

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking on the  
Commission's Own Motion to Adopt new  
Safety and Reliability Regulations for Natural  
Gas Transmission and Distribution Pipelines  
and Related Ratemaking Mechanisms

Rulemaking 11-02-019  
(Filed February 24, 2011)

**REVISED CALIFORNIA SAFETY PLAN OF  
SOUTHWEST GAS CORPORATION (U905G)**

SOUTHWEST GAS CORPORATION  
Catherine M. Mazzeo  
5241 Spring Mountain Road  
P.O. Box 98510  
Las Vegas, Nevada 89193-8510  
Telephone No. (702) 876-7250  
Facsimile No. (702) 252-7283  
E-mail: [catherine.mazzeo@swgas.com](mailto:catherine.mazzeo@swgas.com)  
*Attorney for Southwest Gas Corporation*

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8 1. Southwest Gas Corporation (Southwest Gas or Company) respectfully submits  
9 to the California Public Utilities Commission (Commission) its Revised California Safety Plan in  
10 compliance with the Decision Amending Scope of Rulemaking 11-02-019 and Adding  
11 Respondents, dated April 20, 2012 (D.12-04-010).

12 2. In February 2011, the Commission opened Rulemaking 11-02-019 to coordinate  
13 pipeline safety efforts, obtain public input, and propose any necessary rule and/or policy  
14 changes.<sup>1</sup>

15 3. In October 2011, the California Legislature passed Senate Bill (SB) 705, which  
16 was subsequently codified as Sections 961 and 963 of the California Public Utilities Code.  
17 The regulations require, among other things, that each gas corporation operating in California  
18 develop a plan for the "safe and reliable operation of its commission-regulated gas pipeline  
19 facilities. . .subject to approval, modification and adequate funding by the commission."<sup>2</sup>

20 4. In D.12-04-010, the Commission addressed the requirements of Public Utilities  
21 Code §§961 and 963 by requiring all California gas system operators to file safety plans  
22 demonstrating how they address each element of Public Utilities Code §§961 and 963.<sup>3</sup>

23 \_\_\_\_\_  
24 <sup>1</sup> D12-04-010. at pg.8-9.

25 <sup>2</sup> Pub. Util. Code §961(b)(1).

<sup>3</sup> D.12-04-010. at p.17.



# **Exhibit A**



# CALIFORNIA SAFETY PLAN

Prepared By: Gas Operations Support Staff  
 Approved By: Jerry Schmitz  
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## California Safety Plan

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## 1. PURPOSE AND SCOPE

### 1.1 OUR COMMITMENT TO SAFETY – “YOUR SAFETY, OUR PRIORITY”

1.1.1 Southwest Gas (Company) is dedicated to providing safe and reliable natural gas service. The safety of our workforce, customers and communities is the top priority of the Company. While we believe we have an excellent safety record, we continuously strive to improve our operations by evaluating industry best practices, and by considering the lessons learned from pipeline incidents across the country.

1.1.2 In order to protect people and property, our goal is to identify and resolve potential problems before they occur. The reliability of our pipeline systems is ensured through proper design, safe construction practices, comprehensive integrity management programs, improvement projects, and routine inspection and maintenance. All this is managed by maintaining an adequately sized workforce that is knowledgeable and qualified through continuous education, training, and participation in industry activities.

1.1.2.1 Workforce size is established by taking numerous factors into consideration. Some key factors include the ability to maintain public and employee safety, respond to emergencies, provide effective customer service, and meet or exceed current and future regulatory requirements.

1.1.2.2 Senior Management reviews and analyzes overall levels of safety, service, and reliability, and adjusts the workforce size as appropriate. Workforce size may change depending upon current operating conditions, lessons learned, new technology, or changes in regulatory requirements.

1.1.3 We also strive to build, maintain and enhance our partnerships with public safety and emergency response agencies within the communities we serve. These partnerships help to ensure immediate and effective emergency response in the event of a natural gas related incident.

1.1.4 The Company participates in various regional and national organizations focused on improving pipeline safety such as the American Gas Association (AGA), Plastic Pipe Database Committee (PPDC), Gas Piping Technology Committee (GPTC), Common Ground Alliance (CGA) and the Western Energy Institute (WEI). A complete list of organizations is provided in Appendix A.

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1.1.4.1 Best practices obtained from interaction with these organizations are reviewed for applicability and are incorporated into the SWG policies and procedures as appropriate.

1.1.4.2 Actions and initiatives to address Advisory Bulletins from the United States Department of Transportation’s Pipeline and Hazardous Materials Safety Administration (PHMSA) as well as from other government entities are also discussed with these organizations.

1.1.4.3 Best practices, Advisory Bulletins, and other industry issues are discussed and analyzed by subject matter experts (SME) within the Company. Actions and initiatives may result based on such analysis.

1.1.5 We have developed this Safety Plan to help communicate how our various policies, procedures, standards, and manuals support our commitment to safety. The continued commitment to safety depends not only on knowledge, skills and work performance, but on the identification of potential issues and the swift and specific reaction to any emergency situation that may arise.

Eric DeBonis, P.E.  
 Sr. Vice President, Operations

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## 1.2 REGULATION REQUIREMENTS

1.2.1 The Company will utilize this California Safety Plan (Plan) to comply with the California Public Utility Commission (CPUC) requirements set forth in R.11-02-019 and the mandates of Senate Bill (SB) 705 as codified in the California Public Utilities Code Sections 961 and 963:

1.2.1.1 The Company shall implement and utilize its Plan upon CPUC approval. The Plan will clearly document and define Company policies and procedures related to:

- \* **Safety Systems** *{CA Public Utilities Code § 961(d)(1)(2)}* are those policies and procedures that identify and minimize hazard and system risk.
- \* **Emergency Response** *{CA Public Utilities Code § 961(d)(5)(6)(8)}* are those policies and procedures that limit the damage from accidents, provide for timely response to reports of leaks, hazardous conditions, and emergency events and prepare for and respond to earthquakes and other major events.
- \* **State and Federal Pipeline Regulations** *{CA Public Utilities Code § 961(d)(7)(9),(c)}* establish a minimum baseline for pipeline safety in the United States. Each state either adopts these minimum standards or establishes a higher standard for those natural gas operators within their jurisdiction.
  - o Protocols for determining maximum allowable operating pressures
  - o Meet or exceed the minimum standards for safe design, construction, installation, operation, and maintenance of gas transmission and distribution facilities prescribed by regulations
  - o Best practices in the gas industry and with federal pipeline safety statutes
- \* **Continuing Operations** *{CA Public Utilities Code § 961(b)(3),(d)(3)(4)(10)}* are those that ensure the safety of the public and Company employees, provide for adequate system storage and transportation capacity to safely and reliably deliver gas to all customers, provide for effective patrol and inspection to detect leaks, and to ensure an adequately sized, qualified and properly trained Company workforce.
- \* **Emerging Industry Issues** *{CA Public Utilities Code § 961 (d)(11)}* are any additional matters that the CPUC or Company determines should be included in this Plan.

1.2.1.2 The Company shall review the Plan once per calendar year not to exceed 15 months.

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- 1.2.1.3 The Plan shall be consistent with federal pipeline safety statutes as set forth in Chapter 601 of Subtitle VIII of Title 49 of the United States Code, the regulations adopted by the United States Department of Transportation pursuant to those statutes, the CPUC’s General Order 112-E (GO 112-E), and best practices in the natural gas industry. The Plan, along with the Operations Manual and Emergency Plan are reviewed and revised annually in accordance with the statutes, regulations, and GO-112E. The Company submits these documents annually to the CPUC.
- 1.2.1.4 The Plan shall set forth how the Company will implement the Plan.
- 1.2.1.5 The Company shall provide opportunities for meaningful, substantial, and ongoing participation by the Company workforce in the development and implementation of the Plan, with the objective of developing an industry wide culture of safety to minimize the likelihood of accidents, explosions, fires, and dangerous conditions for the protection of the public and the Company’s workforce.

## 1.3 OBJECTIVES

1.3.1 The Company will convey its pipeline safety performance expectations, policy principles, and goals/objectives through the following actions:

- 1.3.1.1 Protect people and property by identifying and minimizing hazards and systemic risks in order to minimize the likelihood of accidents, explosions, fires, and dangerous conditions.  
*{CA Public Utilities Code § 961(d)(1)}*
- 1.3.1.2 Identify and implement improvements to pipeline safety systems that may be deployed to minimize hazards, including adequate documentation of gas pipeline facility history and capability.  
*{CA Public Utilities Code § 961(d)(2)}*
- 1.3.1.3 Provide adequate transportation capacity to reliably and safely deliver gas to all customers consistent with rules authorized by the CPUC governing core and noncore reliability and curtailment, including provisions for expansion, replacement, preventative maintenance, and reactive maintenance and repair of gas piping facilities.  
*{CA Public Utilities Code § 961(d)(3)}*
- 1.3.1.4 Perform effective patrols and inspections of gas pipeline facilities to detect leaks and other compromised facility conditions and make timely repairs.  
*{CA Public Utilities Code § 961(d)(4)}*

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- 1.3.1.5 Provide appropriate and effective system controls, with respect to both equipment and personnel procedures, to limit the likelihood of damage from accidents, explosions, fires, and dangerous conditions.  
*{CA Public Utilities Code § 961(d)(5)}*
- 1.3.1.6 Provide timely response to customer and employee reports of leaks or abnormal operating conditions and emergency events.  
*{CA Public Utilities Code § 961(d)(6)}*
- 1.3.1.7 Include appropriate protocols for determining maximum allowable operating pressures for transmission and distribution pipeline segments.  
*{CA Public Utilities Code § 961(d)(7)}*
- 1.3.1.8 Prepare for and respond to earthquakes and other major events to minimize damage.  
*{CA Public Utilities Code § 961(d)(8)}*
- 1.3.1.9 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 and CPUC GO-112E.  
*{CA Public Utilities Code § 961(d)(9)}*
- 1.3.1.10 Ensure an adequately sized, qualified, and properly trained gas corporation workforce to carry out the Plan. *{CA Public Utilities Code § 961(d)(10)}*
- 1.3.1.11 Any additional matter that the CPUC determines should be included in the Plan. *{CA Public Utilities Code § 961(d)(11)}*

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## 1.4 APPLICABILITY, IMPLEMENTATION AND REVISION

1.4.1 This Plan applies to all Company and contractor personnel who perform operations safety related activities, including emergency response in the Company's California service territories. This includes, but is not limited to field employees, field supervision and management, dispatch, gas controllers, and contractors.

1.4.2 Implementation of the Plan is through application of reference documents which address all of the elements set forth in the regulation. Initial implementation will occur through specific overview training with all affected personnel identified in the Plan. Training will be documented in accordance with Company guidelines. Annual review of the Plan will occur with the affected personnel through Block Training. Training for new hires will occur during the orientation training as the existing referenced Company policies, procedures, programs and plans are reviewed.

1.4.3 The Plan references other existing Company policies, procedures, programs and plans. These referenced documents are reviewed annually and updated as needed. The Plan will be reviewed annually in conjunction with these referenced documents. In addition, the Plan will be revised based upon changes to regulatory requirements, policies or procedural changes, editorial changes or as determined by the Company.

1.4.3.1 Annual Manual Review – Each section of the Operations Manual, Emergency Plan, Operator Qualification Plan and Employee Safety Procedures is assigned to qualified individuals within the Company's Staff departments for review and recommendation.

1.4.3.2 Annual Procedure Review – Procedures in the Company manuals are periodically performed by qualified individuals and witnessed by management to determine adequacy. In addition, procedures are reviewed during periodic quality control reviews of field personnel performing the procedure.

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## 2. PLAN PROVISIONS

This Plan embodies the policies and procedures specified in the Company’s manuals, plans and programs listed below as well as the Natural Gas Transmission Pipeline Comprehensive Pressure Testing Implementation Plan (Implementation Plan). These policies and procedures encompass the safety systems that are intended to identify and minimize hazards and systemic risks to minimize accidents, explosions, fires, and dangerous conditions, and to protect the public and the gas corporation workforce.

**NOTE:** All references to the Operations Manual in this table include: Abnormal/Unusual Operating Conditions, Corrosion Control, Design Standards, Emergency Response, Gas Control, General Code Requirements, Leak Investigation, Leak Survey, Mapping Standards, Measurement and Control, Patrolling, Safety Related Conditions.

CA Public Utilities Code	Manual/Program/Plan	R.11-02-019 Topic
961(c)	Damage Prevention Program Operator Qualification Plan Drug and Alcohol Plan	Safety Systems State and Federal Regulations Continuing Operations
961(d)(1)	Operations Manual Distribution Integrity Management Program Transmission Integrity Management Program Damage Prevention Program Public Awareness Program Control Room Management Plan Safety Manual Customer Service Manual Material Specifications Environmental Manual Dispatch Manual	Safety Systems Emergency Response State and Federal Regulations Continuing Operations
961(d)(2)	Operations Manual Distribution Integrity Management Program (DIMP) Transmission Integrity Management Program Damage Prevention Program Public Awareness Program Control Room Management Plan Safety Manual Customer Service Manual Material Specifications Environmental Manual Dispatch Manual	Safety Systems Emergency Response State and Federal Regulations Continuing Operations
961(d)(3)	Operations Manual	Safety Systems Emergency Response State and Federal Regulations Continuing Operations

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CA Public Utilities Code	Manual/Program/Plan	R.11-02-019 Topic
961(d)(4)	Operations Manual	Safety Systems Emergency Response State and Federal Regulations Continuing Operations
961(d)(5)	Operations Manual Public Awareness Program Emergency Plan Manual Control Room Management Plan Safety Manual Customer Service Manual Dispatch Manual	Safety Systems Emergency Response State and Federal Regulations Continuing Operations
961(d)(6)	Operations Manual Emergency Plan Manual Customer Service Manual Dispatch Manual	Safety Systems Emergency Response State and Federal Regulations Continuing Operations
961(d)(7)	Operations Manual	Safety Systems Emergency Response State and Federal Regulations Continuing Operations
961(d)(8)	Operations Manual Emergency Plan Manual Dispatch Manual	Safety Systems Emergency Response State and Federal Regulations Continuing Operations
961(d)(9)	Operations Manual Distribution Integrity Management Program Transmission Integrity Management Program Damage Prevention Program Public Awareness Program Emergency Plan Manual Customer Service Manual Material Specifications Environmental Manual Dispatch Manual	Safety Systems Emergency Response State and Federal Regulations Continuing Operations
961(d)(10)	Operator Qualification Plan Safety Manual Environmental Manual Drug and Alcohol Plan	Safety Systems Emergency Response State and Federal Regulations Continuing Operations
961(e)	California Safety Plan Operations Manual Introduction Policy	State and Federal Regulations Continuing Operations
963(b)(3)	Operations Manual Distribution Integrity Management Program Transmission Integrity Management Program Customer Service Manual Environmental Manual Dispatch Manual	Safety Systems Emergency Response State and Federal Regulations Continuing Operations

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**NOTE:** *The manuals/programs/plans listed above may be accessed from the SWG Manuals folder on the desktop, the Online Manuals link on the SWG InfoNet, the SWGCommon (L:) drive and the SFTP website.*

## 2.1 OPERATIONS MANUAL

2.1.1 The Operations Manual contains policies and procedures for the operations and maintenance plan of the Company’s natural gas facilities. This manual meets or exceeds the requirements set forth in U.S. Department of Transportation regulation *Title 49 CFR Part 192*. The Company operates in Arizona, California and Nevada. The policies and procedures included in the Operations Manual also meet or exceed the requirements for pipeline safety in each state.

2.1.2 The Operations Manual provides policies and procedures for:

- \* Abnormal and Unusual Operating Conditions – definition and response procedures
- \* Corrosion Control Requirements – policy, procedures, design, quality control and tools & equipment to mitigate risks posed by corrosion
- \* Design Standards – odorization, material investigation, testing of pipe and components, main and service, pigging, purging, facilities protection, damage prevention, SCADA and root cause analysis. These sections:
  - o Include appropriate protocols for determining Maximum Allowable Operating Pressure (MAOP) on relevant pipeline segments, including all necessary documentation affecting the calculation of MAOPs.
  - o Meet or exceed the minimum standards for safe design, construction, installation, operation and maintenance of gas transmission and distribution facilities prescribed by USDOT in 49 CFR Part 192.
- \* Emergency Response Procedure – odor and leak investigation, Incident Command System (ICS), gas control, evacuations, actions to be taken to protect people and property
- \* General Code Requirements – operations and maintenance requirements, inspection frequencies, customer piping, master meters and state commission requirements
- \* Gas Control Procedure – monitoring and controlling gas flow to help ensure MAOP of pipeline segments are not exceeded and to help mitigate unsafe conditions.
- \* Installation of Excess Flow Valves - limit the flow of gas in services to avoid a potentially an unsafe condition
- \* Leak Survey – leak classification and survey methods. Processes for mitigating imminent hazards upon discovery. Immediate and continuous action until the hazard no longer exists.

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- \* Leak Investigation – indoor, outdoor, 360°, determining leak spread, evacuations, structures not served by natural gas. Processes for mitigating imminent hazards upon discovery. Immediate and continuous action until the hazard no longer exists.
- \* Measurement and Control requirements – large meters, pressure regulation, bypass, pressure/temperature standards, electronic instruments, meter shop
- \* Mapping Standards – construction drawings, as-built, posting standards
- \* Patrolling Procedure – frequency, special patrols, remedial action, line marker placement
- \* Safety Related Conditions – identifying and reporting safety related conditions based on: hoop stress > 20% SMYS, movement or abnormal loading from environmental causes on pipe or LNG plant, impairment of serviceability, exceeding MAOP

## 2.1.3 Distribution Integrity Management Program

- \* The Company’s Distribution Integrity Management Program (DIMP) is a risk-based process to gather and evaluate information about distribution pipelines and to prioritize and implement actions based on that information to ensure the safety and integrity of distribution facilities.
- \* The Company has utilized some form of distribution integrity since the mid-1980’s prior to the federally mandated requirement set forth in U.S. Department of Transportation regulation *Title 49 CFR Part 192, Subpart P – Gas Distribution Pipeline Integrity Management*. DIMP is managed by a centralized group within the Company, applies to all Company distribution facilities, and includes Subject Matter Experts (SME) from the various operating workgroups. Regular updates are provided to Executive Management on the status and progress of this program. DIMP is incorporated into the Company’s Operations Manual, and includes information on and provisions for the following:
  - o Scope
  - o Purpose, Objectives, and Responsibilities
  - o Threat Identification
  - o Evaluation and Ranking of Risk
  - o Identification/Implementation of Measures to Address Risks
  - o Measuring Performance and Effectiveness
  - o Periodic Evaluation and Improvement
  - o Reporting Results
  - o Document and Record Retention

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## 2.1.4 Transmission Integrity Management Program

\* The Company developed its Transmission Integrity Management Program (TRIMP) to comply with the requirements of the U.S. Department of Transportation regulation *Title 49 CFR Part 192, Subpart O – Gas Transmission Pipeline Integrity Management*. TRIMP is designed to ensure the integrity of gas transmission pipelines located where a leak or rupture could do the most harm. TRIMP addresses pipelines that could affect high consequence areas (HCAs).

\* TRIMP is managed by a centralized group within the Company and incorporates Subject Matter Experts (SME) from the various operating workgroups. Regular updates are provided to Executive Management on the status and progress of this program. All Company transmission facilities fall within the scope of TRIMP. TRIMP is incorporated into the Company's Operations Manual, and includes information on and provisions for the following:

- HCAs
- Gathering Pipeline Data
- Risk Assessment
- Baseline Assessment
- Reassessment
- Continuing Evaluation
- External and Internal Corrosion Direct Assessment
- Inline Inspection
- Pressure Testing
- Stress Corrosion Cracking Direct Assessment
- Confirmatory Direct Assessment
- Close Interval Survey
- Documentation of all procedures

## 2.1.5 Damage Prevention Program

\* The Company's Damage Prevention Program (DPP) utilizes a proactive, comprehensive and progressive approach to comply with all state and federal laws and regulations, federal and state formal and informal goals and initiatives related to damage prevention. The Company is active in industry organizations, One-Call centers, stakeholder groups and public forums to work collaboratively with the public, excavators, emergency responders and regulatory agencies to optimize opportunities for the success of the DPP.

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- \* The Company is committed to designing, constructing, operating, and maintaining its pipelines in a manner that ensures long-term safety and product reliability to the public, its customers, contractors, and employees. This includes minimizing service interruptions and negative impacts caused by excavation damage. To this end the Company has committed and will continue to commit, the necessary resources to maintain and enhance its DPP. DPP is incorporated into the Company's Operations Manual, and includes information on and provisions for the following:

- One-Call Centers
- Line Locating
- Elements of the Program
- Tools and Technologies
- Documentation
- Program Evaluation

## 2.1.6 Public Awareness Program

- \* The Company developed a Public Awareness Program (PA) to comply with the American Petroleum Institute (API) recommended practice RP1162. The purpose of the PA is to raise the community's awareness of pipelines and pipeline safety. The PA applies to the natural gas distribution and transmission pipelines and facilities owned and operated by the Company. The PA also includes requirements from U.S. Department of Transportation regulation *Title 49 CFR Parts 192.605, 192.614, 192.615, and 192.616* to enhance messages, methods, procedures, and documentation. PAs are conducted in all service areas of the Company and are conducted, as necessary, in other languages commonly understood by a significant number and concentration of the non-English speaking population in the service territory. The PA is incorporated into the Company's Operations Manual, and includes information on and provisions for the following:

- Program Goals and Objectives
- Roles and Responsibilities
- Target Audience
- Message Development and Delivery
- Methods and Responsibility
- Liaison with Emergency/Public Officials and other Utilities
- Program Evaluation and Enhancements
- Recordkeeping

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## 2.2 EMERGENCY PLAN MANUAL

2.2.1 When any emergency arises that affects the normal, safe distribution of gas to customers, it is essential that a predetermined course of action and the means necessary to accomplish these actions be immediately taken to protect employees, contractors, the public, public property, and Company facilities. The Company's Emergency Plan Manual (EPM) describes the policies and procedures for accomplishing these objectives by providing timely response to customer and employee reports of leaks and other hazardous conditions and emergency events, including disconnection and reconnection of service. All personnel are trained, drilled, and critiqued on emergency preparedness in order to maintain effective and timely responses to natural gas related emergencies. The EPM provides 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. The EPM is considered part of the Company's Operations Manual and includes information on and provisions for the following:

- \* Emergency Plan
  - Receiving Emergency Calls
  - Actions to Be Taken to Protect People and Property
  - Odor/Leak Investigation
  - Gas Control
  - Valve Isolation Plan
  - Over/Under Pressure
  - Odorization
  - Special Conditions – To prepare for, minimize damage from, and respond to earthquakes and other major events such as natural disasters, train derailment, and volcanic activity
  - Resources Available for and Emergency/Incident
  - Notification of Regulatory Agencies
  - Post Incident Drug and Alcohol Testing
  - Incident/Emergency Debriefing/Critique
  - Employee Training
  - Annual Drill
  - Liaison with Public/Emergency Response Officials

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- \* Investigation Procedures and Guidelines
  - o Securing the Scene
  - o Preserving the Scene and Site Conditions
  - o Gathering Facts
  - o Witness Statements
  - o Physical Evidence
  - o Removal of Materials
  
- \* Abnormal Operation Response
  - o Required Actions
  - o System Over/Under Pressure
  - o Remedial Actions

## 2.3 CONTROL ROOM MANAGEMENT PLAN

- 2.3.1 The Company developed its Control Room Management Plan (CRMP) to address all documented Pipeline and Hazardous Materials Safety Administration (PHMSA) requirements as stated in the Pipeline Safety: Control Room/Human Factors, U.S. Department of Transportation regulation *Title 49 CFR Parts 192 and 195*. The Company has implemented a portion of CRMP through policies and procedures and will implement the remainder of the policies and procedures by August, 1, 2012 in accordance with PHMSA's control room management rule.
- 2.3.2 The Company's control room management policies and procedures are contained in the Company's Operations Manual in the Gas Control Department Policy and Procedure section. The Gas Control Department Policy and Procedure sections provide the processes to ensure that Company gas controllers are adequately trained and will provide effective responses during normal, unusual and abnormal operating conditions. The Company will ensure that all Gas Controllers maintain up-to-date knowledge of these processes and procedures. The CRMP applies to any Gas Controller who works in a control room monitoring and controlling all or part of a pipeline system via a Supervisory Control and Data Acquisition (SCADA) system.

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# CALIFORNIA SAFETY PLAN

Prepared By: Gas Operations Support Staff  
 Approved By: Jerry Schmitz  
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## 2.4 OPERATOR QUALIFICATION PLAN

2.4.1 The Operator Qualification (OQ) plan was developed and implemented to comply with U.S. Department of Transportation regulation *Title 49 CFR Part 192, Subpart N – Qualification of Pipeline Personnel*. The Company’s OQ plan defines covered tasks and the required qualifications for all work that meets the four-part test: (1) The activity is performed on a pipeline facility, (2) The activity is an operations or maintenance task, (3) The activity is performed as a requirement of *Title 49 CFR Part 192*, and (4) The activity affects the operation or integrity of the pipeline. The Company administers the OQ plan for all approved contractors and Company employees that perform work for the Company on its pipeline facilities. The OQ plan is incorporated by reference in the Company’s Operations Manual.

## 2.5 SAFETY MANUAL & ACCIDENT PREVENTION PROGRAM

2.5.1 The Company maintains a comprehensive employee safety program that Company employees are trained in and are encouraged to support. As part of the program, the Company has developed the Safety Policies and Procedures contained in the Safety Manual, and has also developed a written Accident Prevention Program. These publications outline the safety responsibilities of all employees, including general safety rules and specific safety requirements. All employees are encouraged to read them carefully, become familiar with them and strictly adhere to all safety rules and procedures that apply to their job. Work standards and procedures have been established with each employee’s safety in mind. In addition, the Company provides each employee with the proper tools and equipment to do their job safely, as well as personal protective equipment to use without hesitation. The employee safety program meets or exceeds the requirements for occupational safety regulatory compliance in each state. The program includes information on and provisions for the following:

- \* Accident Prevention Statement
  - o SWG CEO’s statement ensuring the Company’s commitment to safety and outlining employee responsibilities regarding safety.
- \* Employee Safety Procedure
  - o Safety Responsibilities
  - o Program Administration
  - o General Safety Procedures
  - o Fire Prevention and Protection
  - o Pipeline Safety Procedures
  - o Excavation and Trenching
  - o Personal Protective Equipment
  - o Material Handling

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- Ladders
- Dog Bite Prevention
- Fall Prevention
- Electrical Safety
- Energy Control
- Chemicals and Hazardous Substances
- Motor Vehicle Operation
- Hazardous Locations – Above Ground
- Steel Pipeline Pigging, Cleaning, Drying and In-line Inspecting
- Air and Hand Tools
- Welding and Cutting Safety
- Bicycle Procedures
- Mobile Aerial Lifts
- Boom Truck, Vehicle Mounted and Mobile Crane – Use and Operation
- Non-Mobile Hoisting Equipment – Use and Operation
- Attic and Roof Safety

- \* Safety Policy
  - OSHA Injury Recordkeeping Requirements
  - OSHA Inspections Process
  - Energy Control
  - Respiratory Protection Program

## 2.6 CUSTOMER SERVICE MANUAL

2.6.1 The Customer Service Manual (CSM) contains policies and procedures for the operations and maintenance plan of the Company's natural gas above ground facilities and customer's piping and appliances.

2.6.2 The CSM provides policies and procedures for:

- \* Providing timely response to customer and employee reports of leaks and other hazardous conditions and emergency events, including disconnection, reconnection and pilot lighting procedures
- \* Turning on and off gas service to commercial and residential customers
- \* Appliance service
- \* Leak investigation
- \* Leak detection equipment
- \* Carbon monoxide investigation
- \* Emergency response requirements
- \* Identification of abnormal and unusual operating conditions
- \* Customer service
- \* Hot change device and usage

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- \* Pressure testing
- \* Purging
- \* Meter set assembly
- \* Appliance service bulletins.

Components of the CSM are included throughout the Operations Manual and other referenced manuals.

## 2.7 MATERIAL SPECIFICATIONS

2.7.1 The Company’s Material Specifications denote the requirements that must be met for all natural gas carrying components utilized within the Company’s natural gas infrastructure. These specifications include the material; applicable standards (national, federal or other), terminology, materials and manufacturing standards, material performance requirements, dimensions and tolerances, inspection, certification, Material Safety Data Sheet (MSDS) information, product marking and labeling, packaging, stock classification descriptions, and approved manufacturers or product suppliers.

## 2.8 ENVIRONMENTAL MANUAL

2.8.1 The Environmental Manual contains policies and procedures to ensure the personal safety of employees, contractors, customers and communities from environmental hazards related to the operations and maintenance activities of the Company’s natural gas facilities. The manual meets or exceeds the requirements set forth by the U.S. Environmental Protection Agency in 40 CFR. The Company operates in Arizona, California and Nevada. The policies and procedures also meet or exceed the requirements for environmental compliance in each state.

## 2.9 DISPATCH MANUAL

2.9.1 The Dispatch Manual contains policies and procedures for the issuance, scheduling and logging of Company orders to field personnel. This manual includes radio transmission procedures, order execution and prioritization, exchange of information between the office and field, receiving emergency phone calls and responding personnel to emergency conditions. Components of the Dispatch Manual are included throughout the Operations Manual and other referenced manuals.

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## 2.10 DRUG AND ALCOHOL PLAN

2.10.1 The Company's Anti-Drug and Alcohol Misuse Prevention (D&A) Plan provides policies, procedures, and protocols for drug and alcohol testing of individuals who perform Department of Transportation (DOT) safety-sensitive operations, maintenance, or emergency response functions on natural gas facilities. The Company's D&A Plan meets or exceeds the requirements set forth in U.S. DOT regulation *Title 49 CFR Parts 199 and 40*. The Company operates in Arizona, California and Nevada. The policies and procedures included in the D&A Plan also meet or exceed the requirements for DOT D&A testing in each state.

## 2.11 NATURAL GAS TRANSMISSION PIPELINE COMPREHENSIVE PRESSURE TESTING IMPLEMENTATION PLAN

2.11.1 The Company filed its Implementation Plan with the CPUC on August 26, 2011, in compliance with Decision (D.)11-06-017. The Implementation Plan is currently pending approval.

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## 3. SYSTEM CAPACITY AND RELIABILITY COMMITMENT

3.1.1 The Company owns and operates commission regulated distribution and transmission pipeline facilities to provide service to core and noncore customers. The Company does not own and/or operate storage facilities regulated by the Commission. The Company designs and operates the distribution and transmission pipeline facilities consistent with rules authorized by the CPUC governing core and noncore reliability and curtailment, including provisions for expansion, replacement, preventative maintenance, and reactive maintenance and repair of gas piping facilities.

3.1.2 The Company utilizes detailed hydraulic models of the transmission and distribution systems and evaluates its gas supply portfolio on an ongoing basis to help ensure that system capacity and reliability is maintained.

3.1.3 In general, the process for ensuring adequate system capacity includes the following:

- \* Load forecasting (taking into account customer growth, weather, and other factors)
- \* Pressure monitoring
- \* Hydraulic modeling of integrated pipeline systems
- \* Gas supply trending, forecasting, and market conditions
- \* Pipeline infrastructure enhancements based on capacity and supply analysis

Plan	California Safety – System Capacity and Reliability Commitment	Sec-Pg 3-1
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## 4. EMPLOYEE SAFETY AND WORK PROCESS

- 4.1.1 Any employee or contractor who perceives a breach of safety requirements is authorized to stop work immediately and communicate the breach to their management. Additionally, employees are required to report immediately any regulatory violations, suspected regulatory violations, or potentially harmful or dangerous conditions to a supervisor, the General Counsel, the Company’s Human Resources Department or the Southwest Gas Ethics Line (866-230-3579). The Company prohibits retaliation or retribution against any employee who in good faith submits a report under this policy. If requested by the employee, the identity of the employee will be kept confidential. Employees and contractors can submit safety concerns or concerns regarding this Plan to their management or through the Company’s Human Resources Department.
- 4.1.2 Employees and contractors can also contact the California Public Utilities Commission’s Consumer Safety and Protection Division to report suspected breaches of safety requirements. Reports to the California Public Utilities Commission’s Consumer Safety and Protection Division should be addressed to the Director of the California Public Utilities Commission’s Consumer Safety and Protection Division, 505 Van Ness Avenue, San Francisco, CA 94102.
- 4.1.3 If requested by the employee or contractor, the Director of the California Public Utilities Commission’s Consumer Safety and Protection Division will keep the identity of the employee/contractor confidential. If the employee or contractor desires that their identity remain confidential, contacts made to the Director of the California Public Utilities Commission’s Consumer Safety and Protection Division must be designated “Safety Breach Notification from Gas System Operator Employee – Confidentiality Requested.”

Plan	California Safety – Employee Safety and Work Process	Sec-Pg 4-1
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## 5. PLAN REVIEW

### 5.1 REQUIREMENTS

5.1.1 This Plan will be available to all affected personnel through the existing electronic manual distribution. Personnel are encouraged to actively evaluate the effectiveness and provide feedback, where applicable, on all sections of the Plan as well as through regular manual, policy and procedure review processes.

### 5.2 WORKFORCE CONTRIBUTION

5.2.1 Prior to initial implementation of the Plan, all affected personnel attended a review session of the Plan draft. All suggestions, questions and comments received during the review sessions were reviewed prior to implementation of the Plan.

5.2.2 Any Company employee or contractor may at any time submit suggestions, questions, or comments regarding the Plan to Company management through the following means:

- \* Their direct Supervisor/Reportable Contact
- \* Let's Talk (a web based forum provided for anonymous feedback from employees)
- \* Gas Operations Support Staff (GOSS) website

5.2.3 Gas Operations Support Staff administers and processes all questions, comments, and suggestions received on the Plan. Documentation is maintained in GOSS files.

5.2.4 All suggestions and comments on revisions to the Plan are reviewed by appropriate subject matter experts, taking into consideration the potential for enhancing safety, consistency with Company policies and procedures, and potential alternatives that may achieve similar results.

Plan	California Safety – Plan Review Requirements	Sec-Pg 5-1
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## 6. APPENDIX A – NATURAL GAS INDUSTRY PARTICIPATION

- \* The American Gas Association (AGA)
  - o Best Practices committee
  - o Corrosion Control committee
  - o Distribution Construction & Maintenance committee (DC&M)
  - o Distribution and Transmission Engineering committee (DTE)
  - o Distribution Integrity Management Steering Group
  - o Environmental Matters committee
  - o Environmental Regulatory Action committee (ERAC)
  - o Executive committee
  - o Operations Safety Regulatory Action committee (OSRAC)
  - o Operations Section Managing committee
  - o Pipeline Integrity Task Group
  - o Plastic Materials committee
  - o Safety and Occupational Health committee
  - o Security committee
  - o SOS Program
  - o Utility and Customer Field Services committee (U&CFS)
- \* American National Standards Institute (ANSI) Z380.1 Gas Piping and Technology Committee (GPTC)
- \* The American Petroleum Institute (API) 5L & API 1104 technical committees
- \* American Society for Quality
- \* American Welding Society
- \* The Arizona Utility Group (AUG)
- \* Arizona Blue Stake
- \* Arizona Common Ground Alliance Partnership
- \* The American Society of Mechanical Engineers (ASME) B31Q technical committee
- \* The American Society of Mechanical Engineers (ASME) B31.8 technical committee

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- \* The American Society of Mechanical Engineers (AMSE) B31 standards committee
- \* California Regional Common Ground Alliance (CRCGA)
  - o Legislative and Regulatory Committee
- \* California Utilities Emergency Association (CUEA)
- \* Common Ground Alliance (CGA)
- \* Dig Alert (Southern California One Call)
- \* The Gas Technology Institute (GTI)
- \* Inter-Utility Coordination Committee (IUCC)
- \* Inter-Utility Working Group (IUWG)
- \* National Association of Corrosion Engineers (NACE)
- \* Nevada Regional Common Ground Alliance (NRCGA)
- \* NYSEARCH - Natural Gas RD&D
- \* Operations Technology Development (OTD)
- \* The Plastic Pipe Database Committee (PPDC)
- \* USA North (Northern California and Nevada One Call)
- \* The Western Energy Institute (WEI)

Plan	California Safety – Appendix A	Sec-Pg 6-2
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# **Exhibit B**

**Southwest Gas Corporation  
(U 905 G)  
Revised California Safety Plan  
Summary of Changes**

PU Code section	Requirement	GECS's initial review of Safety Plan if it complies with this Section of the PU Code (Y or N)	GECS Reviewer's Comments during the initial review	Specific Section in the REVISED Safety Plan that addresses revisions made to meet the PU Code Section	Summary of the Revised Safety Plan that addresses this PU Code Section	FINAL Safety Plan is adequate for Southwest Gas' current operations and complies with this Section of the PU Code (Y or N)	GSRB Reviewer's Comments to support the conclusions of his/her review	SWG Revision/Action Taken
Sec. 961 Subdivision (b)								
-3	Each gas corporation shall implement its approved plan	Y	no issues		no issues	Y		None required
-4	The commission shall require each gas corporation to periodically review and update the plan	N	SWG stated that Company shall periodically review and update plan, but specific frequency was not stated or referenced.	1.2.1.2 and 1.4.3.1	The SWG Company shall review the Plan once per calendar year not to exceed 15 months.	Y	It meets the PU Code 961(b)(4) requirements	None required
Sec. 961 Subdivision (c)								
Sec. 961 Subdivision (c)	The plan developed, approved, and implemented pursuant to subdivision (b) shall be consistent with best practices in the gas industry and with federal pipeline safety statutes as set forth in Chapter 601 (commencing with Section 60101) of Subtitle VIII of Title 49 of the United States Code and the regulations adopted by the United States Department of Transportation pursuant to those statutes.	N	The SWG safety plan did not provide a process for evaluating its operations and determining support for its own practices.	1.1.4, 1.1.4.1, 1.2.1.3	The Company participates in various regional and national organizations focused on improving pipeline safety such as the American Gas Association (AGA), Plastic Pipe Database Committee (PPDC), Gas Piping Technology Committee (GPTC), Common Ground Alliance (CGA) and the Western Energy Institute (WEI). A complete list of organizations is provided in Appendix A.	Y	Indicate that SWG reviewed and updated its OM&E plans annually in accordance with Title 49 CFR, Part 192 and G.O. 112-E requirements and submits latest versions annually to CPUC for review. Section 1.1.4 should include that you receive, track and evaluate Advisory Bulletins (ADB) from PHMSA and other entities and implement any necessary changes. Section 1.1.4.1, include that best practices will be reviewed by committee or subject matter experts. (simply include WHO, HOW and What the threshold of action)	Added 1.1.4.3 that discusses process for addressing advisory bulletins and best practices.

PU Code section	Requirement	GECS's initial review of Safety Plan if it complies with this Section of the PU Code (Y or N)	GECS Reviewer's Comments during the initial review	Specific Section in the REVISED Safety Plan that addresses revisions made to meet the PU Code Section	Summary of the Revised Safety Plan that addresses this PU Code Section	FINAL Safety Plan is adequate for Southwest Gas' current operations and complies with this Section of the PU Code (Y or N)	GSRB Reviewer's Comments to support the conclusions of his/her review	SWG Revision/Action Taken
Sec. 961 Subdivision (d)					1.1.4.1 Best practices obtained from interaction with these organizations are reviewed for applicability and are incorporated into the SWG policies and procedures as appropriate.			
-1	Identify and minimize hazards and systemic risks in order to minimize accidents, explosions, fires, and dangerous conditions, and protect the public and the gas corporation workforce.	N	The SWG safety plan did not specify the relevant sections or components of the company's manuals, plans and programs that addressed the requirements of this element.	Section 2 and Section 1.3.1.1	See SWG Plan Provisions and how it addressed P. U. Code 961 (d)(1) - (9)	Y	This section may have met the intent of the P. U. Code 961 (d)(1) - (9) but requires clarity. However, I recommend rearrangement of the Section 2 table based on each paragraphs of P. U. Code 961(d)(1)-(d)(9)	Section 2 re-arranged
-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.	N	The SWG safety plan did not include a summary of the referenced policies, procedures, or standards that meets the requirements of this element.	Section 2 and Section 1.3.1.2	See SWG Plan Provisions and how it addressed P. U. Code 961 (d)(1) - (9)	N	Identify the Safety-Related Systems that will be deployed. In addition, indicate if you have documentation of the gas pipeline facility history and capability.	This is discussed in the first paragraph under section 2 "Plan Provisions". All of the Manuals, Programs, or Plan listed in the table in this section relate to the safety systems.
-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 replacement, preventive maintenance, and reactive maintenance and repair of its commission-regulated gas pipeline facility.	N	The SWG safety plan did not provide specific details or references to existing processes.	Section 2 Section 3 and Section 1.3.1.3	See SWG Plan Provisions and how it addressed P. U. Code 961 (d)(1) - (9)	Y	No issues as long as the the Executive statement and signature is included in the final version. However, I recommend rearrangement of the Section 2 table based on each paragraphs of P. U. Code 961(d)(1)-(d)(9)	Section 2 re-arranged

PU Code section	Requirement	GECS's initial review of Safety Plan if it complies with this Section of the PU Code (Y or N)	GECS Reviewer's Comments during the initial review	Specific Section in the REVISED Safety Plan that addresses revisions made to meet the PU Code Section	Summary of the Revised Safety Plan that addresses this PU Code Section	FINAL Safety Plan is adequate for Southwest Gas' current operations and complies with this Section of the PU Code (Y or N)	GSRB Reviewer's Comments to support the conclusions of his/her review	SWG Revision/Action Taken
-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.	N	The SWG safety plan did not provide specific details or references to existing processes.	Section 2 Section 2.1.2 and Section 1.3.1.4	See SWG Plan Provisions and how it addressed P. U. Code 961 (d)(1) - (9)	Y	No issues as long as the the Executive statement and signature is included in the final version. However, I recommend rearrangement of the Section 2 table based on each paragraphs of P. U. Code 961(d)(1)-(d)(9)	Section 2 re-arranged
-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.	N	The SWG safety plan did not specifically identify the policies or procedures that meets this requirement, with respect to equipment, personnel and procedures to limit the damage from accidents.	Section 2, Section 2.1.2, Section 2.1.3 and Section 1.3.1.5,	See SWG Plan Provisions and how it addressed P. U. Code 961 (d)(1) - (9)	N	Specify (perhaps on section 1.3.1.5) the process and how the SWG uses remotely monitoring and/or gas flow control equipment to control gas flow into unsafe condition.	Added a bullet to include the Gas Control Procedure (which is address the Control Room Management regulation)
-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.	N	The SWG safety plan did not specifically identify the policies or procedures that meets this requirement.	sections 1.3.1.6, 2 and 2.1.2		Y	No issues as long as the the Executive statement and signature is included in the final arrangement of the Section 2 table based on each paragraphs of P. U. Code 961(d)(1)-(d)(9)	Section 2 re-arranged
-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.	N	The SWG safety plan did not specify or reference specific sections of the company's plans and procedures that met this requirement. SWG referenced the OPM but did not list specific sections of the manual.	Section 2 and 1.3.1.7		N	Call out the sections of your Standards that address this matter. In addition, call out the sections of your Standards that addressed how the Company will maintain all MAOP determination and confirmation documents, ie engineering design records, hydrotest records and etc.	This is discussed in section 2.1.2 under Operations Manual. We indicate in the 3rd bullet that the "Design Standards" in the Operations Manual provide provisions for determining MAOP as well as keeping the necessary documentation.



PU Code section	Requirement	GECS's initial review of Safety Plan if it complies with this Section of the PU Code (Y or N)	GECS Reviewer's Comments during the initial review	Specific Section in the REVISED Safety Plan that addresses revisions made to meet the PU Code Section	Summary of the Revised Safety Plan that addresses this PU Code Section	FINAL Safety Plan is adequate for Southwest Gas' current operations and complies with this Section of the PU Code (Y or N)	GSRB Reviewer's Comments to support the conclusions of his/her review	SWG Revision/Action Taken
-8	Prepare for, or minimize damage from, and respond to, earthquakes and other major events.	N	The SWG safety plan did not specify or reference specific sections of the company's plans and procedures that met this requirement. SWG referenced the OPM but did not list specific sections of the manual	Section 2 and 1.3.1.8		Y	No issues as long as the the Executive statement and signature is included in the final version. However, I recommend arrangment of the Section 2 table based on each paragraphs of P. U. Code 961(d)(1)-(d)(9)	Section 2 re-arranged
-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.	N	Company officer committed to exceeding 49 CFR Part 192 requirements in its design and construction. However, this needs to reference GO112-E.	section 1.3.1.9		Y	No issues as long as the the Executive statement and signature is included in the final version. However, I recommend arrangment of the Section 2 table based on each paragraphs of P. U. Code 961(d)(1)-(d)(9)	Section 2 re-arranged
-10	Ensure an adequately sized, qualified, and properly trained gas corporation workforce to carry out the plan.	N	The SWG safety plan did not provide a policy statement, reviewed, approved, and signed by an officer of the company that addresses its performance measures to ensure an adequately sized, qualified, and properly trained workforce.	Section 1.3.1.9 and Section 1.1.2		N	The attempt on section 1.1.2 is not adequate. What is the process and what is the threshold of action or indicator that an adequately sized workforce is not in place to meet the Company's commitment to safety. The factors you listed are great but who makes the analysis of these factors and decide that threshold of action. Do you have a demonstrable analysis of these factors?	Added a statement in 1.1.2 regarding Sr. Management's role in determining worforce size.
-11	Any additional matter that the commission determines should be included in the plan.							

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Sec. 961 Subdivision (e)								
Section 961 Subdivision (e)	<p>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.</p>	N	<p>The SWG safety plan did not provide details on how SWG engages their workforce by providing them with access to the Safety Plan and to allow for feedback. The plan also must include details of how comments/feedback are received, tracked, reviewed, and considered.</p>	sections 4 and 5 and Exhibit B		N	<p>Please include how the comments/suggestions submitted by your workforce were received, tracked, reviewed, and considered. The Safety Plan must also detail how the SWG documents the result of its analysis of such comments/suggestions, including the <b><u>basis for accepting or rejecting</u></b> submitted comments/suggestions.</p>	<p>Added section 5.2.3 and 5.2.4 in under Workforce Contribution to address this.</p>