH 15, 2020



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March 15, 2020

Mr. Fred Hanes
Senior Utilities Engineer
Risk Assessment and Safety Advisory Section
Safety and Enforcement Division
California Public Utilities Commission
505 Van Ness Avenue, 2nd Floor
San Francisco, CA 94102

Re: 2020 Gas Safety Plan of San Diego Gas and Electric

Dear Mr. Hanes:

As part of San Diego Gas & Electric's (SDG&E) commitment to advance our mission of building the cleanest, safest and most reliable energy infrastructure company in America, our approximately 4,000 employees are dedicated to operating a safe natural gas system 24/7/365 to meet the needs of the communities we serve. That is why I am pleased to submit our 2020 Gas Safety Plan.

The plan reflects a well-established culture of safety at SDG&E that spans more than 130 years. Our laser focus on safety and continuous improvement is the foundation for all our company programs, policies and procedures.

We take an integrated approach to pipeline integrity and safety, beginning with the design and construction of facilities and followed by continuous evaluation and improvement of operations and maintenance activities. Other aspects of our integrated approach include public communication and awareness; around-the-clock dedicated emergency response; integration of innovative technologies; defined procurement processes to facilitate materials traceability; and implementation of an enterprise wide safety management system.

Per the CPUC's direction, updates to the Gas Safety Plan since the previous submission in 2019 are summarized in the table attached to this letter. Please note that attached are only those portions of the Gas Safety Plan that are new or have changes. Should you have any questions, please contact Troy A. Bauer at (909) 376-7208 or TBauer@semprautilities.com.

Sincerely,

Chief Operating Officer

The table below summarizes the portions of the 2020 Gas Safety Plan that are new or have changed, and are included with this submission:

Chapter	New or Changed Element
Chapter 1 - Introduction	<ul style="list-style-type: none"> No changes
Chapter 2 – Senior Management Team Commitment to Safety	<ul style="list-style-type: none"> Updated Introduction section Updated Goals and Objectives section
Chapter 3 - Plan Development & Implementation	<ul style="list-style-type: none"> Updated External Stakeholder Safety Plan Contribution Process section
Chapter 4 – Safety Systems	<ul style="list-style-type: none"> Added Facilities Integrity Management Program (FIMP) section Updated Transmission Integrity Management Program section (TIMP)
Chapter 5 – Emergency Response	<ul style="list-style-type: none"> Added verbiage regarding Incident Command System (ICS)
Chapter 6 – State and Federal Regulations	<ul style="list-style-type: none"> Updated Regulatory Oversight section Updated Compliance with General Order 112-F section
Chapter 7 – Continuing Operations	<ul style="list-style-type: none"> Removed Patrol Inspections section Updated Safe and Reliable Storage and Transportation section Added language about Veriforce
Chapter 8 – Emerging Issues	<ul style="list-style-type: none"> Updated All sections in Chapter
Appendix – Safety Policy Documents	<ul style="list-style-type: none"> Updated Appendix

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I. INTRODUCTION

1 PUBLIC UTILITIES CODE SECTIONS 956.5, 961, 963, AND CPUC DECISION 12-04-010

California Senate Bill 705 was signed into law on October 7, 2011 and codified as California Public Utilities Code sections 961 and 963. Section 961 requires that each gas corporation in California develop a plan for the safe and reliable operation of its gas pipeline facility and requires that the California Public Utilities Commission (Commission) accept, modify, or reject the plan by year-end 2012. Section 963, among other things, establishes that it is the policy of the State that the Commission and each gas corporation place safety of the public and gas corporation employees as the top priority.

On April 19, 2012, the Commission approved Decision (D.) 12-04-010 which amended the scope of the Commission's Pipeline Safety Rulemaking (R.11-02-019) to include complying with the requirements of Public Utilities Code sections 961 and 963. The Commission directed each of the state's gas corporations to submit a proposed natural gas system operator safety plan (Gas Safety Plan), with documentation of the workforce comment process described in the decision, by June 29, 2012.

In addition to Public Utilities Code sections 961 and 963, the Utilities' Gas Safety Plan addresses the requirements of Assembly Bill 56, chaptered on October 7, 2011, which codified Public Utilities Code section 956.5. Section 956.5 requires operators to review, at least once each calendar year, emergency contingency plans with local fire departments having jurisdiction over the area where intrastate transmission and distribution lines are located.

2 PURPOSE

According to the Commission, "the rationale for developing a gas safety plan is to motivate a gas utility to reflect upon its existing methods and for it to change, to optimize, or to enhance the existing methods, and the lessons learned from the San Bruno incident, as appropriate, to ensure that the gas utility has a prudent plan in place to protect public safety and worker safety." D.12-04-010 at 19. The gas system operator safety plans are to convey the "Executive Officer's" safety performance expectations, policy principles, and goals/objectives for a gas utility's safety performance.

SDG&E has designed this Gas Safety Plan to satisfy each of these directives, and to implement "the policy of the state that the commission and each gas corporation place safety of the public and gas corporation employees as the top priority." Pub. Util. Code § 963. The Gas Safety Plan also addresses the implementation of a Safety Management System (SMS). SDG&E's implementation of SMS furthers the existing strong safety culture with this comprehensive framework and company-wide implementation.

3 GAS SAFETY PLAN STRUCTURE

This Gas Safety Plan conveys the safety performance expectations of SDG&E's Senior Management Team and describes the SMS and all of the gas safety plans, programs, policies, standards, and procedures that are designed to accomplish those expectations. In the hierarchy of SDG&E documents that communicate its safety program, this Gas Safety Plan is at the top.

Public Utilities Code Sections 961 and 963 require that the gas system operator safety plans establish how the utility will achieve certain specified goals, and the Commission has organized these goals into five overall categories: (1) safety systems, (2) emergency response, (3) state and federal regulations, (4) continuing operations, and (5) emerging issues. This Gas Safety Plan follows this organizational structure as outlined by the Commission and is divided into sections corresponding to these five categories, with each section representing a required Gas Safety Plan element or other significant element or aspect of the Gas Safety Plan. The requirements of section 956.5 are addressed within the category of emergency response.

SDG&E has numerous existing safety programs, plans, and procedures in place that address specified infrastructure or areas of company activity. The intent of this Gas Safety Plan is not to duplicate these existing safety program components, but to provide an overarching safety strategy that will encompass all the plans, programs, and policies, and affirm SDG&E's commitment to safety and to implementing SMS.

The Appendix to this Gas Safety Plan provides a listing of the safety program components discussed in the Plan.

GAS SAFETY PLAN

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4 PROGRAM REVIEW AND MODIFICATIONS

Public Utilities Code section 961 establishes that gas corporations shall periodically review and update their gas system operator safety plans. This Gas Safety Plan shall be reviewed at an annual frequency period not to exceed 15 months. The program owners must provide justification for any deviation from this review schedule.

All components of this Gas Safety Plan must be reviewed and updated per their scheduled review period listed in the following table:

Document Type	Review Cycle
Gas Safety Plan	Annually (not to exceed 15 months)
Gas Standards	At least every 5 years
TIMP O&M SoCalGas Control Room Management	At least annually
DIMP	At least every 5 years
Form Instructions	Every 5 years
Environmental	Every 5 years
Information Bulletins	At least annually

If changes are needed, they shall be made as soon as practicable through the Request to Publish process, and not deferred until the next scheduled review.

II. SENIOR MANAGEMENT TEAM COMMITMENT TO SAFETY

1 INTRODUCTION

At SDG&E, the safety of our customers, employees/contractors, and communities is the foundation of our business and our fundamental core value. Our tradition of safety spans more than 130 years and is the basis for company programs, policies, procedures, guidelines and best practices.

SDG&E is committed to having a culture where leadership sets the example and demonstrates safe behaviors expected of employees. SDG&E's leadership team is committed to championing people, doing the right thing, shaping the future, and executing on operational excellence; for example, all executives are Occupational Safety and Health Administration (OSHA) -10 Hour certified and if they are assigned as a Utility Commander in the Emergency Operations Center (EOC), they are certified in Incident Command Structure (ICS) 100, 200, and 775 certifications to manage and oversee incidents. Supervisors also engage in 4-hour safety leadership training of all new Supervisors as part of Essentials of Supervision.

SDG&E's safety-focused culture and supporting organizational structure enables the Company to be proactive and accountable in the safe delivery of natural gas and associated business operations. The Company continuously fosters a work environment where employees and contractors are encouraged to raise gas infrastructure, customer safety, and personal safety concerns and offer suggestions for improvement, further described below.

Management's safety expectations can best be described by the following Commitment to Safety statement that every member of our Senior Management Team wholeheartedly endorses:

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

-- SDG&E's Commitment to Safety

Further commitment of SDG&E's leadership in operating a safe utility is demonstrated with its voluntary implementation of SMS. One of the frameworks that will be adopted is the safety elements and principles and adoption of the safety principles embodied in American Petroleum

Institute Recommended Practice 1173 (API 1173). SDG&E takes a broad, holistic view to safety management and will adopt and apply other SMS frameworks as applicable.

2 POLICY PRINCIPLES AND PERFORMANCE EXPECTATIONS

SDG&E’s safety-focused culture and supporting organizational structure allow the company to be proactive and accountable in the safe delivery of natural gas and supporting services. The company continuously strives for a work environment where employees at all levels and its contractors can raise pipeline infrastructure, customer safety, and employee safety concerns and offer suggestions for improvement through multiple platforms such as “Stop the Job”, local Safety Committees the Executive Safety Committee and the implementation of a reporting app for near misses and close calls.

SDG&E’s safety performance will be regularly monitored and evaluated not only in accordance with all state and federal regulations, but beyond. Additional performance metrics and key performance indicators shall be developed and evaluated, to foster a culture of continuous safety improvement. These performance metrics shall be reviewed and communicated in accordance with the schedules identified in the specific policy, program, plan or other document incorporated as part of the Gas Safety Plan.

In addition, SDG&E shall monitor the U.S. Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) website for new regulations and advisory bulletins and act upon any applicable regulations and bulletins in a timely manner and verify that changes in regulations are reflected in policies, standards, procedures and employee training.

SDG&E regularly assesses its safety culture and encourages two-way communication between employees and management as a means of identifying and managing safety risks. In addition to the reporting of pipeline and occupational safety incidents, management has encouraged the reporting and created multiple methods for employees to report and share close calls/near misses.

At SDG&E safety is a core value so we provide all employees with the competence, awareness and training necessary to safely perform their job responsibilities. We further reinforce this principal by including safety performance measures in our employees’ performance appraisals.

Safety is a core value not only for our employees, but also for the contractors we use to perform work. SDG&E, through its Contractor Safety Management activities, monitors the occupational and pipeline safety records of its contractors and utilizes only those contractors that meet the Company’s high safety standards. Through these activities, contractors are kept current on all relevant operational, regulatory, and procedural changes affecting their work. Two-way communication between contractor and Company is also encouraged in order to receive feedback on contractor-identified safety issues and to review lessons learned from root cause analysis related to near miss events and incidents.

3 GOALS AND OBJECTIVES

SDG&E Leadership and all levels of management have the authority, accountability, and



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SENIOR MANAGEMENT TEAM COMMITMENT TO SAFETY
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responsibility to appropriately support, implement, and oversee elements of safety that are the direct responsibility of their organizations. This includes all aspects of safety relevant to SDG&E business, including employee safety, contractor safety, customer safety, and public safety. They demonstrate leadership commitment to enhancing safety performance by communicating to their organizations the importance of safety and fostering responsibility to execute it.

This Gas Safety Plan is Company policy. Each SDG&E officer embraces and endorses the Company's commitment to safety and supports the Gas Safety Plan. The following attestation reflects each Officer's commitment and support of the Gas Safety Plan which continues to reflect the commitment of the company.



GAS SAFETY PLAN

SENIOR MANAGEMENT TEAM COMMITMENT TO SAFETY

SDG&E: SP.2-SD

DATED: March 15th, 2020

/s/ Kevin Sagara

Kevin Sagara
Chairman and Chief Executive Officer

/s/ Scott Drury

Scott Drury
President

/s/ Caroline Winn

Caroline Winn
Chief Operating Officer

/s/ David L. Buczkowski

David L. Buczkowski
Vice President
Gas Distribution

/s/ Scott B. Crider

Scott B. Crider
Vice President
Customer Services

/s/ Diana Day

Diana Day
Vice President
General Counsel and Chief Risk Officer

/s/ David L. Geier

David L. Geier
Senior Vice President
Electric Operations

/s/ Ben Gordon

Ben Gordon
Vice President
Technology Operations and Infrastructure
Management

/s/ Bruce Folkmann

Bruce Folkmann
Senior Vice President
Controller and Chief Financial Officer

/s/ Kendall Helm

Kendall Helm
Vice President
Customer Operations

/s/ Christina H. Ihrig

Christina H. Ihrig
Vice President
Operations Support

/s/ John Jenkins

John Jenkins
Vice President
Electric System Operations

/s/ Estela De Llanos

Estela De Llanos
Vice President
Clean Transportation, Sustainability and
Chief Environmental Officer

/s/ Eugene Mitchell

Eugene "Mitch" Mitchell
Vice President
State Governmental Affairs and
External Affairs

/s/ Neil Navin

Neil Navin
Vice President
Gas Transmission and Storage

/s/ Gina Orozco

Gina Orozco
Vice President
Gas Engineering and System Integrity

/s/ Miguel Romero

Miguel Romero
Vice President
Energy Supply

/s/ Michael M. Schneider

Michael M. Schneider
Vice President
Risk Management and Compliance

/s/ Rodger Schwecke

Rodger Schwecke
Senior Vice President
Gas Operations and Construction

/s/ Karen Sedgwick

Karen Sedgwick
Chief Human Resources and Chief
Administrative Officer

/s/ Dan Skopec

Dan Skopec
Vice President
Regulatory Affairs

/s/ Will Speer

Will Speer
Vice President
Electric Engineering and Construction

/s/ Cedric Williams

Cedric Williams
Vice President
Construction

III. PLAN DEVELOPMENT & IMPLEMENTATION

1 CALIFORNIA PUBLIC UTILITIES CODE § 961 -(e)

In D.12-04-010, the Commission identified the topic of workforce participation in plan development to meet the requirements of California Public Utilities Code 961(e). This section requires that the gas safety plan achieve the following:

- “The Commission and gas corporation shall provide opportunities for meaningful, substantial, and ongoing participation by the gas corporation workforce in the development and implementation of the plan, with the objective of developing an industry wide culture of safety that will minimize accidents, explosions, fires, and dangerous conditions for the protection of the public and the gas corporation workforce.”

2 CPUC DIRECTIVES ON WORKFORCE PARTICIPATION

To comply with section 961(e) directives and General Order 112-F Subpart G Section 301, the Commission has explained that natural gas system operators need to take the following actions:

1. The operator must make its safety plan available to its workforce, and provide for comments and suggestions from the workforce;
2. Gas system operators shall retain a log of the comments and suggestions, including the disposition of the comment or suggestion, with a summary of the rationale for the disposition;
3. Gas system operators shall also inform their employees that any employee who perceives a breach of safety requirements may inform the Commission of the breach, and that the Commission will keep the identity of the employee confidential; and
4. Each gas operator shall provide its workforce with the address of the Director of the Commission’s Consumer Protection and Safety Division and the designation “Safety Breach Notification from Gas System Operator Employee–Confidentiality Requested” to seek confidential treatment.

3 EMPLOYEE SAFETY PLAN CONTRIBUTION PROCESS

Employees play a critical role in SDG&E's pipeline safety and have been an important part in developing this Gas Safety Plan. SDG&E recognizes that employees raising concerns to management and making recommendations for pipeline safety are necessary for continuous improvement as it gathers regular and substantial safety-related input from its employees.

To promote a culture of trust and increase the likelihood of reporting known pipeline safety or occupational safety risks, the Company is committed to enabling its employees to participate in the continual improvement of this gas safety plan. The Gas Safety Plan is posted on the

Company intranet site for easy access by all employees. The intranet site includes a summary of the plan content, a link to the document, hotline phone number and address for direct notification to the CPUC, and an electronic form for submitting pipeline and occupational safety risks and ideas for improvement. The purpose of the site is to provide employees a forum for reporting issues outside of the normal supervisor-reporting hierarchy. Employees can report anonymously if they desire.

Periodic broadcasts are made via Company communication channels to remind employees of the site's availability and the importance of reporting known issues and improvement ideas. The importance of reporting pipeline and occupational safety risks is included in employee training course materials.

The following outlines SDG&E's process management for the gathering and analysis of employee, contractor, public, and pipeline safety input:

- Meetings with employees are regularly scheduled to gather input and ensure we are addressing issues or concerns related to our commitment to safety.
- Regular employee safety council meetings, including executive safety councils are held.
- Annual Safety Congress.
- Employees can submit their suggestions via written notification, on-line, or by phone.
- Reporting and sharing of near misses with management and employees.
- When a suggestion is received, it is assigned to the advisor who reviews the submittal and assigns the suggestion to the appropriate department for thorough evaluation and resolution. SDG&E takes the receipt of input very seriously and acts with a sense of urgency in the investigation of all input received.
- The target timeframe for initially reviewing and assigning a suggestion is as soon as possible and no longer than 5 business days. During evaluations, employees are often contacted for additional clarification and to determine the appropriate follow-up actions.
- This follow-up may simply include discussions with the employee who submitted the input to explain how the company is currently meeting or exceeding the objective of their suggestion. The follow-up could also entail the re-training of field personnel or the revision of training materials, best practices and/or gas standards.
- SDG&E strives to determine disposition of all evaluations as quickly as possible; however, the ultimate goal is to complete a thorough evaluation which means that an issue will not find closure for several weeks as enhancements are planned and implemented. The basis for accepting or rejecting a suggestion will be the extent to which the suggestion improves the safety of our system and processes, which assists meeting all regulatory requirements and industry best practices while maintaining optimal operating efficiencies for our customers.

- Employees will be periodically reminded and encouraged through various communication channels to submit their input through this process to support the company's goal in capturing all ideas and suggestions related to pipeline safety.

The online Gas Safety Plan is available to all employees and contractors, and is stored online, reviewed and updated periodically.

4 EXTERNAL STAKEHOLDER SAFETY PLAN CONTRIBUTION PROCESS

To promote a culture of trust and increase the likelihood of reporting known pipeline or occupational safety risks, SDG&E is committed to enabling its contractors and the public to participate in the continual improvement of the Gas Safety Plan.

Contact and communication with external stakeholders (e.g., public, first responders, public officials) is managed via the Public Awareness Plan. Also, for larger projects and programs, a specific outreach and communication plan has been created to gather input, including safety related feedback, from the community and other stakeholders.

The Contractor Safety Management program includes feedback from contractors regarding occupational and pipeline safety risks at SDG&E. Contractors are trained on the reporting policy and procedure. The contractor management program is the way SDG&E is moving its focus on contractors to a single source (Contractor Safety Program Standard G8308 for SDG&E and the Class 1 Contractor Safety Manual for contractors) holding all Business Units and Class 1 Contractors to the same requirements. Internal construction focused Business Units such as Portfolio and Project Management, Design and Construction Management, and Vegetation Management, also have field safety oversight of all construction work performed by contractors working for those respective groups. This oversight includes instituting safeguards that all contracted work is built in accordance with SDG&E standards, OSHA regulations, applicable laws, and Commission Orders.

IV. SAFETY SYSTEMS

1 SAFETY SYSTEMS AND CALIFORNIA PUBLIC UTILITIES CODE § 961 -(d)(1) and (d)(2)

In D-12-04-010, the Commission identified the topic of safety systems to meet the requirements in California Public Utilities Code 961 (d)(1) and (d)(2). These sections require that the gas safety plan achieve the following:

- “Identify and minimize hazards and systemic risks in order to minimize accidents, explosions, fires, and dangerous conditions, and protect the public and gas corporation workforce.” § 961(d)(1).
- “Identify the safety-related systems that will be deployed to minimize hazards, including adequate documentation of the commission-regulated gas pipeline facility history and capability.” § 961(d)(2).

SSG&E has a number of plans and programs that identify and minimize hazards and systemic risks in the pipeline infrastructure and promote public safety and property protection. These plans and programs are an integral part of our SMS.

- Transmission Integrity Management Program (TIMP)
- Distribution Integrity Management Program (DIMP)
- Facilities Integrity Management Program (FIMP)
- Operation and Maintenance Plan
- Pipeline Safety Enhancement Plan (PSEP)
- Safety Management System (SMS)

In addition, SDG&E implemented its Pipeline Safety Enhancement Plan (PSEP) to address requirements for transmission infrastructure that are beyond current federal requirements. SDG&E is also in the process of implementing SMS.

Each of these programs are subject to continual improvement efforts and when warranted, changes are made to further protect the public and SDG&E workforce.

Pipeline integrity risk evaluations are designed to improve pipeline safety performance and are conducted per the schedule listed in the TIMP and DIMP programs. Included in these risk assessments are lessons learned from internal and external gas pipeline incidents. Risk assessments are reviewed at least annually, and updated as warranted, using data and information gained from operations and maintenance, inspection and testing, integrity-related work, and incident investigations. Company-wide, operational risk related to loss of experienced and knowledgeable employees is managed through resource allocation and may be supported by our Knowledge Management program which works with local management to develop succession planning for critical job functions.

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2 TRANSMISSION INTEGRITY MANAGEMENT PROGRAM (TIMP)

The Transmission Integrity Management Program (TIMP) is an ongoing program that was developed in accordance with the requirements of the Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration (PHMSA), specifically Subpart O – “Gas Transmission Pipeline Integrity Management” of Part 192 of Title 49 of the Code of Federal Regulations.

The TIMP written plan describes how SDG&E complies with the requirements of 49 C.F.R. pt. 192, subpart O. The written plan outlines the approach to implementing the requirements of the Rule and the referenced industry standards, including the American Petroleum Institute’s Recommended Practice (API RP 1173), ASME B31.8S and NACE SP0502-2008. The document includes a description of each required Program element and identifies or references the procedures and processes for completing those requirements. The TIMP written plan has sixteen chapters that are the policy documents for compliance with the gas transmission pipeline integrity requirements.

DOT covered segment risk evaluations are designed to improve pipeline safety performance and are conducted per the schedule in the TIMP risk assessment requirements.

TIMP is designed to provide assessments and integrity improvements on transmission pipelines by outlining responsible parties, timelines for each process element, incorporating lessons learned, and a best practices methodology. Processes are aimed at identifying threats through data gathering and routine testing, assessing materials integrity, and determining remediation, preventive and mitigation steps for those threats.

As part of the program, information concerning the pipeline infrastructure, operating environment and performance history is integrated into a broad evaluation of the pipeline and its environment. This information is analyzed for each pipeline segment being assessed and specific integrity-related work plans are developed.

SDG&E employs pipeline integrity management activities to assess and evaluate pipelines in the system, such as: in-line inspections (ILI), pressure testing and direct assessment. Where ILI is one of the methods capable of assessing an identified threat, it is SDG&E’s preferred assessment method. These evaluations address the efficiency of the systems in place to maintain the safe operation of the transmission pipeline including corrosion control and damage prevention programs. The Pipeline and Hazardous Material Safety Administration (PHMSA)’s final rule amending 49 C.F.R. 191 and 192 (“Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments”) will take effect on July 1, 2020 and SDG&E will enhance the TIMP accordingly.

The TIMP and the related and referenced procedures identify and prescribe activities to minimize transmission systemic risks and document its history and capability.

The TIMP written plan is reviewed each calendar year as part of the continual improvement process, with modifications being made as necessary.

3 DISTRIBUTION INTEGRITY MANAGEMENT PROGRAM

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The Distribution Integrity Management Program (DIMP) is an on-going program that was developed in accordance with the requirements of the DOT and PHMSA, specifically Subpart P – “Gas Distribution Pipeline Integrity Management” of Part 192 of Title 49 of the Code of Federal Regulations. SDG&E published its DIMP written plan in August 2011. The program’s purpose is to improve pipeline safety by having operators identify and reduce pipeline integrity risks on distribution pipelines.

SDG&E's DIMP focuses on potential threats and measures designed to reduce the likelihood and consequences of pipeline failures. Specifically, it addresses system knowledge; threats; evaluation and ranking of risk; measures to address risks; performance measurement; results monitoring; effectiveness evaluation; periodic evaluation and improvement; and results reporting. SDG&E’s written DIMP plan has eight chapters and requires the integration of data from many sources for analysis and subsequent action based upon the analysis.

The DIMP includes certain activities SDG&E performs, and it requires continual development of a more formal and structured approach toward the company's traditional core regulatory pipeline integrity-related obligations.

The DIMP written plan and related and referenced procedures identify and prescribe activities to minimize systemic and localized risks to the Distribution system, and document relevant system information.

SDG&E’s DIMP is reviewed at a minimum of every five calendar years as part of the periodic improvement process, with modifications being made whenever necessary.

4 FACILITIES INTEGRITY MANAGEMENT PROGRAM

The Facilities Integrity Management Program (FIMP) is a program based on principles developed by the Canadian Energy Pipeline Association (CEPA) and the Pipeline Research Council International (PRCI). SDG&E is currently in preliminary stages of organizing and modeling this program, which is not intended to duplicate any systems, processes, or information that may already exist; it is intended to supplement the already existing programs (e.g., TIMP, DIMP) to enhance the safety and integrity of an integrated gas pipeline system. FIMP is a documented program, specific to the facilities portion of a pipeline system, which will establish additional activities and performance indicators in support of SDG&E’s safety systems.

5 OPERATION AND MAINTENANCE PLAN

SDG&E’s Operation and Maintenance (O&M) plan is a compendium of 139 policies that meet the requirements 49 C.F.R § 192.605 “Procedural manual for operations, maintenance, and emergencies.” This O&M plan includes policies that address:

- Operating, maintaining, and repairing the pipeline and components;
- Controlling corrosion;
- Availability of construction records, maps, and operating history;
- Start up and shut down of the pipeline;

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- Maintenance and operation of compressor stations;
- Review of procedures to determine effectiveness and adequacy;
- Safety procedures for excavation; and
- SoCalGas Control room management.

The O&M plan is reviewed annually to verify that the referenced documents containing policies and procedures remain in compliance with the requirements of the relevant sections of Title 49 of the Code Federal Regulations. The policies and procedures referenced are updated throughout the year in response to new information or regulations, technology, or other items that drive improvement to the policy.

Individual documents referenced by the O&M plan undergo full functional reviewed at least every five years. Training programs are reviewed in the same timeframe as associated gas standards, so employees are aware of and perform tasks according to the current requirements. To help employees remain knowledgeable of the critical policies and procedures, including those related to safety, SDG&E provides annual review training for all operating employees.

The documents referenced by the O&M plan identify and prescribe activities whose purpose it is to minimize pipeline systemic risks and document its history through meeting and documenting code/regulation compliance, ensuring system safety and operational excellence, minimizing the potential for and consequences associated with unplanned events such as equipment failure or operator error.

6 PIPELINE SAFETY ENHANCEMENT PLAN

SDG&E submitted its Pipeline Safety Enhancement Plan (PSEP) with the Commission in August of 2011 in response to the Commission’s directive that all gas corporations subject to the Commission’s jurisdiction develop and implement a plan to replace or pressure test all transmission pipelines that have not been tested to modern standards. The Commission also required that gas corporations include in their safety enhancement plans proposals for automating shutoff valves.

The PSEP’s key elements include:

- A two-phased approach and prioritization process for the pressure testing or replacement of transmission pipeline segments that were not tested to modern standards.
- Criteria for determining whether to pressure test or replace pipeline segments.
- A proposal for enhancing SDG&E’s valve infrastructure. This proposal includes installing additional remote control and automated shutoff valves and installing supporting equipment and system features on transmission pipelines.

All testing, replacement, valve work and other infrastructure activities completed as part of the PSEP shall be completed in accordance with this Gas Safety Plan.

PSEP also offers proposals to enhance the pipeline system beyond measures required by the Commission through retrofitting pipelines with existing and emerging technologies to provide

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advance warning of potential pipeline failure and decrease the time to identify, investigate, prevent, remedy or manage the effects of such an event.

7 SAFETY MANAGEMENT SYSTEM

SDG&E, all the way to the top levels including their Board of Directors, are deeply committed to the implementation of a SMS. The Company’s commitment and governance extends all the way to the top and the SMS will be a company-wide effort throughout the various organizations involved in safety.

As one SMS framework, SDG&E is proactively working towards the adoption and implementation of API RP 1173 and ISO 55000 in establishing an enterprise wide SMS covering electric operations in addition to gas. The Company has a continuous commitment to mitigating both occupational and process safety risk.

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V. EMERGENCY RESPONSE

1 EMERGENCY RESPONSE AND CALIFORNIA PUBLIC UTILITIES CODE § 961 -(d)(5), (d)(6) and (d)(8)

In D.12-04-010, the Commission identified the topic of emergency response to meet the requirements of California Public Utilities Code section 961 (d)(5), (d)(6) and (d)(8). These sections require that the Gas Safety Plan achieve the following:

- “Provide for appropriate and effective system controls, with respect to both equipment and personnel procedures, to limit the damage from accidents, explosions, fires, and dangerous conditions.” § 961(d)(5).
- “Provide timely response to customer and employee reports of leaks and other hazardous conditions and emergency events, including disconnection, reconnection, and pilot-lighting procedures.” § 961(d)(6).
- “Prepare for, or minimize damage from, and respond to, earthquakes and other major events.” § 961(d)(8).

In response to the Safety and Enforcement Division inquiry into options to implement Public Utilities Code §956.5, SDG&E has included §956.5 as a requirement of the Gas Safety Plan:

- “Owners and operators of intrastate transmission and distribution lines, at least once each calendar year, shall meet with each local fire department having fire suppression responsibilities in the area where those lines are located to discuss and review contingency plans for emergencies involving the intrastate transmission and distribution lines within the jurisdiction of the local fire department.” § 956.5.

SDG&E has several programs, policies, standards and procedures in place so that the company and its employees are prepared to respond to emergencies. These activities are intended to limit damage from accidents and provide timely response to customer and employee reports of leaks, hazardous conditions, and emergency events such as earthquakes and establish an effective Incident Command System (ICS) or Unified ICS with first responder agencies.

2 THE GAS EMERGENCY MANAGEMENT PREPAREDNESS AND RESPONSE POLICY

The Gas Emergency Management Preparedness and Response Policy (ER.1) documents how SDG&E aligns with the emergency response requirements specified by SMS and complies with the Public Utilities Code section 961 (d)(5), (6) and (8), as well as the emergency response procedures required by 49 C.F.R. § 192.615. This plan covers the following emergency response elements:

- SDG&E’s Emergency Response Organization, including positions and responsibilities of the Emergency Operations Centers, identification of response resources and interfaces,

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- including local emergency responders.
- Emergency preparedness/Exercises;
 - Field Services Emergency Plans;
 - Business Resumption Planning;
 - Emergency Action and Fire Prevention Plans;
 - Natural Disasters or Major Emergencies;
 - Off-Hour Management Coverage
 - Mutual assistance; and
 - Plan maintenance.

The policy incorporates by reference SDG&E procedures and documents that collectively comply with the various requirements of 49 C.F.R. § 192.615:

- The responsibility of customer contact centers, which receive customer reports of emergencies and leaks;
- The responsibility of dispatch offices, which act as the central point for receiving and recording information on reportable incidents, emergencies, and natural disasters affecting the company, and which also process internal gas incident notifications;
- The Emergency Incident Tracking System that is used to record reports of damage to SDG&E pipelines or facilities and to log, track, and notify field personnel and others within the company about emergency situations; and
- Establishing and maintaining liaison with appropriate fire departments.

The Gas Emergency Management Preparedness and Response Policy is designed to provide for the safety of customers, employees and communities and the protection of property in the event of a major emergency related to gas pipeline operations safety, health, and environmental protection processes.

SDG&E prepares and maintains written plans and standards that address emergency or disaster situations, including earthquake response. As part of these plans and standards, employees are trained and equipped to respond promptly; direct their actions toward protecting people first and then property; maintain gas service to customers where possible; and, restore the affected pipeline system and company operations to normal status following an emergency or disaster.

These plans and standards may include written gas handling plans, alternative gas handling plans and various considerations when performing gas handling/pressure control, including the operation of critical valves, control equipment and instrumentation. Employees are to adhere to these plans and standards when performing these duties and to take precautions to prevent outages, over pressurization, errors in mapping or planning and other safety concerns. Employees performing specified tasks must be trained on the policies and procedures to complete their duties safely. Business Resumption plans address continuity planning to ensure organizational stability in the event of a major business disruption so that critical functions can continue during and after a disaster with minimal disruption.

Plans for coping with a major emergency include provisions for training; response and recovery; specific responsibility for on-call schedules and duties; inter-organizational assistance;

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coordination with, and notification of, governmental agencies; media contact; assignments to governmental emergency organizations; and activation of the company’s regional Gas Emergency Center.

SDG&E’s emergency management organization is modeled after the Standardized Emergency Management System (SEMS), which allows for a multi-level emergency response organization. This means that the severity of the incident determines the level of support and resources that are necessary to respond to the event.

SDG&E has three levels of emergency management support:

- Construction and Operations Center Field Level response for routine local emergencies or incidents involving a small number of customers;
- a Gas Emergency Center at Miramar in coordination with Southern California Gas Company’s Transmission Command Post, which are activated for larger emergencies that involve repair and restoration efforts as well as technical support, logistics, and communications activities; and
- an Emergency Operations Center, which is for large scale events that may involve a large number of customers across regions or an event that may require the coordination and communication with multiple internal and/or external organizations (such as significant earthquakes).

SDG&E has a regional Gas Emergency Center that coordinates responses with SoCalGas’ Transmission Command Post, and an Emergency Operations Center staffed with trained personnel to respond to and recover from major emergencies. SDG&E also has a backup Emergency Operations Center in the event the main center becomes inoperative.

SDG&E maintains and tests its emergency response plan and structure by conducting regular emergency preparedness drills and exercises to promote employee proficiency in emergency assignments and to validate the effectiveness of its emergency plans. These training exercises include external agencies and cover a wide range of threats to employee, public, and pipeline safety. Adequacy of response is evaluated during these emergency exercises, lessons learned are identified and corrective actions are taken, which may include plan or process revisions. Emergency response plans and procedures are also evaluated as a component of an incident investigation, with lessons learned incorporated into plan or process revisions as needed.

SDG&E has developed and integrated a Utility based Incident Command System (ICS) into the company’s field response structure, Emergency Operations Center and Department Operations Centers. The Incident Command System is a standardized approach to incident management that provides all responders an integrated organizational structure that matches the complexities and demands of the incident and can expand or contract to meet incident needs. This integrated organizational structure outlines communication standards for inter-functional (i.e., Transmission, Distribution, etc.) and interagency (i.e., fire service, law enforcement, Caltrans, etc.) cooperation during an emergency incident and responsibilities within the company.

In addition to Incident Command System training, the company provides “First Responder” training for field management personnel that may respond to emergencies.

Plans for routine emergencies differ from a major emergency in that Company personnel respond and address the emergency with no or minimal interaction with other agencies. The Company responds immediately to all emergencies. In addition to the immediate response to emergencies, other potentially hazardous conditions reported to the Company are scheduled dependent upon the specific information reported to the Utility. Response times of less than four hours, less than 14 hours and same day have been established for these non-emergency conditions.

Mutual Assistance Support

Mutual assistance is an essential part of a utility restoration process and contingency planning. Mutual assistance agreements (MAAs) and other types of arrangements to provide assistance before, during, and after an emergency event facilitate the rapid mobilization of personnel, equipment, and supplies. Participation in MAAs is seen as an important component of the federal [National Incident Management System \(NIMS\)](#), which is intended to provide a systematic approach to guide governments at all levels, non-governmental organizations, and the private sector in collaborative emergency preparedness and response activities.¹ The mutual assistance network is a cornerstone of a utility's operations during emergencies.

The Company maintains an agreement for mutual assistance with various non-profit organizations, utilities and certain municipalities such as the California Utilities Emergency Association (CUEA), Western Regional Mutual Aid Group (WRMAG) and the American Gas Association (AGA).

These Agreements cover the rights and obligations of those who respond to requests for assistance, as well as guidelines concerning control of the work of personnel involved in the response.

A requesting utility having a major emergency and in need of the Company's assistance, may make a request for assistance. Emergency Management will facilitate and coordinate the activation of mutual assistance with the approval of the Executive Officer On-Call, Incident Commander, the Chief Operations Officer, and/or an authorized Officer of the Company.

The Emergency Management department maintains checklists and other documents for requesting and responding to requests for mutual assistance.

The individual procedures, policies and programs associated with this chapter are listed in the Appendix.

The appropriate level of leadership participates in and reviews the scheduling and findings of emergency preparedness activities. Emergency preparedness activities are conducted per the

¹ U.S. Dept. of Homeland Security. National Incident Management System (December 2008).



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schedule published by Emergency Services.

VI. STATE AND FEDERAL REGULATIONS

1 STATE AND FEDERAL REGULATIONS AND CALIFORNIA PUBLIC UTILITIES CODE § 961- (d)(7), (d)(9) and (c)

In D.12-04-010, the Commission identified the topic of state and federal regulations to meet the requirements California Public Utilities Code § 961 (c), (d)(7) and (d)(9). These sections require that the gas safety plan achieve the following:

- “Include appropriate protocols for determining maximum allowable operating pressures on relevant pipeline segments, including all necessary documentation affecting the calculation of maximum allowable operating pressures.” § 961(d)(7).
- “Meet or exceed the minimum standards for safe design, construction, installation, operation, and maintenance of gas transmission and distribution facilities prescribed by regulations issued by the United States Department of Transportation in Part 192 (commencing with Section 192.1) of Title 49 of the Code of Federal Regulations.” § 961(d)(9).
- “The plan developed, approved, and implemented pursuant to subdivision (b) shall be consistent with best practices in the gas industry and with federal pipeline safety statutes as set forth in Chapter 601 (commencing with Section 60101) of Subtitle VIII of Title 49 of the United States Code and the regulations adopted by the United States Department of Transportation pursuant to those statutes.” § 961(c).

This chapter provides how SDG&E complies with these directives.

2 REGULATORY OVERSIGHT

SDG&E’s Transmission and Distribution pipelines and facilities are operated and maintained primarily pursuant to PHMSA regulations at the federal level, and Commission regulations and requirements at the state level. The Commission is a state partner of PHMSA and is certified by PHMSA for the intrastate regulatory, inspection, and enforcement responsibilities of the transportation of natural gas.

The State of California’s rules governing the design, construction, testing, operation, and maintenance of gas transmission and distribution piping systems are specified in the Commission’s General Order 112-F.²

Title 49 of the Code of Federal Regulations (49 CFR), Parts 191, 192, 193, and 199, which govern the design, construction, testing, operation, and maintenance of Gas Piping Systems are incorporated into the Commission’s General Order 112-F.

² On June 25, 2015, the California Public Utilities Commission issued the Final Decision Adopting GO 112-F which replaced GO 112-E. GO 112-F sought to clarify and extend existing regulations and cover gaps in federal regulations. It went into effect on January 1, 2017.

This Gas Safety Plan and the related documents shall remain consistent with industry best practice, General Order 112-F and the applicable Parts of Title 49 of the Code of Federal Regulations.

SDG&E's gas standards, including O&M procedures, are developed to comply with federal and state pipeline safety regulations. To meet new laws, rules, and regulations, the Pipeline Safety and Compliance department is designated to monitor and track changes to legislation and regulatory requirements. When new regulations are adopted, the department coordinates the implementation of new requirements and documents them so that policies, standards, practices, and training materials are updated, as appropriate.

SDG&E stays current with regulations and requirements by monitoring legislative and regulatory activities and participating in industry associations, such as the American Gas Association (AGA). As an example, some of the past and current activities SDG&E has initiated from its participation in industry organizations can be seen in Figures A and B, at the end of this chapter.

The Company also updates procedures, standards and audit programs and keeps required documentation (e.g., leak survey records, patrols, cathodic protection reads, meter and regulation inspection forms, test data, and other documents) for a specified time period to demonstrate compliance.

SDG&E will continue these activities to comply with all regulations and requirements.

3 COMPLIANCE WITH GENERAL ORDER 112-F

In accordance with General Order 112-F and by incorporation, 49 CFR Part 192, SDG&E has implemented and follows policies, procedures and programs that govern the design, construction, testing, installation, operation, maintenance and determination of maximum allowable operating pressure for gas transmission and distribution facilities. These policies, procedures and programs are updated in a timely manner as appropriate in response to changes in regulation, safety advisories, and other safety information.

The individual procedures, policies and programs associated with this Section are listed in the Appendix.

These policies, procedures and programs have been developed to comply with the code requirements and are summarized as follows:

- 3.1 Design: 49 CFR Part 192, Subparts B, C, and D specify the minimum requirements for the material selection and design of pipe and pipeline components. SDG&E's transmission and distribution pipe and facilities are designed with approved materials that have sufficient wall thickness and/or adequate protection to withstand anticipated external pressures and loads that will be imposed on the pipe after installation. The pipe and facilities are also designed with materials of sufficient strength to contain internal pressures plus appropriate design and/or safety factors. Components, including valves, flanges, and fittings meet the minimum prescribed requirements specified in the regulations. The design also includes pressure relief or other protective devices to prevent accidental over pressurization as further described in the maintenance section. SDG&E implements defined procurement processes that facilitate

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materials traceability.

- 3.2 Construction: 49 CFR Part 192, Subparts E, F, G and J specify the minimum requirements for the construction and testing of transmission and distribution facilities, including the welding and joining pipe and components as well as the protection of the pipe and facilities from hazards such as unstable soil, landslides, and other hazards that may cause the pipe to move or sustain abnormal loads. SDG&E’s transmission and distribution pipe and facilities are to be constructed in accordance with these requirements.

- 3.3 Installation: 49 CFR Part 192, Subpart H specifies the minimum requirements for the installation of distribution service lines, service regulators, and customer meters. These requirements include specifications pertaining to the location of this infrastructure, protection from damage, and valve requirements. SDG&E’s service lines, service regulators, and customer meters are to be installed in accordance with these requirements.

- 3.4 Maintenance: 49 CFR Part 192, Subparts M and I specify the minimum requirements for the maintenance of transmission and distribution pipe facilities along with the associated corrosion protection facilities. Maintenance activities include the patrolling of pipeline, performing leakage surveys, monitoring performance of corrosion protection systems, making repairs, inspection and testing of pressure limiting and regulating equipment, and valve and vault inspection and upkeep. SDG&E maintains its pipelines and facilities in accordance with these requirements.

- 3.5 Operations: 49 CFR Part 192, Subparts L and K specify the minimum requirements for the operation of transmission and distribution pipeline facilities. Operational activities are included in the O&M plan described in Chapter 4 and included the Emergency Response Plan described in Chapter 5 of this Gas Safety Plan. The operation of the pipeline also includes requirements for a public awareness program, damage prevention program, control room management procedures, odorization of gas, identification of changes in population density along certain transmission lines, and the determination of maximum allowable operating pressure, including requirements for increasing the maximum allowable operating pressure.

Industry Participation

The following list contains several of the groups in which SDG&E participates:

- American Gas Association
- American National Standards Institute
- The American Petroleum Institute
- The American Society of Mechanical Engineers technical committees (B31Q, B31.8, B31)
- California Regional Common Ground Alliance
- California Utilities Emergency Association
- Common Ground Alliance
- Dig Alert (Southern California one-call)
- The Gas Technology Institute
- Inter-Utility Coordination Committee
- Inter-Utility Working group

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- National Association of Corrosion engineers
- NYSEARCH – National Gas RD&D
- USA North (Northern California and Nevada one-call)
- Pipeline Research Council International
- Pipeline SMS
- The Western Energy Institute

Figure A

Figure A contains activities that SDG&E is in the process of implementing, which is a result of its participation in industry groups, including the American Gas Association (AGA) and others.

Current Activities	
Industry Actions	Implementation Type & Responsible Organization
Develop technology to electronically track leak survey routes and map the location of found leaks with spatial coordinates and link other data such as level of leakage found.	In progress Gas Operations - Policies Tools & Strategies
Implement a system that links geographic information systems (GIS) with locate and mark data from KorTerra (a ticket management software) to rank the highest risk Underground Service Alert (USA) tickets for prioritized routing and monitoring.	In progress Gas Operations - Policies Tools & Strategies
Remote methane sensing pilot program to use SDG&E's Smart Meter communications system to provide alarming and other notification when measured methane-in air-concentration levels exceed pre-set acceptable limits at a monitoring site.	In progress PSEP
Install fiber optic cabling on all new or replacement pipelines that are over a mile long, at least 12 inches in diameter and intended to operate at or above 20 percent of their specified minimum yield strength. Will allow for remote monitoring of leaks in real time and identification of non-native ground movements.	In progress Gas Engineering
Research and development project to evaluate the feasibility of using small unmanned aircraft systems (drones), to conduct various pipeline/facilities inspections and/or survey on difficult-to- access pipeline segments.	In progress Research and Materials Strategic Programs

Figure B

Figure B contains activities that SDG&E has implemented, which is the result of its participation in industry groups, including the American Gas Association (AGA) and others. Most of the activities are processes that have been initiated and implemented as a regular and routine element. Activities noted as “adopted,” mean that the company has incorporated them as part of the normal course of business. The other activities are one-time events that were completed and are noted as “completed.”

Implemented Activities

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Industry Actions	Implementation Type & Responsible Organization
Confirm the established MAOP of transmission pipelines	Completed Pipeline Integrity
Review and revise as necessary established construction procedures to provide for appropriate (risk-based) oversight of contractor installed pipeline facilities.	Adopted Gas Operation Services
Under DIMP, evaluate risk associated with trenchless pipeline techniques and implement initiatives to mitigate risks	Adopted Sewer Lateral Inspection Program Gas Operations
Under DIMP, identify distribution assets where increased leak surveys may be appropriate	Adopted Pipeline
Integrate applicable provisions of AGA's emergency response white paper and checklist into emergency response procedures	Adopted Emergency
Extend Operator Qualification program to include tasks related to new main & service line construction	Adopted Pipeline Safety & Compliance
Expand EFV installation beyond single family residential homes	Adopted Pipeline
Incorporate an Incident Command System (ICS) type of structure into emergency response protocols	Adopted Emergency
Extend transmission integrity management principles outside of HCAs using a risk-based approach	Adopted Pipeline
Implement applicable portions of AGA's technical guidance documents: 1) Oversight of new construction tasks to ensure quality; 2) Ways to improve engagement between operators & excavators	Adopted Gas Operations Services
Begin risk-based evaluation on the use of ASVs, RCVs or equivalent technology on transmission block valves in HCAs	Adopted Gas Engineering
Implement appropriate meter set protection practices identified through the Best Practices Program	Adopted Gas Infrastructure Protection Program (GIPP) Gas Operations Support
Upgrade aging equipment used to locate underground pipelines and facilities has been purchased and deployed. The standardized training has been developed and completed.	Adopted Gas Operations Services
Member of the Gold Shovel Standard and all Company Prime Contractors are enrolled in the Gold Shovel Standard.	Completed Gas Operations Services

VII. CONTINUING OPERATIONS

1 CONTINUING OPERATIONS AND CALIFORNIA PUBLIC UTILITIES CODE §§ 963 (b)(3), 961 (d)(3), (d)(4), and (d)(10)

In D.12-04-010, the Commission identified the topic of continuing operations to meet the requirements California Public Utilities sections 963 (b)(3), §961 (d)(3), (d)(4), and (d)(10). These sections require that SDG&E’s Gas Safety Plan achieve the following:

- “It is the policy of the state that the commission and each gas corporation place safety of the public and gas corporation employees as the top priority. The commission shall take all reasonable and appropriate actions necessary to carry out the safety priority policy of this paragraph consistent with the principle of just and reasonable cost-based rates.” § 963(b)(3).
- “Provide adequate storage and transportation capacity to reliably and safely deliver gas to all customers consistent with rules authorized by the commission governing core and noncore reliability and curtailment, including provisions for expansion, replacement, preventive maintenance, and reactive maintenance and repair of its commission-regulated gas pipeline facility.” § 961(d)(3).
- “Provide for effective patrol and inspection of the commission-regulated gas pipeline facility to detect leaks and other compromised facility conditions and to effect timely repairs.” § 961(d)(4).
- “Ensure an adequately sized, qualified, and properly trained gas corporation workforce to carry out the plan.” § 961(d)(10).

2 SAFETY IS A CORE VALUE

SDG&E considers the health and safety of all employees and the general public to be its core value. This core value is demonstrated through the following statements that describe our approach to safety at SDG&E:

- Individual health and safety and the safety of others is not compromised. Safe work habits are the responsibility of every employee and the foundation of job performance evaluations.
- Occupational injuries and illnesses can be prevented. Identification and reporting of workplace hazards and potential hazards are the responsibility of every employee of SDG&E. Job observations are implemented as part of our program to confirm that employees comply with safe and healthy work practices.
- Management takes an active role in implementing SDG&E’s health and safety programs as stated in the Injury Illness Prevention Program (IIPP) and staying aware

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of related workplace injuries, near misses, and at-risk behaviors.

- SDG&E performs formal investigations with root cause analysis and follow up on lessons learned for significant Company incidents and near misses. As part of its Incident Investigation, Evaluation, and Lessons Learned, SDG&E maintains a procedure for investigating incidents and near misses that led, or could have led, to an incident with serious consequences. These processes are incorporated into the Company’s implementation of SMS, specifically the tenet on Incident Investigation, Evaluation and Lessons Learned.
- Management is responsible for providing a safe workplace and creating a safety culture that promotes safe behaviors and safeguards to prevent accidents and injuries to employees, contractors and the public. Employees work together to use equipment in accordance with job training and safety instructions.
- Safety culture is a key component in establishing a safe work environment. SDG&E has implemented Behavior Based Safety which encourages safe behaviors by performing field observations. The Gas Safety Sub-Committee creates opportunities for open forum to address safety concerns for the employee level up to management. SDG&E periodically assesses its safety culture to confirm the effectiveness of its safety programs. SDG&E seeks to engage all levels of employees through surveys and employee Key Performance Indicators to continually identify areas to improve our safety culture and performance.
- SDG&E complies with applicable federal, state, and local occupational health and safety regulations and implements these through training, company standards, the IIPP, and safety lesson plans. Both pipeline and occupational safety are at the forefront of priorities for SDG&E. Safety is a component of employee training programs and performance appraisals.

3 SAFE AND RELIABLE TRANSPORTATION

SDG&E has designed its integrated gas transmission system to meet design standards established by the Commission for core and noncore customer service. The SDG&E gas system is designed to provide service to core customers during a 1-in-35-year peak day condition, under which noncore transportation service is curtailed. The system is also designed to provide for continuous forecast noncore transportation service under a 1-in-10-year cold day condition. SDG&E utilizes detailed hydraulic models of the gas system to evaluate its capacity to meet these design standards and identify improvements as necessary. Both design standards are expected to occur during the winter operating season when core customers’ gas usage is the greatest.

In accordance with Commission Decision D.02-11-073, SDG&E provides its system capacity twice per year to the Commission’s Energy Division (the most recent filing may be referenced to obtain SDG&E’s capacity to serve customer demand during both the winter and summer operating seasons). SDG&E does not have any physical storage assets on its system. Pursuant to Commission Decision D.07-12-019, SoCalGas handles gas procurement for SDG&E’s bundled

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core customers through a combined SoCalGas/SDG&E core procurement portfolio.

Information about transportation capacity is available through the ENVOY electronic bulletin board. The link to the ENVOY bulletin board is located at: <https://scgenvoy.sempra.com>

In accordance with SDG&E’s policies, the Gas Transmission Planning and Region Engineering departments continuously monitor customer demand on SDG&E’s transmission and distribution system, using both actual customer service requests and our long-term demand forecast. Any changes in customer demand are evaluated against the appropriate CPUC-mandated design standards for service to ensure adequate capacity is available. Depending upon the customer class, SDG&E has a variety of Commission-approved means to address any capacity deficiencies. When a deficiency is identified, possible solutions are considered, evaluated, and implemented according to SDG&E gas rules and tariffs. For example, a facility improvement that is required to serve a single noncore customer and which provides no benefit to other customers is funded entirely by that customer.

Finally, the SDG&E gas system is continuously monitored to meet current customer demand. As part of the integrated gas transmission system with SoCalGas, the integrity of the SDG&E system falls under the responsibility of the Utility System Operator. Per SoCalGas Rule 41, Utility System Operation, the mission of the Utility Gas System Operator is to maintain system reliability and integrity. This rule provides information on the responsibilities performed to maintain system reliability by each of the SoCalGas departments that contribute to the System Operator function.

SDG&E will continue to perform operating and maintenance activities and make capital investments to support the company’s pipeline system and comply with applicable regulatory and environmental regulations.

4 SDG&E WORKFORCE SIZE, TRAINING AND QUALIFICATIONS

4.1.1 Workforce Size

SDG&E determines appropriate staffing levels taking into consideration multiple factors to preserve the safety and integrity of its pipeline system. Associated to this process, SDG&E addresses elements of a workforce planning mitigation plan through workforce planning, knowledge transfer, training and succession planning.

Annual baseline employee staffing levels are determined during the annual planning process and contracts are maintained with qualified service providers to complete work and address variability in work demand throughout the year. As part of the planning process local district management reviews its projected work and workforce to adequately fulfill safety, compliance, maintenance, and construction obligations. If local management cannot fulfill these obligations, they raise the need as part of the resource allocation and funding process. During the year, as resource vacancies occur or as work levels significantly change, local management reassesses the need for the workforce and

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submits a request to fill the vacancies or add to staff. Resource allocation decisions consider employee levels and contractor availability.

Verification of appropriate staffing levels is determined by monitoring specified performance metrics and workloads. These performance metrics include: meeting emergency response goals (Priority 1 response within 60 minutes) and compliance to distribution pipeline leakage code response times consistent with Company policy. The performance metrics used are reviewed monthly by Senior Management. If SDG&E falls below performance goals, appropriate resource adjustments would be made.

Employees in safety-sensitive positions are trained to handle emergencies. Employees are cross-trained as needed in various assignments to perform a variety of duties that allow a flexible workforce to meet sudden changes in work demands. The company assesses its workforce requirements on an ongoing basis (such as an annual planning exercise) to develop hiring and development plans and budgets to supplement or replenish the workforce as necessary to sustain the safety and integrity of the pipeline system.

The Company uses contractors, as necessary and in compliance with bargaining agreements, so that sufficient overall resources are deployed to address maintenance and construction. SDG&E shall continue to require that contractor employees undergo training and meet specific compliance requirements to perform work on company pipelines and facilities. Contractors shall be monitored to see that they perform their responsibilities consistent with company standards and contract requirements.

4.1.2 Gas Operations Training

Safety is rooted in all phases of training provided by Gas Operations Training. It starts with the formalized training that employees receive when they begin their career, emphasized on the job, and then re-emphasized during training they receive as they advance to new jobs.

Training courses are delivered to each function/classification in all field job progressions and vary from two to seven weeks for entry-level positions. Courses are taught utilizing various training methods and delivery by a centralized Gas Operations Training team with most of the instructors having gained practical experience on the job. These instructors convey consistent safety messages and confirm understanding of the classroom training by observing employees perform in simulated field situations.

Integrated in the training courses are the Operator Qualification tasks, as required by 49 CFR Part 192 regulations. The documentation for these qualifications and records are closely monitored and employees are re-trained, re-qualified or updated whenever significant changes occur in a task regulation or when they are required to re-qualify as prescribed by PHMSA.

Emergency response is covered within the training courses for classifications that have

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any activities or functions in this area. The classifications include Working Foreman, Welder, Gas Technician B, Gas Technician A, Service Technician, Meter Service Person, Locator, Laborer, Regulator Technician, Instrument Technician, Cathodic Protection Technician, and Gas Patroller. Employees are required to annually review policies and procedures so that they understand emergency response guidelines and procedures, including when to contact Corporate Security to address certain threats.

SDG&E has a training curriculum that tests employees' skills in identifying and repairing gas leaks and other real-life emergency situations through simulation exercises. These exercises are also included in first responder training. In addition, the company implemented a technical skills training class to help employees new to management become more effective in addressing these situations as supervisors and managers.

As part of the Company's continuing education effort, a hands-on training course for supervisors on emergency response/duty supervisor has been developed and is being taught to new supervisors.

SDG&E participates in industry forums, validates that training activities are consistent with regulatory requirements, and identifies when new training opportunities exist.

Training course materials are updated on a regular basis. Root causes of safety incidents, findings and near miss investigations are a significant part of course discussion/instruction in order to sustain and improve overall employee and system safety.

4.1.3 Qualification of Pipeline Personnel

All gas pipeline operators are required to have a written Operator Qualification program to establish compliance policies for the DOT Operator Qualification Program as required by 49 Code of Federal Regulations, Subpart N – Qualification of Pipeline Personnel, to qualify employees and contractors performing DOT-covered tasks. The Company's Operator Qualification Program applies to all individuals who perform covered tasks, whether they are employed by the Company, a contractor, a sub-contractor or any other entity performing covered tasks on behalf of the Company. Such programs are reviewed by the Operator Qualification department prior to performing work on pipelines or pipeline facilities.

The Operator Qualification Program requires that employees are trained, initially qualified and subsequently re-qualified everyone, three or five years depending on the task. SDG&E's training frequency conforms to these requirements and the results of the evaluations are recorded -- demonstrating employees' knowledge, skills and abilities of the job requirements and that they are qualified to perform the required tasks. If employees don't pass, they are not allowed to perform that activity until they have been successfully re-trained and re-qualified. Essentially, any employee who performs a covered task -- ranging from customer services field to distribution and transmission personnel -- need to be qualified to perform Operator Qualification tasks.

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The Operator Qualification Program also requires that contractors’ knowledge, training, and skills conform to the job requirements and that they are qualified to perform the required tasks. An external vendor, who is one of the nation’s leaders in regulatory compliance for Operator Qualification, has been retained to provide training, testing, Operator Qualification, and record retention for our pipeline contractors.

Veriforce is a third-party vendor who offers comprehensive solutions for Operator Qualification (OQ), Drug & Alcohol (D&A), Training, Auditing, and Consulting programs to Operators and contractors nationwide. In 2012, SDG&E partnered with Veriforce to manage all gas contractors’ OQ and D&A programs using the Veriforce electronic database. The Veriforce partnership allows SDG&E to improve the overall OQ program for gas contractors by requiring them to abide by a common OQ program and tracks their D&A status to maintain compliance. 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 to the D&A status of each contractor company and its employees.

5 ANTI-DRUG AND ALCOHOL MISUSE PREVENTION PLAN

The purpose of the Anti-Drug and Alcohol Misuse Prevention Plan is to prevent accidents that could result from the use of controlled substances and misuse of alcohol, thereby reducing fatalities, injuries and property damage. The Company’s plan and policies are designed to comply with state and federal law.

If performing DOT-covered functions, employees undergo pre-employment drug and alcohol testing and are entered into the random drug testing program. Contractors shall also have an Anti-Drug and Alcohol Misuse Prevention Program or work with a third-party to enforce the program in compliance with DOT regulations, specifically, 49 CFR Part 40, Part 199 and/or Part 382. Contractors shall ensure their employees have a negative pre-employment test on file before their first performance of safety-sensitive functions and are entered in their (contractor’s) random testing pool.

VIII. EMERGING ISSUES

1 EMERGING ISSUES AND CALIFORNIA PUBLIC UTILITIES CODE § 961 (d)(11)

In D.12-04-010, the Commission identified the topic of emerging issues to meet the requirements California Public Utilities section 961 (d)(11). This section requires that the gas safety plan include the following:

- “Any additional matter that the commission determines should be included in the plan.”

2 SDG&E AND EMERGING ISSUES

SDG&E stays current on emerging issues within the industry through active participation in industry associations and open communication with legislative and regulatory groups. Chapter 6 of this Gas Safety Plan identifies the on-going safety enhancement actions the industry has committed to and SDG&E’s targeted date of implementation.

SDG&E is continuing to address the emerging issues of the grandfathering of provisions in Title 49 of the Code of Federal Regulation (49 CFR) Part 192 and the installation of remote-controlled and automatic shutoff valves as part of its Pipeline Safety Enhancement Plan (PSEP) as discussed in Chapter 4 of this Gas Safety Plan. Similarly, SDG&E is addressing the replacement of pipe, including polyethylene made with Aldyl-A resin, as part of its Distribution Integrity Management Program.

3 COLLABORATION WITH THE CALIFORNIA PUBLIC UTILITIES COMMISSION

SDG&E shall continue to work in collaboration with the Commission and other regulatory authorities, and, stay abreast of industry best practices in order to address those emerging issues that pose hazards and are not yet within this Gas Safety Plan.

- Senate Bill 1371 “Natural Gas Leakage Abatement”
- CARB Oil and Gas Rule
- Risk Management
- Climate Change Adaptation and Resiliency
- Proposed Federal Pipeline Safety Regulations

Senate Bill 1371 “Natural Gas Leakage Abatement”

Senate Bill (SB) 1371 requires the adoption of rules and procedures to reduce methane emission from Commission-regulated natural gas pipeline facilities consistent with Public Utilities Code section 961(d) and 49 CFR sections 192.703(c). SDG&E’s first Leak Abatement Compliance Plan and accompanying Advice Letter were approved in 2018 and

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the Plan is being implemented at SDG&E to implement 26 mandatory best practices. SDG&E is submitting its second Biennial Compliance Plan by March 15, 2020. Implementation of the activities for each best practice will begin after cost recovery is approved, with an expectation of implementation in 2021 – 2022.

SDG&E is an industry leader in the development of new methods and use of new technologies that enable the company to reduce natural gas emissions. Some of these include:

- Improving the accuracy of emissions estimations and reporting;
- Development of Company-Specific emissions factors;
- Use of infrared cameras to check for leaks after new pipelines are installed;
- Special fiber optic cable that detects methane leaks and third-party damage to pipelines;
- Infrared “point” sensors that can detect leaks before they can be smelled by people;
- Use of aerial platforms such as helicopters and Drones equipped with advanced emission detection technologies to spot emissions from above;
- Developing algorithms that use our Advanced Meter system to identify unusual levels of natural gas consumption that indicate a leak at customers’ homes or businesses; and
- Capturing natural gas released during pipeline replacement or safety maintenance and testing, allowing for gas to be saved for later use while eliminating emissions that would otherwise occur.

CARB Oil and Gas Rule

The CARB Oil and Gas Rule final regulation approval by the Office of Administrative Law (OAL) was effective October 1, 2017 and the rule implementation became effective on January 1, 2018. Although this rule is environmentally focused, the requirements also have co-benefits to support safety. This regulation impacts SDG&E operations at Transmission Compressor Stations. SDG&E has implemented a quarterly leak detection and repair program and allows for limited delay of repairs in deference to operational and safety related issues.

Risk Management

SDG&E continues to work with the CPUC to develop and enhance its process to manage risk. The Company strongly agrees that the implementation of SMS for its pipeline operations is a key step towards enhanced asset and risk management decision-making to ultimately improve safety performance. SDG&E is an active participant in ongoing CPUC proceedings related to risk management.

SDG&E is committed to taking a risk-based decision-making approach to prioritizing our work and allocating our resources. SDG&E has a comprehensive, rigorous, and iterative system to manage its business risks across the enterprise, which encompasses employee, contractor, customer, public, and infrastructure safety risks. SDG&E has a dedicated organization, Enterprise Risk Management (ERM), whose role is to facilitate the identification, analysis, evaluation, and prioritization of risks. Effective risk management practices help to reinforce a strong and positive safety culture. SDG&E has undertaken a thoughtful and measured approach to the adoption of risk management structures and processes at all levels, to further the development of a risk-aware

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culture.

While the ERM organization develops and executes risk mitigation policies and procedures, the operating business organizations manage risks every day for our employees, contractors, the public, and infrastructure. These include safety management programs that are mandated by federal and state occupational, health and safety, and other applicable laws and regulations. These programs are managed at the local level and are further described in this chapter.

ERM works annually to refresh Risk Registries at the Enterprise level. The Enterprise Risk Registry is a starting point for the RAMP and feeds into the Company’s risk-informed decision-making framework processes. Additionally, SDG&E leverages the operating unit risk registries to inform internal asset management strategies and integrity management to continue the integration of risk and asset management.

Climate Change Adaptation and Resiliency

Under the broad umbrella of risk management, SDG&E is addressing certain risks that have emerged as industry-specific issues, such as climate change adaptation. SDG&E is focused on safety initiatives to address climate change issues including drought, wildfires, and mudslides. SDG&E is working with the California Energy Commission and the CPUC on climate change adaptation. SMS encourages operators to use the results of their risk assessments to continue to drive down the likelihood of asset-related safety incidents and events—this approach is being implemented as the risk management processes are matured and improved. The Company views climate change as a driver and/or trigger to some of the top-identified safety risks and the results of the maturation of risk management is being integrated into the SoCalGas and SDG&E RAMP and GRC filings. For example, to address the risk of climate change, the 2019 RAMP Report focuses on the drivers of climate change and the potential resulting impacts, which in turn yielded the adaptation assessment and mitigation efforts presented in the risk chapters of this 2019 RAMP Report. SDG&E continues to conduct research to understand the impacts to all the Utility systems in recent extreme events such as the wildfires in California as well as hurricanes and floods throughout the country to better identify vulnerabilities and opportunities to enhance resiliency for the natural gas infrastructure.

Proposed Federal Pipeline Safety Regulations

As significant new pipeline safety regulations are being developed by the Pipeline and Hazardous Material Safety Administration (PHMSA), SDG&E continues to provide input to help ensure effective implementation and desired outcomes. Examples of significant regulations on the horizon include:

- “Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments”

PHMSA published its final rule in October 2019 and the amendments within address integrity management requirements and other requirements, and they focus on the actions an operator must take to reconfirm the maximum allowable operating pressure of previously untested natural gas transmission pipelines and pipelines lacking certain material or operational records, the periodic assessment of pipelines in populated areas not designated as “high consequence areas,” the reporting of exceedances of maximum

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allowable operating pressure, the consideration of seismicity as a risk factor in integrity management, safety features on in-line inspection launchers and receivers, a 6-month grace period for 7-calendar-year integrity management reassessment intervals, and related recordkeeping provisions.

- “Safety of Gas Transmission Pipelines: Repair Criteria, Integrity Management Improvements, Cathodic Protection, Management of Change, and Other Related Amendments”
 - “This rulemaking will address the following proposals:
 - Repair criteria (HCA and non-HCA)
 - Inspections following extreme events
 - Safety features on ILI launchers and receivers
 - Management of change
 - Corrosion control
 - Integrity management clarifications
 - Strengthened assessment requirements”

GAS SAFETY PLAN APPENDIX

- 1.1. In Decision (D.)12-04-010, the Commission stated gas operator safety plans “may reference existing components or include Exhibits or Attachments that cross-reference to other existing utility documentation.” SDG&E has numerous existing safety programs, plans, and procedures in place that address specified infrastructure or areas of company activity. This Safety Plan provides an overarching safety strategy that encompasses the plans, programs, and policies referenced in this document and affirm SDG&E’s commitment to safety. The following matrix is a guide to the documents making up these plans, programs, and policies. Documents have been identified by their policy number and title and cross-referenced to the Safety Plan chapter.

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Policy Document – Gas Safety Plan Matrix

Pipeline Safety Plan Chapter					
Policy	Title	4	5	6	7
190SD	Operator Qualification Task Change Communication	X		X	
2110SD	Management of Change for Gas Standards Related to Integrity Management Programs	X			
2111SD	Management of Change - Request & Approval	X			
2112SD	Pipeline Database Update	X			
3084SD	Corrosion Tests General Data Sheet	X			
3222SD	Design Data Sheet (DDS)	X		X	X
3506SD	Notice of Shutdown / Operational Deviation	X			
40-00	Polyethylene Pipe and Tubing	X			
4090SD	100mV Polarization Form	X			
4091SD	Wax Casing Data Collection Form	X			
50-15	Pipe Nipples	X			
52-80	Couplings - Electrofusion, Polyethylene	X			
52-81	Fittings, Socket & Saddle, Polyethylene Heat Fusion	X			
52-82	FITTINGS, BUTT TYPE, POLYETHYLENE HEAT FUSION	X			
56-40	Stop Cocks	X			
56-50	Steel to Plastic Transition Fittings	X			
56-70.1	Risers - Service, Anodeless	X			
56-70.16	Riser - Service Head Adapter	X			
58-10	Valves - Thermoplastic	X			
58-82	Valves - Ball, Steel, Trunnion Mounted	X			
677-1SD	Pipeline Condition and Maintenance Report	X			
76-72	Odorant - 50/50 TBM/THT	X			
76-73	Thiophane Odorant	X			
78-02AM	Meters - Rotary				X
78-03AM	Meters - Turbine				X
ACF	Assessment Completion Form	X			
C5050	Order Completion and Priority Scheduling	X	X	X	
C5140	Shutting-Off Gas Meters	X			
C5150	Pardon the Interruption		X		

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Pipeline Safety Plan Chapter					
Policy	Title	4	5	6	7
C5160	Gas Meter Turn-On Procedure	X		X	
C5190	Emergency Response Procedures for Gas Incidents	X	X	X	
C5200	Restoration of Service Due to Gas Outage	X	X	X	
C5260	Locking and Blanking of a Gas Meter Set	X		X	X
C5370	Large Meters - Houeline Testing				X
C5390	Gas Curb Meter and Atmospheric Corrosion Inspection and Maintenance	X		X	X
C5450	Pressure Regulation - Residential and Commercial	X		X	
C5460	Fumigation Shut-Off and Back-On Orders				X
C5480	Purging Service Risers	X		X	X
C5490	Working in the Presence of Escaping Gas	X	X	X	X
C5500	Reportable Gas Incidents	X	X	X	
C5510	Leak Investigation	X	X	X	X
C5520	Houeline Leakage on Master-Metered Systems	X		X	X
C5540	Setting Gas Meters				X
C5580	Re-Insulating Gas Meters				X
C5630	Power Outage Notification		X		
C5640	Verify Customer Generator Operation (VGEN)		X		
C5660	Purging Gas Meters and Customer Houelines	X		X	X
C5665	Odor Conditioning of New Customer-Owned Pipelines - Size (AC630) Meters and Larger				X
C5700	Service Policy				X
C5710	Back Flow Protection - Regulators and Check Valves			X	X
CRMP6	Gas Control Management of Change			X	
CRMP6SD	Gas Control Management of Change	X		X	
CSSD071220	Sempra Energy Foundation's 2007 Fire Relief Fund Information Handout				X
D7103	Gas Meter Location	X		X	
D7107	Free Standing Header Support	X		X	
D7109	Gas Service Location	X		X	
D7110	Abandonment of Gas Service and Gas Light Tap Assemblies	X		X	X

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Pipeline Safety Plan Chapter					
Policy	Title	4	5	6	7
D7113	Evaluation and Disposition of Inactive Services	X		X	
D7115	Barricades for Gas Meter Sets	X		X	
D7119	Earthquake Valves on Meter Sets				X
D7123	Service Regulator Vent Extensions	X		X	
D7125	Service Regulators in Curb Meter Boxes	X		X	
D7127	Curb Meter Box Excavation and Riser Replacement	X		X	
D7203	Polyethylene (PE) Pipe and Fittings – General Application Requirements	X		X	
D7204	PE Fusion Card			X	X
D7211	Handling and Storage of Polyethylene (PE) Material	X		X	
D7213	Polyethylene Heater - Temperature Measurement and Adjustment	X			X
D7216	Mechanical Tapping Tee Inspection				X
D7221	Socket Fusion for Polyethylene	X		X	X
D7222	PE Saddle Fusions	X		X	X
D7225	Tapping/Stopping Polyethylene (PE) Fittings	X		X	X
D7227	Butt Fusion Polyethylene	X		X	X
D7233	Electrofusion for Polyethylene			X	
D7237	Transition Fittings			X	
D7241	Direct Burial of Polyethylene Pipe			X	X
D7247	Service Risers for Polyethylene (PE) Installations	X		X	
D7248	Service Riser Integrity Observation and/or Inspection	X		X	
D7249	Valve Installation and Valve Box Assemblies for Polyethylene	X		X	
D7252	Service Head Adapter - 3/4 INCH			X	X
D7255	Casing Assemblies - Plastic Carrier Pipe	X		X	X
D7257	Tracer Wire Installation for Polyethylene (PE) Pipe Installations			X	
D7265	Pneumatic Test Requirements for Pipelines Operating at 60 PSIG or Less	X		X	X
D7275	Polyethylene (PE) Pipe Repair	X		X	X
D7279	Squeezing Polyethylene Pipe - 1/2" through 8"				X
D7293	Qualification Requirements for Polyethylene Fitters			X	X

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Pipeline Safety Plan Chapter					
Policy	Title	4	5	6	7
D7303	General Requirements - Steel Distribution System			X	
D7321	Service Connections to Steel Pipelines			X	
D7325	Service Punch Tee	X		X	X
D7341	Raising or Repairing 3/4 Inch and 1 Inch Steel Risers				X
D7371	Leak Repair Methods for Steel Distribution Pipelines	X		X	X
D7373	Pipe Cold Squeezer Huskie PS-45				X
D7381	Abandonment or Inactivation of Gas Distribution Pipelines	X		X	X
D7382	Requirements for Hot/Cold Squeezing of Steel Pipelines				X
D7383	Steel Pipe Squeezer 6" through 12"	X			X
D7385	RFS of 3/4 Inch and 1 Inch Service Nipples on Mains to be Upgraded				X
D7403	Underground Distribution (UD) Trenches and Utility Positioning			X	X
D7411	Trench Excavation Requirements for 60-400 PSIG MAOP Distribution Mains			X	X
D7412	Excavation Requirements for Trench with Two Distribution Mains			X	
D7427	Standard Gas Main Positions for Distribution Mains			X	
D7428	Gas Trench Only (GTO) Specifications for San Diego County				
D7461	Gas Facilities Box (Inside Dimensions 2' X 3')			X	
D7465	Prefabricated Vaults - Design and Selection Guide			X	X
D7705	Regulator Station Installation Procedures				X
D7711	Regulator Station Design and Planning			X	X
D7715	Control Piping			X	X
D7905	Minimum Requirements for Pressure Control Operations on Distribution Pipeline Systems	X		X	X
D7907	Qualification Requirements Distribution Pressure Control				X
D7911	Purging of Distribution Gas Lines of 60 PSIG	X		X	X
D7912	Purging and Locking Service Risers	X		X	X
D7919	Changing a 3/4 Inch and 1 Inch Stopcock				X

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Pipeline Safety Plan Chapter					
Policy	Title	4	5	6	7
D7927	Mueller 'D-4' and 'D-5' Tapping Machine Instructions				X
D7929	Mueller Line Stopper Unit No. 1				X
D7931	Mueller 'E-4' and 'E-5' Tapping Machine				X
D7933	Stopping Off Procedure for Service Ys				X
D7955	Pressure Control - 2" Top Half Fitting				X
D7956	Pressure Control - 3" and 4" Top Half Fitting				X
D7957	2-Inch Service Tee for Gas Mains 60 psig or Less				X
D8146	Replacement Criteria for Distribution Mains and Services	X		X	
D8147	Services - Repair vs. Replace Decisions	X			
D8164	Pressure Monitoring of Distribution Systems	X		X	X
D8167	Valve Inspection and Maintenance - Distribution	X		X	X
D8189	Temporary LNG Facility	X			X
D8194	Sensit G2 Multigas Detector and SMART-CAL Operation and Maintenance Procedures				X
D8305	Trenchless Construction Methods	X		X	X
D8306	Prevention of Sewer Lateral Intrusions and Damage				X
D8310	Polyethylene (PE) Pipe Inserted in Metal Casings			X	
D9102	Gas Mapping and Records	X		X	
D9103	Terms and Definitions			X	
D9131	Design of Polyethylene Services			X	
D9135	Mains: Fittings and Fitting Selection			X	
D9157	Meter Selection and Spacing Requirements	X		X	
D9183	Excess Flow Valve and Service Pipe Sizing			X	
DIMP1	Introduction	X			
DIMP2	System Knowledge	X			
DIMP3	Threat Identification	X			
DIMP4	Evaluate and Rank Risk	X			
DIMP5	Identify and Implement Measures to Address Risk	X			
DIMP6	Measure Performance, Monitor Results and Evaluate Effectiveness	X			
DIMP8	Periodic Evaluation and Improvement	X			

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Pipeline Safety Plan Chapter					
Policy	Title	4	5	6	7
DIMP9	Report Results	X			
DIMPA	Terms, Definitions and Acronyms	X			
ER-1SD	Gas Emergency Response Plan				
ESHSD-0000	Phone Numbers				X
ESHSD-1100	Rule 1100 - Injury and Illness Prevention Program				X
ESHSD-1200	Rule 1200 - General Safety and Health Rules				X
ESHSD-1300	Vehicle and Forklift Safety				X
ESHSD-1400	Office Safety				X
ESHSD-1500	Fire Prevention				X
ESHSD-1600	Emergency Action Plan (EAP)				X
ESHSD-1700	Workplace Security				X
ESHSD-1800	Incident and Injury Reporting				X
ESHSD-2100	General Construction, Maintenance and Operation Safety Rules				X
ESHSD-2200	Aerial Lift Equipment				X
ESHSD-3100	Electric - General Safety Rules				X
ESHSD-3300	Electric Substation and Maintenance				X
ESHSD-3400	Overhead Electric - Distribution and Transmission				X
ESHSD-3600	Underground Electric - Distribution and Transmission				X
ESHSD-3800	Electrical Safety Hazards				X
ESHSD-4100	Gas Distribution and Transmission				X
ESHSD-9999	Definitions				X
F17-1	Annual Performance Measures	X			
F17-1SD	Annual Performance Measures	X			
F4-1	Threat Evaluation Form	X			
F4-1SD	Threat Evaluation Form	X			
F8-1	Baseline Assessment Plan Revisions Log	X			
F8-1SD	Baseline Assessment Plan Revisions Log	X			
G7008	Material Evaluation and Implementation	X			
G7009	Material Specifications and Purchase Descriptions	X			
G7011	Standard Specification for Natural and Substitute Fuel Gases	X		X	
G7013	Qualification of New Construction Contractors	X			X
G7017	Hydrogen Sulfide (H2S) Management	X		X	

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Pipeline Safety Plan Chapter					
Policy	Title	4	5	6	7
G7022	Welding Inspector Operator Qualification	X		X	X
G7313	Steel Pipe Yield, Design Properties and Design Pressure Tables	X			
G7314	Steel Pipe - Selection Requirements	X		X	X
G7316	Identification of Steel Pipe and Butt Weld Fittings	X		X	X
G7321	Steel Butt-Weld Fittings - Selection Guide	X		X	X
G7345	Application of Mueller and TDW M Stop Control Fittings				X
G7350	Casing Assemblies - Steel Carrier Pipe	X		X	X
G7351	Wear Pads and Bands for Steel Gas Piping	X		X	X
G7353	Branch Connection, Steel - Selection Guide	X		X	X
G7355	Holiday Detector Operation				X
G7361	Pipeline Testing Requirements	X		X	X
G7365	Pneumatic Test Requirement for Pipelines Operating Above 60 PSIG	X		X	X
G7369	Hydrostatic Test Requirements	X		X	X
G7371	Repair of Defects in Steel Pressure Piping	X		X	X
G7372	Repair of Defects on an Operating Pipeline by Grinding	X			X
G7373	Repair of Non-Leaking Defects on an Operating Pipeline with a Band or Sleeve	X			X
G7374	Repair of Defects on Operating Pipelines Using Abandon Nipple				X
G7375	Approved Protective Coatings for Below Ground Corrosion Control	X		X	X
G7376	Field Tape Wrapping Requirements	X		X	X
G7377	Field Application of Fusion Bonded Epoxy to Joints and Field Repair of Fusion Bonded Epoxy Coating	X		X	X
G7379	External Surface Preparation and Field Applied Coatings for Buried Pipelines	X		X	X
G7380	Field Application of Grease Coating	X		X	X
G7381	External Surface Preparation and Coating Application for Steel Tanks and Vessels (New & Refurbished)	X		X	
G7382	Surface Preparation and Coating for Above Ground Piping and Steel Components	X			X
G7383	Internal Coating of Tanks, Vessels, & Drip Legs	X		X	

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Pipeline Safety Plan Chapter					
Policy	Title	4	5	6	7
G7385	External Surface Preparation and Shop-Applied Coating for High Corrosion Service areas	X		X	X
G7402	Notification of Excavation and Construction Activities - Assembly Bill Number 1937/ PUC Code 955.5			X	X
G7408	Hand Backfill and Compaction Method			X	X
G7409	Imported or Native Backfill				X
G7410	Slurry Backfill				X
G7450	General Construction Requirements for Distribution Mains				X
G7451	Prevention of Damage to Subsurface Installations	X			
G7453	General Excavation Requirements			X	
G7505	General Procedures for Field As-Builts			X	
G7506	Archiving of High-Pressure Records in PDMS	X			X
G7507	Map Maintenance Requirements for High Pressure Gas Lines	X			
G7520	Requirements for Designing Pipelines to Accommodate Smart Pigs	X			
G7603	Valve Usage and Selection Guide	X		X	X
G7605	Valving Responsibility - Distribution				X
G7615	Replacement and Raising of Valve Boxes			X	X
G7631	Main Line Ball Valve Assembly - Classes 150 & 300 2 Inch and 4 Inch			X	
G7635	Main Line Ball Valve Assembly - Classes 150 & 300 6 Inch and 8 Inch			X	
G7636	Lubrication of Plug Valves				X
G7643	Excess Flow Valve (EFV) - Installation and Operation	X		X	X
G7649	2 Inch Ball Valve Assembly for Drilling Through Pressurized Pipelines			X	
G7665	Flanges - Selection, Torque and Installation Requirements	X		X	X
G7803	General Welding Requirements	X		X	X
G7805	Welding Field Guide	X		X	X
G7809	Qualification and Re-Qualification of Welders	X		X	X
G7815	Inspection and Testing of Welds on Company Steel Piping	X		X	X

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Pipeline Safety Plan Chapter					
Policy	Title	4	5	6	7
G7817	Radiographic Examination API 1104			X	X
G7821	Angles and Bends in Steel Piping			X	X
G7909	Purging Pipelines and Components	X		X	X
G7910	Purging Pipelines Using Air Movers for Cold Tie Operations	X		X	X
G7951	Drilling 4 Inch, 6 Inch and 8 Inch Ball Valves				X
G7955	4 Inch Ball Valve Assembly for Hot Tapping to 800 PSIG			X	
G7959	Tapping Through a 2 Inch Ball Valve				X
G7963	2 Inch Drilling Assembly for Drilling Existing 400 And 800 PSIG Pipelines			X	
G7967	Drilling Through A 2 Inch Mueller PCF With A "DH-5" Drilling Machine on Mains Above 60 PSIG				X
G7971	Stopping Off A 2 Inch Mueller PCF With A "DH-5" Drilling Machine on Mains Operating Above 60 PSIG				X
G7979	Line Stopper Units 3SW-500 And 4SW				X
G7980	Pressure Control: Mueller EH-5 Drilling Machine	X		X	
G8001	Criteria for Cathodic Protection	X		X	
G8002	100mV Polarization Criteria	X		X	X
G8003	Design and Application of Cathodic Protection	X		X	X
G8006	Connect Copper Wire to Steel Pipe - Pin Brazing, Thermite Welding and Braze Welding Processes				X
G8009	Electrical Test Stations & Bond Assembly	X		X	X
G8013	Cathodic Protection - Mixed Piping Systems	X		X	X
G8014	Magnesium Anodes for Corrosion Control	X		X	X
G8015	Selection and Installation of Rectifiers and Impressed Current Anodes	X			X
G8019	Operation and Maintenance of Cathodic Protection Facilities	X		X	X
G8021	Cathodic Protection - Inspection of Exposed Pipe	X		X	X
G8022	Atmospheric Corrosion (ACOR) - Inspection of Meter Set Assemblies	X		X	X
G8023	MAOP Evaluation of Corroded Pipe	X		X	X
G8024	Measurement of Remaining Wall Thickness	X			

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APPENDIX – SAFETY POLICY DOCUMENTS		SDG&E: SP.8-SD			
Pipeline Safety Plan Chapter					
Policy	Title	4	5	6	7
G8025	Internal Corrosion Management Plan	X		X	X
G8026	External and Internal Transmission Pipeline Inspection	X		X	X
G8027	Cathodic Protection - Electrical Isolation	X		X	X
G8028	Cathodic Protection - Casings	X		X	X
G8029	Record Keeping - Corrosion Control	X		X	X
G8031	Internal Corrosion Design and Construction Considerations	X		X	X
G8035	Interference - Stray Electrical Current	X		X	X
G8037	Induced High Voltage Alternating Current (HVAC) on Pipelines				X
G8041	Cathodic Protection - Instruments and Testing Equipment	X			
G8042	Copper Sulfate Electrode	X			
G8043	Corrosion Control of Underground Hazardous Substance Storage Tanks				X
G8107	Aboveground Survey Plan	X			X
G8108	Alternating Current Attenuation Survey	X			X
G8109	Close Interval Survey	X			X
G8110	Voltage Gradient Survey	X			
G8111	Soil Resistivity Survey	X			
G8112	Inspection of Cased Pipe	X			
G8113	Operator Qualification Program	X		X	X
G8114	Self-Audit Guidelines - Pipeline Integrity Program	X			
G8115	Changing Maximum Allowable Operating Pressure and Maximum Operating Pressure	X		X	X
G8116	Pipeline and Related Definitions	X		X	X
G8121	Class Location - Determination and Changes	X		X	X
G8122	Prevention of Excavation Damage to Company Facilities	X		X	X
G8123	Underground Service Alert and Temporary Marking	X		X	
G8129	Odorization	X		X	X
G8130	Operation of Odorator				X
G8133	ODORIZATION-YZ NJEX Odorant Injection System Maintenance				X
G8135	Leak Classification and Mitigation Schedules	X		X	X
G8137	Leak Investigation - Distribution		X		X

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APPENDIX – SAFETY POLICY DOCUMENTS		SDG&E: SP.8-SD			
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Policy	Title	4	5	6	7
G8138	Optical Methane Detector Operation and Maintenance				X
G8139	Company Facility Odor Assessment		X		X
G8140	Pipeline Patrol and Unstable Earth Inspections	X		X	X
G8141	Pipeline Markers	X		X	X
G8142	Inspection of Pipelines on Bridges and Spans	X		X	X
G8145	Leakage Surveys	X		X	X
G8147	Planning Shutdowns on High Pressure Gas Facilities	X	X	X	
G8159	Distribution Pressure Regulating and Monitoring Station & Vault - Inspection, Maintenance and Settings	X		X	X
G8160	Pipeline Cleaning Standard	X			
G8161	In-Line Inspection Surveys Standard	X			
G8162	Assessment of Pipeline Integrity Using Guided Wave UT	X			
G8163	GPS Control Survey	X			
G8164	Global Positioning System (GPS) Process	X			
G8166	Scheduling Remediation	X			
G8168	Immediate Repair Conditions - Transmission Pipelines	X	X	X	X
G8169	Prevention of Accidental Ignition of Natural Gas	X	X	X	
G8170	Procedure for HCA Segment Identification	X			
G8171	CPUC and PHMSA Notification of Major New and Up-rated Pipelines and Pressure Test Failures of Pipelines	X			
G8172	Data Gathering and Integration	X	X	X	X
G8173	Threat Identification	X			
G8174	Risk Assessment of High Consequence Areas	X			
G8177	TIMP Risk Algorithm	X			
G8178	Baseline and Reassessment Plan	X			
G8179	External Corrosion Direct Assessment Procedure	X			
G8180	In-Line Inspection Procedure	X	X		
G8184	Bellhole Inspection Requirements	X		X	X
G8185	Casing Wax Fill	X		X	X

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APPENDIX – SAFETY POLICY DOCUMENTS		SDG&E: SP.8-SD			
Pipeline Safety Plan Chapter					
Policy	Title	4	5	6	7
G8186	Preventive and Mitigative Measures	X			
G8187	Continual Evaluation	X			
G8188	Stress Corrosion Cracking Direct Assessment Procedure	X			
G8192	RMLD - Remote Methane Leak Detector				X
G8198	Field Sampling and Analysis of Liquids and Solids/Sludge	X			
G8202	Field Guidelines - Emergency Incident Distribution / Customer Service	X	X	X	X
G8204	Emergency Response Procedures for Gas Incidents - Distribution	X	X	X	X
G8205	Emergency Response Procedures for Gas Incidents - Transmission	X	X	X	X
G8206	Emergency Materials List for Gas Incidents	X	X	X	
G8208	Natural Disaster or Major Emergency - Employee Instructions	X	X	X	
G8210	Contact with Fire and Police Departments and Public Agencies	X	X	X	
G8215	Field Services (Distribution) On-duty Supervisor Responsibilities		X	X	X
G8216	Incident Command System (ICS) for Emergency Incidents	X	X	X	
G8217	Supplemental Data Determination	X			
G8221	Gas Incident Notification	X	X	X	
G8222	Pipeline Incident Reports to CPUC and PHMSA; National Transportation Safety Board (NTSB) Accident Investigation	X	X		X
G8223	Pipeline Safety Reports and Notifications to CPUC and PHMSA	X	X	X	X
G8225	Investigation of Gas Incidents	X	X	X	
G8229	Reports of Safety-Related Pipeline Conditions	X	X	X	X
G8237	Restoration of Service Policy and Responsibilities	X	X	X	
G8241	Responsibilities for Maintenance of the Downtown San Diego Emergency Curtailment Map	X	X	X	
G8308	Contractor Safety Program	X			
G8315	Confined Space Operations			X	X
G8316	Incident Evaluation Process on Gas Systems		X		X

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Policy	Title	4	5	6	7
G8320	Working in Flammable Atmospheres	X		X	
G8345	Hot Work Permit Program			X	
G8356	Silica Dust Exposure Control Plan'	X		X	
G8365	Respiratory Protection Program	X		X	
G8366	Heat Illness Prevention for Outdoor Work				X
G8373	Wildfire Smoke Protection Program	X		X	
G8603	Designs for Pipelines in Bridges	X		X	X
G8605	Request for Pipeline Engineering Assistance	X		X	X
G8704	Environmental Training	X			
G8706	Environmental Inspections, Search Warrants, Subpoenas, and Internal Notifications	X			
G8717	Industrial Waste Discharges to the Sanitary Sewer				X
G8719	Hydrostatic Test Water Management			X	X
G8736	Proposition 65 Compliance		X		X
G9103	Pressure Terminology and Establishment of Pressure Levels for Piping	X		X	X
G9105	Design Factors for Steel Piping Systems	X		X	X
G9109	Electrical Facilities in Hazardous Areas			X	X
G9125	Valve Automation	X		X	X
G9165	Requirements for Installing Gas Pipelines in or adjacent to Sloping Terrain	X		X	X
GC1SD	Gas Control Emergency Plan	X		X	X
PA-1SD	Public Awareness Plan		X		X
PP01.002SD	Management of Company Operations Standards - Definitions		X		X
SD5153	Underground Utility Location Information	X			
SDSD1020	Message Center Reporting (MCR)	X			
T7303	General Construction Requirements - Steel Transmission System			X	X
T7375	Repair of Transmission Pipelines	X		X	X
T7381	Abandonment, Conversion and Reinstatement of Transmission Pipelines	X		X	X
T7413	Minimum Trench Requirements for Transmission Pipelines	X		X	X
T8105	Control Microsystems SCADAPACK	X			
T8129	Supplemental Odorization of Gas at Border Stations	X		X	
T8144	MAXIMO - Transmission	X			

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Policy	Title	4	5	6	7
T8147	Gas Detectors in Gas Compressor Stations	X		X	X
T8148	Testing and Maintaining Compressor Station Emergency Shutdown Systems	X		X	X
T8149	Compressor Station Relief Valves	X		X	X
T8151	Compressor Station Equipment: Isolation and Hold-Out Procedures for Maintenance or Alterations	X		X	
T8155	Fire Prevention and Protection - Transmission	X		X	
T8165	Gas Transmission System Relief Valves	X		X	X
T8166	Identification Numbers for Pipeline Valves - Transmission	X		X	
T8167	Valve Inspection and Maintenance - Transmission	X		X	X
T8170	Failure Analysis Process for Gas Systems	X		X	X
T8171	Abnormal Operations - Transmission	X	X	X	
T8172	Inspection Schedule - Regulator Station, Power Generating Plant Regulation Equipment Requirements	X		X	
T8173	Pressure Relief/ Pressure Limiting Devices Testing / Inspection	X		X	X
T8206	Tap Requirements	X		X	X
TIMP.0	Table of Contents	X			
TIMP.1	Introduction	X			
TIMP.10	Remediation	X			
TIMP.11	Minimizing Environmental and Safety Risks	X			
TIMP.12	Preventive and Mitigative Measures	X			
TIMP.13	Continual Evaluation	X			
TIMP.14	Management of Change	X			
TIMP.15	Quality Assurance Plan	X			
TIMP.16	Record Keeping	X			
TIMP.17	Performance Plan	X		X	
TIMP.19	Communications Plan	X			
TIMP.20	Regulatory Interaction	X			
TIMP.3	HCA Identification	X			
TIMP.4	Data Gathering and Integration	X			
TIMP.5	Threat and Risk Assessment	X			

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Policy	Title	4	5	6	7
TIMP.8	Baseline Assessment Plan	X			
TIMP.9	Integrity Assessments	X			
TIMP.A	Terms, Definitions and Acronyms	X			