



NATURAL GAS SYSTEM OPERATOR SAFETY PLAN

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SECTION	DESCRIPTION	REQUIRED ELEMENTS FROM CA Public Utilities Code §§ 956.5, 961 and 963	ELEMENTS FROM RECOMMENDED PRACTICE API 1173*
1	INTRODUCTION	961(b)(1-3)	
2	EXECUTIVE OFFICER’S SAFETY PERFORMANCE EXPECTATIONS	961(b)(4)	5.1, 5.4, 8.1, 10.2
3	PLAN DEVELOPMENT & IMPLEMENTATION	961(e)	5.2, 6.2, 6.3
4	SAFETY SYSTEMS	961(d)(1)	7.1, 7.2, 7.3, 7.4, 7.5, 8.2, 8.3
5	EMERGENCY RESPONSE	956.5, 961(d)(5,6,8)	7.4, 7.6, 12
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7	CONTINUING OPERATIONS	961(d)(3,4,10) 963(b)(3)	5.4, 5.6, 6.2, 8.3, 9.1, 10.2, 13
8	EMERGING ISSUES	961(d)(11)	
A	APPENDIX – SAFETY POLICY DOCUMENTS	961(a)	14.1, 14.2, 14.3, 14.4

* May be only partially following a multifaceted recommended practice.



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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 (Safety Plan), with documentation of the workforce comment process described in the decision, by June 29, 2012.

In addition to PUC sections 961 and 963, the Utilities' 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 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". 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 its 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."

3. SAFETY PLAN STRUCTURE

This Safety Plan conveys the safety performance expectations of SDG&E's Senior Management Team, and describes all of the 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 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



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federal regulations, (4) continuing operations, and (5) emerging issues. This 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 Safety Plan element or other significant element or aspect of the Safety Plan. The requirements of Code 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 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.

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

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 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.



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EXECUTIVE OFFICER’S SAFETY PERFORMANCE EXPECTATIONS, POLICY PRINCIPLES, GOALS, AND OBJECTIVES	SDG&E: SP.2-SD
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1 INTRODUCTION

In D.12-04-010, the Commission reiterated the requirements of California Public Utilities Code §961 (b)(4). This section requires that the safety plan achieve the following:

§961(b)(4) “The commission shall require each gas corporation to periodically review and update the plan, and the commission shall review and accept, modify, or reject an updated plan at regular intervals thereafter. The commission, pursuant to Section 1701.1, shall determine whether a proceeding on a proposed update to a plan requires a hearing, consistent with subdivision (e).”

Section 3.1 of D.12-04-010 also requires that this Safety Plan “convey the Executive Officer’s safety performance expectations, policy principles, and goals/objectives for the gas utility’s safe performance.”

This Section provides the safety performance expectations, policy principles, and goals/objectives for safe performance established by SDG&E’s Senior Management Team.

2 SENIOR MANAGEMENT COMMITMENT TO SAFETY

At SDG&E, the safety of our customers, employees, and communities is a core value. This tradition of safety spans more than 130 years, and is the foundation for company programs, policies, procedures, guidelines, and best practices. 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:

San Diego Gas & Electric Company’s longstanding commitment to safety focuses on three primary areas – employee safety, customer safety and public safety. 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

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3 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 can raise pipeline infrastructure, customer safety, and employee safety concerns and offer suggestions for improvement.

SDG&E's safety performance will be regularly monitored and evaluated in accordance with all state and federal regulations. Additional performance metrics shall be developed and evaluated, as appropriate, 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 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 created multiple methods for employees to report (and assist with addressing) hazardous/unsafe conditions, close calls/near misses.

At SDG&E safety is a core value so we provide all employees with the 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 supplement our workforce. 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.

4 GOALS AND OBJECTIVES

SDG&E takes an integrated approach to pipeline integrity and safety, beginning with the design and construction of facilities and followed by continual evaluation and improvement of operation and maintenance activities, public communication and awareness, emergency response, safety

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programs and practices, the implementation of new technologies, defined procurement processes that facilitate materials traceability, and a workplace that encourages continual open and informal discussion of safety-related issues.

Our goal is to have continual process improvements throughout our pipeline system and operations, to meet state and federal safety regulations, and to stay abreast of industry best practices.

5 PROGRAM REVIEW AND MODIFICATIONS

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

Document Type	Review Cycle
Safety Plan	Annually (not to exceed 15 months)
Gas Standards	At least every 5 years
TIMP O&M Control Room Management	At least annually
DIMP	At least every 5 years
Form Instructions	Every 5 years
Environmental	Every 2 years
Information Bulletins	At least annually



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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.

This Safety Plan is Company policy. Each SDG&E officer embraces and endorses the Company's commitment to safety and supports the Safety Plan.

I, the Senior Vice President – Gas Engineering & Distribution Operations, affirm that the Safety Plan, as approved and implemented, continues to reflect the commitment of the Company.

Dated: March 15, 2018

SAN DIEGO GAS & ELECTRIC COMPANY

By: /s/ Jimmie I. Cho
Jimmie I. Cho
Senior Vice President – Gas Engineering and Distribution Operations



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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 safety plan achieve the following:

- § 961(e) “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 PUC 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 activities and have been an important part in developing this Safety Plan. Going forward, SDG&E will continue to gather regular and substantial safety-related input from its employees.

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

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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 future pipeline safety input:

- Meetings with employees will be scheduled as necessary to further examine and clarify any future input received and to make certain that we are addressing issues or concerns related to our commitment to safety.
- Employees can submit their suggestions via written notification, on-line, or by phone. The on-line input system provides employees with comprehensive input tracking from the employee who submitted the input to the appropriate process manager and back. This system provides the ability to give periodic updates to the employee as the investigation progresses. The input received is posted on the website along with the resolution to help communicate improvements or education to other employees. This system is being managed and monitored by a department head manager.
- When input is received, it is promptly assigned to the responsible staff member for thorough investigation 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 investigations, 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 investigations as quickly as possible; however, the ultimate goal is to complete a thorough investigation which could mean that an issue will not find closure for several weeks as enhancements are planned and implemented. With that said, most suggestions will find closure in less than two weeks. The basis for accepting or rejecting a suggestion will be the extent to which the suggestion improves the safety of the pipeline, and assists us in meeting all regulatory requirements and industry best practices while maintaining optimal operating efficiencies for our customers.

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

The Safety Plan is available to all employees, 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, the Company is committed to enabling its contractors and the public to participate in the continual improvement of the Safety Plan.

Contact and communication with external stakeholders (e.g., public, first responders, public officials) is managed via the Public Awareness Plan

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.



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SAFETY SYSTEMS	SDG&E: SP.4-SD
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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 safety plan achieve the following:

- § 961(d)(1) 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)(2) 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.

The following plans and programs are in place to identify and minimize hazards and systemic risks in the pipeline infrastructure, and promote public safety and property protection.

- Transmission Integrity Management Program
- Distribution Integrity Management Program
- Operation and Maintenance Plan

In addition, SDG&E implemented its Pipeline Safety Enhancement Plan (PSEP) to address requirements for transmission infrastructure that are beyond current federal requirements.

Each of these programs is subject to continual improvement efforts and changes are made when warranted 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, risk to operations related to loss of experienced and knowledgeable employees is managed through resource allocation and may be supported by our Knowledge Management programs which work with local management to develop succession planning for critical job functions.

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 Title 49 Code of Federal Regulations Part 192, Subpart O - Gas Transmission Pipeline Integrity Management.

The TIMP written plan describes how SDG&E complies with the requirements of CFR 192 subpart O. The written plan outlines the approach to implementing the requirements of the Rule

and the referenced industry standards, including ASME B31.8S and NACE SP 0502-2008. 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 HCA (covered segments) risk evaluations are designed to improve pipeline safety performance and are conducted per the schedule in the TIMP risk assessment requirements.

The 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 the following pipeline integrity management activities to assess and evaluate pipelines in the system: in-line inspections, 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 efficacy of the systems in place to maintain the safe operation of the transmission pipeline including corrosion control and damage prevention programs.

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

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 Title 49 Code of Federal Regulations Part 192, Subpart P – Distribution Pipeline Integrity Management. 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 nine 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 every five calendar years as part of the periodic improvement process, with modifications being made whenever necessary.

4. OPERATION AND MAINTENANCE PLAN

SDG&E's Operation and Maintenance (O&M) plan is a compendium of 119 policies that meet the requirements 49 CFR 192.605 "Procedural manual for operations, maintenance, and emergencies". This 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
- Maintenance and operation of compressor stations
- Review of procedures to determine effectiveness and adequacy
- Safety procedures for excavation
- 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 49 CFR 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.

5. 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 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 advance warning of potential pipeline failure and decrease the time to identify, investigate, prevent, remedy or manage the effects of such an event, and it includes alternatives that can be adopted by the Commission that are designed to reduce costs for customers.



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SAFETY SYSTEMS	SDG&E: SP.4-SD
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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 § 961 (d)(5), (d)(6) and (d)(8). These sections require that the Safety Plan achieve the following:

- § 961(d)(5) 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)(6) 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)(8) Prepare for, or minimize damage from and respond to, earthquakes and other major events.

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 Safety Plan;

- § 956.5. 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.

SDG&E has a number of 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.

2. EMERGENCY RESPONSE PLAN

The Gas Emergency Response Plan documents how SDG&E complies with the emergency response requirements specified by the Public Utilities Code 961 (d)(5), (6) and (8), as well as the emergency response procedures required by 49 CFR Part 192.615. This plan covers the following emergency response elements:

- SDG&E’s Emergency Response Organization, including positions and responsibilities of the Emergency Operations Center, Gas Emergency Center, and Transmission Command Post;
- Emergency preparedness;
- Continuity planning;
- Mutual assistance; and

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- Plan maintenance.

The plan incorporates by reference SDG&E procedures and documents that collectively comply with the various requirements of 49 CFR Part 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; and
- The Emergency Incident Reporting 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.
- Establishing and maintaining liaison with appropriate fire departments

This Emergency Response Plan 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.

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; 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.

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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 may 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 begun, and shall continue, to integrate elements of the Incident Command System (ICS) into the company's field response structure. 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

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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.

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 schedule published by Emergency Services.

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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 safety plan achieve the following:

- § 961(d)(7) 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)(9) 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(c) The plan 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.

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

2. REGULATORY OVERSIGHT

SDG&E's Transmission and Distribution pipelines and facilities are regulated by PHMSA on the federal level, and by the Commission 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.

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.¹

This 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.

¹ On July 1, 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.

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 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 materials traceability.

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- 3.2. Construction: 49 CFR Part 192 Subparts E, F, and G specify the minimum requirements for the construction 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. Where a contractor is used to supplement the SDG&E pipeline construction workforce, a contractor safety management program is in place to communicate regulatory requirements and monitor contractor's safety record. Construction practices and procedures are aligned where feasible to improve efficiency and effectiveness.
- 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. SDG&E's patrol, leak survey, pressure limiting, valve and vault maintenance activities are further explained as follows:
- 3.4.1. Patrol: Pipeline patrols are performed to look for indications of pipeline leaks, missing pipeline markers, construction activity, right of way encroachment and other factors that may threaten the pipeline. These patrols are to be performed at specified frequencies dependent upon the type of facility and its location.
- 3.4.2. Leak Survey: SDG&E conducts leakage surveys of its pipelines at frequencies that are specified in the regulations. These surveys are typically conducted using combustible gas detectors. Leak indications are to be recorded and assigned a priority code based upon the concentration of gas recorded by the instrument as well as other relevant factors that may exist in proximity to its location. The highest priority leaks are to be continuously monitored and repaired promptly. Small leaks that pose little threat to the public are to be monitored and repaired based on operating conditions.
- 3.4.3. Pressure Monitoring and Control: Each pipeline system receives supply from higher pressure pipelines connected to the integrated system. Equipment exists between systems to regulate and control the pressure in each pipeline. Failure of pressure control equipment could result in the accidental over-pressurization of pipelines not designed to withstand the higher pressure of the upstream system. Accordingly, the pipeline systems are to be equipped with appropriate regulating, or limiting devices that will activate in the event the primary

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pressure control device fails. These devices have sufficient capacity and are to be set to prevent the over pressurization of pipe and pipeline components commensurate with regulatory requirements.

Each pressure limiting station and pressure regulating station and its equipment must be inspected once per year. These inspections verify that the equipment is:

- In good mechanical condition;
- Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed;
- Set to control or relieve at the correct pressure consistent with the pressure limits of applicable regulatory requirements; and
- Properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation.

Any defective or inadequate equipment found must be promptly repaired or replaced.

3.4.4. Corrosion Control: Requirements for the protection of metallic pipelines from external, internal and atmospheric corrosion are prescribed in Subpart I – Requirements for Corrosion Control. Corrosion Control Activities include:

- The use of protective coatings and paints to prevent a corrosive atmospheric or soil environment from coming in contact with the external steel surface
- For the external surface of buried steel, the use of Cathodic Protection (CP) systems. CP is a technology that uses direct electrical current to counteract the normal corrosion of a metal pipeline.
- Management of the composition of the gas in the pipeline to prevent the formation of a corrosive environment and prevent internal corrosion.

3.4.5. Valve Maintenance: SDG&E performs maintenance and inspection activities on all valves that may be necessary for the safe operation of its natural gas system. These valves include system isolation valves, inlet and outlet valves to regulator stations, bridge approach valves and high pressure line sectionalizing valves. All identified valves are to be checked and serviced at least once each calendar year. Routine maintenance and inspection activities include:

- Valve is not leaking;
- Valve is properly identified;
- Valves are adequately lubricated; and
- Valve operation is verified
- Valves are operational

Any issues requiring immediate action are to be addressed right away. All required follow-up work is managed through the issuance of an appropriate work order to perform needed repair or maintenance activities.

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3.4.6. Vault Maintenance: Underground vaults typically house pressure regulating or pressure limiting equipment. The purpose of the vault is to allow access to the equipment for inspection, maintenance, and repair activities. SDG&E performs routine maintenance and inspection on all underground vaults. Vault maintenance normally coincides with the scheduled maintenance of the equipment housed within the vault. These inspections are to be completed once per year. Routine maintenance and inspection activities for underground vaults include:

- Proper operation of ventilation equipment, if so equipped;
- Structural condition of vault walls, floor, ladders, steps, handrails, etc.;
- Structural condition and operation of cover, including hinges and locking devices; and
- Correct for any presence of water, trash or other foreign substances.

Any issues requiring immediate action are properly addressed. All required follow-up work is managed through the issuance of an appropriate work order to perform needed repair or maintenance activities.

3.5. Operations: 49 CFR Part 192 Subpart L and K specifies 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 include the Emergency Response Plan described in Chapter 5 of this 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. SDG&E operates its pipelines and facilities in accordance with these requirements:

3.5.1. Public Awareness Program: The main objective of the Public Awareness Program is to raise the awareness of the affected public and key stakeholders of the presence of pipelines and associated facilities in the communities where we serve and operate. A more informed public will contribute to a reduction in pipeline emergencies and releases.

The SDG&E Public Awareness Program follows the general guidance provided in the American Petroleum Institute Recommended Practice 1162 - Public Awareness Programs for Pipeline Operators. Specifically, the program identifies the audiences to be considered for targeted communications, the frequency of messages, the messages to be delivered to each audience, the methods and vehicles for delivering the messages. Furthermore, SDG&E has specific measures to evaluate the effectiveness of our program and materials. It identifies communications for sharing pipeline safety risk information with those residing near the pipelines and defines a mechanism whereby the public can report

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pipeline safety risk issues to SoCalGas.

The following audiences are examples of our key stakeholders:

- Customers;
- Excavators and land developers;
- Public officials - school districts, city and county managers;
- Emergency officials;
- Residents and places of congregation along transmission lines;
- Residents within the distribution service territory; and
- Residents near compressor stations

Some of the key messages that the program educates on are the following:

- Use of the 811 one-call notification system prior to excavation and other damage prevention activities;
- Possible hazards associated with unintended releases from a gas pipeline facility;
- Physical indications of a pipeline release of gas;
- Public safety measures to be taken in the event of a pipeline gas release; and
- Procedures to report a pipeline release.

3.5.2. **Damage Prevention Program:** The purpose of the Damage Prevention Program is to avert gas incidents -- such as dig-ins to SDG&E's pipelines -- and thereby improve public safety and property protection through public education and outreach activities. SDG&E continues to promote awareness of the Underground Service Alert (811, "call-before-you dig") system by reaching out to contractors and the general public through meetings, mailers, bill inserts, the company website and other methods, so that gas lines are properly marked before excavation activities. Pipeline markers are to be accurate and visible. Excavation activity includes excavation, blasting, boring, tunneling, backfilling, the removal of aboveground structures by both explosive or mechanical means, and other earth moving operations.

3.5.3. **Control Room Management:** Gas Control monitors and/or controls pipeline facilities on a 24/7 basis. Gas Control personnel are Operator Qualified per 49 CFR 192 Subpart N and are to maintain pipeline pressures and gas flows within established safe limits while meeting customer supply demands.

In the event of an emergency, Gas Control personnel have authority and responsibility to maintain system integrity as they deem necessary using the resources available to them at any given time under both abnormal and emergency operating conditions. This includes alerting and directing field or storage personnel to take appropriate action when upsets, abnormal, or emergency conditions arise as well as having compressor stations, regulating stations, and other field locations manned and active during abnormal conditions.

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The control room also has the authority to request assistance from our out-of-state suppliers to help in maintaining system integrity. In addition, given the nature of the emergency, control room personnel have the authority to activate and operate from our emergency back-up facility.

SDG&E has a control room management program that is integrated with other operating and emergency procedures. Key elements of the control room management plan include:

- Definition of controllers' roles and responsibilities;
- Definition of information, tools, procedures, and processes controllers;
- A fatigue management program;
- An alarm management plan;
- A change management plan to address handling, approving, and implementing changes that affect the ability of Gas Operations Control to safely and effectively manage the flow of gas within the pipeline, including changes in field operations, facilities, and controlling and monitoring equipment
- A means to incorporate operating experience into control room management procedures; and
- An established controller training program; compliance validation to meet federal and/or state agencies; and records and documentation that demonstrate compliance with plan mandates.

The plan's requirements went into full effect in August 2012 and are reviewed/updated on an annual basis. SDG&E will continue to take steps to meet plan requirements.

- 3.5.4. Odorization: In its native state natural gas is typically odorless. In compliance with regulations and as a primary safety measure, SDG&E adds chemical compounds to the gas. These chemical compounds produce the distinctive odor associated with natural gas and serve as a means to detect a gas leak. Odor strength is to be maintained at a level so that gas may be readily detectable. The odor level is to be monitored at least monthly at representative locations for verification of odorization adequacy.
- 3.5.5. Population Density: 49 CFR 192 requires that changes in population density, known as Location Class, be monitored for certain transmission pipelines. The SDG&E transmission pipeline system is modeled in Geographic Information System (GIS). The GIS uses geographic data, aerial photography, data collected in the field, publically available data sets and the identification of building and dwelling points to determine class location. Maps with class designations are used by operations personnel to look for changed conditions. Observed changes are to be recorded by marking up or redlining a location class map or completing company form designed to record such changes.

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- 3.5.6. Maximum Allowable Operating Pressure: A maximum allowable operating pressure (MAOP) is established for each pipeline or piping system. The established MAOP cannot exceed the maximum pressure allowed by regulatory code as specified in 49 CFR §192.611 and 49 CFR §192.619 - 49 CFR §192.623 as applicable. Location Class, design, testing and operating history are all factors that can limit the MAOP of a pipeline or system.

The Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 became Public Law 112-90 on January 3, 2012. This law, in part, requires gas transmission operators to verify records accurately reflect the physical and operational characteristics of transmission pipeline in Class 3 and Class 4 locations and Class 1 and Class 2 high-consequence areas and then confirm the established MAOP. SDG&E successfully completed the records verification process and confirmed the established MAOP of its Transmission pipelines in Class 3 and Class 4 and Class 1 and Class 2 in high-consequence areas. The results have been submitted to PHMSA through the annual reporting process.

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Industry Participation

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. Details of these items can be obtained by consulting the responsible organization.

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 PSEP
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

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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”. Details of those items can be obtained by consulting the responsible organization.

Implemented Activities	
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 Support
Under DIMP, identify distribution assets where increased leak surveys may be appropriate	Adopted Pipeline Integrity
Integrate applicable provisions of AGA’s emergency response white paper and checklist into emergency response procedures	Adopted Emergency Services
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 Integrity
Incorporate an Incident Command System (ICS) type of structure into emergency response protocols	Adopted Emergency Services
Extend transmission integrity management principles outside of HCAs using a risk-based approach	Adopted Pipeline Integrity
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

NATURAL GAS SYSTEM OPERATOR SAFETY PLAN

STATE AND FEDERAL REGULATIONS	SDG&E: SP.6-SD
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Figure B Cont'd

Upgrade aging equipment used to locate underground pipelines and facilities has been purchased and deployed. The standardized training has been developed and completed.	<p style="color: blue; margin: 0;">Adopted</p> Gas Operations Services
Member of the Gold Shovel Standard and all Company Prime Contractors are enrolled in the Gold Shovel Standard.	<p style="color: blue; margin: 0;">Completed</p> Gas Operations Services

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NOTE: Do not alter or add any content from this page down; the following content is automatically generated.

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1. Updated the status of implementation of programs in Figure A.
2. Updated completed/adopted Programs in Figure B.

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Part of Distribution IMP (DIMP)	No
Part of Transmission IMP (TIMP)	No
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NATURAL GAS SYSTEM OPERATOR SAFETY PLAN

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INTERNAL

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 §963 (b)(3), §961 (d)(3), (d)(4), and (d)(10). These sections require that SDG&E's Safety Plan achieve the following:

- § 963(b)(3) It is the policy of the state and the commission and each gas corporation place safety of the public and gas corporation employees as its core value. 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.
- § 961(d)(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)(4) 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)(10) Ensure an adequately sized, qualified, and properly trained gas corporation workforce to carry out the plan.

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 is 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' health and safety programs as stated in the Injury Illness Prevention Program (IIPP) and staying aware 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.
- 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 periodically assesses its safety culture to confirm the effectiveness of its safety programs.
- 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 STORAGE AND 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 both firm and interruptible noncore transportation service is curtailed. The system is also designed to provide for continuous firm noncore transportation service under a 1-in-10 year cold day condition, during which only interruptible noncore transportation service is subject to curtailment. 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 core customers through a combined SoCalGas/SDG&E core procurement portfolio; including providing storage inventory, injection, and withdrawal rights for the combined core 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 Department and the Region Engineering Department continuously monitor customer demand on SDG&E's transmission and distribution system, both actual customer service requests and through the long-term demand forecast, and evaluates any changes in customer demand against the appropriate design standard to insure adequate capacity is available to serve. 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. Additionally, the SDG&E system is potentially capacity constrained for noncore demand. Pursuant to Commission Order, SDG&E conducts capacity open seasons for the allocation for noncore firm transportation capacity on its gas transmission system. To date, SDG&E has been able to satisfy all noncore firm service requests made during its open seasons. Should SDG&E be unable to do so in the future, SDG&E may propose infrastructure improvement to provide additional transportation capacity for the noncore market.

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 PATROL AND INSPECTION

The patrol and inspection policies and programs discussed in Chapters 4 and 6 address the activities SDG&E shall perform to detect leaks and other compromised facility conditions and then effect timely repair.

5 SDG&E WORKFORCE SIZE, TRAINING AND QUALIFICATIONS

5.1 Workforce Size

SDG&E shall determine appropriate staffing levels to preserve the safety and integrity of its pipeline system.

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 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.

5.2 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 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.

5.3 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 every 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.

6 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.



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CONTINUING OPERATIONS	SDG&E: SP.7-SD
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NATURAL GAS SYSTEM OPERATOR SAFETY PLAN

EMERGING ISSUES	SDG&E: SP.8-SD
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- 2. SDG&E AND EMERGING ISSUES 2
- 3. COLLABORATION WITH THE CALIFORNIA PUBLIC UTILITIES COMMISSION 2

INTERNAL

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 § 961 (d)(11). This section requires that the safety plan include the following:

- § 961(d)(11) 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 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 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 Safety Plan.

- Senate Bill 1371 "Natural Gas Leakage Abatement"
- CARB Oil and Gas Rule
- Risk Management

Senate Bill 1371 “Natural Gas Leakage Abatement”

Rulemaking R.15-01-008 has commenced to carry out the intent of Senate Bill (SB) 1371. SB 1371 requires the adoption of rules and procedures to minimize natural gas leakage from Commission-regulated natural gas pipeline facilities consistent with Public Utilities Code Section 961(d) and 49 CFR § 192.703(c). The goal for the Commission through the rulemaking and in the spirit of SB 1371 is to reduce greenhouse gas emissions. SDG&E has been an active participant in the rulemaking and has provided comments as well as met the reporting requirements set forth under SB 1371.

SDG&E continues to be engaged in this rulemaking and is piloting several new technologies that will help quantify and detect emission from more complex facilities. Prior to approval of the attached Biennial Methane Compliance Plan, SDG&E provided a scope to the CPUC and CARB for their participation and monitoring of these pilot studies. The results of these pilot studies will be provided to both agencies and may be included in the Compliance Plan attached. CPUC has indicated their interest to witness some of the pilots.



SDG&E Pilots Unmanned Aerial Vehicles for Leak Quantification Study

SDG&E continues to advocate for affordable methods to reduce methane losses from the system to ensure disadvantaged communities and customers are not disproportionately impacted by the costs to implement new best practices. Furthermore, SDG&E is advocating to ensure safety is not deprioritized and methane reducing efforts are synchronized with safety programs. For example, SDG&E has recommended research related to methane detection and monitoring be set aside in its own research portfolio within SB1371 to not detract from the other critically important research funds such as those dollars needed for enhancements to robotic pigging tools.

SDG&E filed a tier three advice letter, AL 2621-G, on October 31, 2017 with a forecast of the cost to implement activities to comply with twenty-six best practices as required by D.17-06-015. As required by SB1371, the proposed plan, “Biannual Methane Emissions Compliance Plan” is an attachment to this chapter and describes the historical work, changes in operational procedures, technology, and resources needed to comply with the requirements set forth by the CPUC, in addition to a projection of estimated emission reductions and cost effectiveness.

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 environmental focused, the new requirements will also have co-benefits to support safety. This new regulation impacts SDG&E operations at Transmission Compressor Stations. SDG&E will now be required to implement quarterly leak detection and repair and allows for limited delay of repair 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. SDG&E is an active participant in the CPUC’s proceedings on Risk Management under its application (A.17-10-007), which was filed in October 2017. Additionally, SDG&E issued its very first risk-informed GRC application and has requested funding in its most recent General Rate Case¹ to further the development of its risk management processes. Additional detail may be found under the General Rate Case Policy Testimony of Ms. Diana Day.

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.

¹ General Rate Case (GRC-2019) proceeding is A.17-10-007 and the various testimonies can be found at SDG&E website, <https://www.sdge.com/regulatory-filing/22261/sdge-2019-general-rate-case>

SDG&E is working with the California Energy Commission on a climate change adaptation and vulnerable study that will help provide strategies for the natural gas infrastructure to be more resilient to climate change events. As part of SDG&E' RAMP filing, SDG&E is conducting 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.

SDG&E is exploring capabilities to utilize the Advanced Meter network to support emergency services during catastrophic events such as mudslides, wildfires, and earthquakes. During the recent wildfire and mudslide events in California, SoCalGas used meter response and meter throughput data to identify possible impacted areas. The Utility Emergency Response Team was able to use this information to partner with first responders to support search and rescue activities.

SDG&E plans to install a first fiber optic system to help prevent third party dig-ins by detecting vibration from these encroachments. The system also can detect leaks on the pipeline.

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:

- The Safety of Gas Transmission & Gathering Lines rule. The Notice of Proposed Rule Making (NPRM) was published on 4/8/2015 and comments were submitted on 7/7/2016. A final rule is expected to be published in 2018.
<https://www.regulations.gov/document?D=PHMSA-2011-0023-0118>
- Valve Installation and Minimum Rupture Detection Standards. An NPRM is expected to be published in 2018.



NATURAL GAS SYSTEM OPERATOR SAFETY PLAN

EMERGING ISSUES	SDG&E: SP.8-SD
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1. Added Sections:
 - “Climate Change Adaptation and Resiliency”.
 - Removed “Enhanced Use of Satellite and Aerial Monitoring for Damage Assessments”.
 - “Planning Fiber Optic Systems for Pipeline Damage Prevention and Leak Detection” under Risk Management in Section 3.
2. Updated sections Senate Bill 1371 “Natural Gas Leakage Abatement” and included “Biannual Methane Emissions Compliance Plan” under section 3.
3. Included “CARB Oil and Gas Rule” under Section 3.
4. Added Proposed Federal Pipeline Safety Regulations in Section 3.

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NATURAL GAS SYSTEM OPERATOR SAFETY PLAN

APPENDIX – SAFETY POLICY DOCUMENTS	SOCALGAS: SP.A-SD
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1. NATURAL GAS SYSTEM OPERATOR 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.

INTERIM



NATURAL GAS SYSTEM OPERATOR SAFETY PLAN

APPENDIX – SAFETY POLICY DOCUMENTS	SOCALGAS: SP.A-SD
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1.2. List of Policy Documents By Chapter

Chapter Number	Chapter Title	Policy	Policy Title
4	Safety Systems	190SD	Operator Qualification Task Change Communication
4	Safety Systems	2110SD	Management of Change for Gas Standards Related to Integrity Management Programs
4	Safety Systems	2111SD	Management of Change - Request & Approval
4	Safety Systems	2112SD	Pipeline Database Update
4	Safety Systems	3084SD	Corrosion Tests General Data Sheet
4	Safety Systems	3222SD	Design Data Sheet (DDS)
4	Safety Systems	3506SD	Notice of Shutdown / Operational Deviation
4	Safety Systems	4090SD	100mV Polarization Form
4	Safety Systems	4091SD	Wax Casing Data Collection Form
4	Safety Systems	677-1SD	Pipeline Condition and Maintenance Report
4	Safety Systems	76-72	Odorant - 50/50 TBM/THT
4	Safety Systems	76-73	Thiophane Odorant
4	Safety Systems	ACF	Assessment Completion Form
4	Safety Systems	C5050	Order Completion and Priority Scheduling
4	Safety Systems	C5140	Shutting-Off Gas Meters
4	Safety Systems	C5160	Gas Meter Turn-On Procedure
4	Safety Systems	C5190	Emergency Response Procedures for Gas Incidents
4	Safety Systems	C5200	Restoration of Service Due to Gas Outage
4	Safety Systems	C5260	Locking and Blanking of a Gas Meter Set
4	Safety Systems	C5390	Gas Curb Meter and Atmospheric Corrosion Inspection and Maintenance
4	Safety Systems	C5450	Pressure Regulation - Residential and Commercial
4	Safety Systems	C5480	Purging Service Risers



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APPENDIX – SAFETY POLICY DOCUMENTS	SOCALGAS: SP.A-SD
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Chapter Number	Chapter Title	Policy	Policy Title
4	Safety Systems	C5490	Working in the Presence of Escaping Gas
4	Safety Systems	C5500	Reportable Gas Incidents
4	Safety Systems	C5510	Leak Investigation
4	Safety Systems	C5520	Houseline Leakage on Master-Metered Systems
4	Safety Systems	C5660	Purging Gas Meters and Customer Houselines
4	Safety Systems	CRMP6SD	Gas Control Management of Change
4	Safety Systems	D7103	Gas Meter Location
4	Safety Systems	D7107	Free Standing Header Support
4	Safety Systems	D7109	Gas Service Location
4	Safety Systems	D7110	Abandonment of Gas Service and Gas Light Tap Assemblies
4	Safety Systems	D7113	Evaluation and Disposition of Inactive Services
4	Safety Systems	D7115	Barricades for Gas Meter Sets
4	Safety Systems	D7123	Service Regulator Vent Extensions
4	Safety Systems	D7125	Service Regulators in Curb Meter Boxes
4	Safety Systems	D7127	Curb Meter Box Excavation and Riser Replacement
4	Safety Systems	D7203	Polyethylene Quick Reference
4	Safety Systems	D7211	Handling and Storage of Polyethylene Material
4	Safety Systems	D7213	Polyethylene Heater - Temperature Measurement and Adjustment
4	Safety Systems	D7221	Socket Fusion for Polyethylene
4	Safety Systems	D7222	PE Saddle Fusions
4	Safety Systems	D7225	Tapping Polyethylene Pipelines
4	Safety Systems	D7227	Butt Fusion Polyethylene
4	Safety Systems	D7247	Service Risers for Polyethylene (PE) Installations
4	Safety Systems	D7249	Valve Installation and Valve Box Assemblies for Polyethylene
4	Safety Systems	D7255	Casing Assemblies - Plastic Carrier Pipe
4	Safety Systems	D7265	Pneumatic Test Requirements for Pipelines Operating at 60 PSIG or Less
4	Safety Systems	D7275	Repair of Polyethylene
4	Safety Systems	D7283	RFS of Polyethylene



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4	Safety Systems	D7325	Service Punch Tee
4	Safety Systems	D7371	Leak Repair Methods for Steel Distribution Pipelines
4	Safety Systems	D7381	Abandonment or Inactivation of Gas Distribution Pipelines
4	Safety Systems	D7383	Steel Pipe Squeezer 6" through 12"
4	Safety Systems	D7905	Minimum Requirements for Pressure Control Operations on Distribution Pipeline Systems
4	Safety Systems	D7911	Purging of Distribution Gas Lines of 60 PSIG
4	Safety Systems	D7912	Purging and Locking Service Risers
4	Safety Systems	D8146	Replacement Criteria for Distribution Mains and Services
4	Safety Systems	D8147	Services - Repair vs. Replace Decisions
4	Safety Systems	D8164	Pressure Monitoring of Distribution Systems
4	Safety Systems	D8167	Valve Inspection and Maintenance - Distribution
4	Safety Systems	D8189	Temporary LNG Facility
4	Safety Systems	D8305	Trenchless Construction Methods
4	Safety Systems	D9102	Gas Mapping and Records
4	Safety Systems	D9157	Meter Selection and Spacing Requirements
4	Safety Systems	D9165	Requirements for Installing Gas Pipelines in Sloping Terrain
4	Safety Systems	DIMP1	Introduction
4	Safety Systems	DIMP2	System Knowledge
4	Safety Systems	DIMP3	Threat Identification
4	Safety Systems	DIMP4	Evaluate and Rank Risk
4	Safety Systems	DIMP5	Identify and Implement Measures to Address Risk
4	Safety Systems	DIMP6	Measure Performance, Monitor Results and Evaluate Effectiveness
4	Safety Systems	DIMP8	Periodic Evaluation and Improvement
4	Safety Systems	DIMP9	Report Results
4	Safety Systems	DIMPA	Terms, Definitions and Acronyms
4	Safety Systems	F17-1	Annual Performance Measures



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4	Safety Systems	F4-1	Threat Evaluation Form
4	Safety Systems	F8-1	Baseline Assessment Plan Revisions Log
4	Safety Systems	G7008	Material Evaluation and Implementation
4	Safety Systems	G7009	Material Specifications and Purchase Descriptions
4	Safety Systems	G7011	Standard Specification for Natural and Substitute Fuel Gases
4	Safety Systems	G7013	Qualification of New Construction Contractors
4	Safety Systems	G7017	Hydrogen Sulfide (H2S) Management
4	Safety Systems	G7313	Steel Pipe Yield, Design Properties and Design Pressure Tables
4	Safety Systems	G7314	Steel Pipe - Selection Requirements
4	Safety Systems	G7316	Identification of Steel Pipe and Butt Weld Fittings
4	Safety Systems	G7321	Steel Butt-Weld Fittings - Selection Guide
4	Safety Systems	G7350	Casing Assemblies - Steel Carrier Pipe
4	Safety Systems	G7351	Wear Pads and Bands for Steel Gas Piping
4	Safety Systems	G7353	Branch Connection, Steel - Selection Guide
4	Safety Systems	G7361	Pipeline Testing Requirements
4	Safety Systems	G7365	Pneumatic Test Requirement for Pipelines Operating Above 60 PSIG
4	Safety Systems	G7369	Hydrostatic Test Requirements
4	Safety Systems	G7371	Repair of Defects in Steel Pressure Piping
4	Safety Systems	G7372	Repair of Defects on an Operating Pipeline by Grinding
4	Safety Systems	G7373	Repair of Non-Leaking Defects on an Operating Pipeline with a Band or Sleeve
4	Safety Systems	G7375	Approved Protective Coatings for Below Ground Corrosion Control
4	Safety Systems	G7376	Field Tape Wrapping Requirements



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4	Safety Systems	G7377	Field Application of Fusion Bonded Epoxy to Joints and Field Repair of Fusion Bonded Epoxy Coating
4	Safety Systems	G7379	External Surface Preparation and Field Applied Coatings for Buried Pipelines
4	Safety Systems	G7380	Field Application of Grease Coating
4	Safety Systems	G7381	External Surface Preparation and Coating Application for Steel Tanks and Vessels (New & Refurbished)
4	Safety Systems	G7382	Surface Preparation and Coating for Above Ground Piping and Steel Components
4	Safety Systems	G7383	Internal Coating of Tanks, Vessels, & Drip Legs
4	Safety Systems	G7385	External Surface Preparation and Shop-Applied Coating for High Corrosion Service Areas
4	Safety Systems	G7451	Prevention of Damage to Subsurface Installations
4	Safety Systems	G7507	Map Maintenance Requirements for High Pressure Gas Lines
4	Safety Systems	G7603	Valve Usage and Selection Guide
4	Safety Systems	G7643	Excess Flow Valve (EFV) - Installation and Operation
4	Safety Systems	G7665	Flanges - Selection, Torque and Installation Requirements
4	Safety Systems	G7803	General Welding Requirements
4	Safety Systems	G7805	Welding Field Guide
4	Safety Systems	G7809	Qualification and Re-Qualification of Welders
4	Safety Systems	G7815	Inspection and Testing of Welds on Company Steel Piping
4	Safety Systems	G7909	Purging Pipelines and Components
4	Safety Systems	G7910	Purging Pipelines Using Air Movers For Cold Tie Operations
4	Safety Systems	G8001	Criteria for Cathodic Protection
4	Safety Systems	G8002	100mV Polarization Criteria



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4	Safety Systems	G8003	Design and Application of Cathodic Protection
4	Safety Systems	G8009	Electrical Test Stations & Bond Assembly
4	Safety Systems	G8013	Cathodic Protection - Mixed Piping Systems
4	Safety Systems	G8014	Magnesium Anodes for Corrosion Control
4	Safety Systems	G8015	Selection and Installation of Rectifiers and Impressed Current Anodes
4	Safety Systems	G8019	Operation and Maintenance of Cathodic Protection Facilities
4	Safety Systems	G8021	Cathodic Protection - Inspection of Exposed Pipe
4	Safety Systems	G8022	Atmospheric Corrosion (ACOR) - Inspection of Meter Set Assemblies
4	Safety Systems	G8023	MAOP Evaluation of Corroded Pipe
4	Safety Systems	G8024	Measurement of Remaining Wall Thickness
4	Safety Systems	G8025	Internal Corrosion Management Plan
4	Safety Systems	G8026	External and Internal Transmission Pipeline Inspection
4	Safety Systems	G8027	Cathodic Protection - Electrical Isolation
4	Safety Systems	G8028	Cathodic Protection - Casings
4	Safety Systems	G8029	Record Keeping - Corrosion Control
4	Safety Systems	G8031	Internal Corrosion Design and Construction Considerations
4	Safety Systems	G8035	Interference - Stray Electrical Current
4	Safety Systems	G8041	Cathodic Protection - Instruments and Testing Equipment
4	Safety Systems	G8042	Copper Sulfate Electrode
4	Safety Systems	G8107	Aboveground Survey Plan
4	Safety Systems	G8108	Alternating Current Attenuation Survey
4	Safety Systems	G8109	Close Interval Survey
4	Safety Systems	G8110	Voltage Gradient Survey
4	Safety Systems	G8111	Soil Resistivity Survey
4	Safety Systems	G8112	Inspection of Cased Pipe
4	Safety Systems	G8113	Operator Qualification Program
4	Safety Systems	G8114	Self-Audit Guidelines - Pipeline Integrity Program



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4	Safety Systems	G8115	Changing Maximum Allowable Operating Pressure and Maximum Operating Pressure
4	Safety Systems	G8116	Pipeline and Related Definitions
4	Safety Systems	G8121	Class Location - Determination and Changes
4	Safety Systems	G8122	Prevention of Excavation Damage to Company Facilities
4	Safety Systems	G8123	Underground Service Alert and Temporary Marking
4	Safety Systems	G8129	Odorization
4	Safety Systems	G8135	Leak Classification and Mitigation Schedules
4	Safety Systems	G8140	Pipeline Patrol and Unstable Earth Inspections
4	Safety Systems	G8141	Pipeline Markers
4	Safety Systems	G8142	Inspection of Pipelines on Bridges and Spans
4	Safety Systems	G8145	Leakage Surveys
4	Safety Systems	G8147	Planning Shutdowns On High Pressure Gas Facilities
4	Safety Systems	G8159	Distribution Pressure Regulating and Monitoring Station & Vault - Inspection, Maintenance and Settings
4	Safety Systems	G8160	Pipeline Cleaning Standard
4	Safety Systems	G8161	In-Line Inspection Surveys Standard
4	Safety Systems	G8162	Assessment of Pipeline Integrity Using Guided Wave UT
4	Safety Systems	G8163	GPS Control Survey
4	Safety Systems	G8164	Global Positioning System (GPS) Process
4	Safety Systems	G8166	Scheduling Remediation
4	Safety Systems	G8168	Immediate Repair Conditions - Transmission Pipelines
4	Safety Systems	G8169	Prevention of Accidental Ignition of Natural Gas
4	Safety Systems	G8170	Procedure for HCA Segment Identification



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4	Safety Systems	G8171	CPUC and PHMSA Notification of Major New and Upgraded Pipelines and Pressure Test Failures of Pipelines
4	Safety Systems	G8172	Data Gathering and Integration
4	Safety Systems	G8173	Threat Identification
4	Safety Systems	G8174	Risk Assessment of High Consequence Areas
4	Safety Systems	G8177	TIMP Risk Algorithm
4	Safety Systems	G8178	Baseline and Reassessment Plan
4	Safety Systems	G8179	External Corrosion Direct Assessment Procedure
4	Safety Systems	G8180	In-Line Inspection Procedure
4	Safety Systems	G8184	Bellhole Inspection Requirements
4	Safety Systems	G8185	Casing Wax Fill
4	Safety Systems	G8186	Preventive and Mitigative Measures
4	Safety Systems	G8187	Continual Evaluation
4	Safety Systems	G8188	Stress Corrosion Cracking Direct Assessment Procedure
4	Safety Systems	G8198	Field Sampling and Analysis of Liquids and Solids/Sludge
4	Safety Systems	G8202	Field Guidelines - Emergency Incident Distribution / Customer Service
4	Safety Systems	G8204	Emergency Response Procedures for Gas Incidents - Distribution
4	Safety Systems	G8205	Emergency Response Procedures for Gas Incidents - Transmission
4	Safety Systems	G8206	Emergency Materials List for Gas Incidents
4	Safety Systems	G8208	Natural Disaster or Major Emergency - Employee Instructions
4	Safety Systems	G8210	Contact with Fire and Police Departments and Public Agencies
4	Safety Systems	G8216	Incident Command System (ICS) for Emergency Incidents
4	Safety Systems	G8217	Supplemental Data Determination
4	Safety Systems	G8221	Gas Incident Notification



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4	Safety Systems	G8222	Pipeline Incident Reports to CPUC and PHMSA; National Transportation Safety Board (NTSB) Accident Investigation
4	Safety Systems	G8223	Pipeline Safety Reports and Notifications to CPUC and PHMSA
4	Safety Systems	G8225	Investigation of Gas Incidents
4	Safety Systems	G8229	Reports of Safety-Related Pipeline Conditions
4	Safety Systems	G8237	Restoration of Service \Policy and Responsibilities
4	Safety Systems	G8241	Responsibilities for Maintenance of the Downtown San Diego Emergency Curtailment Map
4	Safety Systems	G8308	Contractor Safety Program
4	Safety Systems	G8320	Working in Flammable Atmospheres
4	Safety Systems	G8365	Respiratory Protection Program
4	Safety Systems	G8603	Designs for Pipelines in Bridges
4	Safety Systems	G8605	Request for Pipeline Engineering Assistance
4	Safety Systems	G8704	Environmental Training
4	Safety Systems	G8706	Environmental Inspections, Search Warrants, Subpoenas, and Internal Notifications
4	Safety Systems	G9103	Pressure Terminology and Establishment of Pressure Levels for Piping
4	Safety Systems	G9105	Design Factors for Steel Piping Systems
4	Safety Systems	SD5153	Underground Utility Location Information
4	Safety Systems	T7375	Repair of Transmission Pipelines
4	Safety Systems	T7381	Abandonment, Conversion and Reinstatement of Transmission Pipelines
4	Safety Systems	T7413	Minimum Trench Requirements for Transmission Pipelines
4	Safety Systems	T8105	Control Microsystems SCADAPACK
4	Safety Systems	T8129	Supplemental Odorization of Gas at Border Stations
4	Safety Systems	T8144	MAXIMO - Transmission



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4	Safety Systems	T8147	Gas Detectors in Gas Compressor Stations
4	Safety Systems	T8148	Testing and Maintaining Compressor Station Emergency Shutdown Systems
4	Safety Systems	T8149	Compressor Station Relief Valves
4	Safety Systems	T8151	Compressor Station Equipment – Isolation & Hold-Out Procedures For Maintenance Or Alterations
4	Safety Systems	T8155	Fire Prevention and Protection - Transmission
4	Safety Systems	T8165	Gas Transmission System Relief Valves
4	Safety Systems	T8166	Identification Numbers for Pipeline Valves - Transmission
4	Safety Systems	T8167	Valve Inspection and Maintenance - Transmission
4	Safety Systems	T8171	Abnormal Operations - Transmission
4	Safety Systems	T8172	Inspection Schedule - Regulator Station, Power Generating Plant Regulation Equipment Requirements
4	Safety Systems	T8173	Pressure Relief/ Pressure Limiting Devices Testing / Inspection
4	Safety Systems	TIMP.0	Table of Contents
4	Safety Systems	TIMP.1	Introduction
4	Safety Systems	TIMP.10	Remediation
4	Safety Systems	TIMP.11	Minimizing Environmental and Safety Risks
4	Safety Systems	TIMP.12	Preventive and Mitigative Measures
4	Safety Systems	TIMP.13	Continual Evaluation
4	Safety Systems	TIMP.14	Management of Change
4	Safety Systems	TIMP.15	Quality Assurance Plan
4	Safety Systems	TIMP.16	Record Keeping
4	Safety Systems	TIMP.17	Performance Plan
4	Safety Systems	TIMP.19	Communications Plan
4	Safety Systems	TIMP.20	Regulatory Interaction
4	Safety Systems	TIMP.3	HCA Identification
4	Safety Systems	TIMP.4	Data Gathering and Integration
4	Safety Systems	TIMP.5	Threat and Risk Assessment
4	Safety Systems	TIMP.8	Baseline Assessment Plan



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4	Safety Systems	TIMP.9	Integrity Assessments
4	Safety Systems	TIMP.A	Terms, Definitions and Acronyms
5	Emergency Response	C5050	Order Completion and Priority Scheduling
5	Emergency Response	C5150	Pardon the Interruption
5	Emergency Response	C5190	Emergency Response Procedures for Gas Incidents
5	Emergency Response	C5200	Restoration of Service Due to Gas Outage
5	Emergency Response	C5490	Working in the Presence of Escaping Gas
5	Emergency Response	C5500	Reportable Gas Incidents
5	Emergency Response	C5510	Leak Investigation
5	Emergency Response	C5630	Power Outage Notification
5	Emergency Response	C5640	Verify Customer Generator Operation (VGEN)
5	Emergency Response	G8137	Leak Investigation - Distribution
5	Emergency Response	G8139	Company Facility Odor Assessment
5	Emergency Response	G8147	Planning Shutdowns On High Pressure Gas Facilities
5	Emergency Response	G8168	Immediate Repair Conditions - Transmission Pipelines
5	Emergency Response	G8169	Prevention of Accidental Ignition of Natural Gas
5	Emergency Response	G8202	Field Guidelines - Emergency Incident Distribution / Customer Service
5	Emergency Response	G8204	Emergency Response Procedures for Gas Incidents - Distribution
5	Emergency Response	G8205	Emergency Response Procedures for Gas Incidents - Transmission
5	Emergency Response	G8206	Emergency Materials List for Gas Incidents
5	Emergency Response	G8208	Natural Disaster or Major Emergency - Employee Instructions
5	Emergency Response	G8210	Contact with Fire and Police Departments and Public Agencies
5	Emergency Response	G8215	Field Services (Distribution) On-duty Supervisor Responsibilities
5	Emergency Response	G8216	Incident Command System (ICS) for Emergency Incidents



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5	Emergency Response	G8221	Gas Incident Notification
5	Emergency Response	G8222	Pipeline Incident Reports to CPUC and PHMSA; National Transportation Safety Board (NTSB) Accident Investigation
5	Emergency Response	G8223	Pipeline Safety Reports and Notifications to CPUC and PHMSA
5	Emergency Response	G8225	Investigation of Gas Incidents
6	State and Federal Regulations	190SD	Operator Qualification Task Change Communication
6	State and Federal Regulations	3222SD	Design Data Sheet (DDS)
6	State and Federal Regulations	C5050	Order Completion and Priority Scheduling
6	State and Federal Regulations	C5160	Gas Meter Turn-On Procedure
6	State and Federal Regulations	C5190	Emergency Response Procedures for Gas Incidents
6	State and Federal Regulations	C5200	Restoration of Service Due to Gas Outage
6	State and Federal Regulations	C5260	Locking and Blanking of a Gas Meter Set
6	State and Federal Regulations	C5390	Gas Curb Meter and Atmospheric Corrosion Inspection and Maintenance
6	State and Federal Regulations	C5450	Pressure Regulation - Residential and Commercial
6	State and Federal Regulations	C5480	Purging Service Risers
6	State and Federal Regulations	C5490	Working in the Presence of Escaping Gas
6	State and Federal Regulations	C5500	Reportable Gas Incidents
6	State and Federal Regulations	C5510	Leak Investigation
6	State and Federal Regulations	C5520	Houseline Leakage on Master-Metered Systems



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6	State and Federal Regulations	C5660	Purging Gas Meters and Customer Houselines
6	State and Federal Regulations	C5710	Back Flow Protection - Regulators and Check Valves
6	State and Federal Regulations	CRMP6	Gas Control Management of Change
6	State and Federal Regulations	CRMP6SD	Gas Control Management of Change
6	State and Federal Regulations	D7103	Gas Meter Location
6	State and Federal Regulations	D7107	Free Standing Header Support
6	State and Federal Regulations	D7109	Gas Service Location
6	State and Federal Regulations	D7110	Abandonment of Gas Service and Gas Light Tap Assemblies
6	State and Federal Regulations	D7113	Evaluation and Disposition of Inactive Services
6	State and Federal Regulations	D7115	Barricades for Gas Meter Sets
6	State and Federal Regulations	D7123	Service Regulator Vent Extensions
6	State and Federal Regulations	D7125	Service Regulators in Curb Meter Boxes
6	State and Federal Regulations	D7125	Service Regulators in Curb Meter Boxes
6	State and Federal Regulations	D7127	Curb Meter Box Excavation and Riser Replacement
6	State and Federal Regulations	D7203	Polyethylene Quick Reference
6	State and Federal Regulations	D7204	PE Fusion Card
6	State and Federal Regulations	D7211	Handling and Storage of Polyethylene Material
6	State and Federal Regulations	D7221	Socket Fusion for Polyethylene



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6	State and Federal Regulations	D7222	PE Saddle Fusions
6	State and Federal Regulations	D7225	Tapping Polyethylene Pipelines
6	State and Federal Regulations	D7227	Butt Fusion Polyethylene
6	State and Federal Regulations	D7233	Electrofusion for Polyethylene
6	State and Federal Regulations	D7237	Transition Fittings
6	State and Federal Regulations	D7241	Direct Burial of Polyethylene Pipe
6	State and Federal Regulations	D7247	Service Risers for Polyethylene (PE) Installations
6	State and Federal Regulations	D7249	Valve Installation and Valve Box Assemblies for Polyethylene
6	State and Federal Regulations	D7252	Service Head Adapter - 3/4 INCH
6	State and Federal Regulations	D7255	Casing Assemblies - Plastic Carrier Pipe
6	State and Federal Regulations	D7257	Tracer Wire Installation for Polyethylene
6	State and Federal Regulations	D7265	Pneumatic Test Requirements for Pipelines Operating at 60 PSIG or Less
6	State and Federal Regulations	D7275	Repair of Polyethylene
6	State and Federal Regulations	D7283	RFS of Polyethylene
6	State and Federal Regulations	D7293	Qualification Requirements for Polyethylene Fitters
6	State and Federal Regulations	D7303	General Requirements - Steel Distribution System
6	State and Federal Regulations	D7321	Service Connections to Steel Pipelines
6	State and Federal Regulations	D7325	Service Punch Tee



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6	State and Federal Regulations	D7371	Leak Repair Methods for Steel Distribution Pipelines
6	State and Federal Regulations	D7381	Abandonment or Inactivation of Gas Distribution Pipelines
6	State and Federal Regulations	D7403	Underground Distribution (UD) Trenches and Utility Positioning
6	State and Federal Regulations	D7411	Trench Excavation Requirements for 60-400 PSIG MAOP Distribution Mains
6	State and Federal Regulations	D7412	Excavation Requirements for Trench with Two Distribution Mains
6	State and Federal Regulations	D7427	Standard Gas Main Positions
6	State and Federal Regulations	D7461	Gas Facilities Box (Inside Dimensions 2' X 3')
6	State and Federal Regulations	D7465	Prefabricated Vaults - Design and Selection Guide
6	State and Federal Regulations	D7711	Regulator Station Design and Planning
6	State and Federal Regulations	D7715	Control Piping
6	State and Federal Regulations	D7905	Minimum Requirements for Pressure Control Operations on Distribution Pipeline Systems
6	State and Federal Regulations	D7911	Purging of Distribution Gas Lines of 60 PSIG
6	State and Federal Regulations	D7912	Purging and Locking Service Risers
6	State and Federal Regulations	D8146	Replacement Criteria for Distribution Mains and Services
6	State and Federal Regulations	D8164	Pressure Monitoring of Distribution Systems
6	State and Federal Regulations	D8167	Valve Inspection and Maintenance - Distribution
6	State and Federal Regulations	D8167	Valve Inspection and Maintenance - Distribution
6	State and Federal Regulations	D8305	Trenchless Construction Methods



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6	State and Federal Regulations	D8310	Polyethylene Pipe Inserted in Metal Casings
6	State and Federal Regulations	D9102	Gas Mapping and Records
6	State and Federal Regulations	D9103	Terms and Definitions
6	State and Federal Regulations	D9131	Design of Polyethylene Services
6	State and Federal Regulations	D9135	Mains: Fittings and Fitting Selection
6	State and Federal Regulations	D9157	Meter Selection and Spacing Requirements
6	State and Federal Regulations	D9183	Excess Flow Valve and Service Pipe Sizing
6	State and Federal Regulations	G7011	Standard Specification for Natural and Substitute Fuel Gases
6	State and Federal Regulations	G7017	Hydrogen Sulfide (H ₂ S) Management
6	State and Federal Regulations	G7314	Steel Pipe - Selection Requirements
6	State and Federal Regulations	G7316	Identification of Steel Pipe and Butt Weld Fittings
6	State and Federal Regulations	G7321	Steel Butt-Weld Fittings - Selection Guide
6	State and Federal Regulations	G7350	Casing Assemblies - Steel Carrier Pipe
6	State and Federal Regulations	G7351	Wear Pads and Bands for Steel Gas Piping
6	State and Federal Regulations	G7353	Branch Connection, Steel - Selection Guide
6	State and Federal Regulations	G7361	Pipeline Testing Requirements
6	State and Federal Regulations	G7365	Pneumatic Test Requirement for Pipelines Operating Above 60 PSIG
6	State and Federal Regulations	G7369	Hydrostatic Test Requirements



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6	State and Federal Regulations	G7371	Repair of Defects in Steel Pressure Piping
6	State and Federal Regulations	G7375	Approved Protective Coatings for Below Ground Corrosion Control
6	State and Federal Regulations	G7376	Field Tape Wrapping Requirements
6	State and Federal Regulations	G7377	Field Application of Fusion Bonded Epoxy to Joints and Field Repair of Fusion Bonded Epoxy Coating
6	State and Federal Regulations	G7379	External Surface Preparation and Field Applied Coatings for Buried Pipelines
6	State and Federal Regulations	G7380	Field Application of Grease Coating
6	State and Federal Regulations	G7381	External Surface Preparation and Coating Application for Steel Tanks and Vessels (New & Refurbished)
6	State and Federal Regulations	G7383	Internal Coating of Tanks, Vessels, & Drip Legs
6	State and Federal Regulations	G7385	External Surface Preparation and Shop-Applied Coating for High Corrosion Service Areas
6	State and Federal Regulations	G7402	Notification Of Excavation And Construction Activities - Assembly Bill Number 1937/ PUC Code 955.5
6	State and Federal Regulations	G7408	Hand Backfill and Compaction Method
6	State and Federal Regulations	G7453	General Excavation Requirements
6	State and Federal Regulations	G7505	General Procedures for Field As-Builts
6	State and Federal Regulations	G7603	Valve Usage and Selection Guide
6	State and Federal Regulations	G7615	Replacement and Raising of Valve Boxes
6	State and Federal Regulations	G7631	Main Line Ball Valve Assembly - Classes 150 & 300 2 Inch and 4 Inch



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Chapter Number	Chapter Title	Policy	Policy Title
6	State and Federal Regulations	G7635	Main Line Ball Valve Assembly - Classes 150 & 300 6 Inch and 8 Inch
6	State and Federal Regulations	G7637	Main Line Valve Assembly - 500 PSIG WOG, 10-Inch
6	State and Federal Regulations	G7643	Excess Flow Valve (EFV) - Installation and Operation
6	State and Federal Regulations	G7649	2 Inch Ball Valve Assembly For Drilling Through Pressurized Pipelines
6	State and Federal Regulations	G7665	Flanges - Selection, Torque and Installation Requirements
6	State and Federal Regulations	G7803	General Welding Requirements
6	State and Federal Regulations	G7805	Welding Field Guide
6	State and Federal Regulations	G7809	Qualification and Re-Qualification of Welders
6	State and Federal Regulations	G7815	Inspection and Testing of Welds on Company Steel Piping
6	State and Federal Regulations	G7815	Inspection and Testing of Welds on Company Steel Piping
6	State and Federal Regulations	G7817	Radiographic Examination API 1104
6	State and Federal Regulations	G7821	Angles and Bends in Steel Piping
6	State and Federal Regulations	G7909	Purging Pipelines and Components
6	State and Federal Regulations	G7910	Purging Pipelines Using Air Movers For Cold Tie Operations
6	State and Federal Regulations	G7955	4 Inch Ball Valve Assembly for Hot Tapping to 800 PSIG
6	State and Federal Regulations	G7963	2 Inch Drilling Assembly For Drilling Existing 400 And 800 PSIG Pipelines
6	State and Federal Regulations	G8001	Criteria for Cathodic Protection
6	State and Federal Regulations	G8002	100mV Polarization Criteria



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Chapter Number	Chapter Title	Policy	Policy Title
6	State and Federal Regulations	G8003	Design and Application of Cathodic Protection
6	State and Federal Regulations	G8009	Electrical Test Stations & Bond Assembly
6	State and Federal Regulations	G8013	Cathodic Protection - Mixed Piping Systems
6	State and Federal Regulations	G8014	Magnesium Anodes for Corrosion Control
6	State and Federal Regulations	G8019	Operation and Maintenance of Cathodic Protection Facilities
6	State and Federal Regulations	G8021	Cathodic Protection - Inspection of Exposed Pipe
6	State and Federal Regulations	G8022	Atmospheric Corrosion (ACOR) - Inspection of Meter Set Assemblies
6	State and Federal Regulations	G8023	MAOP Evaluation of Corroded Pipe
6	State and Federal Regulations	G8025	Internal Corrosion Management Plan
6	State and Federal Regulations	G8026	External and Internal Transmission Pipeline Inspection
6	State and Federal Regulations	G8027	Cathodic Protection - Electrical Isolation
6	State and Federal Regulations	G8028	Cathodic Protection - Casings
6	State and Federal Regulations	G8029	Record Keeping - Corrosion Control
6	State and Federal Regulations	G8031	Internal Corrosion Design and Construction Considerations
6	State and Federal Regulations	G8035	Interference - Stray Electrical Current
6	State and Federal Regulations	G8115	Changing Maximum Allowable Operating Pressure and Maximum Operating Pressure
6	State and Federal Regulations	G8116	Pipeline and Related Definitions
6	State and Federal Regulations	G8121	Class Location - Determination and Changes



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Chapter Number	Chapter Title	Policy	Policy Title
6	State and Federal Regulations	G8122	Prevention of Excavation Damage to Company Facilities
6	State and Federal Regulations	G8123	Underground Service Alert and Temporary Marking
6	State and Federal Regulations	G8129	Odorization
6	State and Federal Regulations	G8135	Leak Classification and Mitigation Schedules
6	State and Federal Regulations	G8140	Pipeline Patrol and Unstable Earth Inspections
6	State and Federal Regulations	G8141	Pipeline Markers
6	State and Federal Regulations	G8142	Inspection of Pipelines on Bridges and Spans
6	State and Federal Regulations	G8145	Leakage Surveys
6	State and Federal Regulations	G8147	Planning Shutdowns On High Pressure Gas Facilities
6	State and Federal Regulations	G8159	Distribution Pressure Regulating and Monitoring Station & Vault - Inspection, Maintenance and Settings
6	State and Federal Regulations	G8168	Immediate Repair Conditions - Transmission Pipelines
6	State and Federal Regulations	G8169	Prevention of Accidental Ignition of Natural Gas
6	State and Federal Regulations	G8172	Data Gathering and Integration
6	State and Federal Regulations	G8184	Bellhole Inspection Requirements
6	State and Federal Regulations	G8185	Casing Wax Fill
6	State and Federal Regulations	G8202	Field Guidelines - Emergency Incident Distribution / Customer Service
6	State and Federal Regulations	G8204	Emergency Response Procedures for Gas Incidents - Distribution



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Chapter Number	Chapter Title	Policy	Policy Title
6	State and Federal Regulations	G8205	Emergency Response Procedures for Gas Incidents - Transmission
6	State and Federal Regulations	G8206	Emergency Materials List for Gas Incidents
6	State and Federal Regulations	G8208	Natural Disaster or Major Emergency - Employee Instructions
6	State and Federal Regulations	G8210	Contact with Fire and Police Departments and Public Agencies
6	State and Federal Regulations	G8215	Field Services (Distribution) On-duty Supervisor Responsibilities
6	State and Federal Regulations	G8216	Incident Command System (ICS) for Emergency Incidents
6	State and Federal Regulations	G8221	Gas Incident Notification
6	State and Federal Regulations	G8223	Pipeline Safety Reports and Notifications to CPUC and PHMSA
6	State and Federal Regulations	G8225	Investigation of Gas Incidents
6	State and Federal Regulations	G8229	Reports of Safety-Related Pipeline Conditions
6	State and Federal Regulations	G8237	Restoration of Service \Policy and Responsibilities
6	State and Federal Regulations	G8241	Responsibilities for Maintenance of the Downtown San Diego Emergency Curtailment Map
6	State and Federal Regulations	G8315	Confined Space Operations
6	State and Federal Regulations	G8320	Working in Flammable Atmospheres
6	State and Federal Regulations	G8345	Hot Work Permit Program
6	State and Federal Regulations	G8365	Respiratory Protection Program
6	State and Federal Regulations	G8603	Designs for Pipelines in Bridges



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Chapter Number	Chapter Title	Policy	Policy Title
6	State and Federal Regulations	G8605	Request for Pipeline Engineering Assistance
6	State and Federal Regulations	G8719	Hydrostatic Test Water Management
6	State and Federal Regulations	G9103	Pressure Terminology and Establishment of Pressure Levels for Piping
6	State and Federal Regulations	G9105	Design Factors for Steel Piping Systems
6	State and Federal Regulations	G9109	Electrical Facilities in Hazardous Areas
6	State and Federal Regulations	T7303	General Construction Requirements - Steel Transmission System
6	State and Federal Regulations	T7375	Repair of Transmission Pipelines
6	State and Federal Regulations	T7381	Abandonment, Conversion and Reinstatement of Transmission Pipelines
6	State and Federal Regulations	T7413	Minimum Trench Requirements for Transmission Pipelines
6	State and Federal Regulations	T8129	Supplemental Odorization of Gas at Border Stations
6	State and Federal Regulations	T8147	Gas Detectors in Gas Compressor Stations
6	State and Federal Regulations	T8148	Testing and Maintaining Compressor Station Emergency Shutdown Systems
6	State and Federal Regulations	T8149	Compressor Station Relief Valves
6	State and Federal Regulations	T8151	Compressor Station Equipment – Isolation & Hold-Out Procedures For Maintenance Or Alterations
6	State and Federal Regulations	T8155	Fire Prevention and Protection - Transmission
6	State and Federal Regulations	T8165	Gas Transmission System Relief Valves
6	State and Federal Regulations	T8166	Identification Numbers for Pipeline Valves - Transmission



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Chapter Number	Chapter Title	Policy	Policy Title
6	State and Federal Regulations	T8167	Valve Inspection and Maintenance - Transmission
6	State and Federal Regulations	T8171	Abnormal Operations - Transmission
6	State and Federal Regulations	T8172	Inspection Schedule - Regulator Station, Power Generating Plant Regulation Equipment Requirements
6	State and Federal Regulations	T8173	Pressure Relief/ Pressure Limiting Devices Testing / Inspection
6	State and Federal Regulations	G8113	Operator Qualification Program
6	State and Federal Regulations	TIMP.17	Performance Plan
7	Continuing Operations	C5260	Locking and Blanking of a Gas Meter Set
7	Continuing Operations	C5370	Large Meters - Houeline Testing
7	Continuing Operations	C5390	Gas Curb Meter and Atmospheric Corrosion Inspection and Maintenance
7	Continuing Operations	C5460	Fumigation Shut-Off and Back-On Orders
7	Continuing Operations	C5480	Purging Service Risers
7	Continuing Operations	C5490	Working in the Presence of Escaping Gas
7	Continuing Operations	C5510	Leak Investigation
7	Continuing Operations	C5520	Houeline Leakage on Master-Metered Systems
7	Continuing Operations	C5540	Setting Gas Meters
7	Continuing Operations	C5580	Re-Insulating Gas Meters
7	Continuing Operations	C5660	Purging Gas Meters and Customer Houelines
7	Continuing Operations	C5665	Odor Conditioning of New Customer-Owned Pipelines - Size (AC630) Meters and Larger



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Chapter Number	Chapter Title	Policy	Policy Title
7	Continuing Operations	C5700	Service Policy
7	Continuing Operations	CSSD071220	Sempra Energy Foundation's 2007 Fire Relief Fund Information Handout
7	Continuing Operations	D7110	Abandonment of Gas Service and Gas Light Tap Assemblies
7	Continuing Operations	D7119	Earthquake Valves on Meter Sets
7	Continuing Operations	D7213	Polyethylene Heater - Temperature Measurement and Adjustment
7	Continuing Operations	D7216	Mechanical Tapping Tee Inspection
7	Continuing Operations	D7221	Socket Fusion for Polyethylene
7	Continuing Operations	D7222	PE Saddle Fusions
7	Continuing Operations	D7225	Tapping Polyethylene Pipelines
7	Continuing Operations	D7227	Butt Fusion Polyethylene
7	Continuing Operations	D7241	Direct Burial of Polyethylene Pipe
7	Continuing Operations	D7252	Service Head Adapter - 3/4 INCH
7	Continuing Operations	D7265	Pneumatic Test Requirements for Pipelines Operating at 60 PSIG or Less
7	Continuing Operations	D7275	Repair of Polyethylene
7	Continuing Operations	D7279	Squeezing Polyethylene Pipe - 1/2" through 8"
7	Continuing Operations	D7283	RFS of Polyethylene
7	Continuing Operations	D7293	Qualification Requirements for Polyethylene Fitters
7	Continuing Operations	D7325	Service Punch Tee
7	Continuing Operations	D7341	Raising or Repairing 3/4 Inch and 1 Inch Steel Risers
7	Continuing Operations	D7371	Leak Repair Methods for Steel Distribution Pipelines



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Chapter Number	Chapter Title	Policy	Policy Title
7	Continuing Operations	D7373	Pipe Cold Squeezer Huskie PS-45
7	Continuing Operations	D7381	Abandonment or Inactivation of Gas Distribution Pipelines
7	Continuing Operations	D7382	Requirements for Hot/Cold Squeezing of Steel Pipelines
7	Continuing Operations	D7383	Steel Pipe Squeezer 6" through 12"
7	Continuing Operations	D7385	RFS of 3/4 Inch and 1 Inch Service Nipples on Mains to be Upgraded
7	Continuing Operations	D7403	Underground Distribution (UD) Trenches and Utility Positioning
7	Continuing Operations	D7411	Trench Excavation Requirements for 60-400 PSIG MAOP Distribution Mains
7	Continuing Operations	D7705	Regulator Station Installation Procedures
7	Continuing Operations	D7905	Minimum Requirements for Pressure Control Operations on Distribution Pipeline Systems
7	Continuing Operations	D7907	Qualification Requirements Distribution Pressure Control
7	Continuing Operations	D7911	Purging of Distribution Gas Lines of 60 PSIG
7	Continuing Operations	D7912	Purging and Locking Service Risers
7	Continuing Operations	D7919	Changing a 3/4 Inch and 1 Inch Stopcock
7	Continuing Operations	D7927	Mueller 'D-4' and 'D-5' Tapping Machine Instructions
7	Continuing Operations	D7929	Mueller Line Stopper Unit No. 1
7	Continuing Operations	D7931	Mueller 'E-4' and 'E-5' Tapping Machine
7	Continuing Operations	D7933	Stopping Off Procedure for Service Ys
7	Continuing Operations	D7955	Pressure Control - 2" Top Half Fitting
7	Continuing Operations	D7955	Pressure Control - 2" Top Half Fitting



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Chapter Number	Chapter Title	Policy	Policy Title
7	Continuing Operations	D7956	Pressure Control - 3" and 4" Top Half Fitting
7	Continuing Operations	D7957	2-Inch Service Tee for Gas Mains 60 psig or Less
7	Continuing Operations	D8164	Pressure Monitoring of Distribution Systems
7	Continuing Operations	D8167	Valve Inspection and Maintenance - Distribution
7	Continuing Operations	D8305	Trenchless Construction Methods
7	Continuing Operations	G7345	Application of Mueller and TDW M Stop Control Fittings
7	Continuing Operations	G7355	Holiday Detector Operation
7	Continuing Operations	G7361	Pipeline Testing Requirements
7	Continuing Operations	G7365	Pneumatic Test Requirement for Pipelines Operating Above 60 PSIG
7	Continuing Operations	G7369	Hydrostatic Test Requirements
7	Continuing Operations	G7371	Repair of Defects in Steel Pressure Piping
7	Continuing Operations	G7372	Repair of Defects on an Operating Pipeline by Grinding
7	Continuing Operations	G7373	Repair of Non-Leaking Defects on an Operating Pipeline with a Band or Sleeve
7	Continuing Operations	G7374	Repair of Defects on Operating Pipelines Using Abandon Nipple
7	Continuing Operations	G7375	Approved Protective Coatings for Below Ground Corrosion Control
7	Continuing Operations	G7376	Field Tape Wrapping Requirements
7	Continuing Operations	G7377	Field Application of Fusion Bonded Epoxy to Joints and Field Repair of Fusion Bonded Epoxy Coating
7	Continuing Operations	G7379	External Surface Preparation and Field Applied Coatings for Buried Pipelines



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Chapter Number	Chapter Title	Policy	Policy Title
7	Continuing Operations	G7380	Field Application of Grease Coating
7	Continuing Operations	G7382	Surface Preparation and Coating for Above Ground Piping and Steel Components
7	Continuing Operations	G7385	External Surface Preparation and Shop-Applied Coating for High Corrosion Service Areas
7	Continuing Operations Regulations	G7402	Notification Of Excavation And Construction Activities - Assembly Bill Number 1937/ PUC Code 955.5
7	Continuing Operations	G7408	Hand Backfill and Compaction Method
7	Continuing Operations	G7409	Imported or Native Backfill
7	Continuing Operations	G7410	Slurry Backfill
7	Continuing Operations	G7605	Valving Responsibility - Distribution
7	Continuing Operations	G7615	Replacement and Raising of Valve Boxes
7	Continuing Operations	G7636	Lubrication of Plug Valves
7	Continuing Operations	G7643	Excess Flow Valve (EFV) - Installation and Operation
7	Continuing Operations	G7803	General Welding Requirements
7	Continuing Operations	G7805	Welding Field Guide
7	Continuing Operations	G7815	Inspection and Testing of Welds on Company Steel Piping
7	Continuing Operations	G7909	Purging Pipelines and Components
7	Continuing Operations	G7910	Purging Pipelines Using Air Movers For Cold Tie Operations
7	Continuing Operations	G7951	Drilling 4 Inch, 6 Inch and 8 Inch Ball Valves
7	Continuing Operations	G7959	Tapping Through a 2 Inch Ball Valve



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Chapter Number	Chapter Title	Policy	Policy Title
7	Continuing Operations	G7967	Drilling Through A 2 Inch Mueller PCF With A "DH-5" Drilling Machine On Mains Above 60 PSIG
7	Continuing Operations	G7971	Stopping Off A 2 Inch Mueller PCF With A "DH-5" Drilling Machine On Mains Operating Above 60 PSIG
7	Continuing Operations	G7975	Pressure Control - TD Williamson 1200 Unit
7	Continuing Operations	G7979	Line Stopper Units 3SW-500 And 4SW
7	Continuing Operations	G8002	100mV Polarization Criteria
7	Continuing Operations	G8003	Design and Application of Cathodic Protection
7	Continuing Operations	G8003	Design and Application of Cathodic Protection
7	Continuing Operations	G8006	Connect Copper Wire To Steel Pipe - Pin Brazing, Thermitic Welding and Braze Welding Processes
7	Continuing Operations	G8009	Electrical Test Stations & Bond Assembly
7	Continuing Operations	G8013	Cathodic Protection - Mixed Piping Systems
7	Continuing Operations	G8014	Magnesium Anodes for Corrosion Control
7	Continuing Operations	G8015	Selection and Installation of Rectifiers and Impressed Current Anodes
7	Continuing Operations	G8019	Operation and Maintenance of Cathodic Protection Facilities
7	Continuing Operations	G8021	Cathodic Protection - Inspection of Exposed Pipe
7	Continuing Operations	G8022	Atmospheric Corrosion (ACOR) - Inspection of Meter Set Assemblies
7	Continuing Operations	G8023	MAOP Evaluation of Corroded Pipe
7	Continuing Operations	G8025	Internal Corrosion Management Plan
7	Continuing Operations	G8026	External and Internal Transmission Pipeline Inspection
7	Continuing Operations	G8027	Cathodic Protection - Electrical Isolation



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Chapter Number	Chapter Title	Policy	Policy Title
7	Continuing Operations	G8028	Cathodic Protection - Casings
7	Continuing Operations	G8035	Interference - Stray Electrical Current
7	Continuing Operations	G8037	Induced High Voltage Alternating Current (HVAC) on Pipelines
7	Continuing Operations	G8043	Corrosion Control of Underground Hazardous Substance Storage Tanks
7	Continuing Operations	G8107	Aboveground Survey Plan
7	Continuing Operations	G8108	Alternating Current Attenuation Survey
7	Continuing Operations	G8109	Close Interval Survey
7	Continuing Operations	G8113	Operator Qualification Program
7	Continuing Operations	G8122	Prevention of Excavation Damage to Company Facilities
7	Continuing Operations	G8129	Odorization
7	Continuing Operations	G8130	Operation of Odorator
7	Continuing Operations	G8133	ODORIZATION-YZ NJEX Odorant Injection System Maintenance
7	Continuing Operations	G8135	Leak Classification and Mitigation Schedules
7	Continuing Operations	G8137	Leak Investigation - Distribution
7	Continuing Operations	G8138	Optical Methane Detector Operation and Maintenance
7	Continuing Operations	G8139	Company Facility Odor Assessment
7	Continuing Operations	G8140	Pipeline Patrol and Unstable Earth Inspections
7	Continuing Operations	G8141	Pipeline Markers
7	Continuing Operations	G8142	Inspection of Pipelines on Bridges and Spans
7	Continuing Operations	G8145	Leakage Surveys



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Chapter Number	Chapter Title	Policy	Policy Title
7	Continuing Operations	G8159	Distribution Pressure Regulating and Monitoring Station & Vault - Inspection, Maintenance and Settings
7	Continuing Operations	G8168	Immediate Repair Conditions - Transmission Pipelines
7	Continuing Operations	G8184	Bellhole Inspection Requirements
7	Continuing Operations	G8185	Casing Wax Fill
7	Continuing Operations	G8192	RMLD - Remote Methane Leak Detector
7	Continuing Operations	G8202	Field Guidelines - Emergency Incident Distribution / Customer Service
7	Continuing Operations	G8204	Emergency Response Procedures for Gas Incidents - Distribution
7	Continuing Operations	G8205	Emergency Response Procedures for Gas Incidents - Transmission
7	Continuing Operations	G8215	Field Services (Distribution) On-duty Supervisor Responsibilities
7	Continuing Operations	T7375	Repair of Transmission Pipelines
7	Continuing Operations	T7381	Abandonment, Conversion and Reinstatement of Transmission Pipelines
7	Continuing Operations	T7413	Minimum Trench Requirements for Transmission Pipelines
7	Continuing Operations	T8148	Testing and Maintaining Compressor Station Emergency Shutdown Systems
7	Continuing Operations	T8149	Compressor Station Relief Valves
7	Continuing Operations	T8165	Gas Transmission System Relief Valves
7	Continuing Operations	T8167	Valve Inspection and Maintenance - Transmission
7	Continuing Operations	T8173	Pressure Relief/ Pressure Limiting Devices Testing / Inspection
7	Continuing Operations	ESHSD-0000	Phone Numbers
7	Continuing Operations	ESHSD-1100	Rule 1100 - Injury and Illness Prevention Program



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Chapter Number	Chapter Title	Policy	Policy Title
7	Continuing Operations	ESHSD-1200	Rule 1200 - General Safety and Health Rules
7	Continuing Operations	ESHSD-1300	Vehicle and Forklift Safety
7	Continuing Operations	ESHSD-1400	Office Safety
7	Continuing Operations	ESHSD-1500	Fire Prevention
7	Continuing Operations	ESHSD-1600	Emergency Action Plan (EAP)
7	Continuing Operations	ESHSD-1700	Workplace Security
7	Continuing Operations	ESHSD-1800	Incident and Injury Reporting
7	Continuing Operations	ESHSD-2100	General Construction, Maintenance and Operation Safety Rules
7	Continuing Operations	ESHSD-2200	Aerial Lift Equipment
7	Continuing Operations	ESHSD-3100	Electric - General Safety Rules
7	Continuing Operations	ESHSD-3300	Electric Substation and Maintenance
7	Continuing Operations	ESHSD-3400	Overhead Electric - Distribution and Transmission
7	Continuing Operations	ESHSD-3600	Underground Electric - Distribution and Transmission
7	Continuing Operations	ESHSD-3800	Electrical Safety Hazards
7	Continuing Operations	ESHSD-4100	Gas Distribution and Transmission
7	Continuing Operations	ESHSD-9999	Definitions
7	Continuing Operations	ESHSD-1200	Rule 1200 - General Safety and Health Rules
7	Continuing Operations	ESHSD-2100	General Construction, Maintenance and Operation Safety Rules
7	Continuing Operations	3222SD	Design Data Sheet (DDS)
7	Continuing Operations	D7204	PE Fusion Card



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Chapter Number	Chapter Title	Policy	Policy Title
7	Continuing Operations	D7255	Casing Assemblies - Plastic Carrier Pipe
7	Continuing Operations	D7465	Prefabricated Vaults - Design and Selection Guide
7	Continuing Operations	D7711	Regulator Station Design and Planning
7	Continuing Operations	D7715	Control Piping
7	Continuing Operations	D8189	Temporary LNG Facility
7	Continuing Operations	D8194	Sensit G2 Multigas Detector and SMART-CAL Operation and Maintenance Procedures
7	Continuing Operations	G7013	Qualification of New Construction Contractors
7	Continuing Operations	G7314	Steel Pipe - Selection Requirements
7	Continuing Operations	G7316	Identification of Steel Pipe and Butt Weld Fittings
7	Continuing Operations	G7321	Steel Butt-Weld Fittings - Selection Guide
7	Continuing Operations	G7350	Casing Assemblies - Steel Carrier Pipe
7	Continuing Operations	G7351	Wear Pads and Bands for Steel Gas Piping
7	Continuing Operations	G7353	Branch Connection, Steel - Selection Guide
7	Continuing Operations	G7603	Valve Usage and Selection Guide
7	Continuing Operations	G7665	Flanges - Selection, Torque and Installation Requirements
7	Continuing Operations	G7809	Qualification and Re-Qualification of Welders
7	Continuing Operations	G7817	Radiographic Examination API 1104
7	Continuing Operations	G7821	Angles and Bends in Steel Piping
7	Continuing Operations	G8029	Record Keeping - Corrosion Control
7	Continuing Operations	G8031	Internal Corrosion Design and Construction Considerations



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Chapter Number	Chapter Title	Policy	Policy Title
7	Continuing Operations	G8115	Changing Maximum Allowable Operating Pressure and Maximum Operating Pressure
7	Continuing Operations	G8116	Pipeline and Related Definitions
7	Continuing Operations	G8121	Class Location - Determination and Changes
7	Continuing Operations	G8172	Data Gathering and Integration
7	Continuing Operations	G8222	Pipeline Incident Reports to CPUC and PHMSA; National Transportation Safety Board (NTSB) Accident Investigation
7	Continuing Operations	G8223	Pipeline Safety Reports and Notifications to CPUC and PHMSA
7	Continuing Operations	G8229	Reports of Safety-Related Pipeline Conditions
7	Continuing Operations	G8315	Confined Space Operations
7	Continuing Operations	G8366	Heat Illness Prevention for Outdoor Work
7	Continuing Operations	PA-1SD	Public Awareness Program
7	Continuing Operations	G8603	Designs for Pipelines in Bridges
7	Continuing Operations	G8605	Request for Pipeline Engineering Assistance
7	Continuing Operations	G8717	Industrial Waste Discharges to the Sanitary Sewer
7	Continuing Operations	G8719	Hydrostatic Test Water Management
7	Continuing Operations	G8736	Proposition 65 Compliance
7	Continuing Operations	G9103	Pressure Terminology and Establishment of Pressure Levels for Piping
7	Continuing Operations	G9105	Design Factors for Steel Piping Systems
7	Continuing Operations	G9109	Electrical Facilities in Hazardous Areas



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Chapter Number	Chapter Title	Policy	Policy Title
7	Continuing Operations	T7303	General Construction Requirements - Steel Transmission System
7	Continuing Operations	T8147	Gas Detectors in Gas Compressor Stations
7	Continuing Operations	C5710	Back Flow Protection - Regulators and Check Valves

INTERNAL



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1.3. Policy Document – 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			
4090SD	100mV Polarization Form	X			
4091SD	Wax Casing Data Collection Form	X			
677-1SD	Pipeline Condition and Maintenance Report	X			
76-72	Odorant - 50/50 TBM/THT	X			
76-73	Thiophane Odorant	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		
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



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Pipeline Safety Plan Chapter					
Policy	Title	4	5	6	7
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
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 Quick Reference	X		X	
D7204	PE Fusion Card			X	X
D7211	Handling and Storage of Polyethylene Material	X		X	



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Policy	Title	4	5	6	7
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 Polyethylene Pipelines	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	
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			X	
D7265	Pneumatic Test Requirements for Pipelines Operating at 60 PSIG or Less	X		X	X
D7275	Repair of Polyethylene	X		X	X
D7279	Squeezing Polyethylene Pipe - 1/2" through 8"				X
D7283	RFS of Polyethylene	X		X	X
D7293	Qualification Requirements for Polyethylene Fitters			X	X
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



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Policy	Title	4	5	6	7
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			X	
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
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



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Policy	Title	4	5	6	7
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
D8310	Polyethylene 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	
D9165	Requirements for Installing Gas Pipelines in Sloping Terrain	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			
DIMP9	Report Results	X			
DIMPA	Terms, Definitions and Acronyms	X			
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



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Policy	Title	4	5	6	7
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			
F4-1	Threat Evaluation Form	X			
F8-1	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	
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



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Pipeline Safety Plan Chapter					
Policy	Title	4	5	6	7
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	
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
G7451	Prevention of Damage to Subsurface Installations	X			
G7453	General Excavation Requirements			X	
G7505	General Procedures for Field As-Built			X	
G7507	Map Maintenance Requirements for High Pressure Gas Lines	X			



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Policy	Title	4	5	6	7
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
G7637	Main Line Valve Assembly - 500 PSIG WOG, 10-Inch			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
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



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G7975	Pressure Control - TD Williamson 1200 Unit				X
G7979	Line Stopper Units 3SW-500 And 4SW				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			
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



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Policy	Title	4	5	6	7
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
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			



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Policy	Title	4	5	6	7
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 Upgraded 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
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



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Policy	Title	4	5	6	7
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
G8320	Working in Flammable Atmospheres	X		X	
G8345	Hot Work Permit Program			X	
G8365	Respiratory Protection Program	X		X	
G8366	Heat Illness Prevention for Outdoor Work				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



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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
PA-1SD	Public Awareness Program		X		X
SD5153	Underground Utility Location Information	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			
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 & 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
T8171	Abnormal Operations - Transmission	X	X	X	
T8172	Inspection Schedule - Regulator Station, Power Generating Plant Regulation Equipment Requirements	X		X	



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T8173	Pressure Relief/ Pressure Limiting Devices Testing / Inspection	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			
TIMP.8	Baseline Assessment Plan	X			
TIMP.9	Integrity Assessments	X			
TIMP.A	Terms, Definitions and Acronyms	X			



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NOTE: Do not alter or add any content from this page down; the following content is automatically generated.
 Brief: Annual review of Safety Plan. Updated titles of standards, removed standards no longer valid and added standards associated with the Gas Safety Plan.

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Part of Non-O&M Parts 191-193 Plan	No
Non-O&M 49 CFR Codes & Impacted Sections of Document	
Part of Distribution IMP (DIMP)	No
Part of Transmission IMP (TIMP)	No
Part of Storage IMP (SIMP)	No
Impacts GO112F	No
GO112F Codes & Impacted Sections of Document	
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**SAN DIEGO GAS & ELECTRIC COMPANY
NATURAL GAS SYSTEM OPERATOR SAFETY PLAN
EXECUTIVE ATTESTATION**

March 15, 2018

BACKGROUND

California Senate Bill (SB) 705 approved by the Governor in October 2011 created Public Utilities Code Sections 961 and 963.¹ These code sections require each gas corporation in California to develop and implement a plan for the safe and reliable operation of its gas pipeline facilities. San Diego Gas & Electric Company (SDG&E) published its initial Natural Gas System Operator Safety Plan (Safety Plan) in December 2012. A revised Safety Plan was accepted by the Safety and Enforcement Division of the California Public Utilities Commission (CPUC) in June of 2013.

As part of the initial plan filing with the CPUC, each Officer of SDG&E signed an executive summary to the Safety Plan which included a commitment to safety and articulated the Company's pipeline safety performance expectations, policy principles, and performance goals and objectives. The following attestation has been developed to document each Officer's commitment to safety and support for the Safety Plan.

COMMITMENT TO SAFETY

At SDG&E, the safety of our employees, customers, and communities has been and will continue to be our core value. Management's safety philosophy is expressed in the following *Commitment to Safety* statement that our senior management team wholeheartedly endorses:

¹ CH. 522, Stats. 2011.

San Diego Gas & Electric's longstanding commitment to safety focuses on three primary areas – employee safety, customer safety and public safety. 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

While we are proud of our safety and reliability achievements thus far, we know there is always room for improving the overall safety of our pipeline system and infrastructure. Our aim is to continuously drive process improvements throughout our pipeline system and operations, to meet state and federal safety regulations, and to stay abreast of industry best practices.

We foster a work environment where employees are focused on and engaged in sustaining a culture that emphasizes safety, and in which they are encouraged to openly raise concerns and suggestions for improvement of our safety practices.

This Safety Plan articulates the overarching guiding principles for the safe operation of our natural gas infrastructure and outlines the safety performance expectations and goals and objectives established by SDG&E's senior leadership team. It also provides a comprehensive description of the programs, policies, standards, and procedures, which together form our overall Safety Plan.

ATTESTATION

We fully embrace and endorse our commitment to safety and our support for the Safety Plan dated March 15, 2018.

/s/ Scott D. Drury

Scott D. Drury
President

/s/ Caroline Winn

Caroline Winn
Chief Operating Officer

/s/ J. Chris Baker

J. Chris Baker
Chief Information Officer

/s/ David Buczkowski

David Buczkowski
Vice President – Gas Engineering & System Integrity

/s/ Jimmie I. Cho

Jimmie I. Cho
Senior Vice President – Gas Engineering & Distribution Operations

/s/ Randall L. Clark

Randall L. Clark
Chief Human Resources & Chief Administrative Officer

/s/ Scott B. Crider

Scott B. Crider
Vice President – Customer Services

/s/ Diana Day

Diana Day
Vice President – Enterprise Risk Management & Compliance

/s/ Bruce Folkmann

Bruce Folkmann
Vice President – Controller & Chief Financial Officer

/s/ John Jenkins

John Jenkins

Vice President – Electric Engineering & Construction

/s/ Eugene Mitchell

Eugene Mitchell

Vice President – State Governmental Affairs & External Affairs

/s/ Gina Orozco-Mejia

Gina Orozco-Mejia

Vice President – Gas Distribution Operations

/s/ Neil Navin

Neil Navin

Vice President – Gas Transmission & Storage

/s/ Lee Scharvrien

Lee Scharvrien

Chief Regulatory Officer

/s/ Michael M. Schneider

Michael M. Schneider

Vice President – Operations Support & Chief Environmental Officer

/s/ Rodger R. Schwecke

Rodger R. Schwecke

Senior Vice President – Transmission, Storage, & System Operations

/s/ Daniel F. Skopec

Daniel F. Skopec

Vice President – Regulatory Affairs

/s/ Katie Speirs

Katie Speirs

Vice President – Electric System Operations

/s/ Denita A. Willoughby

Denita A. Willoughby

Vice President – Supply Management & Logistics

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Brief: Annual Review of Safety Plan. Updated titles and new Officers.

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