VOLUME 1

GERP

Gas Emergency Response Plan

Gas Annex to the Company Emergency Response Plan

Gas Emergency On-Call Hotline
925-244-4000

Version 6.0 • Effective: 12/31/2016
EMER-3003M

Pacific Gas and Electric Company
6121 Bollinger Canyon Road
San Ramon, CA 94583
pge.com

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Pacific Gas and Electric Company®

Gas Emergency Response Plan

Gas Annex to the Company Emergency Response Plan

77 Beale Street
San Francisco, CA 94177-1490
(415) 973-7000
www.pge.com

Version 6.0
Effective Date: December 31, 2016

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Significant Changes

The revisions to Gas Emergency Response Plan (GERP) Version 6.0 focused on the most significant changes and updates to content since the Plan's inception. Changes include the following items:

- As a result of Senate Bill No. 887: Storage Regulation, text has been added on Storage Facilities that provides a high-level overview of how Gas Operations is addressing requirements. For specific details, refer to the Well Control Tactical Considerations Plan.
- Gas Emergency Preparedness (GEP) has replaced CDs with encrypted (password-protected) flash drives. To reflect this change, the word "CDs" has been replaced with "encrypted (password-protected) flash drives," and references to the Emergency Preparedness Mobile App (EPMA) have been removed since the application is being phased out.
- Text has been added in regards to developing estimate of potential outages, curtailment recommendations, estimates of system survival time, options for operational changes to mitigate outages, and estimate Liquefied Natural Gas/Compressed Natural Gas (LNG/CNG) needs.
- A new section has been added on Process Safety to ensure safe emergency response and recovery operations are carried out.
- As a result of lessons learned from exercise and real events associated with activation response triggers, Section 3.1 and Table 3.1, "Gas Incident Level Matrix," have been updated with new and revised operational triggers.
- Response Aids (formerly known as Training Aids) have been overhauled, reformatted, and updated with specific information related to task reminders rather than procedural instruction which are covered in supported standard operating procedures elsewhere.
- A new section has been added on Investigation Teams that addresses how Gas Operations analyze accidents, incidents and failures for the purpose of determining their cause and minimizing the possibility of a recurrence.

Document Record

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Document Control

Gas Emergency Preparedness (GEP), part of Gas System Operations (GSO), maintains the Gas Emergency Response Plan (GERP) – Gas Annex to the Company Emergency Response Plan (CERP). This section records the revisions made to the GERP (the GERP or the Plan), the responsible persons for its preparation, maintenance, and update; and signature authorities for Plan approval.

Change Record

The following table shows changes made to the Plan since the last revision (Version 5.0, December 31, 2015). For content appearing in Version 5 and removed from this current version, "(V5)" has been added to the applicable entries. The table lists where the changes occurred, and what changes were made. The effective date is 12/31/2016.

Where?	What Changed?
Preface (V5)	Removed.
Significant Changes	Added to provide an overview of the most significant changes to the GERP.
Change Record	Made into a section. Table simplified. Revisions numbers and authors removed. New column names of "Where?" and "What Changed?" added.
Document Preparer	Changed to reflect responsible group instead of individuals.
Document Reviewers	Changed to reflect responsible groups instead of individuals.
Foreword (V5)	Removed to simplify GERP introduction and purpose.
1 Introduction	Made into a section. Removed similar headings such as Purpose and Scope, and reduced amount of introductory text.
1.3 Vision and Strategy (V5)	Removed, and replaced with a more concise Purpose (1.1) and Scope (1.2) section.

Where?	What Changed?
1.4 Gas Emergency Response Plan (GERP) – Gas Annex Overview	Renumbered as 1.3. Renamed Training Aids to Response Aids here and continuing throughout, as well as updated Emergency Preparedness Advisory Committee (EPAC) to Gas Operations Regulatory and External Strategy (RES) Committee here and throughout.
1.5 Planning Assumptions	Renumbered as 1.4. Updated to reflect actual emergency response planning assumptions.
1.6 Regulations and Authorities	Renumbered as 1.5. Updated with new regulations and categorized.
1.7 Role of Gas Emergency Preparedness	Renumbered as 1.6. Simplified content.
1.7.1 Emergency Preparedness Field Unit	Renumbered as 1.6.1. Simplified content.
1.7.2 Operational Planning Team	Renumbered as 1.6.2. Retitled as “Planning Team” and revised content.
1.7.2.1 GERP Development and Update	Renumbered as 1.6.2.1. Simplified content. Focused content on an annual development and update cycle.
1.7.2.2 GERP Maintenance	Renumbered to 1.6.2.2. Changed President of Gas Operations to Senior Vice President of Gas Operations. Updated references to canceled Utility Standards EMER 1001S and EMER 1010S with EMER-2001S, “Company Emergency Operations Plans Standard.” Removed reference to the GERP Change Request Form. Simplified content.
1.7.2.3 GERP Distribution (V5)	Removed.
1.7.3 GERP Training and Exercise	Renumbered as 1.6.3 and updated to directed readers to Section 6.
1.8 Other Related Planning	Renumbered as 1.7. Retitled as “Related Planning.”
1.8.1 Business Continuity Plan	Renumbered to 1.7.1 and condensed.
1.8.1.1 BCP – Compliance (V5)	Removed.

Where?	What Changed?
1.8.1.2 Gas Operations BCPs (V5)	Removed.
1.8.1.3 Gas Control Center Relocation Integrated BCP (V5)	Removed.
1.8.2 Recovery Planning	Renumbered as 1.7.2.
1.8.3 Gas Safety and Risk Management Planning	Renumbered as 1.7.3. Revised content and updated figure art. Added reference to the Corrective Action Program (CAP).
1.8.3.1 Safety Planning and the Risk Management Process	Renumbered as 1.7.3.1.
1.8.3.1.1 Enterprise and Operations Risk Management	Renumbered as 1.7.3.1.1. Revised content, and updated table to reflect current risk registry.
1.8.3.1.2 Asset Family Structure (V5)	Consolidated into 1.7.3.1.1.
1.8.3.1.3 Understanding Risk to the Asset Families (V5)	Consolidated into 1.7.3.1.1.
1.8.4 Catastrophic Incident Planning	Renumbered as 1.8.4. Updated Earthquake Annex reference.
2 Emergency Organization and Responsibilities	Reorganized section so that emergency roles are listed before emergency facilities. As a result, all subsections and figures have been renumbered. Content has also been simplified to increase clarity and allow for expedited reading. Tables and chart have also been updated to reflect current information.
2.1 Gas Operations Emergency Functional Roles and Responsibilities	Section revised to include an overview of functional roles and responsibilities, as well as summarize the purpose of each type of emergency facility used within Gas Operations.
2.1.1 Gas System Operations	Section retitled and revised from previous version.

Where?	What Changed?
2.1.1.1 Gas Emergency Preparedness (GEP)	Section changed from "Incident Command Post (ICP)" in Version 5. Added content explaining role of GEP. Added subsections 2.1.1.1.1, "Planning," 2.1.1.1.2, "Training and Exercises," and 2.1.1.1.3, "Business Continuity (BC)."
2.1.1.2 Gas Control Center (GCC)	Section changed from "Mobile Emergency Centers – Mobile Command Vehicles (MCV)" in Version 5. Added explanation of GCC and reference to TD-4436 document series.
2.1.1.2.1 Gas Distribution Control Center (GDCC)	Section changed from "Type 1 MCV Commander." Added explanation of GDCC.
2.1.1.2.2 Gas Transmission Control Center (GTCC)	Section changed from "Type III MCV Sprinter" in Version 5. Added explanation of GTCC.
2.1.1.3 Gas System Planning (GSP)	Added section for functions and actions of GSP.
2.1.2 Gas Transmission and Distribution (T&D) Operations	Section changed from "Emergency Centers" in Version 5.
2.1.2.1 Contact Center	Section changed from "Operations Emergency Center (OEC)" in Version 5. Added explanation of contact centers.
2.1.2.2 Gas Dispatch and Scheduling	Section changed to "Region Emergency Center (REC)" in Version 5. Added explanation and documentation for dispatch and scheduling.
2.1.2.3 Field Services	Section changed from "Gas Emergency Center (GEC)" in Version 5. Added 2.1.2.3.1 "Gas Service Representative (GSR)" and reference to the Field Automation System (FAS).
2.1.2.4 Gas M&C – Crews, Superintendents, Supervisors, and Directors	Section changed from "Emergency Operations Center (EOC)" and updated.
2.1.2.5 Gas Pipeline Operations and Maintenance (GPOM) Crews	Added new section. Immediate Response (IR) changed to GPOM here and throughout Volume 1.

Where?	What Changed?
2.1.2.6 Compliance Programs	Added section along with revised/relocated subsections 2.1.2.6.1, "Public Awareness (PA)," 2.1.2.6.2, "Public Safety Specialists (PSS)," 2.1.2.6.3, "First Responders Safety Portal (Information for First Responders and the Public)," 2.1.2.6.4, "Dig-in Prevention/Dig-in Reduction Team (DiRT)," 2.1.2.6.5, "Pipeline Patrol Program," and 2.1.2.6.6, "Locate and Mark (L&M)." Removed Damage Prevention (DP).
2.1.2.7 Leak Management	Added section along with revised/relocated subsections 2.1.2.7.1, "Leak Survey," 2.1.2.7.2, "Foot Leak Survey," 2.1.2.7.3, "Picarro Survey," 2.1.2.7.4, "Aerial Survey," and 2.1.2.7.5, "Super Crew."
2.1.3 Gas T&D Construction – General Construction (GC)	Section changed from "Other Gas Emergency Facilities" in Version 5 and updated.
2.1.3.1 Gas GC Crew	Section changed from "Gas Operations Center in Bishop Ranch" in Version 5 and updated.
2.1.3.2 Pipeline Field Services Organization	Section changed from "Critical Gas Distribution Facilities" in Version 5 and updated.
2.1.3.3 Non-Destructive Examination (NDE) Services	Section changed from "Critical Gas Transmission Facilities" in Version 5 and updated.
2.1.4 Asset Knowledge and Integrity Management (AK&IM)	Section renumbered from previous version and updated. Added Pipeline Engineer Hotline number.
2.1.4.1 Compressor Stations	Added section.
2.1.5 Engineering and Design – Role, Gas Storage and Asset Management.	Section renumbered and "Role" and to title from previous version.
2.1.5.1 Gas Distribution Engineering and Design (GDED)	New section.
2.1.5.2 Gas Storage Fields	Section renumbered from previous version and reference to Well Control Tactical Considerations added for additional details.
2.1.5.3 Process Safety	New section. Roles and responsibilities detailed.

Where?	What Changed?
2.1.6.1 Customer Communications	Section retitled from previous version.
2.1.6.2 Public Information Officer (PIO)	New section. Section details how PIO coordinates with the local OEC representatives and PG&E's Public Information Office to ensure that timely and accurate customer and public information is disseminated.
2.1.7.1 Environmental Management and Programs	Section retitled with "and Programs" from previous version.
2.2 Emergency Facilities	Content, along with following subsections, expanded and moved from Section 2.1 of Version 5.
3 Concept of Operations	Section has been simplified to increase clarity and allow for expedited reading. Figures have been updated. As a result of changes, all subsections and figures have been renumbered.
3.1 Emergency Plan Activation	Revised section and updated how each level is identified.
3.1.1 Gas Activation Matrix	Gas Emergency On-Call number updated here and throughout. Complete overhaul of Table 3.1 "Gas Incident Level Matrix."
3.1.2.1.2 OEC activation triggers	Extensive update of activation triggers.
3.1.2.2 GEC Activation	REC Activation from previous Version 5 removed since it is no longer applicable to Gas Response.
3.1.2.2.2 GEC activation triggers	Extensive update of activation triggers.
3.1.2.3.2 EOC activation triggers	Extensive update of activation triggers, as well as major update to Table 3.2, "PG&E Gas Emergency Centers, Activate Authority, and Command Authority."
3.1.3.5 Gas Incident Level 5 – Catastrophic	Incident Initiation to Activation Flow Chart removed.

Where?	What Changed?
3.2.1.1 Notifications of Gas Emergencies and Incident Escalation	Added new content that better explains notifications.
3.2.1.4 PG&E Incident Investigation Team	New section. Details Incident Investigation team's role of analyzing accidents and failures.
3.2.4.3.1 Cold Weather/Winter Planning Process	Section revised and Cold Weather Communication Process flowchart removed. Flowchart is now referenced as a hyperlink.
3.2.5.1 Response Priorities	Section and following subsections edited to align with CERP response priorities.
3.2.5.6.2 Gas Distribution Emergency Shutdown Zones	Significant rewrite and revision of section.
3.2.6.4.2 Memorandum of Understanding (V5)	Information removed and updated in Appendix D.
3.2.7 Demobilization / Release of Resources	Significant rewrite and revision of section.
4 Coordination and Communication	Section has been simplified to increase clarity and allow for expedited reading. As a result, all subsections and figures have been renumbered.
4.2.2. Systems Information Management	Section revised and communication applications, tools, and devices updated.
4.3.2.3 Thresholds for Regulatory Reporting (V5)	Section moved to Appendix E.6.
5 Performance Indicators	Section has been simplified to increase clarity and allow for expedited reading. As a result all subsections have been renumbered.
5.2 Safety	Content reduced to information on indicators.
6 Training and Exercises	Section has been simplified to increase clarity and allow for expedited reading. As a result all subsections have been renumbered.

Where?	What Changed?
6.1.1 GERP Training	Section added for specific information on training.
6.1.2 Planning and Intelligence Training	Section added for specific information on training.
6.2.1 Gas Control Center Exercise Activities	Section changed from "Testing of Plan" in previous Version 5 of GERP and content added on GSO annual test and review process.
7 After-Action Reviews, Event Logs, and Records	Title changed from "After-Action Reports, Event Logs, and Records" in previous Version 5 of GERP. Section has been simplified to increase clarity and allow for expedited reading. As a result, all subsections have been renumbered.
7.1 Post-incident Reporting (V5)	Section removed.
7.3 Corrective Action Program (CAP)	Section added on CAP along with supporting documentation.
7.5 Recordkeeping	Section title changed from "Record Keeping" in previous Version 5 of GERP, as well as subsection 7.5.1, "Legal Hold" and 7.5.2, "Resources" added.
7.6 Financial Considerations and Financial Records (V5)	Section removed.
A.2 Glossary	Added definition for Incident Support Team (IST). Removed OEC and REC acronyms from section.
A.3 Acronyms	Removed EPMA: Emergency Preparedness Mobile Application, JIC: Joint Information Center, TA: Training Aid, and UO: Utility Operations. Added IST: Incident Support Team.
A.4 References	Replaced table format with list format. Updated, added, deleted document list, and arranged documents alpha-numerically.
Appendix B. Training Aids (V5)	Major content and format update. Training Aids are now referred to as "Response Aids." Response Aids have been consolidated into three reference tables.

Where?	What Changed?
Appendix C. Incident Command System (ICS) Resources for Gas	Appendix updated with new figures to reflect current resources. Appendix C 2.13 through 2.16 (Public Information Office, Deactivation, After Action Reporting [AAR] Process, and After Action Report respectively) from previous Version 5 of GERP removed.
Appendix D. Mutual Assistance Agreements (MAA) and Memorandum of Understanding (MOU)	Appendix updated with current contact information.
Appendix E. External Resources	Appendix updated with current contact information.
E.4 Public Affairs	Appendix title changed from "Government Relations" in previous Version 5 of GERP.
E.5 External Agency Contacts – Governmental	Added comment for Riverside County that number only works if calling from a 951 area code. Added emergency number for Stanislaus County
E.6.3 Utility Standard TD-4413S, "Gas Event Reporting Requirements"	Removed text of standard and replaced with hyperlink to document.

Document Preparer

Gas Emergency Preparedness

Document Reviewers

Gas System Operations, Gas Emergency Preparedness, and Gas Technical Document Management

Document Approvers

Name	Signature	Position	Date
Mel Christopher		Sr. Director, Gas Operations	12/23/16
Logan Monroe		Manager, Gas Emergency Preparedness	12/22/16

Document Owner

Name	Signature	Position	Date
Jesus Soto		Sr. VP, Gas Operations	12/31/16

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1 Introduction

The Gas Emergency Response Plan (GERP) provides detailed information about PG&E's response to gas Transmission and Distribution (T&D) emergencies and is located on the Guidance Document Library (GDL) under Emergency Response – EMER, and the GERP Website.

The GERP is a functional annex to the Company Emergency Response Plan (CERP), which is the "Base Plan" and is consistent with the overall CERP.

1.1 Purpose

The purpose of the Gas Emergency Response Plan (GERP), herein referred to as "the GERP" or "Plan," is to assist Pacific Gas and Electric (PG&E) personnel with a safe, efficient, and coordinated response to emergency incidents affecting gas systems. For purposes of this Plan, emergency incidents include, but are not limited to storage, distribution, and transmission systems in PG&E's gas service territory.

The GERP provides an outline of Gas Operation's organizational structure and describes the activities undertaken in response to emergency incidents. The GERP presents a response structure with clear roles and responsibilities, a communication framework, and identifies coordination and response integration efforts with outside organizations and community first responder agencies.

1.2 Scope

This document provides emergency response guidance consistent with the Incident Command System (ICS), explained in detail in Appendix C, "Incident Command System (ICS)" of the CERP.

The GERP supports the response to all emergencies broadly as "One PG&E" through the integration with the CERP and the other LOB emergency response plan annexes (e.g., Electric Operations and Logistics).

Specific to GSO, the GERP defines emergency response within the PG&E gas system. The GERP clarifies Gas Operations' enhanced coordination for emergencies meeting the criteria within any of the five Gas Incident Levels (defined in **Section 3**).

The GERP complies with Code of Federal Regulations (CFR) Title 49, Transportation, Part 192—Transportation of Natural and other Gas by Pipeline: Minimum Federal Safety Standards, Section (§) 192.605, "Procedural manual for operations, maintenance, and emergencies".

PG&E will be the safest, most reliable gas company in the United States as outlined in its Vision. The strategy to achieve this aim of gas safety excellence is set forth by:

- Putting SAFETY and people at the heart of everything
- Investing in the RELIABILITY, quality and integrity of our gas system
- Improving continuously on the effectiveness and AFFORDABILITY of our processes

1.3 Gas Emergency Response Plan (GERP) – Gas Annex Overview

The GERP is a functional annex to the CERP. **Figure 1.1** below illustrates the relationship between the Gas Annex, the CERP, other functional and hazard-specific annexes, and supporting documents. The following is not an all-inclusive list.

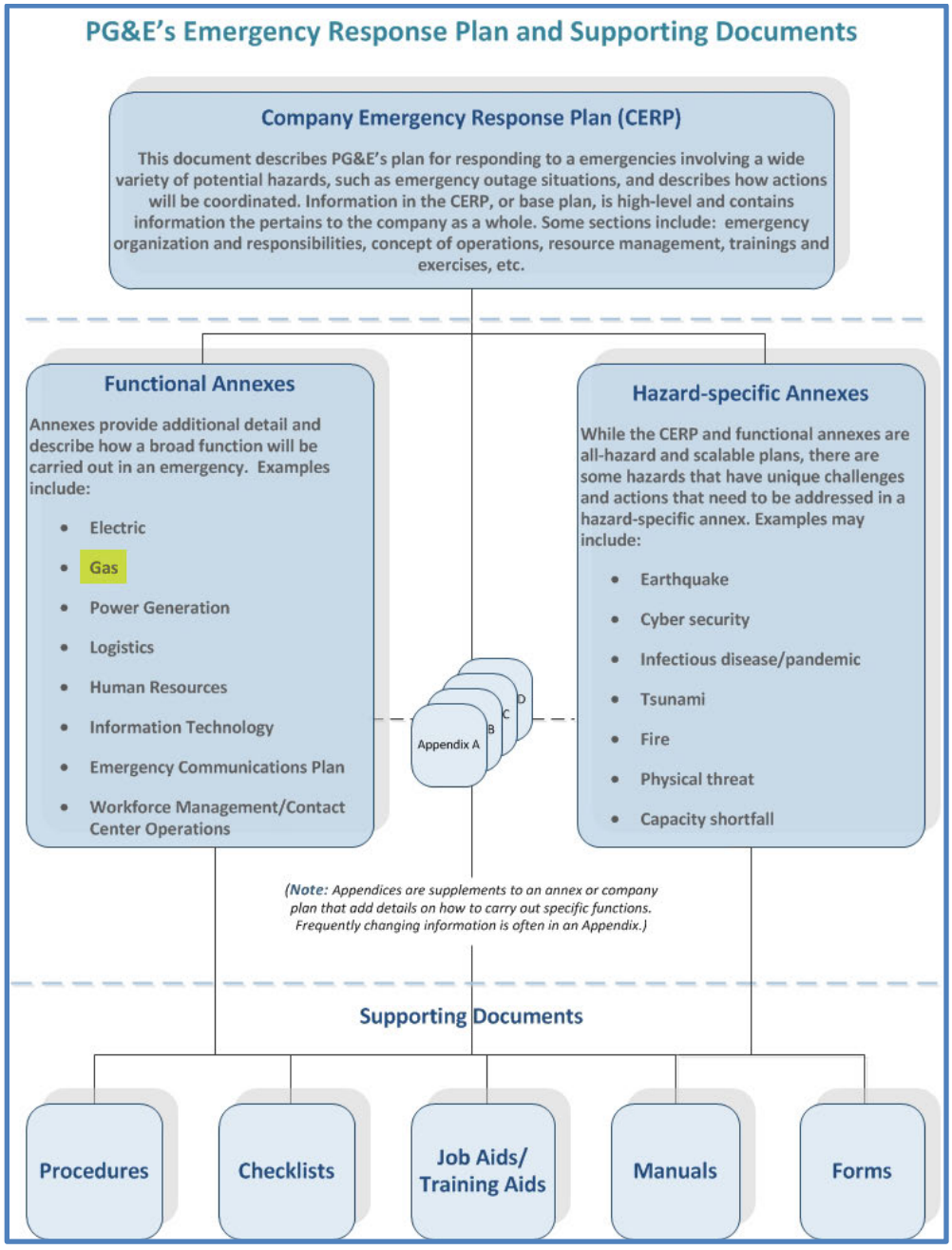

Figure 1.1 Gas Annex Relation to CERP and Supporting Documents

The GERP follows a logical flow from general emergency response processes to specific guidelines, Response Aids (formerly known as Training Aids), and Resources.

The GERP includes:

- **Section 1, Introduction**, details GERP's purpose, scope, overview, planning assumptions, regulations and authorities, and Gas Emergency Preparedness (GEP) functions.
- **Section 2, Emergency Organization and Responsibilities,** provides an overview of Gas Operation's emergency roles, responsibilities, and emergency facilities.
- **Section 3, Concept of Operations**, describes Gas Operation's Activation Matrix, Incident Levels and Activation Process. In particular, this Section provides an overview of general emergency response operations, actions, and processes, including Emergency Centers and resources.
- **Section 4, Coordination and Communication**, details internal and external emergency communication processes, including community first responder agencies, government and public information.
- **Section 5, Performance Indicators**, identifies quantitative and qualitative metrics related to performance of processes.
- **Section 6, Training and Exercise Activities**, provides details and requirements of the GERP training and exercise program.
- **Section 7, After Action Reviews, Event Logs and Records**, provides details and requirements related to emergency management documentation.
- **Section 8, Index**, provides a detailed list of references in GERP Volume 1.
- **Appendices A-F**, which contain:
  - Glossary, Acronyms and References
  - Response Aids (formerly known as Training Aids)
  - Incident Command System (Gas Specific Resources)
  - Mutual Assistance and Memorandum of Understanding
  - External Resources (non-Gas Operations Resources)
  - Internal Resources (Gas System Operations) - Volume 2 of the GERP, which contains Appendix F in its entirety, and holds lists of Divisions, Districts, General Construction (GC), and Storage Facility emergency resources including contact lists, radio information, vehicles and associated equipment, and materials and tools in the yards

1.4 Planning Assumptions

Gas Operations recognizes that an emergency can be the result of any natural or man-made incident, including terrorism, and has the potential for casualties to the public served, as well as PG&E personnel. Accordingly, the GERP uses all planning assumptions for Catastrophic Emergencies stated in Section 3.2.1 of the CERP.

In addition, the GERP is based on the following planning assumptions:

- Institutionalized emergency response processes can be used during most emergency incidents.

- Emergencies in the course of business (Level 1) are best handled at the local field or Incident Command Post (ICP) level with the resources and capabilities within that division.
- Resource movement between divisions does not need to be ordered through the Gas Emergency Center (GEC) for a single incident that is easily handled within a given division.
- The GEC may be opened during a Level 3 incident; but Command and Control remains within the affected Division ICP and Operations Emergency Center (OEC).
- Gas response practices should easily integrate with external first responders by incorporating compatible Standardized Emergency Management System (SEMS), National Incident Management Systems (NIMS), National Preparedness Goal Core Capabilities, and follow the Incident Command System (ICS).
- Gas Control and Gas Emergency Preparedness (GEP) staff will facilitate and coordinate the incident escalation process should an Emergency Center (EC) require activation. For example, if an incident escalates from a Level 1 (day-to-day Incident) to a Level 2 (escalated incident requires an EC activation for additional support and coordination).

1.5 Regulations and Authorities

The GERP complies with the following regulatory requirements for pipeline operators:

- Code of Federal Regulations (CFR) Title 49, Transportation, Part 192—Transportation of Natural and other Gas by Pipeline: Minimum Federal Safety Standards:
  - §192.605 – Procedural manual for operations, maintenance, and emergencies
  - §192.615 – Emergency Plans
- 49 CFR Part 199 – Drug and Alcohol Testing
- California Public Utilities Commission (CPUC) General Order No. 112-F: State of California Rules Governing Design, Construction, Testing, Operation, and Maintenance of Gas Gathering, Transmission, and Distribution Piping Systems
- California Senate Bill (SB) 705, Natural gas: service and safety (2011-2012)
- SB-887, Pavley. Natural gas storage wells (2015-2016)

This Plan conforms to all or portions of the following:

PG&E

- CERP
- Utility Standard TD-5801S, “Pipeline Public Awareness Program”
- Utility Policy EMER-01, “Emergency Preparedness and Response Policy”
- Pacific Gas and Electric Company Gas Safety Plan, 2016

- Utility Standard EMER-2001S, "Company Emergency Operations Plans Standard"
- Utility Standard EMER-6010S, "Gas Emergency Response Plan Training, Exercise, and Evaluation"
- Multi-year Training and Exercise Plan (MTEP) – 2017 through 2019

National and Federal Government

- National Incident Management System (NIMS)
- Standardized Emergency Management System (SEMS)
- Incident Command System *(ICS)*
- Presidential Policy Directive 8 (PPD-8)
- Federal Emergency Management Agency's (FEMA) Developing and Maintaining Emergency Operations Plans, Comprehensive Preparedness Guide (CPG 101)
- Homeland Security Exercise Evaluation Program (HSEEP)

Certification

- *ISO 55000 series of Asset Management standards*
- *ISO 55002 series of Asset Management standards*
- *PAS 55 of Asset Management*
- *RC 14001 of Responsible Care Management System*
- *API PR 1173, "Pipeline Safety Management Systems," Section 12 – Emergency Preparedness and Response and Section 13 – Competence, Awareness, and Training.*

1.6 Role of Gas Emergency Preparedness (GEP)

Gas Emergency Preparedness (GEP) assists Gas Operations with emergency planning, preparedness, and response.

GEP performs the following functions:

- Executes EMER-6010S
- Responds to Emergency Centers and supports gas emergency incidents, Levels 2 through 5
- Promotes emergency management doctrine and principles
- Develops and maintains the GERP
- Trains all Gas Operations personnel (including internal first responders) to the GERP
- Exercises the GERP
- Coordinates and assists in the After Action Review (AAR) process for incidents.

- Implements continuous improvement/corrective action items related to Gas Operations emergency preparedness and response program (inclusively)
- Manages overall business continuity for Gas Operations
- Submits emergency response plans annually to the California Public Utilities Commission (CPUC)
- Participates in industry benchmarking on Emergency Management solutions and best practices
- Manages and maintains Operations Emergency Center (OEC) and the Gas Emergency Center (GEC)

More information is available at Gas Emergency Preparedness.

1.6.1 Emergency Preparedness Field Unit

Emergency Preparedness Coordinators (EPCs) make up the Field Unit. These individuals are assigned to specific territories to assist in gas emergency preparedness and response. Gas Operation territory are made up of 12 Gas Operation transmission Districts and 18 Distribution Divisions.

EPCs maintain 24/7/365 rotational on-call status for emergencies and respond to OECs and the GEC upon notification of a gas incident or emergency center activation.

1.6.2 Planning Team

The Planning Team is comprised of an emergency planner, technical writer(s), a change lead, and support staff who develop, update, and maintain the GERP as well as other emergency management documents and processes within Gas Operations. The Planning Team uses FEMA's six-step CPG 101 process for the GERP planning cycle.

1.6.2.1 GERP Development and Update

The Planning Team facilitates the overall GERP planning process in coordination with the annual development and update of the CERP (Base Plan). In addition, the Planning Team coordinates GERP updates in alignment with other emergency response efforts (e.g., plans, policies, procedures, and standards) within Gas Operations.as well as engages the support of departments with relevant responsibilities in emergency preparedness and response in the development, update, and maintenance of the Plan.

1.6.2.2 GERP Maintenance

The Senior Vice President (SVP) of Gas Operations owns the GERP, and delegates Plan maintenance to GEP.

This document is prepared by GEP with the assistance from Gas Operations and emergency center (EC) personnel including, but not limited to, safety and shared services, customer service, public affairs, sourcing, information technology (IT), and materials personnel. Annually,

representatives are asked to update their relative portions of the GERP per 49 CFR §192.605, "Procedural manual for operations, maintenance, and emergencies."

The GERP is a living document and is updated to reflect new ideas, process changes, and lessons learned from training, exercises, and post-incident after action review. It also reflects the best information available at the time of publication. Submission of change requests for the GERP should be submitted via the dedicated Plan mailbox, GERP@pge.com (a contact phone number is available for questions and non-electronic submission options).

The GERP is published at least once each calendar year, at intervals not exceeding 15 months and is available in the Guidance Document Library (GDL) and GERP site. External stakeholder and response partners can request a redacted copy from the Gas Operations Support Team (GOST).

1.6.3 GERP Training and Exercise

Refer to **Section 6** (Training and Exercises) for information.

1.7 Related Planning

1.7.1 Business Continuity Plan (BCP)

In addition to the GERP, GEP maintains the development of the Business Continuity Management System (BCMS). The BCMS houses the Gas Business Continuity Plan (BCP), which describes how Gas Operations continues mission-critical processes in the event of an emergency disruption to the normal operation of facilities, technology, or personnel work conditions.

1.7.2 Recovery Planning

In compliance with SEMS and the California Governor's Office of Emergency Services (Cal OES) State Emergency Plan, PG&E participates in community recovery planning activities. PG&E's Emergency Preparedness and Response Support (EP&RS) and public affairs personnel primarily lead the coordination effort with local, state, and Federal government, as needed.

PG&E coordinates recovery activities through the Business/Utilities Operations Center (BUOC) at the California State Operations Center (SOC) through California Emergency Support Function (CA-ESF) #12 Utilities, with representation from the California Utilities Emergency Association (CUEA) and the State Resources Agency. In addition, PG&E supports efforts implemented by Federal Emergency Support Function (ESF) #14 – Long Term Community Recovery, whereby Federal agencies help affected communities identify recovery needs and provide long-term community recovery planning support as needed.

As a private sector partner, PG&E, in coordination with Cal OES, local governments, and other businesses, plays a key role in donating goods and/or services for community recovery. In addition, PG&E supports the evaluation of incidents to identify lessons learned, post-incident reporting, and the development of initiatives to mitigate the effects of future incidents.

1.7.3 Gas Safety and Risk Management Planning

PG&E's Gas Safety Plan describes PG&E's goals in pursuit of Gas Safety Excellence. Safety culture, process safety, and asset management are the bedrock of these efforts and include key programs such as the Corrective Action Program (CAP) and PG&E's safety committees (see **Figure 1.2**).

The Gas Safety Plan describes how PG&E manages risk—both the inherent risk of the assets and the risk of working on those assets safely. PG&E describes how it achieves safety through asset management by discussing how the Company identifies risk, prioritizes risks and then works to mitigate them. Three major categories of gas system risk the Company manages are: loss of containment, loss of gas supply, and inadequate emergency response.

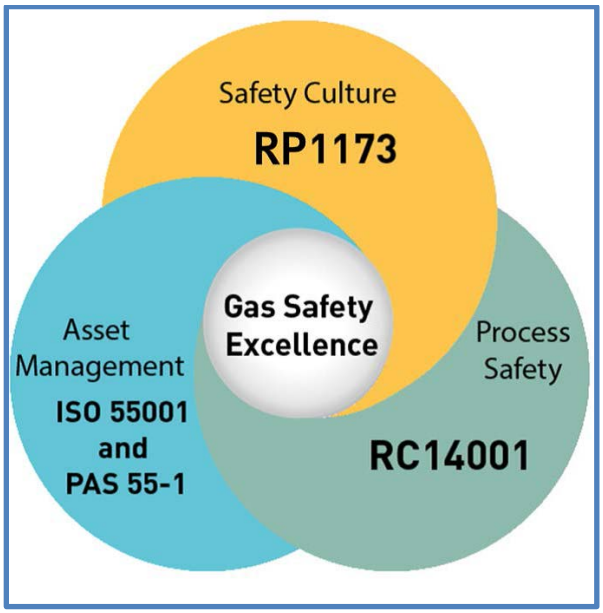

Figure 1.2 Gas Safety Excellence Framework

GERP planning efforts support the vision and strategy of the Gas Safety Plan.

1.7.3.1 Safety Planning and the Risk Management Process

1.7.3.1.1 Enterprise and Operations Risk Management

The Gas Operations organization has adopted an Enterprise and Operational Risk Management (EORM) program and risk management process that provides a repeatable and consistent method to identify, assess, rank, and mitigate risk. PG&E's Risk Management team prioritize risks based on how likely an event is to occur and how severe it might be. This team then provides direction to PG&E's gas operations employees who work continuously towards mitigate these risks. **Figure 1.3** illustrates PG&E's Risk Management Framework.

Figure 1.3 PG&E's Risk Management Framework

Each year, using a consistent methodology in accordance with the EORM guidelines, Gas Operations identifies, assesses and ranks its risks in a Risk Register. The following table identifies the 2016 Gas Enterprise Risks.

Table 1.1 2016 Gas Enterprise Risks

Risk No.	Risk	Description of Risk and Risk Drivers
1	Catastrophic Failure: Pipeline	Rupture of transmission pipeline may result in loss of containment and/or uncontrolled gas flow leading to potential public safety issues, prolonged outages, property damages and/or significant environmental damage. The drivers of this risk include: External Corrosion, Internal Corrosion, Stress Cracking Corrosion, Manufacturing Related Defects, Welding/Fabrication Related Defects, Equipment Failure, Weather and Related Outside Forces – Land Movement (including Seismic), Incorrect Operations
2	Catastrophic Failure: Natural Gas Storage	Failure of storage assets may result in loss of containment and/or uncontrolled gas flow leading to potential public and employee safety issues, prolonged outages, property damages and/or environmental damage. The drivers of this risk include: Internal Corrosion and/or Erosion, External Corrosion, Manufacturing Related Defects, Third Party Damage, Seismic, Welding/Fabrication Related Defects

Risk No.	Risk	Description of Risk and Risk Drivers
3	Catastrophic Failure: Distribution Mains and Services	Cross Bore in Urban Area: The risk of third-party sewer clearing may result in damage to distribution pipeline, loss of containment, and/or migration of gas leading to significant property damage or potential public safety issues.
4	Catastrophic Failure: Compression and Processing	Failure of compression and processing facility may result in loss of containment leading to potential public and employee safety issues and loss of service impacting reliability. The drivers of this risk include: Physical Security, Seismic, Manufacturing Related Defects, Welding/Fabrication Related, Defects, Incorrect Operations External Corrosion, Internal Corrosion and/or Erosion Stress Cracking Corrosion
5	Records Management (Cross-Cutting Risk)	Not implementing fully an effective records management program and controlling data quality may result in the failure to construct, operate or maintain a safe system. For non-asset departments, not implementing fully an effective records management program and controlling data quality may result in inadequate business processes. At the enterprise-level, there is an expectation that the company improve its overall information and records management program to ensure records are traceable, verifiable, accurate and complete
6	Catastrophic Failure: Measurement and Control	The risk of an overpressure event may result in the failure of downstream transmission pipelines or distribution assets with loss of containment leading to potential public safety issues. The drivers of this risk include: Seismic, Equipment Failure, Incorrect Operations, Welding/Fabrication Related Defects
7	Cybersecurity	The threat to critical infrastructure by digital means the loss of security over control systems and customer data is a threat to public privacy, safety and trust. As a protection measure, PG&E does not provide specific information to the public on the specific threats or controls in place
8	Failure to Meet Core Customer Demand for Design Standard Abnormal Peak Day	The risk of not meeting core customer demands as part of the Abnormal Peak Day design criteria could result in uncontrolled outages which may lead to gas leakage into customer homes and potential public safety issues

For additional details on the risk management process, refer to the Gas Safety Plan.

1.7.4 Catastrophic Incident Planning

The GERP supports emergency planning efforts found throughout the many programs within Gas Operations. Planning efforts include the development of Hazard Specific Plans, Playbooks, Planning Annexes, Instruction Manuals, Response Aids (formerly known as Training Aids), etc. Please refer to the links in Table 1.2 below for each of the documents listed by hazard.

Table 1.2 Emergency Response Planning Documents

Date	Planning Document
Earthquake	
12/10/2015	Asset Knowledge and Integrity Management (AK&IM) Earthquake Playbook
12/22/2015	Catastrophic Response Plan Annex: Gas Dispatch, Scheduling and Field Services
12/22/2015	Catastrophic Response Plan Annex: Gas Emergency Reporting & Response Processes (OEC Activation)
12/31/2015	Gas Operations (OEC and GEC)
12/15/2015	Catastrophic Emergency Response Plan Annex: Stations and Gas Storage
12/22/2015	Catastrophic Response Plan Annex: Leak Survey
11/24/2015	Catastrophic Incident Response Plan Annex: Pipeline Patrol
Cold Weather	
11/04/2015	Cold Weather Communication Process
Rainfall	
03/27/2013	Risk Management Procedure RMI-04A, "Gas Pipeline Rainfall Plan and Response Instruction"
Storage Well	
11/24/2015	Well Control Tactical Considerations
Gas System Planning	
05/05/2015	Gas System Planning Emergency Response Reference Guide
Portable Natural Gas (PNG) Program	
01/31/2016	Hazardous Materials Trailer Transportation Incident Response and Recovery Procedure- LNG/CNG

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2 Emergency Organization and Responsibilities

2.1 Gas Operations Emergency Functional Roles and Responsibilities

This section includes an overview of Gas Operations emergency functional roles and responsibilities. For the Incident Command System (ICS) positions that are used throughout all of PG&E's Emergency Centers, refer to **Section 5, Emergency Organization and Responsibilities** in the CERP. This section only covers the emergency roles and responsibilities for the following organizations within Gas Operations and other related organizations supporting gas incidents:

Section 2.2 summarizes the purpose of each type of emergency facility used within Gas Operations. Gas Operations maintains an emergency management organizational structure at the following levels: Field, Division/District, Region, Line of Business (i.e., Gas Operations), and corporate (all LOBs) as follows:

1. Gas Systems Operations (GSO)
2. Gas Transmission and Distribution (T&D) Operations
3. Gas Transmission and Distribution (T&D) Construction/General Construction (GC)
4. Asset Knowledge and Integrity Management (AK&IM)
5. Gas Engineering and Design
6. Customer Communications
7. Shared Services - Environmental Management/Gas Sourcing-Procurement
8. Business Finance Gas Operations
9. Safety*

* Safety includes combined support services from one or more of the organizations listed above.

Gas Operations also maintains various emergency and critical facilities, which are differentiated by function and structure.

2.1.1 Gas System Operations

2.1.1.1 Gas Emergency Preparedness (GEP)

Gas Emergency Preparedness (GEP) is responsible for overseeing Gas Operations' emergency preparedness and response program. GEP's vision is, "To become the most well prepared, disaster resilient gas company in the nation by continuously improving PG&E Gas Operations

response and recovery capabilities through a comprehensive preparedness strategy." Prepare. Respond. Improve.

All GEP staff members are assigned to emergency response positions, including Incident Command (IC) Advisors (ICP/OEC/GEC/EOC), Planning and Intelligence (P&I) Support, Gas Branch (EOC operations), and other positions as required during emergency activations.

Refer to **Section 1.6** for additional information related to GEP activities.

2.1.1.2 Gas Control Center (GCC)

PG&E's Transmission and Distribution Gas Control Centers monitor and control the flow of gas across the system 24 hours per day, 365 days per year, to ensure that it is received and delivered safely and reliably to customers. Together, these two centers make up the Gas Control Center (GCC). PG&E uses an operational manual that contains the necessary documents for control room personnel to manage and operate the gas transmission and distribution systems in accordance with the requirements outlined under Code of Federal Regulations (CFR) Title 49: Transportation, Part 192—Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards, Subpart L—Operations, Section (§) 631, "Control room management." PG&E's Control Room Management (CRM) Operations Manual. contains the standards, procedures, plans, and processes that collectively address how GCC personnel conduct their work activity under normal, abnormal, and emergency operating conditions including a 911 notification process.

For specific details on how GCC meets the compliance requirements under 49 CFR §192.631, "Control room management." Refer to the following:

- Utility Standard TD-4436S, "Gas System Operations Control Room Management,"
- Utility Procedure TD-4436P-01, "Gas System Operations CRM – Information Management"
- Utility Procedure TD-4436P-02, "Gas System Operations CRM – Personnel Fatigue Mitigation"
- Utility Procedure TD-4436P-03, "Gas System Operations CRM – Alarm Management"
- Utility Procedure TD-4436P-04, "Gas System Operations CRM – Management of Pipeline Changes"
- Utility Procedure TD-4436P-05, "Gas System Operations CRM – Evaluating Operational Experiences"
- Utility Procedure TD-4436P-06, "Gas System Operations CRM – Gas Transmission and Gas Distribution Training Programs"

2.1.1.2.1 Gas Distribution Control Center (GDCC)

PG&E's gas distribution system covers an area of 42,000 square miles, with 826 hydraulically independent systems. Real-time distribution oversight is provided by the GDCC at approximately

919 continuously monitored distribution locations at district regulator stations and pipelines. In addition, some local distribution oversight is enabled by approximately 350 electronic recording devices, which alert local on-call distribution supervisors if pressure set points are exceeded.

Should an electronic recording activate, the local distribution supervisor is responsible for assessing the nature of the alert and, if appropriate, dispatching PG&E personnel to address the situation. To monitor the balance of the distribution system, local offices collectively deploy more than 500 permanent and temporary chart recorders (electronic devices used to record pressure data throughout the gas system).

2.1.1.2.2 Gas Transmission Control Center (GTCC)

The GTCC monitors and controls system pressure, flow, and operation status using approximately 14,000 SCADA points and providing oversight of all compressor stations, storage fields, pipeline interconnections, and other key pipeline facilities. GTCC operators can control system flows and pressures using approximately 1,600 supervisory control points. In addition, the SCADA system continually provides calculated data for approximately 5,000 other points representing system inventory, supply, and demand information on the transmission system.

The SCADA system uses alarms to warn GTCC of changing conditions that could escalate to abnormal or emergency conditions and provides prioritization functionality. The system provides alarm filtering based on priority, data type, and geographic location to facilitate appropriate operator action upon alarm activation. Alarm priorities are configured based on four categories: Emergency, High, Medium, and Low. PG&E also has a geographical-based operating process that allows for assignment of operator responsibilities based on “North” and “South” service territory assignments.

2.1.1.3 Gas System Planning (GSP)

During gas pipeline incidents, affected gas pipeline operations require rapid and continual analysis of the gas system until the system is returned to normal operations. Incidents result in pressure reductions/increases, valve operation changes, and other impacts to system hydraulics (flows and pressures). Gas System Planning (GSP) analyzes these impacts with computer models of the gas system.

During an incident, GSP personnel perform the following primary functions to support the response:

- Set up a planning team (with other planning engineers and planning leadership)
- Support immediate safety response – Assist OEC commander in make-safe operations
- Analyze the incident – Cooperatively develop a system assessment with the planning team and analyze operational and repair options for immediate make-safe actions. Develop estimate of potential outages, curtailment recommendations, estimates of system survival time, options for operational changes to mitigate outages, and estimate LNG/CNG needs.
- Communicate planning recommendations

- Monitor system response
- Support system damage assessment
- Support restoration efforts

Within the OEC, GSP Technical Specialist(s) function as the hydraulic analysis specialists and complete the following actions:

- Direct local Gas Planning resources and analysis requests within the OEC as necessary during event
- Establish and call out additional local Gas Planning resources as necessary, working through the Logistics Section. For outside area resources, specialist coordinate with others as needed if the GEC or EOC is not activated.
- Coordinate Gas Planning input and direction provided from local OEC (Local T&D Planning) and GDCC Planning, if GEC or EOC is not activated.

Within the GEC Operations Section, GSP Technical Specialist(s) function as the Hydraulic Analysis Leaders and complete the following actions:

- Direct system-wide Gas Planning resources and analysis requests as necessary during event
- Establish additional Gas Planning resources as necessary, working through Logistics Section
- Coordinate Gas Planning input and direction provided from OECs (Local T&D Planning) and GDCC Planning
- Refer to Gas System Planning Emergency Response Reference Guide, April 29, 2015, for additional details related to GSP response roles and responsibilities.

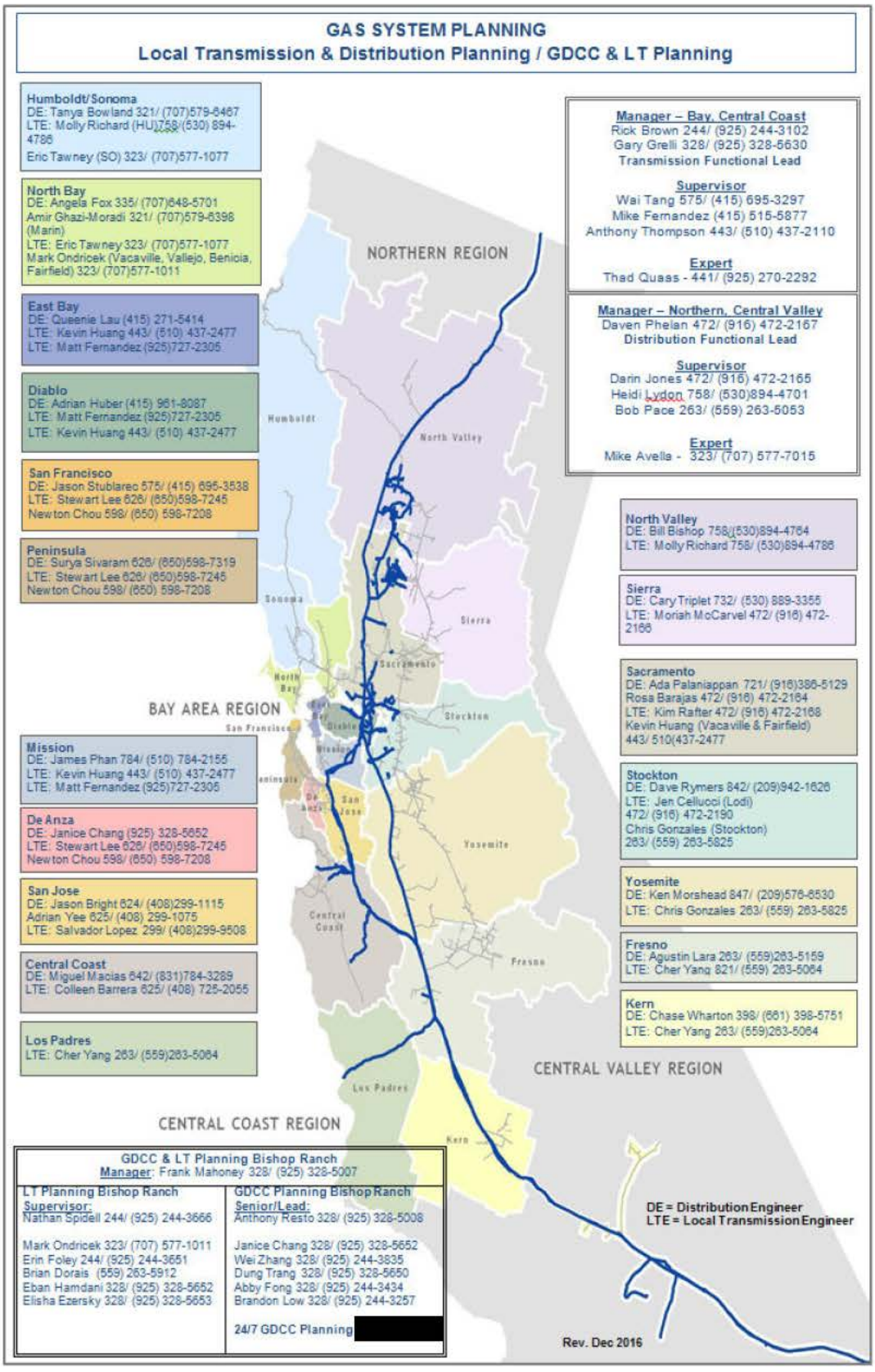


Figure 2.1 Gas System Planning

2.1.2 Gas Transmission and Distribution (T&D) Operations

2.1.2.1 Contact Center

PG&E operates a 24/7 Contact Center to receive calls regarding gas inquiries and emergencies. Related call handling processes are housed in an online repository that is used by Contact Center representatives to ensure adherence to public safety and emergency procedures during a gas emergency incident, pipeline integrity situation, or threat to public safety. The Gas Dispatch Center is notified immediately of any emergency gas situation that is called into the Contact Center.

2.1.2.2 Gas Dispatch and Scheduling

Procedures and processes of both Gas Dispatch and GCC ensure that immediate notification to establish "situational awareness" and an open communication channel between Gas Dispatch, GCC, and the responsible 911 Emergency Response Center(s) are made. This includes information on the estimated time of arrival (ETA) of gas field personnel to the incident. If on-scene personnel are requested by a Gas Service Representative (GSR), Gas Dispatch notifies the GCC.

Gas Dispatch and Scheduling adheres to the processes in the following documentation to handle and respond to 911 calls for initial field resource deployment:

- Utility Procedure TD-6100P-02, "Gas Leak and Odor Investigation"
- Utility Procedure TD-6700P-03, "Gas Dispatch and Scheduling Handling 911 Calls – Emergency Response"
- Utility Procedure TD-6700P-04, "Gas Dispatch and Scheduling – Handling Emergency Conditions Reported by Outside Agencies"

2.1.2.3 Field Services

2.1.2.3.1 Gas Service Representative (GSR)

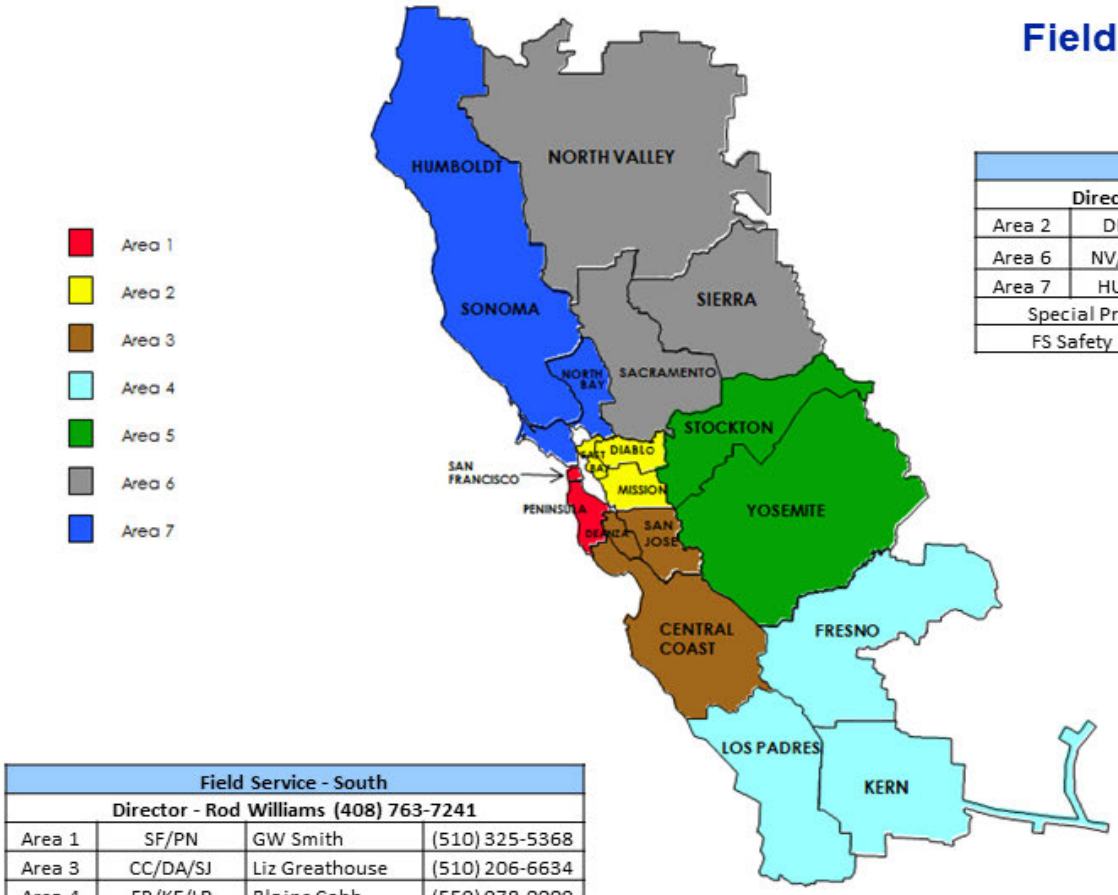
The GSRs respond to gas service calls and incidents to perform routine maintenance and resolve issues. In response to most calls, GSRs are the first personnel sent out in the case of a gas leak or report of gas odor, and are trained to respond to gas distribution leak concerns. As a result, a GSR is usually the initial Incident Commander for PG&E upon arrival to an incident. If the GSR determines that a more specialized work crew is necessary to respond to the incident or that the incident involves gas transmission assets, the GSR contacts Gas Dispatch and Scheduling, which then contacts the on-call Maintenance and Construction (M&C) supervisor to request the appropriate work crew(s) respond to the incident. Once the supervisor or other appropriate personnel arrive on scene, the GSR provides information about the incident up to their arrival and transfers command and control of incident.

GSRs respond to all Emergency or Gas Pipeline Operations and Maintenance (GPOM) calls for inside and outside gas odor issues. In addition, GSRs handle all service calls pertaining to a customer owned gas appliance or equipment. This includes:

- Asphyxiation, carbon monoxide (CO) gas related
- Fire and explosion response
- Gas leak investigation
- Gas pressure or supply issues
- Gas line damage by excavators or vehicular
- Turn On/Off gas service
- Appliance safety checks or relight appliances
- Scheduled meter or equipment changes

GSRs use Field Automation System (FAS) for their daily work assignments.

GSRs and Gas Crews have mobile data units (ruggedized laptops) with capabilities to access electronic messaging and facility maps.



Field Service – North			
Director - Rich Yamaguchi (530) 356-6021			
Area 2	DI/EB/MI	Randy Lavering	(925) 628-1454
Area 6	NV/SI/ Sacr	Michele Dionne	(209) 662-4571
Area 7	HU/SO/NB	Randy Uda	(916) 747-2143
Special Project		Jimmy Morales ®	(415) 533-8478
FS Safety Lead		Fred Quinn ®	(916) 825-7778

Field Service - South			
Director - Rod Williams (408) 763-7241			
Area 1	SF/PN	GW Smith	(510) 325-5368
Area 3	CC/DA/SJ	Liz Greathouse	(510) 206-6634
Area 4	FR/KE/LP	Blaine Cobb	(559) 978-0009
Area 5	ST/YO	Mike Raab	(916) 607-4691
Special Projects		Mark Creech (Supv)	(831) 588-8295

Figure 2.2 Field Services Areas

2.1.2.4 Gas M&C – Crews, Superintendents, Supervisors, and Directors

The Gas M&C superintendent and supervisors with Incident Command roles are responsible for the management of distribution gas emergencies and either report virtually (coordinating via phone, text, email, etc.) or respond to the designated OEC, Incident Command Post (ICP) or Mobile Command Vehicle (MCV) upon activation. The OEC Command Staff members shall assume their roles or multiple roles until all necessary Command Staff roles have reported.

Gas Crews respond to all gas emergencies involving service and main lines. In addition, Gas Crews perform required and routine maintenance to the gas system. This includes:

- Gas odor complaints outdoors
- Excavator damage to PG&E facilities
- Priority gas leaks detected by leak survey
- Routine gas leak repairs to mains and services
- Gas service replacements and new installation
- Preventative maintenance

Gas Crews are equipped with excavation tools to perform emergency squeeze operations on both plastic and steel distribution mains. Some gas mains have pressure control fittings that can be excavated and gas flow can then be stopped with the appropriate plugging equipment. Gas Operations has a limited number of Tapping and Plugging trucks, which are equipped with a welder and a tapping/plugging unit to shut in larger diameter gas mains where valving is not desirable. Gas Crew trucks have Excess Flow valves on some but not all plastic service lines; those valves self-operate when the service is severed. Gas Crews carry a supply of clamps and fusion equipment to make permanent repairs to both mains and service leaks.

Figure 2.3 Gas M&C

Gas T&D Operations

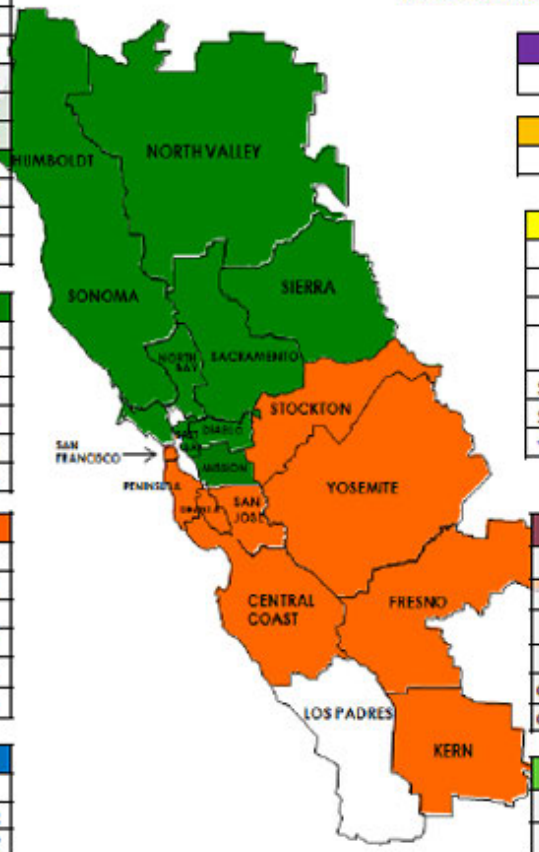
Vice President, Gas T&D Operations – John Higgins

Gas Pipeline Operations and Maintenance		
Director – William Mojica (925) 596-3203		
Northern	Brad Spainhower	(925) 719-0086
Bay Area – North	Lance Johnson	(925) 381-0756
Bay Area – South	Cathlene Bennett	(925) 597-1057
Central – North	Curtis Tonetti	(530) 351-3570
Central – South	Harpreet Johal (i)	(925) 852-1854
Southern	Rick Bezanson	(760) 485-0132
Gas Storage	Jeff O'Donnell	(925) 200-0188
Operations &Process	Meghan Murphy	(925) 785-0679
Program Manager	Jason Klemm (i)	(925) 588-1984

Maintenance & Construction – North		
Director – Dennis MacAleese (510) 730-9973		
HU/SO	Joe Ojeda	(925) 570-5532
NV/SI	Erik Kurtz (i)	(209) 617-2431
SA	Erik Kurtz	(209) 617-2431
DI/NB	Kevin F. Souza	(707) 260-9904
EB / MI	Kevin P. Souza	(510) 684-1415

Maintenance & Construction – South		
Director – Kelly Ball (408) 204-5340		
FR / KE	Joe Cummins	(559) 240-4956
ST / YO	John Martin	(209) 404-0221
SF	Jay Randolph	(510) 760-8205
SJ/DA	Bryan McCallum	(408) 309-9951
PN/CC	John Kemp (i)	(408) 833-3178

Compliance Programs		
Director - Joel Dickson (415) 559-9506		
Corrosion – North	Augie Ledesma	(916) 203-8072
Corrosion - South	Darryl Williams	(530) 949-1027
Locate & Mark & Dig-In Reduction Team	Jeff Carroll	(925) 786-8231
Patrolling & Gas Quality Mgmt	Bill Wallace	(916) 340-4488
Corrective & Prev Mtce	Donnie Jue	(510) 760-4225
Public Safety & Damage Prev Claims Team	Andy Wells	(925) 285-1489



Gas T&D Operations
Chief of Staff - Lisa Flynn (310) 936-3986

Safety
Superintendent, Derek Cedars (925) 324-2791

Leak Management		
Sr. Manager – Jody Garcia (i) (209) 482-5410		
Leak Survey	Kevin Armato	(925) 324-2087
Super Crew	Jody Garcia	(209) 482-5410
Super Crew Asset & Resource	Hugh Adamo	(209) 715-0543
Super Crew North*	Ty Turner	(530) 906-0805
Super Crew South*	Sal DiLillo	(559) 666-0034
* Matrixed to M&C North and M&C South		

Gas Dispatch/Gas Support Services		
Director – Sally Romero (925) 324-2768		
Gas Dispatch	Vacant	
DC & Schedulers	Willie Matsu (i)	(408) 234-1210
Principal Analyst	Christine Miller	(925) 324-2247
Gas Support Svcs North	Sabrina Lynch	(707) 372-8912
Gas Support Svcs South	Kevin Carver (i)	(707) 330-0608

Super Gas Ops		
Director - Vincent Gaeto (773) 491-9493		
SGO Design	Anne Beech	(415) 730-0568
SGO Prgm Mgr	Linda Herrin (i)	(925) 382-5857
SGO Alpha	Sean Masterson (i)	(925) 588-1456
SGO Bravo	Jon Little	(707) 486-2793
SGO Closeout	Sara Burke (i)	(925) 324-2756

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Figure 2.4 Gas T&D Operations

2.1.2.5 Gas Pipeline Operations and Maintenance (GPOM) Crews

In addition to Gas Crews, Gas Operations has operation and maintenance (GPOM) crews who are equipped to close transmission mainline valves, distribution emergency shutdown zone valves (ESV) and regulation station feeds to isolate unplanned releases of gas. Gas Operations has remote control valves (RCV) and automatic shutoff valves (ASV) located at known earthquake fault locations, which can be operated by the GCC.

2.1.2.6 Compliance Programs

The Compliance Programs department in Gas Operations supports coordination activities, training, and communication with city/county/local first responders within PG&E's service territory. A primary function of the Compliance Programs department is to provide pipeline and general safety training to local/state/volunteer first responders, as well as share the GERP with appropriate community partners. Compliance Programs department, in conjunction with GEP, are actively engaged in incident response and all facets of emergency preparedness – planning, training (for both internal and external responders) exercises, performance measurement, and regulatory compliance.

2.1.2.6.1 Public Awareness (PA)

PG&E's Pipeline Public Awareness Plan (See Utility Standard TD-5801S, "Pipeline Public Awareness Program") is designed to enhance public safety, emergency preparedness and environmental protection through increased public awareness and knowledge. The Public Awareness Plan (PAP) was developed in compliance with 49 CFR §192.616, "Public awareness," API RP 1162 (1st edition) and is in alignment with the Company's operational focus of gas pipeline safety, damage prevention and emergency preparedness and response. Outreach includes activities for professional excavators, local public officials, emergency responders and the general public who live and work within PG&E's distribution service area and near transmission pipelines, un-odorized pipelines, storage facilities and compressor stations.

The primary objective of PG&E's PAP is to increase awareness of the presence of natural gas pipelines, the role PG&E's pipelines play in transporting and delivering energy, and the programs/activities PG&E has in place to keep pipelines safe. The PAP also contributes to a reduction in third-party damage to pipelines through educational outreach regarding safe excavation near pipelines, required actions prior to excavating near underground pipelines, and emergency response readiness. The PAP provides information regarding how to recognize and appropriately respond to a gas leak to protect life, property, and the environment.

2.1.2.6.2 Public Safety Specialists (PSS)

The Field Delivery group of EP&PA works closely with community first responders—police, firefighters and emergency services professionals—to make sure they have the information needed to protect the public and respond safely in the event of a natural gas emergency. A team of Public Safety Specialists (PSS), under the direction of the PSS Supervisor, responds to field gas incidents supporting the Incident Command System (ICS) to facilitate communications

between the community first responders and PG&E first responders. In this respect, PSS serve as liaison and PG&E agency representatives. PSSs also assist with community first responder (fire and law) gas safety training.

2.1.2.6.3 First Responders Safety Portal (Information for First Responders and the Public)

PG&E launched a web portal within pge.com on the First Responders Safety site dedicated to community first responders. The site provides community First Responders access to training materials and other information and resources for gas emergency response. Registered community first responders have access to detailed confidential gas transmission assets, portions of the GERP, and contact information for key members of the Compliance Programs department. Community First Responders can use the Portal for pre-incident planning and in real time while en-route to an incident or once they have arrived on scene.

2.1.2.6.4 Dig-in Prevention/Dig-in Reduction Team (DiRT)

Dig-In prevention determines the root causes of excavation damage to PG&E's facilities, identifying process improvements to reduce damages, and actively pursuing cost recovery for damage from responsible excavators through PG&E's Claims department and other enforcement processes. Process improvements include:

- Implementing PG&E's "Damage Prevention Manual" to provide clearer instruction around critical steps, including troubleshooting of "difficult to locate" facilities
- Developing a "Gold Shovel Standards" program to reward contractors who practice safe excavation, and deploying a "Habitual Offender" program to address contractors who do not
- Creating an "811 Ambassador" program to train PG&E employees to identify unsafe excavation activities and take appropriate intervention measures
- Developing the Home Owner Association (HOA) program in hopes of persuading HOAs to adopt requirements that residents call 811 before excavating
- Using air patrol to identify and intercept threats to the transmission system

2.1.2.6.5 Pipeline Patrol Program

PG&E's Pipeline Patrol Program ("Patrol"), as part of the Compliance Programs department, traverses transmission and gathering pipelines, as well as some distribution mains, and reports observed threats to the safety and integrity of the pipeline (e.g., third-party excavations, landslides, etc.) or potential impacts to pipeline Class Location (e.g., new construction; Class Locations are defined in 49 CFR §192.5).

Figure 2.5 Pipeline Patrol

Unlike the Leak Management department's Leak Survey, pipeline patrollers do not use leak detection equipment, although any observed leak indications are documented and reported.

Patrol may conduct operations via a helicopter, or on the ground via a truck, 4x4 vehicles, or on foot. Per the federal regulations, patrols must be performed on a quarterly basis. PG&E exceeds this requirement by setting internal goals to patrol all pipelines in the Patrol inventory (approximately 6,730 miles of pipe) monthly, and pipelines in High Consequence Areas (HCA) twice each month.

In the event of an emergency, special air patrols are dispatched to the impacted area as soon as possible to gather reconnaissance information for other responding departments. If circumstances warrant, additional ground patrol personnel are dispatched as conditions permit.

With the implementation of state-of-the-art camera systems on two fixed-wing aircraft, Patrol has the potential to provide PG&E with sophisticated damage assessment following a catastrophic event, as well as vital data and images to emergency personnel and other key players.

2.1.2.6.6 Locate and Mark (L&M)

PG&E's Locate and Mark (L&M) function is to locate and mark the approximate position of PG&E underground gas, electric, and fiber optic lines so that excavators—whether contractors, landscapers, or homeowners—can avoid striking underground utilities.

Anyone starting a digging, grading, drilling, or excavating project is legally obligated to call 811 two business days before excavating, to allow utility companies to mark their underground lines. A call to 811 generates an electronic notification to PG&E's L&M group.

During emergencies, L&M has the capacity to operate 24/7 if necessary.

In addition, the GEC and Gas Dispatch and Scheduling can contact the Division On-Call Supervisor, who will use the Locator call out list to provide additional personnel to support response needs.

2.1.2.7 Leak Management

Leak Management includes the Leak Survey group and the Gas T&D Leak Process Optimization ("Super Crew") group. PG&E Leak Surveyor uses an infrared leak detection device and a tablet with GPS capabilities for accurate location information and real-time data input.

2.1.2.7.1 Leak Survey

Leak survey is defined as a search for gas leakage indications in any area where PG&E gas facilities exist, or where a gas leak is reported or suspected. (See Utility Standard TD-4110S, "Gas Leak Survey and Detection Program.")

Pipeline safety regulations require PG&E to conduct routine leak surveys on its distribution and transmission systems to find gas leaks. Utility Procedure TD-4110P-01, "Leak Survey Process," outlines PG&E's requirements for the leak survey and detection program. **Table 2.1** is from this procedure, and summarizes the Leak Survey Cycles.

Table 2.1 PG&E Leak Survey Cycles

Leak Survey Frequency*	
Facility Types	**Survey Frequency**
All Company facilities within business districts and at public buildings	Annual
Distribution MAOP less than or equal to 60 Pounds Per Square Inch Gauge (psig)	
Business district and public buildings	Annual
Buried metallic facilities not under CP and not covered by an annual requirement	3 years
Balance of underground distribution facilities	5 years
Distribution Feeders (MAOP greater than 60 psig)	5 years[32]
Transmission	
DOT Transmission All Odorized Transmission with the exception of Non-HCA pipe within a Class 3 and 4 locations	Annual
DOT Transmission Non-HCA Class 3 and 4	Semi-Annual
Un-Odorized DOT Transmission	
Class 1 and 2	Annual
Class 3	Semi-Annual
Class 4	Quarterly
Gathering	
Class 1, 2, 3 and 4	Annual
Transmission Stations	
Class 1 and 2	Annual
Class 3 and 4	Semi-Annual
Enclosed Electric Substations and Switching Stations	Every 6 months

* Effective through December 31, 2015.

PG&E conducts leak surveys across all 42,000 miles of its gas distribution pipeline at least every five years, and surveys larger gas transmission lines twice a year. The goals for addressing gas leaks are timely identification, accurate grading, and appropriate repairs. Leak surveying of gas-pipeline systems are conducted by crews on foot, in vehicles, and in helicopters.

During a large-scale, catastrophic disaster affecting PG&E's service territory, such as an earthquake greater than magnitude 6.0, a tsunami, or large-scale fire, the Catastrophic Response Plan Annex: Leak Survey should be followed. This annex provides guidance to Leak Survey personnel in the first Operational Period of a catastrophic incident. It contains an overview of Leak Survey strategy including roles, responsibilities, and processes; how to prioritize leak survey response based on dashboard, damage reports, and survey equipment available; and contact information for all Leak Survey personnel. Task Force Leads maintain communication with Operation Leads and coordinate with Logistics branches as necessary.

2.1.2.7.2 Foot Leak Survey

During emergencies, Foot Leak Surveys are conducted as an immediate response, and based on available data from the GEC, OEC(s), and the Transmission Integrity Management Program (TIMP). During a catastrophic response, the Foot Survey Task Force Lead manages all Foot Surveyors, including contract personnel.

Figure 2.6 PG&E Leak Survey

2.1.2.7.3 Picarro Survey

Picarro Survey involves Picarro technology, which sweeps areas using a car-mounted leak detection device.

The Picarro gas leak detection analyzer is much more sensitive than traditional gas detection instruments and precise enough to detect natural gas even when other gases are present. During emergencies, vehicle survey is performed in conjunction with a Super Crew.

For catastrophic response, a Picarro Task Force Lead oversees all work associated with Picarro including drivers, follow-up investigation surveyors, and standby personnel.

Figure 2.7 Vehicle Survey

2.1.2.7.4 Aerial Survey

Aerial Survey for Leak Survey are done by LASEN™; a firm contracted by PG&E. LASEN has an aerial pipeline inspection technology called Airborne LIDAR (light detection and ranging) Pipeline Inspection System (ALPIS). This system uses a laser to detect leaks. This laser beam is transmitted down from the aircraft and used to detect, locate, and assess the magnitude of the leak.

Figure 2.8 Aerial Survey

During emergencies, the manager of Aviation Services' Helicopter Operations assists in coordinating flight activities over the right-of-way. LASEN Aerial Survey is prioritized for all transmission lines and fault crossings affected area(s). During a catastrophic incident, the LASEN Task Force Lead oversees all work associated with LASEN including LASEN, follow-up investigation surveyors, and standby personnel.

2.1.2.7.5 Super Crew

PG&E's Super Crew is a mobile cross-functional team within the Leak Management department performing accelerated leak survey and repair. The team is led by the Senior Manager of Gas T&D Leak Process Optimization and consists of a Grade 1 response, Work Readiness and Bundled Repair groups. Team members include leak surveyors, construction crews, resource supervisors, engineers, analysts, and clerical staff.

The Grade 1 Response group responds immediately to hazardous leaks identified during an accelerated leak survey. Super Crew uses Picarro's advanced leak detection technology to identify leak investigation areas. This technology is mainly used by Super Crew but can also be used to address odor complaints at the local level.

The Bundle Repair group assists the divisions in processing all non-hazardous leaks. All planned jobs are bundled by the work readiness team and strategically assigned to crew resources, decreasing leak repair execution time and overall impact to neighborhoods.

Figure 2.9 Super Crew

Figure 2.10 Picarro - Vehicle-mounted leak-detection technology

Super Crew also assists in fixing immediate threats after an emergency incident has occurred. Significant emergency incidents may include plane crashes, avalanches, building explosions/implosions, earthquakes, firestorms, floods, landslides, overpressure of a gas system, sinkholes, train derailments, tsunamis, and volcanic eruptions. In 2014 and 2015, Super Crew responded to the Napa Earthquake, the Fresno Overpressure incident, and the Trona incident.

The Senior Manager of Gas T&D Leak Process Optimization normally fills a role in the OEC when the Super Crew team is activated to support an emergency event. Within the GEC, Distribution Integrity Management Program (DIMP) and Transmission Integrity Management Program (TIMP) coordinate with Gas T&D Leak Process Optimization regarding Super Crew team assignment of survey areas.

2.1.3 Gas T&D Construction – General Construction (GC)

GC management fills the position of GC Branch Director in the GEC, if activated.

GC personnel may support resource management positions within the Logistics and other Sections of ICPs, OECs, GEC or EOC, if activated.

2.1.3.1 Gas GC Crew

GC Crews repair damaged facilities and provides labor for emergencies, such as closing riser valves during curtailments. Generally, the work that GC crews do in a gas emergency is consistent with their day-to-day work assignments. GC Crews are a mobile work force organized into Transmission and Distribution teams and are located at various locations divided into 5 regions across the service territory.

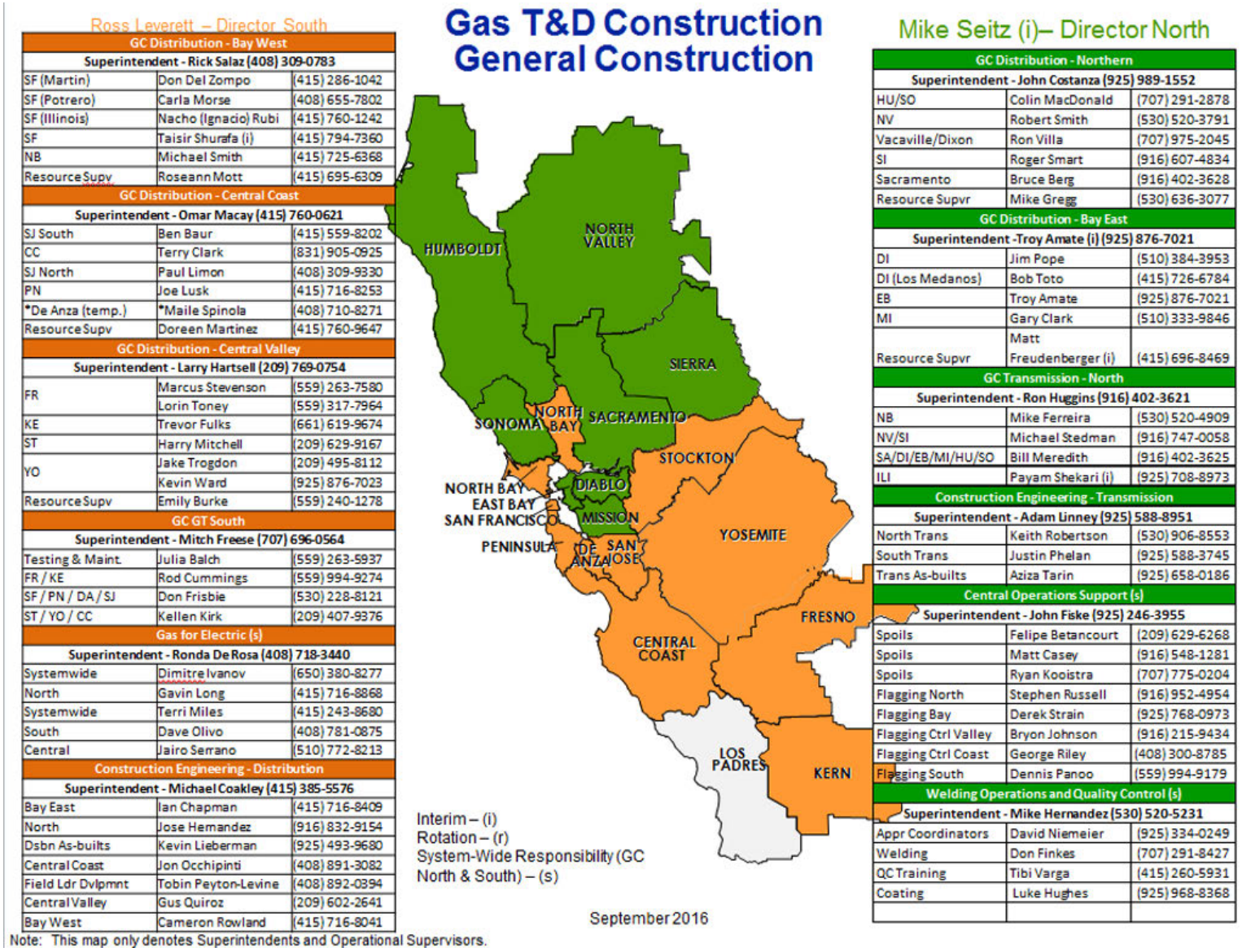
2.1.3.2 Pipeline Field Services Organization

The Pipeline Field Services Organization provides emergency clearances, tapping and plugging, test head deployment, and standby services. This organization also provides frac tank

deployment services and has a Measurement and Controls construction team that can support emergency station construction. Pipeline Field Services are a mobile work force whose work during a gas emergency is typical of their daily work tasks.

2.1.3.3 Non-Destructive Examination (NDE) Services

Gas NDE Operations performs inspections on PG&E's pipelines and related facilities to evaluate their structural integrity and adherence to applicable codes and standards. Gas NDE Operations provides NDE inspection support across the PG&E Gas service territory utilizing multi-certified technicians and various inspection tools in the methods of Radiographic Testing (X-Ray), Magnetic Particle, Ultrasonics and Penetrant Testing.



GC Distribution - Bay West		
Superintendent - Rick Salaz (408) 309-0783		
SF (Martin)	Don Del Zompo	(415) 286-1042
SF (Potrero)	Carla Morse	(408) 655-7802
SF (Illinois)	Nacho (Ignacio) Rubi	(415) 760-1242
SF	Taisir Shurafa (i)	(415) 794-7360
NB	Michael Smith	(415) 725-6368
Resource Supv	Roseann Mott	(415) 695-6309
GC Distribution - Central Coast		
Superintendent - Omar Macay (415) 760-0621		
SJ South	Ben Baur	(415) 559-8202
CC	Terry Clark	(831) 905-0925
SJ North	Paul Limon	(408) 309-9330
PN	Joe Lusk	(415) 716-8253
*De Anza (temp.)	*Maile Spinola	(408) 710-8271
Resource Supv	Doreen Martinez	(415) 760-9647
GC Distribution - Central Valley		
Superintendent - Larry Hartsell (209) 769-0754		
FR	Marcus Stevenson	(559) 263-7580
	Lorin Toney	(559) 317-7964
KE	Trevor Fulks	(661) 619-9674
ST	Harry Mitchell	(209) 629-9167
YO	Jake Trogdon	(209) 495-8112
	Kevin Ward	(925) 876-7023
Resource Supv	Emily Burke	(559) 240-1278
GC GT South		
Superintendent - Mitch Freese (707) 696-0564		
Testing & Maint.	Julia Balch	(559) 263-5937
FR / KE	Rod Cummings	(559) 994-9274
SF / PN / DA / SJ	Don Frisbie	(530) 228-8121
ST / YO / CC	Kellen Kirk	(209) 407-9376
Gas for Electric (s)		
Superintendent - Ronda De Rosa (408) 718-3440		
Systemwide	Dimitre Ivanov	(650) 380-8277
North	Gavin Long	(415) 716-8868
Systemwide	Terri Miles	(415) 243-8680
South	Dave Olivo	(408) 781-0875
Central	Jairo Serrano	(510) 772-8213
Construction Engineering - Distribution		
Superintendent - Michael Coakley (415) 385-5576		
Bay East	Ian Chapman	(415) 716-8409
North	Jose Hernandez	(916) 832-9154
Dsbn As-builts	Kevin Lieberman	(925) 493-9680
Central Coast	Jon Occhipinti	(408) 891-3082
Field Ldr Dvlpmnt	Tobin Peyton-Levine	(408) 892-0394
Central Valley	Gus Quiroz	(209) 602-2641
Bay West	Cameron Rowland	(415) 716-8041

GC Distribution - Northern		
Superintendent - John Costanza (925) 989-1552		
HU/SO	Colin MacDonald	(707) 291-2878
NV	Robert Smith	(530) 520-3791
Vacaville/Dixon	Ron Villa	(707) 975-2045
SI	Roger Smart	(916) 607-4834
Sacramento	Bruce Berg	(916) 402-3628
Resource Supvr	Mike Gregg	(530) 636-3077
GC Distribution - Bay East		
Superintendent -Troy Amate (i) (925) 876-7021		
DI	Jim Pope	(510) 384-3953
DI (Los Medanos)	Bob Toto	(415) 726-6784
EB	Troy Amate	(925) 876-7021
MI	Gary Clark	(510) 333-9846
Resource Supvr	Matt Freudenberger (i)	(415) 696-8469
GC Transmission - North		
Superintendent - Ron Huggins (916) 402-3621		
NB	Mike Ferreira	(530) 520-4909
NV/SI	Michael Stedman	(916) 747-0058
SA/DI/EB/MI/HU/SO	Bill Meredith	(916) 402-3625
ILI	Payam Shekari (i)	(925) 708-8973
Construction Engineering - Transmission		
Superintendent - Adam Linney (925) 588-8951		
North Trans	Keith Robertson	(530) 906-8553
South Trans	Justin Phelan	(925) 588-3745
Trans As-builts	Aziza Tarin	(925) 658-0186
Central Operations Support (s)		
Superintendent - John Fiske (925) 246-3955		
Spoils	Felipe Betancourt	(209) 629-6268
Spoils	Matt Casey	(916) 548-1281
Spoils	Ryan Kooistra	(707) 775-0204
Flagging North	Stephen Russell	(916) 952-4954
Flagging Bay	Derek Strain	(925) 768-0973
Flagging Ctrl Valley	Bryon Johnson	(916) 215-9434
Flagging Ctrl Coast	George Riley	(408) 300-8785
Flagging South	Dennis Panoo	(559) 994-9179
Welding Operations and Quality Control (s)		
Superintendent - Mike Hernandez (530) 520-5231		
Appr Coordinators	David Niemeier	(925) 334-0249
Welding	Don Finkes	(707) 291-8427
QC Training	Tibi Varga	(415) 260-5931
Coating	Luke Hughes	(925) 968-8368

Note: This map only denotes Superintendents and Operational Supervisors.

Figure 2.11 Gas T&D Construction

2.1.3.4 Portable Natural Gas Program (PNG) Compressed Natural Gas/Liquefied Natural Gas (CNG/LNG)

During gas emergencies resulting in the potential for unplanned outages, PG&E may be able to preserve gas service and avoid customer curtailments by the use of portable temporary gas supply equipment from LNG/CNG Operations' PNG Program. Depending on the application and the quantity required, either LNG or CNG can be injected while the primary pipeline supply is constrained or out of service for emergency repairs. CNG systems may be manned or unmanned, while LNG systems are always manned.

Figure 2.12 Examples of LNG Equipment

Figure 2.13 Examples of Unmanned CNG Equipment

Use of CNG or LNG benefits PG&E and its customers in several ways:

- It can eliminate the need for relights by preventing the outage to the customer, because it allows for the safe and continuous gas feed of customers downstream. Certain circumstances allow customers to be served even with damage to a pipeline, giving the portable equipment time to respond and take on the customer load. Then the pipeline can be safely shut in without impacting these customers.
- It can shorten the duration of supply interruptions by providing portable natural gas sooner than the time it would take to restore the pipeline to normal operations.
- It can provide a higher level of reliability and contingency in the case that a pipeline has the potential to be shut in.

Initiating a response

It is critical that the PNG team be notified of the potential loss of customers as soon as possible. This allows time to prepare and respond to the location needed. Typically, equipment and operators can respond from multiple locations within 1 to 2 hours of a callout (which varies depending on the time of day and day of the week).

Figure 2.14 Examples of a Large-scale LNG Jobsite and an Injection Point

2.1.4 Asset Knowledge and Integrity Management (AK&IM)

AK&IM provides strategic direction for the inspection and repair of transmission, distribution and facilities assets after the initial emergency response. AK&IM consists of the following groups:

- Transmission Integrity Management Program (TIMP)
- Distribution Integrity Management Program (DIMP)
- Facilities Integrity Management Program (FIMP) and Technical Services (TS) including Pipeline Services
- Station Services

Immediately following a Level 3 or greater emergency, the local OEC and GEC is activated, and an Initial Damage Evaluation (IDE) is performed by Leak Survey and Pipeline Patrol via air and/or ground patrols. During the initial response, approximately 0-12 hours after the emergency, AK&IM's main responsibilities are providing guidance and support for:

- Hours 0-2: AK&IM's resource activation and preliminary data review
- Hours 2-12: Damage assessment evaluations

It is important for AK&IM to remain informed as field activities are completed because TIMP, DIMP, and FIMP use additional asset condition, risk data and modeling to direct leak surveys and patrols, integrity assessments, and mitigations.

As soon as it is safe, specific AK&IM personnel (Appropriate pipeline services engineers) must mobilize to assess the integrity and condition of the gas pipeline system. In an emergency response, the AK&IM team will communicate primarily with the Planning and Intelligence (P&I)

Section within the GEC. Specifically, an AK&IM team member will be activated, as part of the GEC, in the Advanced Planning Branch Director role.

The AK&IM team must work closely with several other PG&E teams during an emergency response, including the GEC and OEC, Pipeline Patrol, Leak Survey, Production Mapping, and Super Crew. The AK&IM team member activated as the Advanced Planning Branch Director in the GEC will allow for a coordinated AK&IM response within the GEC. Table 2.2 shows a high-level breakdown of each team's responsibility during an emergency response.

For 24/7 assistance and to reach and on-call engineer, the Pipeline Engineer Hotline is available at 1-925-328-6266.

Table 2.2 PG&E Teams Working Closely with AK&IM

Team and Responsibility	Description
Leak Survey	Perform leak survey in conjunction with Super Crew and report all leaks to the OEC/GEC and AK&IM (DIMP and TIMP). Work with DIMP and TIMP to perform iterative patrols as extent of damage is known.
Super Crew	Perform leak survey in conjunction with the Leak Survey team and compile and report results to AK&IM (DIMP and TIMP) and Production Mapping.
Pipeline Patrol	Perform aerial and ground patrol of transmission pipe in affected area and communicate findings to OEC/GEC and TIMP. Work with TIMP to perform iterative patrols as extent of damage is known.
Production Mapping	Create leak survey packages for Leak Survey and Super Crew based on the DASH Report and AK&IM direction. Upon receipt of leak survey results, map leaks in Geographic Information System (GIS) and provide maps to the GEC and AK&IM

The AK&IM Earthquake Playbook is part of PG&E's Pipeline Integrity Management Program which describes the timeline and steps for AK&IM to respond to a major earthquake in PG&E's service territory. After the Napa Earthquake in 2014, various teams or work streams involved in the response activities identified gaps and areas for improvement in response, planning and documentation during and after a major earthquake incident. The development of this more robust and comprehensive instruction now allows for a more consistent and collaborative effort across work streams which enhances communication and educates Gas Operations personnel on key roles and responsibilities of AK&IM as well as the other PG&E teams working closely with AK&IM.

2.1.4.1 Compressor Stations

While the respective OEC is responsible for the overall management of a response to an incident involving Compressor Stations, Gas Pipeline, Operations and Maintenance (GPOM) is responsible for the initial assessment/inspection of Compressor Stations. The Station Services group roles and responsibilities include supporting the initial assessment and activation of

personnel as directed by GPOM in coordination with the OEC Operations and Planning and Intelligence (P&I) Section Chiefs.

2.1.5 Engineering and Design – Role, Gas Storage and Asset Management

2.1.5.1 Gas Distribution Engineering and Design (GDED)

During an Emergency Center activation, the GDED's Engineering Supervisor serves as the Situation Unit Lead and the Senior Distribution Engineer serves as an alternate. The Situation Unit Leader is responsible for writing/sending out the Gas Incident Report.

2.1.5.2 Gas Storage Fields

The OEC is responsible for the overall management of an incident response, and Gas Transmission Operations (GTO) is responsible for initial assessment responses for incidents involving Gas Storage Fields. The Facilities, Measurement, and Reservoir Engineering Department roles and responsibilities include supporting the initial assessment and activation of personnel as directed by GTO, and the OEC Operations and Planning and Intelligence (P&I) Section Chiefs. GTO's primary role and responsibility following an incident is to conduct an initial inspection of the Gas Storage Facilities.

The station operator or other qualified employee is responsible for completing the Inspection List and submitting the form to:

- GEC
- OEC P&I Section Chief
- Compression and Processing, Measurement and Controls, and Storage Asset Family Owners (AFO) or Director(s) of Facilities and Reservoir Engineering

Refer to Well Control Tactical Considerations for additional details on gas storage fields and Gas Operations response to a gas storage emergency.

2.1.5.3 Process Safety

The OEC is responsible for the overall management of emergency response to an incident and Gas Transmission Operations (GTO) is responsible for the initial response and assessment of incidents. The Process Safety Department roles and responsibilities include supporting the risk assessment, as directed by GTO, the OEC Operations (i.e., Incident Commander) and Planning and Intelligence (P&I) Section Chiefs, as follows:

- Following an incident, determine, as needed, if the proposed emergency response objectives and tactics can be performed safely by:
  - Performing a risk assessment
  - Engaging SMEs to perform a Job Hazard Analysis (JHA), and/or
  - Conducting a Process Hazard Analysis (PHA), per Utility Procedure TD-4006P-01, "Process Hazard Analysis."

- During the emergency response, as long as it does not interfere with the emergency response activities, involve the Incident Investigation team (CAP and/or Process Safety) to perform an onsite investigation which includes gathering and preserving relevant incident data (e.g., parts, equipment, photographs, videos) for cause evaluation purposes; see **Section 3.2.1.3** for more detail.
- Following an emergency repair, conduct a Pre-Startup Safety Review (PSSR), per Utility Procedure TD-4006P-02, "Pre-Startup Safety Review" to ensure operation readiness and that appropriate safeguards are in place prior to startup.
- Following an emergency change, if any equipment has been installed that is different from original design, apply Utility Standard TD-4014S, "Change Control (Management of Change)," to ensure that emergency changes are controlled and documented.
- After the emergency response, perform a gap analysis of the PSM elements.
- Conduct root cause evaluations and become actively involved in post-incident AAR.

2.1.6 Gas Operations Customer Communications

2.1.6.1 Customer Care

Customer care personnel perform the following functions during incident response:

- Fill the role of GEC/OEC Customer Strategy Officer (CSO, Customer Care) and partner with the Public Information Officer (PIO) and Liaison Officer (LNO)
- Coordinate, review, and approve customer communications strategy with the EOC PIO and Liaison Officer
- Approve all customer-specific communications, outbound customer callouts, and PGE.com
- Coordinate with the Customer Contact Emergency Coordination Center (CCECC) (Workforce Management [WFM Routing]) on Contact Center inbound Interactive Voice Response (IVR) messaging and Customer Service Representative (CSR) talking points through "Alerters" to Contact Center employees and local Customer Service Offices (CSO)
- Ensure that customer updates via the various customer communications channels are timely and consistent
- Initiate system-wide Business Energy Solutions (BES) and Local Customer Experience (LCE) field support based on local OEC or other CSO requests
- Coordinate with non-core customer for curtailments

2.1.6.2 Public Information Officer (PIO)

The Public Information Officer (PIO) will coordinate with the local OEC representatives and PG&E's Public Information Office to ensure that timely and accurate customer and public

information is disseminated. Local operating departments are responsible for notifying and coordinating with local public safety agencies as warranted by the incident.

During this coordination, the PIO is responsible for the following activities:

- Discuss communications strategy and objectives with the OEC Commander or GEC Director
- Ensure the Public Information Office is adequately staffed to support objectives
- Ensure the PIO staff is working collaboratively and sharing information
- Conduct regular PIO briefings that include the LNO, CSO and their staff throughout the day to discuss communications strategy and developing issues
- Ensure that PG&E is speaking with “one voice” and sharing timely, accurate, and consistent information during an emergency
- Oversee the development, approval and distribution of news releases, talking points, executive communications and other public information
- Ensure the OEC Commander or GEC Director reviews and approves all public information
- Monitor and engage social media
- Communicate with media and other agency PIO’s involved in incident

Also, the PIO works with the Deputy PIO and/or Assistant PIOs (APIO) for Media Relations, Writers, Social Media, Digital Strategy and Customer Communications to ensure that timely, accurate, and consistent information is being shared through those channels.

2.1.7 Shared Services

2.1.7.1 Environmental Management and Programs

Depending on the nature of a gas emergency, there may be the potential for environmental release of gas and associated chemical byproducts of gas transmission. These chemical compounds are potentially harmful to public health and safety, PG&E personnel health and safety, and the environment. Environmental releases can include hazardous materials, metals, hydrocarbons, acids, and odorants.

Figure 2.15 Environmental Management

The Environmental Operations organization at PG&E is a branch of Safety, Health and Environment, which is in turn a part of Safety and Shared Services. Environmental Operations has an Emergency Response intranet page that gives information regarding emergency

response procedures. There are links to general information on 15 specific environmental emergencies:

- Bomb Threat
- Earthquake
- Evacuation
- Emergency Excavation at Manufactured Gas Plant Sites
- Fire, On-Site, Involving Hazardous Substances
- Fire, On-Site - Hazardous Substances Not Involved
- Flash Flood / Flood / Extremely High Tide
- Natural Gas
- Respiratory Hazards
- Responding to News Media
- Spill, Not Oil, No Threat to Water
- Spill, Not Oil, Involving Water Contact
- Spill, Oil
- Toxic Clouds
- Underground Storage Tank Leak

When PG&E personnel (including contractors) encounter a situation such as one of the 15 above during work hours, they need to contact the area PG&E Environmental Field Specialist (EFS) immediately. For emergencies occurring after hours and during the weekend, personnel can call the 24/7 Environmental Emergency Hotline at **1-800-874-4043** which will put callers in touch with their EFS (all numbers listed below). EFSs can also be found using the EFS Assignment List in the Toolkit of the Environmental Field Specialists intranet site or by using a GIS map (geographical information system map).

2.1.7.2 Gas Sourcing – Procurement

Gas Sourcing – Procurement personnel support emergency operations within the Logistics Section of activated Emergency Centers.

Gas Sourcing personnel perform the following functions:

- Maintain logistical support/services based on operational needs
- Coordinate and procure resource ordering (both Materials and Services)
- Establish and manage Micro Sites, Staging Areas and Base Camps
- Verify support requirements with Finance and Administration Section

2.1.8 Business Finance Gas Operations

Business Finance Gas Operations supports emergency operations within the Finance and Administration Section of activated emergency centers. These personnel develop and update the Business Management Plan for finance and logistical support.

The Finance and Administration Section performs the following additional functions:

- Resolves financial documentation issues
- Performs cost analysis and incident forecasting
- Communicates incident financial progress to impacted stakeholders
- Identifies finance requirements
- Supports the creation of a Gas emergency order number(s) in coordination with the OEC; who creates the order based on impacted asset(s), geographical Division, and County
- Communicates emergency and financial guidance to field
- Coordinates with other financial personnel at activated emergency centers
- Provides financial support to Regulatory Relations in the event of a declared Catastrophic Event Memorandum Account (CEMA)

2.1.9 Safety

For responses in which the GEC is activated, safety leaders from Gas T&D Operations, Gas T&D Construction, and Corporate Safety share the responsibility of supporting the incident in the role of GEC Safety Officer. In the case of an OEC activation, every Division has an identified Safety Lead that becomes the OEC Safety Officer. Representatives from these organizations are assigned to each of the five rotating Gas Operations GEC On-Call Teams (Alpha through Echo). These representatives promote both the concept of site safety at their assigned locations as well as coordinate with Safety Officers at all activated Emergency Center locations.

Safety Officers at the GEC maintain a global awareness of safety related incidents (e.g. accidents, injuries, near misses, etc.) for the entire response and conduct safety related Tailboards, training, etc. as identified for each situation. The Safety Officer's function is to develop and recommend measures for ensuring personnel safety and to assess and/or anticipate hazardous and unsafe situations. Having full authority of the Incident Commander, the Safety Officer can exercise emergency authority to stop or prevent unsafe acts.

Safety Officers perform the following functions:

- Identifies hazardous situations associated with the incident
- Reviews the Incident Action Plan (IAP) for safety implications
- Exercises emergency authority to stop or prevent unsafe acts and communicates such exercise of authority to the IC
- Investigates accidents that have occurred within the incident area

2.2 Emergency Facilities

Gas Operations maintains various emergency and critical facilities, which are differentiated by function and structure. **Section 2.1** summarizes the purpose of each type of emergency facility used within Gas Operations. Gas Operations maintains an emergency management organizational structure at the following levels: field, Division/District, Region, LOB (i.e., Gas Operations), and corporate (all LOBs), as displayed in the following organization chart in **Figure 2.16**.

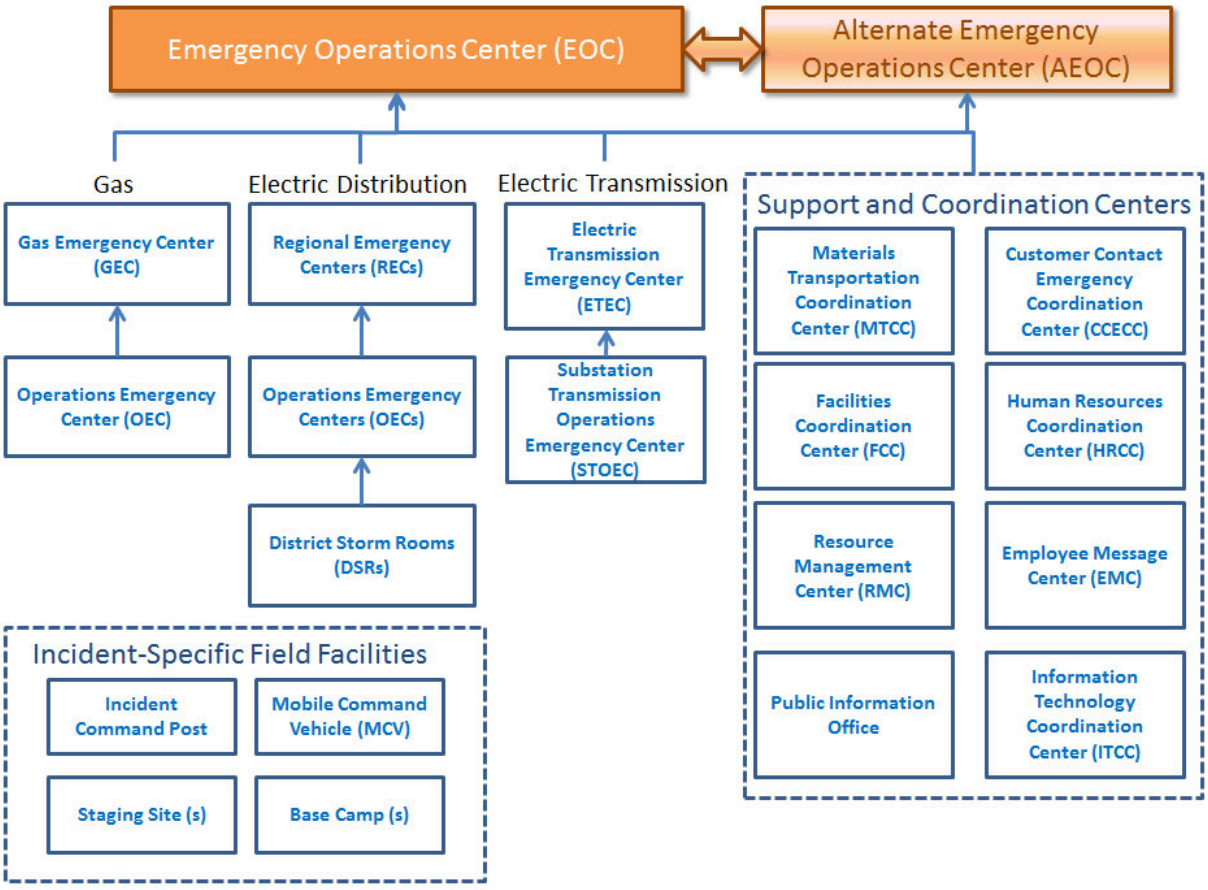


Figure 2.16 PG&E Emergency and Support/Coordination Centers

2.2.1 Emergency Field Facilities

2.2.1.1 Incident Command Post (ICP)

At the scene of a Routine (Level 1) emergency, activities of on-scene response personnel are typically managed at a gas Incident Command Post (ICP) location. The Incident Commander (IC) or delegate serves as the single point of contact for all off-site (e.g., Gas Control Center) and other PG&E (e.g., Company Communications) groups.

To help manage the large service area, PG&E has established regions, divisions, areas, and districts. Each level has specific duties and a hierarchy structure to ensure efficient and effective communication and coordination.

2.2.1.2 Mobile Emergency Centers – Mobile Command Vehicles (MCV)

A MCV is a specialized vehicle that can be deployed to and stationed at the scene of an emergency. The MCV can act as an ICP or an emergency center if warranted. MCVs help facilitate communication between response crews, command staff, and government agencies. MCVs are specially outfitted for incidents that may require multiple personnel to be stationed near the site of an incident for one or more days.

There are three types of MCVs available within PG&E:

- Type I Commander (motor coaches)
- Type III Sprinter (vans)
- Emergency Communications Trailers (ECTs)

In order to mitigate or minimize the possible relocation of the MCV during an incident, the MCV should be placed in a location that will allow for proper access (staging area) and safety (limited public access, minimal area hazards, distant from incident hazards such as fire or flood). When considering placement of the MCV, the Incident Commander should consider identifying a staging area and safe route prior to the arrival of the MCV.

Refer to the CERP, **Appendix E**, for MCV details.

2.2.2 Emergency Centers

2.2.2.1 Operations Emergency Center (OEC)

The Operations Emergency Center (OEC) is a physical location that allows staff to provide management oversight at the Division and/or District level. The OEC is staffed by an **Incident Management Team (IMT)** comprised of corresponding positions that are found in both the Gas Emergency Center (GEC) and the Emergency Operations Center (EOC). The OEC directs and coordinates the personnel necessary to assess damage, make-safe, restore service, and communicate status information internally and externally. An OEC identifies command staff to manage a Transmission, Distribution or Storage Incident. In addition, each OEC has an alternate facility.

Figure 2.17 Operations Emergency Center (OEC)

The OECs may support more than one incident at a time, and may have several ICPs reporting into them. The OECs report incident status to the GEC if the GEC has been activated. Gas Operations has 18 strategically located divisions level OECs throughout the service territory. The 12 transmission districts use the division level OECs based on the overlapping of their respective geographical areas. Further, personnel from each division and district are combined within each division OEC to roster 18 Incident Management Teams (IMTs) – one IMT per OEC. In addition, OECs can be located anywhere on scene (e.g. in the MCV or an alternate location such as a storage facility for a transmission incident).

2.2.2.2 Gas Emergency Center (GEC)

The Gas Emergency Center (GEC) is located at 6121 Bollinger Canyon Road, Building Z, on the 5th floor, adjacent to the GCC. The GEC is staffed by an **Incident Support Team (IST)** that activates in support of gas-only emergencies and in support of EOC operations for dual-commodity emergencies. The GEC activates for emergencies at Levels 3 (optional), 4, and 5 (Serious, Severe, and Catastrophic, respectively). The GCC, which includes Gas Dispatch and Scheduling, the Gas Transmission Control Center (GTCC), and the Gas Distribution Control Center (GDCC), provides intelligence to the GEC if the GEC is activated.

Figure 2.18 Gas Emergency Center (GEC)

The GEC Director, working through the Gas Operations GEC On-Call team, supports the incident in coordination with activated OEC(s). The GEC may set system-level priorities and strategies. The GEC communicates the status of the emergency response to senior management, other Emergency Centers, and departments involved in the emergency. The GEC may also coordinate all resources within Gas Operations as well as external mutual assistance.

The GEC incident support functions includes:

- Support the needs of the activated OEC(s)
- Compile system-wide status and damage information
- Confirm information systems are functioning properly
- Provide accurate outage and restoration estimates and forecasts to the Public Information Office and the customer
- Review/approve all external communications before releasing to the media

In a Level 3 or higher emergency, the GEC will track customer outages and resource allocations. The GEC has the authority to activate any Emergency Center based on the needs of the incident.

The GEC is activated and assumes responsibility (or shares responsibility with the EOC in dual commodity emergencies) for support of incident management activities which could include:

- Establish overall alignment with incident objectives
- Coordinate damage assessment and investigation
- Set restoration priorities
- Disseminating information

- Move personnel, equipment, and other technical support to assist operating departments in restoring service
- May operate in an OEC role as one or more OECs are activated and staffed

During dual commodity emergencies, the GEC provides information to the EOC and will provide the following 8 GEC positions who will report to the corporate EOC at 245 Market St. in San Francisco and integrate into the EOC Command and General Staff (C&GS) .

1. GEC Director
2. IC Advisor
3. GEC Executive Assistant
4. Operations Section Chief
5. Planning and Intelligence Section Chief
6. Documentation Unit Lead
7. Resource Unit Leader
8. Logistics Chief

Figure 2.19 illustrates the GEC Organization Chart. The blue positions in the chart will report to the EOC during dual commodity incidents. These positions will initially be staffed from the oncoming GEC On-Call team (the next team up for rotation).

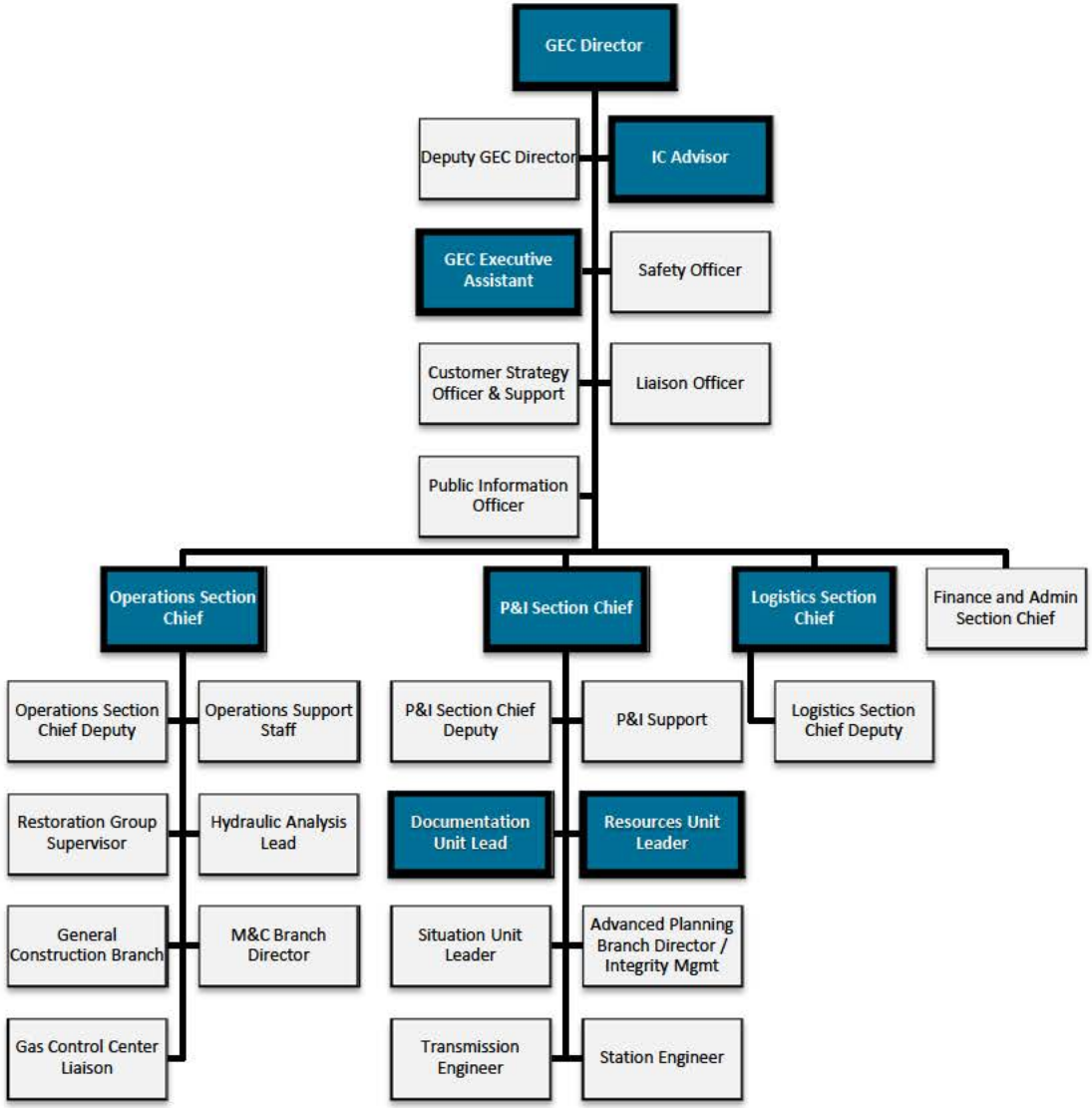


Figure 2.19 GEC Organization Chart

Note that, the CERP integrates the positions that the GEC provides into the following structure:

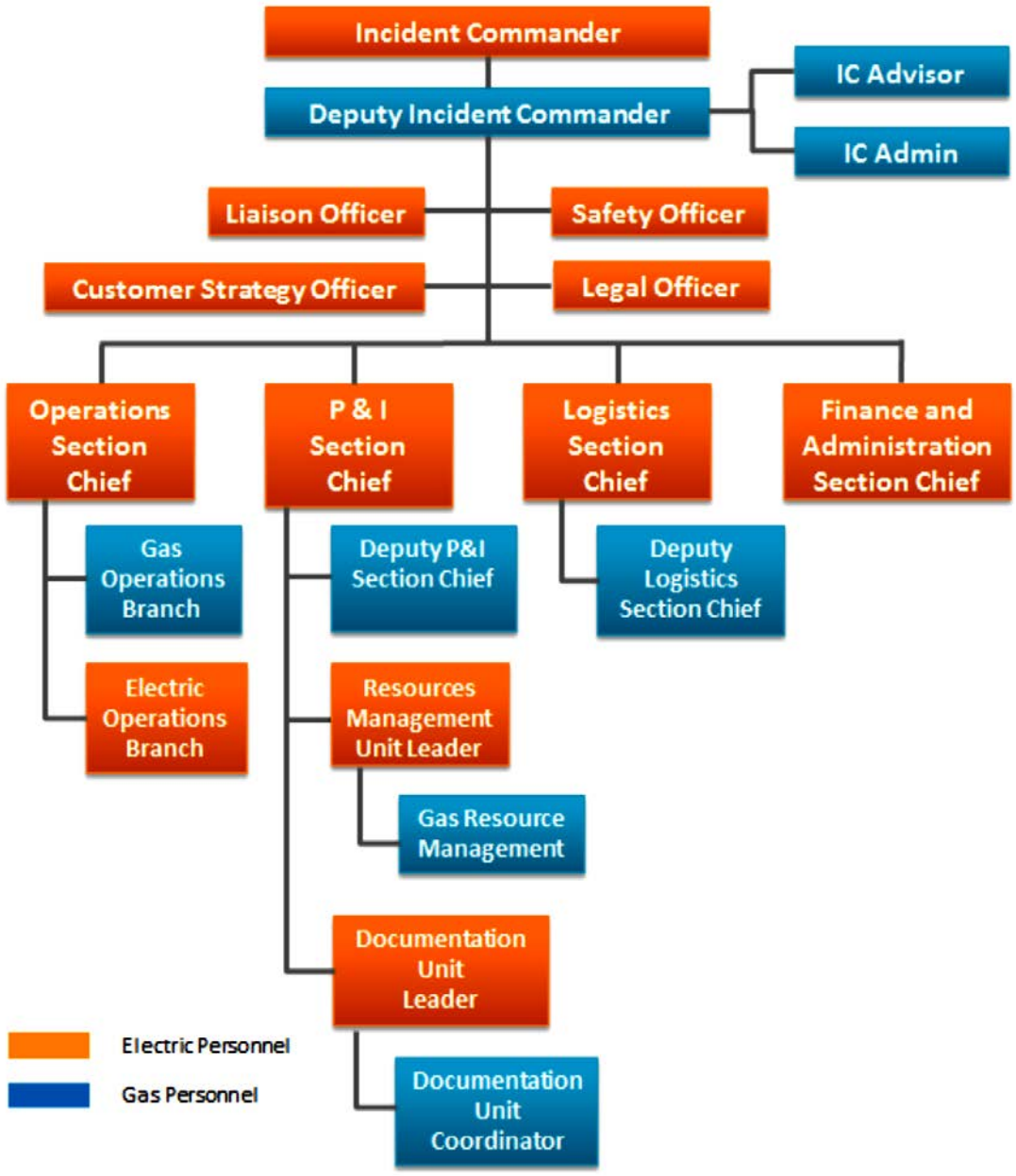


Figure 2.20 Example EOC Organization for a Dual Commodity Incident

2.2.2.3 Emergency Operations Center (EOC)

The EOC is a designated location where information and resources are coordinated to support incident management activities. The EOC is located at PG&E's General Office (G.O.) in Room 119 of the 245 Market building. The EOC is activated for a Level 4 or 5 incident, or during a Level 3 incident if it is deemed necessary by the Incident Commander and/or the Director of Emergency Preparedness and Response Support (EP&RS).

Figure 2.21 Emergency Operations Center

When the EOC is activated, the EOC Commander establishes priorities for the incident and supports the Emergency Centers and field responders.

EOC members:

- Provide oversight and support to the Emergency Management Organization (EMO), and set system-level objectives and strategies
- Communicate the status of the emergency response to senior management, Emergency Centers, and departments involved in the emergency
- Coordinate internal resource deployments between Regions, and the use of contractors and mutual assistance, as needed
- Compile system-wide status and damage information, and verify that information systems are functioning properly
- Approve all event communications, and coordinate with external agencies such as the California Office of Emergency Services (Cal OES), State Operation Center (SOC), and the SOC's Utility Operations Center (UOC)

Gas Operations personnel report to the EOC for gas emergencies that involve significant single (gas only) or dual/multi commodity emergencies (i.e., gas and electric and/or power generation). See **Section 3** for GEC and EOC activation criteria.

In Level 3 emergencies, EOC activation is optional for dual commodity events. In Level 4 or 5 emergencies that are dual commodity, the EOC is activated and is supported by the GEC to enhance communications between Gas Operations and other PG&E LOBs.

Upon EOC activation where Gas Operations personnel are deployed, at least one Gas Operations Officer (vice president or above) will respond to the EOC.

Figure 2.22 Gas and Electric Dual Commodity Response

2.2.3 Other Gas Emergency Facilities

2.2.3.1 Gas Operation Center in Bishop Ranch

The Gas Operation Center is a state of the art facility in the Bishop Ranch business park in San Ramon, CA. This best-in-class facility co-locates Gas Transmission Control and Gas Distribution Control with Gas Dispatch and Scheduling to enhance emergency response and increase situational awareness. The combined organizations, in conjunction with the implementation of new technologies and processes, allow the company to be more proactive in pipeline operations capability and reliability. The Gas Operation Center coordinates with the GEC through the GCC Liaison in the GEC.

Figure 2.23 Gas Operation Center

Key highlights of the Gas Operation Center include:

- Staffed 24/7 with operators and coordinators for both the T&D systems.
- Real-time coordination between gas dispatch and gas control personnel, improving coordination and handling of incoming emergency calls and efficiency in dispatching response crews.
- Gas planners and mappers available during day shift and on-call 24/7 to improve emergency response and help reduce the time to Shut In The Gas (SITG).

- Instructions on automated pipeline segment shutdowns are readily available during emergencies.
- 90-foot long video wall for information sharing and increased situational awareness.
- Video conferencing and use of SMART Board™ (interactive whiteboard) technology for improved communications and collaboration with the field.
- Simulation facility to ensure operators can readily address a wide range of potential emergencies and hone crisis prediction and management skills.

For details on all PG&E Emergency Centers and Support Centers, please refer to **Emergency and Coordination Centers** in the CERP (**Figure 5.7** and **Table 5.1**).

2.2.3.2 Critical Gas Distribution Facilities

The "facility" in this term is not real estate; rather, in this context facility refers to gas equipment, main, or service. PG&E underground gas distribution facilities are designated as critical by the Area Senior Gas Operations Engineer, in consultation with the local Maintenance and Construction (M&C) supervisor. In particular:

1. The Area Senior Gas Operations Engineer:
   - Maintains a list of the critical facilities locally in each Division.
   - Reviews and updates the list, in consultation with the local M&C supervisor, at least annually.
   - Provides the list or ensures the list is readily available and in use by mapping and construction for prescreening and ticket load management purposes.
2. Gas Operations maintains critical gas facility information for use by Fire Agencies and Regulators for planning and emergency response purposes. This information is also used by various gas organizations such as Locate and Mark, to identify 811 excavations near critical facilities and alert the excavator so that PG&E can provide a standby person on site. It also identifies Leak Survey frequencies on some served buildings like schools, churches, and hospitals and gas transmission lines.

The Critical Gas Distribution Facilities Lists are maintained on TAMI, GD-GIS, and GDCC SharePoint Sites.

2.2.3.3 Critical Gas Transmission Facilities

Utility Standard TD-4050S, "Security Standard for Gas Operations," establishes requirements for security measures at Gas Operations facilities and provides additional information on security requirements for "critical" gas facilities. This standard conforms to U.S. Department of Homeland Security – Transportation Security Administration's (TSA) Pipeline Security Guidelines dated April, 2011.

In order to identify high-consequence "critical" gas facilities that require enhanced security measures, PG&E conducts critical facility evaluations (criticality assessments) using criteria developed by TSA. TSA criteria focus on the consequences of a hostile act against aboveground

gas facilities. TSA-specific criteria are listed below. Pipeline facilities meeting one or more of the criteria below are considered to be critical.

A facility or combination of facilities is considered critical in that, if damaged or destroyed, would have the potential to:

- Disrupt or significantly reduce required service or deliverability to installations identified as critical to national defense;
- Disrupt or significantly reduce required service or deliverability to key infrastructure (such as power plants or major airports) resulting in major economic disruption;
- Cause mass casualties or significant health effects;
- Disrupt or significantly reduce required service or deliverability resulting in a state or local government's inability to provide essential public services and emergency response for an extended period of time;
- Significantly damage or destroy national landmarks or monuments;
- Disrupt or significantly reduce the intended usage of major rivers, lakes, or waterways (for example, public drinking water for large populations or disruption of major commerce or public transportation routes);
- Disrupt or significantly reduce required service or deliverability to a significant number of customers or individuals for an extended period of time;
- Significantly disrupt pipeline system operations for an extended period of time, i.e., business critical facilities.

Source: TSA Pipeline Security Guidelines, April 2011, page 9

In 2014, PG&E engaged a consultant to conduct a Vulnerability Assessment and Protection Study (VAPS) on its gas transmission assets. This study included the development of physical security threat scenarios and a threat mitigation framework.

As a result of the VAPS and the TSA Pipeline Security Guidelines, PG&E identified 20 Gas Transmission facilities that meet one or more of the facility criticality criteria. A multi-year implementation plan was developed to improve physical security measures and mitigate identified threat scenarios. Physical security measures specified for this program include various combinations of solutions ranging from barriers, high security chains and locks, shout-down/public address systems, equipment and perimeter shields, thermal imaging cameras and analytics for deterrence, detection and assessment. There are also recommendations for periodic review and update of the facility-specific security measures.

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3 Concept of Operations

Risk is inherent in the transportation, delivery, and provision of gas service. It is the policy of PG&E to respond to emergencies in accordance with the Incident Command System (ICS). See Utility Policy EMRG-01, "Emergency Response and Business Continuity Policy", and General Order No. 112-F for reference. Use of ICS allows the company to respond to emergencies, large and small, in the same standardized and coordinated manner across the entire service territory, as well as during incidents where PG&E supports organizations outside the service territory. The features of ICS include common terminology, management by objectives, flexibility, and modular organization.

This section provides an overview of the PG&E emergency response system and explains how to apply it to emergencies. When a gas emergency occurs, this plan is activated to assist in the coordination of emergency processes, resources, personnel, and equipment used for response.

This plan is intended to be implemented in a scalable and flexible way to improve response. Emergency operations will involve the coordination and management of personnel and resources to address a system disruption, mitigate an emergency, and facilitate the transition to recovery operations.

The Concept of Operations provides general operational actions and processes intended to give an overall picture of how PG&E responds to all hazard gas emergencies as an organization. This section is organized in the following manner:

3.1, Emergency Plan Activation, describes the PG&E gas activation process, levels of emergencies and notification process

3.2, Emergency Response Process, describes PG&E gas emergency readiness, pre-event activities, damage assessment/repair/restoration/return to normal activities, resource management and recovery process

The Gas Emergency Response Plan addresses minor incidents as well as large-scale disasters impacting the PG&E service territory. All PG&E personnel must be prepared to respond promptly and effectively to emergencies. This Concept of Operations provides a general framework for objectives, strategies, tasks, and actions used during an emergency response.

3.1 Emergency Plan Activation

PG&E's Incident Levels categorize incidents and support PG&E in understanding the complexity of an incident and the actions that may be employed at each level (e.g., emergency center activations, resources requests, etc.). To ensure a consistent and well-coordinated response to emergencies, the company has adopted the following incident classification system:

- Level 1 – Routine
- Level 2 – Elevated
- Level 3 – Serious
- Level 4 – Severe
- Level 5 – Catastrophic

Activations will occur when authorized individuals classify an incident base on the activation criteria set forth in the Gas Incident Levels in **Table 3.1**, and request the activation of supporting Emergency Center(s). Gas Incident Levels range in increasing severity from 1-5, and corresponding colors (blue, green, yellow, orange, red). Each level is identified by the following information:

- Examples of activation trigger points
- Gas Resources (ranging from local to mutual aid)
- Customer actual or potential outage (ranging from less than 200 to more than 10,000 customers)
- Emergency Center activation (ranging from none to all, including EOC)
- External interest/media/reputation (ranging from none or little to catastrophic)

The primary focus of gas response is on safety and making the affected area safe when service interruption occur. The secondary focus following response is restoration.

For additional details on PG&E's Incident Levels, refer to the **Levels of Emergency** section in the CERP.

3.1.1 Gas Activation Matrix

Incident levels help define the complexity of an emergency and the actions taken to prepare and respond.

The Gas Incident Level Activation Matrix (refer to **Table 3.1**) is a guide that is used by Emergency Center Commanders and the Gas Emergency On-Call personnel to determine what level the incident should be classified as, and whether the GERP and associate emergency centers should be activate. The Activation Matrix can be used following an incident or in anticipation of an event.

The Gas Emergency On-Call is notified of all Level 2 and above emergency center activations and can be reached at **925-244-4000 (external)**.

Table 3.1 below gives the five incident levels for gas, with columns for activation triggers and guidance for establishing the appropriate level of activation.

Table 3.1 Gas Incident Level Matrix

Severity	Level	Triggers	Customer Impact	Emergency Centers	Gas Resources	External Interest/Media/Reputation
Routine	1	• Customer Call • Leak indication • SCADA Alarm • Structure Fire	• Less than 200 core customers	• No activation	• Local crew and resources utilized	• Routine local incident or customer issue with no or minimal public or media interest. Police or fire may be on scene
Evaluated	2	• More than 20 customer calls within the first hour of a gas-related incident • Incident requiring out-of-area or division resources • More than 50 unplanned service interruptions or re-light efforts • Odorant equipment incident • Wildland fire **Storage Well (Level 1 Incident Triggers)** • Minor surface leak • Failure of wellhead seals • Down hole equipment	• Greater than 200 core customers. Major impact to non-core customers	• OEC activates	• Local crews and resources. Area/division resources	• Local emergency or customer issue with increased public, media, government, or regulatory interest. City or county activation

Severity	Level	Triggers	Customer Impact	Emergency Centers	Gas Resources	External Interest/Media/Reputation
Serious	3	• Dig-in or line rupture to transmission line with blowing of gas or ignition • High-profile incident with significant media interest • Need for communication/ coordination to support major gas incident • Failure of critical transmission equipment or facility • Capacity shortage • Cold Winter Day (CWD) • Gas-related serious injury or fatality. • Natural or man-made disaster • Damage to PG&E's brand reputation **Storage Well** **(Level 2 Incident Triggers)** • Wellhead seal failure • Equipment failure • Over-pressure (OP) event	• Between 2,000-10,000 core customers • Major Impact to multiple non-core customers	• OEC(s) activate. GEC, EOC activation optional Supports REC (Electric) when applicable	• Local crews and resources. Possible GC and out-of-area/division resources	• Local/regional emergency or customer issue with increased public, media, government or regulatory interest. City, County, or State activation

Severity	Level	Triggers	Customer Impact	Emergency Centers	Gas Resources	External Interest/Media/Reputation
Severe	4	• Significant natural or man-made disaster • Significant life safety or environmental impact • Credible terrorist threat specific to gas facility • Damage to PG&E's brand reputation • National media attention	• Greater than 10,000 core/non-core customers • Major Impact to multiple non-core customers	• OEC(s), GEC, and EOC activation Supports REC (Electric) when applicable	• Local crews and resources. Possible GC and out-of-area/division resources • Curtailment of routine work • Mutual aid	• Severe emergency or customer issue with considerable public, media, regulatory, and government interest across state and national levels Regional or State EOC activation and declaration
Catastrophic	5	• Major natural or man-made disaster with significant harm to the public and gas system operations • Major issues regarding employee resource availability • Significant life safety or environmental impact • Terrorist Act • Impact to PG&E's brand reputation. • National media attention **Storage Well** **(Level 3 Incident Triggers)** Storage well surface blow out	• 10,000 or more core customers	• OEC(s), GEC, and EOC activation Supports REC (Electric) when applicable	• Full mobilization and prioritization of company-wide resources required Significant need for contractor or mutual assistance	• Catastrophic emergency or customer issue with extensive public, media, regulatory, and government interest across state and national levels. State and/or Federal disaster declaration

3.1.2 Activation Process and the Authority to Activate

Gas Operations identified individuals with authority to activate each Emergency Center (i.e., OEC, GEC, EOC), triggers for activation and guidance for establishing the appropriate level of activation.

A Level 1 emergency requires no triggers and is managed by the local Division or District supervisor following existing standards and procedures. At the scene of a Routine (Level 1) gas emergency, activities of on-scene response personnel are typically managed at a Gas M&C or GPOM ICP location. The Incident Commander or delegate serves as the single point of contact with all off-site (e.g., Gas Control Center) and other PG&E (e.g., Company Communications) groups. If an incident escalates then an OEC may be activated to support the ICP.

During normal operations, the first PG&E employee responding to a service call or emergency (the Incident Commander) determines if the emergency can be locally mitigated or if additional resources are needed. The activation process of emergency centers in incidents Levels 2-5, begins with recognition of an emergency that requires resources beyond those locally available, or having impacts beyond the ordinary, as discussed below.

Emergency Centers are activated by employees with the authority to act. If there is a need to activate Emergency Centers, **Table 3.2** in this Section describes who has the authority to activate and command the individual Emergency Centers at each of the five incident levels.

Initial assessment actions are included in Appendix B.1, Response Aid A – First Responder/Incident Commander.

3.1.2.1 OEC Activation

3.1.2.1.1 OEC authority to activate

- Designated OEC Commander
- Gas Control Senior Manager
- M&C Supervisor / Superintendent / Director
- M&C Superintendent
- GPOM Supervisor / Superintendent / Director
- Any of the above designees/delegates

3.1.2.1.2 OEC activation triggers

The following triggers are used as guidance when considering activating an OEC:

- Greater than 20 calls within the first hour of gas-related incident appearing to occur within a localized geographic area
- Major impact to non-core customers
- Greater than 200 estimated core customer outage

- Incidents requiring out-of-area and/or out-of-division resources for repair or relight efforts
- More than 50 unplanned service interruptions or relight efforts that are forecasted to last more than three hours
- Odorant equipment incident: high or low odorant levels in the gas line, or uncontrolled odorant release to atmosphere or pipeline
- Low impacted wildland fire
- High profile incident with significant media interest

3.1.2.2 GEC Activation

3.1.2.2.1 GEC authority to activate

The Senior Vice President of Gas Operations, all GEC Directors, the Senior Director of GSO, Director of M&C, Director of GPOM, Manager of GEP, and any of their designees/delegates have authority to activate the GEC.

3.1.2.2.2 GEC activation triggers

These triggers are used as guidance when considering activating the GEC.

- High profile incident with significant media interest
- Need for communication/coordination to support a major gas incident
- Dig-in or line rupture to transmission line with blowing gas
- Non-service gas ignition
- Failure of critical transmission equipment
- Potential Curtailment
- Major incident in High Consequence Area (HCA)
- Capacity shortage
- Cold Winter Day – Abnormal Peak Day (APD)
- Gas-related serious injury or fatality
- Natural or man-made disaster
- Multiple gas transmission system outages or potential for outages, and limited resources available
- Significant harm to the public
- Between 2,00 to 10,000 estimated customer outage
- Damage to Company brand reputation

3.1.2.3 EOC Activation

3.1.2.3.1 EOC authority to activate

- SVP of Gas Operations
- All Vice Presidents within Gas Operations
- All GEC Directors
- Senior Director of GSO
- Any of the above designees/delegates

3.1.2.3.2 EOC activation triggers

These triggers are used as guidance when considering activating the EOC.

- Significant natural or man-made disaster
- Significant life safety or environment impact
- Terrorist threat specific to environment impact
- Terrorist threat specific to gas facilities
- Greater than 10,000 core/non-core customer outage
- Significant issues regarding employee resources availability
- Major natural or man-made disaster with significant harm to the public and gas system operations
- Activation of mutual aid agreements
- Damage to Company brand reputation
- National media attention

Table 3.2 PG&E Gas Emergency Centers, Activate Authority, and Command Authority

Emergency Center	Purpose/Function	Activate Authority	Command Authority	Emergency Level
Incident Command Post (ICP)	Provides a space for the Incident Commander to command and control activities for all on-scene response personnel, including communication.	GSR M&C Supervisor M&C Superintendent GPOM Superintendent GPOM Supervisor	Incident Commander	Level 1
Operations Emergency Center (OEC)	Is a physical location that allows staff to provide management oversight at the Division and/or District level. Focuses on Operations Section Functions, but can activate other roles at a Level 2. Each Division headquarters location maintains an OEC to coordinate response to emergencies.	OEC Commander GCC Manager M&C Superintendent M&C Supervisor GPOM Superintendent GPOM Supervisor	OEC Commander	Level 2–5
Gas Emergency Center (GEC)	Is a physical location that supports the incident in coordination with activated OEC(s). The GEC may set system-level priorities and strategies. The GEC communicates the status of the emergency response to senior management, other Emergency Centers, and departments involved in the emergency. The GEC may also coordinate all resources for deployment within Gas Operations, and the use of external mutual assistance as necessary. Focuses on coordination and communications for Level 3 or higher emergencies.	Senior Vice President of Gas Operations GEC Directors Sr. Director GSO Director GPOM Manager of GEP	GEC Director	Level 3–5

Emergency Center	Purpose/Function	Activate Authority	Command Authority	Emergency Level
Emergency Operations Center (EOC)	Is a physical location where information and resources are coordinated to support incident management activities. Focuses on company-wide coordination and communications for Level 4 or higher emergencies, including dual-commodity.	For Gas activation authority refer to 3.1.2.4.1. Note: Refer to the CERP for non-Gas personnel with activation authority and to learn more about the EOC.	EOC Commander	Level 3–5
Mobile Emergency Center (Mobile Command Vehicle)	Provides a Mobile Emergency Center that can be used for support of emergencies at the Incident Command Post, or as an alternate OEC. The MCVs: 1. Provide communications capability between internal and external first responders, network access, satellite TV, and monitors. 2. All ICS Functions can be performed from these vehicles and MCV personnel would report to the next level of Emergency Center if activated.	Incident Commander at ICP OEC/EOC/GEC Commander Sr. Director GSO Manager GEP	Incident Commander OEC Commander EOC/GEC Commander (as appropriate)	

3.1.3 Gas Incident Levels

To ensure a consistent and well-coordinated response to emergencies, PG&E developed the following emergency classification system. This information should be used to establish the appropriate Incident Levels for emergencies. Note: Any Gas Incident Level can be reportable to the Department of Transportation (DOT) and/or California Public Utilities Commission (CPUC) if it meets the specified criteria found in Utility Procedure TD-4413P-01, "Reporting of Gas Events"

The GCC should be informed of any gas-related incidents, in particular because they are responsible for making internal notifications and contact the appropriate personnel to make external notifications, such as to CPUC and DOT. The Gas Control Notification Process is covered in **Section 3.2, PG&E Emergency Response Process**, and **Appendix E.6, CPUC/DOT Notification Requirements**, of the GERP.

3.1.3.1 Gas Incident Level 1 – Routine

Incidents that involve a relatively small number of customers, such as those managed during routine operations. Local resources are sufficient to respond.

Affected Area and Resources: A local emergency that involves a relatively small number of customers (less than 200 estimated customers out, or at risk of losing service), handled by one operating department within its assigned geographical area, with minimal impact on customers and operations.

Customers: Small numbers of inquiries.

Media/Government Coordination: Generates little to no public, media, or governmental interest, and can be managed by local on-call representatives if needed. Local Fire Department may or may not remain on site with PG&E responders.

Emergency Center Activation: This level of emergency does not require the activation of an Emergency Center.

Examples:

- Car versus meter accident
- Low impact dig-in and/or gas leak requiring only routine response with no fire, no injuries or fatalities, and no potential for either
- Grade 1 gas leak[1]; or cyber incident (localized computing service failure)

[1] A leak that represents an existing or probable hazard to persons or property, and requires immediate repair or continuous action until the conditions are no longer hazardous (GPTC Guide for Gas Transmission and Distribution Piping Systems: 2009 Edition.

3.1.3.2 Gas Incident Level 2 – Elevated

This is a pending potential incident or a local emergency that requires more than routine operations response. Resources are mainly local, but there is a possibility that resources may need to move within the Region.

Affected Region and Resources: This may be a Region-wide or higher profile local emergency involving more than 200 estimated customers out, or at risk of losing service. A Level 2 emergency restoration duration is 1 to 2 days and requires a regular shift with some resources on extended overtime to complete the work. The resources involved include local crews and may require additional resources moved within the Area or Region.

Customers: The Customer Contact Centers may augment staffing, extend hours of coverage, or use technology (e.g., 21st Century, interactive voice response unit/IVRU) and the incident may impact multiple major customers.

Media/Government Coordination: This level of emergency is expected to result in increased coordination between PG&E and the media and/or government, and may require increased communication coordination using a Public Information Officer (PIO). Level 2 emergencies may require PG&E Agency Representative(s) to communicate with local Operational Area (OA) and/or California Governor's Office of Emergency Services (Cal OES) Regional Emergency Operation Centers (REOC).

Emergency Center Activation: In a Level 2 emergency, a local or specialized OEC may be activated with Command and General Staff (C&GS) positions. This can also include the mobilization and use of a Mobile Command Vehicle (MCV). A Level 2 emergency requires more than a routine response.

Examples:

- Gas-related fire
- Area over-odorization
- Dig-in or loss to distribution lines
- Local gas regulation or system equipment failure causing significant interruption or multiple leaks
- Cold Winter Day (CWD) operations with gas curtailment strategy
- Cyber incident – pipeline maintenance, database failure, service status unavailable
- Minor surface leak
- Failure of wellhead seals
- Down hole equipment

3.1.3.3 Gas Incident Level 3 – Serious

Serious incident that involves large numbers of customers. Resources mainly move within the Region, but may need to move between Areas/Regions.

A Level 3 emergency may have one or more of the following characteristics:

Business Continuity: This level of emergency affects the company and/or customers' ability to conduct normal business functions and may require extensive coordination with governmental agencies, including Cal OES's SOC.

Affected Area and Resources: Typically a serious incident that involves a large number of customers (2,000 to 10,000 estimated customers out, or at risk of losing service).

This type of incident requires local resources that mainly move within the Area/Region, but may need to move between Areas/Regions. Outside resources are brought in from other Divisions, and Gas Construction (GC) resources may be mobilized. Restoration duration is 2 to 4 days, with regular shift and additional resources placed on 12- to 16-hour schedules for more than a single operational period.

Customers: A large number of customer inquiries that might require Customer Operations to activate the Customer Contact Emergency Coordination Center (CCECC) and use additional Customer Contact Center support options.

Media/Government Coordination: A local or regional emergency with increased inquiries from media and regulatory/governmental organizations at the local or state levels, and the potential to damage PG&E's brand reputation.

Emergency Center Activation: In a Level 3 emergency, one or more local or specialized OECs or MCVs will activate. In addition, the GEC and/or EOC activation is optional.

Examples:

- Major dig-in or loss to distribution or transmission lines or systems
- Gas-related fire, injury, or significant property damage
- Localized storm, wildfire, earthquake, or landslide, with gas-related injury or fatality
- Gas-related property damage or impact to gas facilities
- Gas curtailment operations of core or non-core customers
- Major transmission impacts with severe distribution interruptions
- Significant public safety concern with gas-related evacuations
- Cyber incident – SCADA system failure in a Division or District
- Two or more OECs activated
- Wellhead seal failure
- Equipment failure
- OP event

3.1.3.4 Gas Incident Level 4 – Severe

This is an escalating incident with company impact or extended multiple emergency incidents that impact a large number of customers.

A Level 4 emergency may have one or more of the following characteristics:

Business Continuity: This level of emergency affects the company and/or customers' ability to conduct normal business functions and may require extensive coordination with governmental agencies, including Cal OES's SOC.

Affected Area and Resources: Typically, a severe incident that involves large numbers of customers (more than 10,000 estimated customers out, or at risk of losing service). This type of incident requires significant resources that are brought in from outside the Area/Region. Gas Construction (GC) and contractor resources are mobilized across Regions. Restoration duration is more than 4 days and requires 24/7 coverage over multiple operational periods. In a Level 4 emergency, routine work is curtailed.

Customers: Greater than 10,000 core/non-core customer inquiries require Customer Operations to activate the CCECC and use additional Customer Contact Center support options.

Media/Government Coordination: This level of emergency affects more than one Region and results in considerable interest from media and regulatory/ governmental organizations, at the state and national level. In a Level 4 emergency, there is potential reputational risk for PG&E.

Emergency Center Activation: In a Level 4 emergency, a local or specialized OEC and/or MCV will activate. In addition, the Gas Emergency Center (GEC) and/or the EOC will activate (depending on whether the emergency is gas-only or dual commodity).

Examples:

- Gas-related explosion
- Pipeline rupture with significant public safety issues
- Significant earthquake or major gas event affecting multiple Divisions in a single Region, with major transmission impacts, severe gas distribution interruptions, and confirmed gas-related injuries, fatalities, and/or severe property damage; or cyber security incident impacting Gas Operations and causing severe business and/or distribution interruption

3.1.3.5 Gas Incident Level 5 – Catastrophic

A catastrophic event that includes multiple emergency incidents, impacts a large number of customers, has a significant cost, and results in significant infrastructure risk/damage.

A Level 5 emergency may have one or more of the following characteristics:

Business Continuity: This level of emergency affects the company and/or customers' ability to conduct normal business functions and may require extensive coordination with governmental agencies, including Cal OES's SOC.

Affected Area and Resources: A catastrophic emergency that involves a large number of customers (more than 10,000 core customers out, or at risk of losing service). This level of

emergency requires the full mobilization and prioritization of company-wide resources. Restoration duration is more than 10 days and requires 24/7 coverage over multiple operational periods, with rotating shifts implemented for the duration of the event. This level of emergency also requires mutual assistance resources. It will require new cost accounting structures to track costs.

Media/Government Coordination: A Level 5 emergency involves extensive public, media, and government/regulatory interest across both Regions and at the state, national, and international level. In a Level 5 emergency, there is a potential reputational risk for PG&E.

Emergency Center Activation: In a Level 5 emergency, one or more OECs and/or MCVs will activate. In addition, the GEC and/or the EOC will activate, depending on whether the emergency is gas-only or dual commodity.

Examples:

- Significant, widespread life-safety or environmental impact
- Major earthquake with uncontrolled risk of injury or fatality and/or property damage
- Multiple pipeline ruptures with significant public safety issues
- Multiple uncontrolled major gas releases or gas-fed fires across system with long- duration gas interruption expected
- Cyber incident – critical computing infrastructure destroyed (Data Center or Gas Operations Center)
- Storage well surface blow out

3.2 Emergency Response Process

3.2.1 Emergency Response to Gas Incidents

PG&E's Gas Operations' emergency response process is designed to provide a safe, standardized and effective incident management approach that supports the CERP and uses ICS as its fundamental response framework. By using ICS, Gas first responders are able to integrate seamlessly with community first responders and more effective respond to and manage gas related emergencies. The following sections delineate Gas Operation's emergency response process.

3.2.1.1 Notifications of Gas Emergencies and Incident Escalation

PG&E is notified of emergencies through Gas Dispatch and the GCC, collectively known as the Gas Operations Center. These two channels are discussed below, along with the ways in which field resources are escalated through them. Note that the GCC is made up of the Gas Transmission Control Center (GTCC) and the Gas Distribution Control Center (GDCC).

3.2.1.2 PG&E Gas Operations Center

3.2.1.2.1 Gas Dispatch and Scheduling

Gas Dispatch and Scheduling is the primary communications link between field resources, the GCC, outside agencies, and emergency supervision. The department typically dispatches the appropriate internal first responder, usually a Gas Service Representative (GSR) or Field Supervisor, depending on the scope of interruption. The M&C Supervisor then dispatches an M&C crew to the incident. Gas Dispatch tracks incidents in the Incident Management Tool.

Gas Dispatch and Scheduling is located at the Gas Operations Center in San Ramon, along with the GTCC and the GDCC.

Calls into Customer Contact Centers or from 911 agencies go directly to Gas Dispatch and Scheduling: Gas Dispatch primarily manages incident coordination for gas distribution emergencies. **Figure 3.1** shows how Gas Dispatch and Scheduling receives emergency calls, dispatches resources, and escalates command. Upon receiving an emergency call, Gas Dispatch uses the field automation system (FAS) dispatch application to report the incident and sends a Gas Service Representative (GSR) to the incident. If the GSR needs assistance, his or her supervisor is notified through Gas Dispatch and command is transferred to the supervisor, upon arrival at the scene. If the incident escalates beyond the supervisor's capacity, activation of an Emergency Center may be requested.

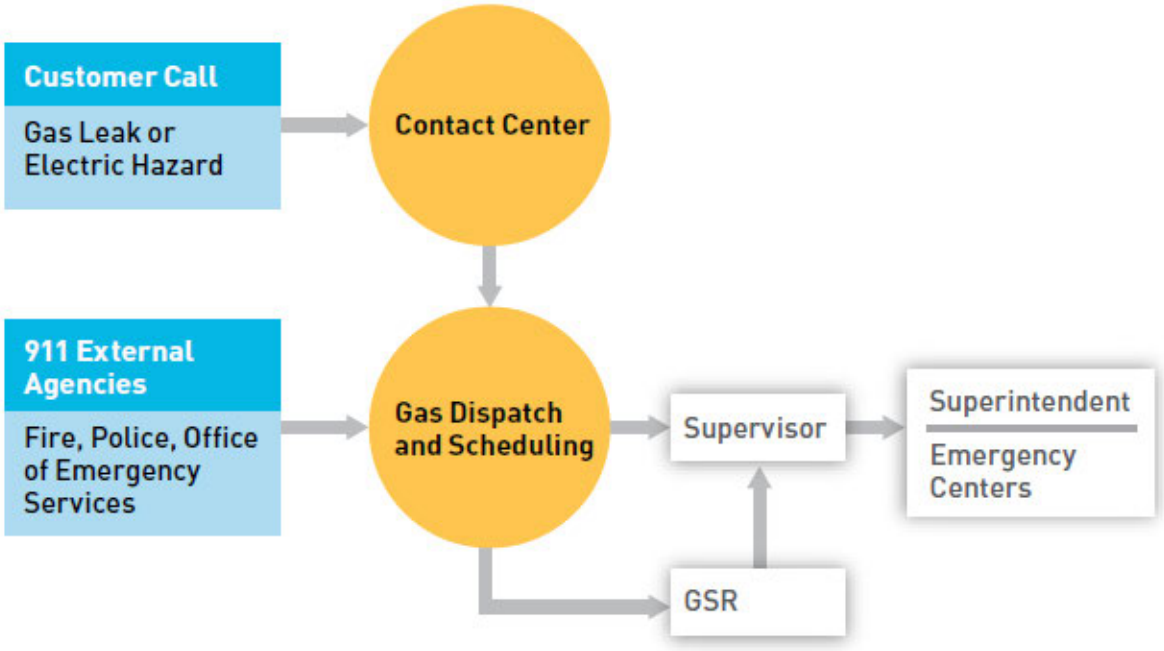

Figure 3.1 Emergency Call Escalation through Gas Dispatch and Scheduling

3.2.1.2.2 Gas Control Center (GCC)

The GCC is responsible for the overall operation of PG&E's gas system (transmission and distribution inclusively), and therefore closely monitors and coordinate emergency notifications, dispatching, system isolations and restorations.

GCC personnel primarily use Supervisory Control and Data Acquisition (SCADA) to monitor and control critical assets remotely. SCADA alerts GCC of gas system irregularities via alarms. When these alarms go off, GCC notifies appropriate 911 agencies and departments within PG&E to ensure that emergency response resources are informed and dispatched.

GCC Locations

1. The GCC primary facility is located within the Gas Operations Center on the 5th Floor of 6121 Bollinger Canyon Rd. in San Ramon, CA, home of Gas System Operations at Bishop Ranch.
2. The alternate GCC (AGCC) site is located on the 16th Floor of 77 Beale Street in San Francisco, CA.
3. Tertiary site is located at 1421 Vineyards Parkway in Brentwood, CA.

Alarms or trouble calls into GCC: The GCC manages initial incident coordination for gas transmission and distribution emergencies. **Figure 3.2** shows how GCC receives emergency calls, dispatches resources, and escalates an incident. Once the GCC receives an emergency call or an indicator from a Gas Control SCADA alarm, a Gas Pipeline Operations and Maintenance (GPOM) Supervisor is contacted to coordinate field level response. The GCC has the authority and responsibility to remotely isolate a gas system during an emergency operating condition in order to make the system safe. If the incident escalates beyond the PG&E field first responder's (e.g., gas mechanic's) capacity, or requires additional resources/coordination, command is transferred to the superintendent or higher-level authority.

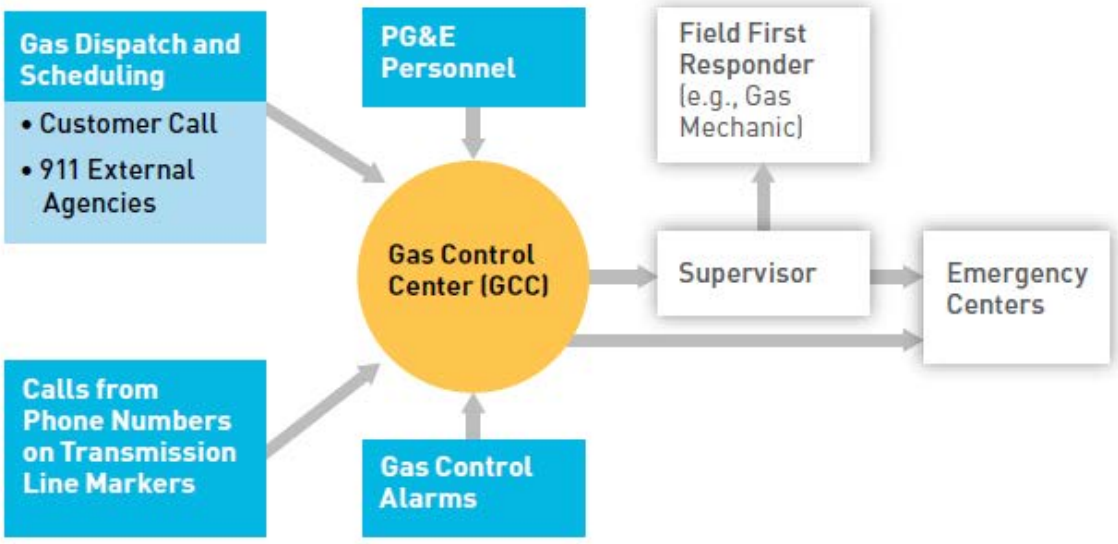

Figure 3.2 Emergency Call Escalation through GCC/GSO

Notification and Escalation Procedures: In the event of an emergency or abnormal operating condition that has the potential of impacting the public, property, or the environment, Gas Dispatch and Scheduling and the GCC maintain notification and escalation procedures for:

- Level 1-5 gas incidents
- Gas incidents that require Field Supervisory resources
- Gas incidents that meet specified reportable DOT or CPUC criteria

For such incidents, both Gas Dispatch and the GCC generally maintain communications between departments to ensure adequate system monitoring, resource deployment, and operational response to an incident.

The standard, the procedures that implement these requirements, and supporting referenced documents, are contained in the Control Room Management (CRM) Operations Manual. The CRM manual contains a 911 Notification Process, specific to the GCC.

Procedures and processes of both Gas Dispatch and GCC ensure that immediate notification to establish “situational awareness” and an open communication channel between Gas Dispatch, GCC and the responsible 911 Emergency Response Center(s). This includes information on the estimated time of arrival (ETA) of Gas field personnel to the incident. If on-scene personnel are requested by a GSR, Gas Dispatch notifies GCC.

3.2.1.3 PG&E Emergency Field Responders

When Gas Dispatch receives an emergency call (either directly, from the Call Center, or from GCC), the dispatch center uses FAS to note all of the applicable information discussed in the call for initial field response. Gas Dispatch then sends out a qualified GSR. GSRs are usually the first personnel sent out in the event of a gas leak or report of gas odor and are trained to respond to gas distribution leak concerns. If the GSR determines that a more specialized work crew is necessary to respond to the incident or that the incident involves gas transmission assets, the GSR contacts Gas Dispatch, which then contacts the on-call field supervisor to request the appropriate work crew(s) to respond to the incident.

Upon receipt of an emergency notification (from the public, PG&E personnel, 911 emergency centers, or a SCADA alarm), GCC contacts responsible field supervision or local on-call personnel to mobilize field resources. Listed below is the governing utility standard and implementing utility procedures describing how Gas Control responds to emergencies.

- Utility Standard TD-4444S, “Gas Control Emergency Response”
- Utility Procedure TD-4444P-01, “Gas Distribution Control Emergency Response”
- Utility Procedure TD-4444P-02, “Gas Transmission Control Center Emergency Response”
- Utility Procedure TD-4441P-04, “Emergency Clearances for Gas Distribution Facilities”
- Utility Procedure TD-4441P-10, “System New Clearances for Gas Transmission Facilities”

Upon arriving at an incident site, emergency response personnel conduct an assessment of the situation. Following this assessment, personnel take actions to make the situation safe.

Make-safe actions may include:

- Collaborating with GCC to determine the isolation strategy to be executed
- Collaborating with Process Safety to perform a risk assessment and PSSR, as needed; see **Section 2.1.5.3** for more detail
- Collaborating with Incident Investigation team (CAP and/or Process Safety) to gather and preserve relevant incident data (e.g., parts, equipment, photos, videos) for cause evaluation purposes; see **Section 2.1.5.3** for more detail
- Restricting access to all irrelevant personnel to the site; consider using cones or caution tape
- Eliminating all ignition sources (e.g., cars, electric tools, lighters, static electricity, overhead and underground electric facility ignition sources, etc.)
    - Leave cellphones, pagers, radios in the vehicle away from the leak
    - If using flashlights, turn them on away from the leak in a safe location, before approaching the gas leak area
- Closing valves
- Engaging automatic shut-off switches

The field personnel should perform the emergency response duties in a manner in which they preserve relevant incident data and minimize altering the incident scene for cause evaluation purposes; see **Section 2.1.5.3** for more detail. Despite the alteration of the data, the primary goal during the emergency response phase is preventing further injuries, property damage and environmental impact.

Field Supervisors, GTCC Managers and GDCC Managers have the authority to request additional resources through Gas Dispatch and request the activation of an OEC.

PG&E has considerable emergency resources in its field crews, which manage typical gas emergencies as internal first responders.

All crews must coordinate with on-site IC to ensure accountability and personnel safety. Areas that have been evacuated etc. should be prohibited entry until the IC, whether it is PG&E or a Community First Responder specifies that such action is safe.

3.2.1.3.1 Gas Service Representative (GSR)

Responds to gas service calls and incidents to perform routine maintenance and resolve issues. GSRs are divided into 7 Areas within the PG&E service territory.

3.2.1.3.2 Gas Transmission Operations and Maintenance (GTO&M)

Gas Pipeline Operations and Maintenance (GPOM)

Operates compressor stations, gas storage fields, valves, regulators, and control equipment to bring the gas emergency under control and/or maintain the system at a safe working level while

emergency repairs are being made. A GPOM department is located in each of PG&E's 18 Divisions that provide gas service.

Gas Transmission Backbone

Provides operations, maintenance, and measurement, and controls construction of PG&E's backbone gas transmission pipelines, eight compressor stations, and three gas storage fields. Gas Transmission Backbone is located in each of PG&E's 12 Districts that provide gas transmission service.

PG&E has crews to handle gas emergencies that cannot be addressed by the above field responders if additional resources are needed.

3.2.1.3.3 General Construction (GC)

Gas General Construction Crew

Repairs damaged facilities and provides labor for emergencies, such as closing riser valves during curtailments. Generally, the work that construction crews do in a gas emergency is not substantially different from their normal assignments. Gas Construction Crews are a mobile work force and are located at various locations across the service territory.

Pipeline Field Services Organization

Provides emergency clearance services, tapping and plugging services, test head deployment, and standby services. This team also provides frac tank deployment services and has a Measurement and Controls construction team that can support emergency station construction. It is a mobile work force and the work these crews do in a gas emergency is typical of their daily work tasks.

Portable Natural Gas Program (LNG/CNG)

Provides portable temporary gas supply equipment during gas emergencies resulting in the potential for unplanned outages, in order to preserve gas customer service and avoid customer shutdowns. Depending on the application and the quantity required, either Liquefied Natural Gas (LNG) or Compressed Natural Gas (CNG) can be injected while the primary pipeline supply is constrained or out of service for emergency repairs.

The above departments, which share resources with each other, may establish Memoranda of Understanding (MOU) agreements. Refer to **Appendix D** for more information on MOUs.

3.2.1.4 PG&E Incident Investigation Team

The Gas Incident Investigation team comprises of Gas Process Safety Engineers and/or Gas Corrective Action Program (CAP) specialists. Per 49 CFR §192.617, "Investigation of failures," the Incident Investigation teams role is to analyze accidents and failures, including the collection of samples of the failed facility or equipment for laboratory examination, where appropriate, for the purpose of determining the causes of the failure and minimizing the possibility of a recurrence.

An investigation is to start while emergency response activities are still being conducted; if the investigation can begin concurrently without interfering, hindering, or delaying emergency

response activities, then preservation and collection of data can be performed in parallel. Depending on the incident severity level, legal and organizational requirements may impose restrictions and/or a specific time limit.

During the immediate response activities, the incident investigation team should keep in mind the following:

- Do not perform any action that could lead to another incident
- Follow all instructions issued by the onsite incident commander
- Follow all directions and requirement with regard to safe work practices for isolating energy sources and controlling hazards
- Consider that following an incident there are often unusual hazards with the potential to create dangerous situation
- Consider performing Job Hazard Analysis (JHA) to determine how the investigation can be performed safely.

Once the emergency response is complete, access the incident site (and any associated records) should be controlled to preserve all relevant incident data. Only personnel specifically authorized by the investigation team personnel should be permitted entry to the site. It is important to determine the data that may be useful in investigating the incident (e.g., parts, equipment, personnel, paper, photos, position information, and electronic data) and preserve evidence and follow chain of custody procedures.

If the Field Supervisor has not initiated a CAP notification, the incident investigation team should do that as a first step towards performing an investigation. The CAP notification will officially trigger the incident classification and investigation process.

3.2.2 Notifications

3.2.2.1 Internal Notifications (Gas-Specific)

The individual who activates an Emergency Center (per Activation Triggers noted in this Plan) must either assume the role of Incident Commander/Director or designate and notify pre-identified staff to assume this role. When activating an emergency center, the Incident Commander/Director will contact the following of his/her intent to activate an Emergency Center:

- Region director
- The gas emergency on-call at **925-244-4000**
- Gas emergency preparedness coordinator (EPC)
- Gas Transmission Control Center Northern at [redacted] or Southern at [redacted]
- Gas Distribution Control Center Northern at [redacted], Bay Area at [redacted], Central Coast at [redacted], and Central Valley at [redacted]
- Public information officer (PIO) / Media Hotline at **415-973-5950**
- Gas dispatch and scheduling personnel at [redacted]

An E-page and email to the affected Region Gas Update list will also be sent. Emergency Center Commanders/Directors will follow the Activation Checklists found on the Gas Emergency Preparedness Resources website (Activation Checklists are found under ICS Resources on the side menu).

3.2.2.2 External Notifications

PG&E notifies the CPUC and the Warning Center at California Office of Emergency Services (Cal OES) of the location, possible cause, and expected duration of an outage. PG&E generally treats "newsworthy events" as incidents within the category of Level 3 or greater emergency, where the GEC and/or EOC are activated.

3.2.3 Readiness

All employees involved with gas emergency response should become familiar with the GERP, applicable appendices, and their respective Emergency Centers' contact lists. In 2016, all Gas Operations employees were profiled to take GERP training based on their probable roles (awareness, field responder, emergency center) in emergency response. The following sections provide guidelines for personnel assigned to OEC and GEC Incident Management Teams (IMTs) to prepare for an emergency event.

3.2.3.1 Readiness Expectations OEC and GEC On-Call IMTs

PG&E's Gas Operations has five GEC "On-Call" Incident Management Teams (IMTs) within the Gas Organization that stand ready to respond to the GEC and EOC if activated during a gas incident. The names of the teams are:

- Alpha
- Bravo
- Charlie
- Delta
- Echo

Each team is On-Call for a two-week rotation every 10 weeks, and is expected to be available 24/7 during that time and to be within two hours of mobilizing to the GEC. On-Call personnel must ensure they can be reached, at any time, by pager or phone, and maintain the capability to respond to the GEC and EOC, if needed. Information for all team members is entered into the employee notification system to be used for notifications and emergency communications during actual emergency events.

The "On-Deck" team is the GEC team that is scheduled to follow the On-Call team in the next scheduled rotation (e.g. the Bravo team is the On-Deck team which follows the On-Call Alpha team). The On-Deck team is normally assigned to cover the EOC activation during Dual Commodity (GEC and EOC) incidents or to relieve the On-Call team after the first shift or operational period of a prolonged Gas only incident.

Gas Operations maintains 18 OEC contact lists (one representing each Division) for its service territory. Each OEC contact list identifies personnel for designated emergency response ICS positions. Staffing plans and contact lists are reviewed and updated regularly (at a minimum, semi-annually) to account for organizational changes within Gas Operations.

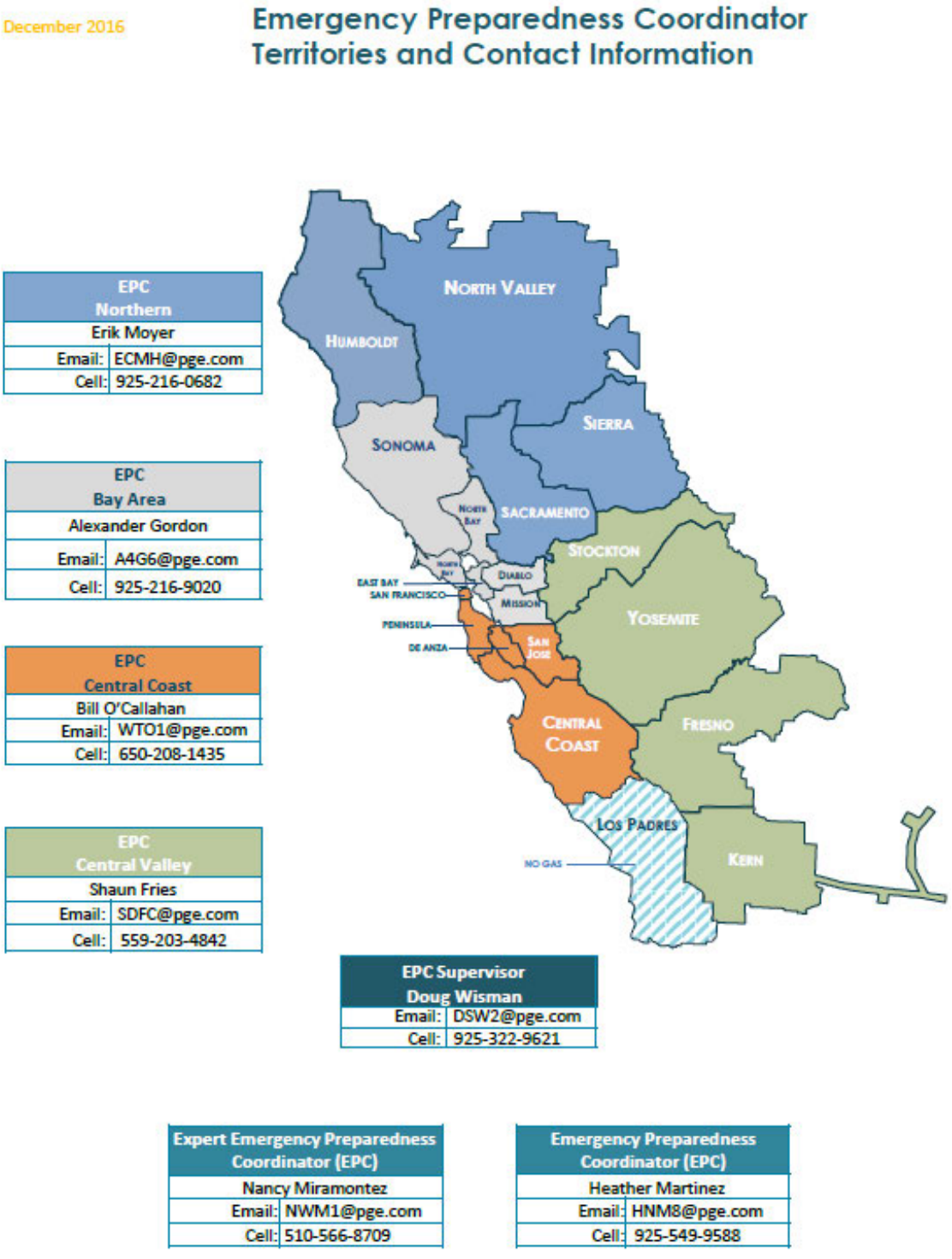

Figure 3.3 Emergency Preparedness Coordinator (EPC) Territories

3.2.3.2 Primary and Alternate Positions

Designated positions for emergency response activities are to be at a minimum five deep at the GEC level (represented by the five On-Call teams). Each OEC identifies primary and alternate positions. Alternates for each position must be qualified to assume the designated roles and responsibilities. Each OEC team is considered an IMT. Gas Operations identified back-up IMTs for each OEC. IMTs and their back-up IMT are assigned from OECs that are geographically distant from each other in order to minimize the possibility of IMT unavailability of adjacent IMTs responding to the same incident. For example San Francisco and Fresno IMTs are back-ups to each other. Staffing plans and contact lists are reviewed and updated regularly to account for organizational changes within the Gas Operations.

3.2.3.3 Call-Out Procedures

Each Emergency Center Commander will determine the extent to which Command Staff, Section Chiefs, and functions will be activated and staffed. This decision will be based upon the nature and scope of the emergency, the need to coordinate with multiple internal and external groups, and the time of day of the occurrence.

The OEC activation teams are coordinated as per their Staffing Plan/Contact Lists, which are located both in the GERP (**Appendix F, Volume 2**) and on the Gas Emergency Preparedness Resources website.

GEC On-Call Team members provide email, pager, home, cell, and landline phone numbers to ensure that they receive all pertinent notifications and communications. The notification system is tested throughout the year. Individual team members are expected to respond to the notification or communication in the prescribed manner.

GEC team rosters and the rotation schedule can be found on the GERP website in the Toolkit (under GEC Resources).

3.2.3.3.1 Dual Commodity/Dual GEC Team Activation (GEC and EOC)

Each GEC team has a GEC Director with C&GS, including section chiefs in Operations, Logistics, Planning and Intelligence, and Finance and Administration. Staff for these positions is sourced from across Gas Operations. On-Call teams also exist at field Emergency Centers and Control Centers, and in the Gas and Electric Emergency Preparedness groups.

Upon a Dual Commodity (e.g. Electric and gas) GEC and EOC activation, where Gas Operations personnel are deployed, eight designated ICS positions, including at least one Gas Operations Officer (vice president or above) will respond to the EOC.

3.2.3.4 Emergency Center On-Call Responsibilities

A staffing plan and/or contact list will identify on-call individuals for each emergency center. The on-call responsibilities include the following:

- Provide a response time within two hours during defined schedule.
- Maintain a heightened level of awareness of all potential, forecasted, and in-process emergency events.
- Be knowledgeable of the triggers and activities of the respective emergency center for each emergency level.
- Be fit for duty.

Employees will ensure that their supervisors have their current telephone numbers to facilitate contact with them. Employees are also encouraged to maintain some personal emergency supplies at their base yard or to carry with them in a "go bag". This may include a change of clothing, extra socks, sturdy shoes, and some simple toilet articles such as toothpaste, toothbrush, and any necessary medications they may need to last them several days.

Employees should also have a plan for contacting their immediate family and relatives in the event they are unable to return home promptly. It is recommended that they designate an out-of-state relative or friend that their family or significant other can contact to coordinate messages.

Gas Operations provides On-Call personnel with an onboarding document that outlines critical items to carry when on-call:

- Company ID card/building access card
- Company key (#2 Corp key)
- Laptop
- GERP flash drive
- GERP Flipbook
- Satellite phone (if assigned)
- Cell phone (if assigned) and vehicle charger
- Flashlight
- Personal protective equipment (PPE)
- GPS (optional)

The Gas Emergency Planning group provides administrative support and coordination for the GEC Teams through the GasOpsGECOnCall@pge.com inbox. This inbox provides the GEC team members the ability to maintain their availability and schedules. In addition, the inbox distributes information for required ICS training, exercises, on-call conference calls, and current rosters to each oncoming on-call team.

3.2.4 Pre-Event

3.2.4.1 Pre-Event – Situational Awareness

Gas Operations uses several systems to acquire and maintain situational awareness of the gas system. Many of these systems are used in both day-to-day operations and emergency response.

Gas Operations acquires situational awareness from technologies including the following items: (Refer to **Section 4.2.2** for detailed summary of each technology system/tool):

- Supervisory Control and Data Acquisition (SCADA)
- Field Automation System (FAS)
- Tactical Analysis Mapping Integration (TAMI)
- Daily Briefing Dashboard (DBD)
- Event Management Tool (EMT)
- MapGuide
- Turret Phone System
- E-page
- NotiFind/Send Word Now
- SharePoint
- Network access
- Smart Boards
- Smart phones

3.2.4.2 Pre-Event – Preparations

Pre-event actions of PG&E's GEC on-call teams are the result of warnings, watches, advisories, or other alerts that provide advance notice of an impending event. The actions taken may include conference calls, placing personnel on alert status, advising personnel to pack overnight bags, reviewing emergency plans, identifying key personnel available for restoration activities, pre-staging personnel, evaluating supplies and equipment, and canceling or postponing non-critical meetings. If warranted, affected ECs may be activated in anticipation of an event occurrence, placed on standby, or placed on rest for night shift duty.

3.2.4.3 Hazard Forecasting and Prediction

3.2.4.3.1 Cold Weather/Winter Planning Process

Gas System Operations facilitates annual winter planning efforts in response to anticipated cold weather events. In order to avoid the safety and reliability risks of uncontrolled outages, demands on the gas system must be curtailed.

For further information, refer to the Cold Weather Communication Process.

3.2.4.3.2 Severe Weather Notifications

Weather Warnings will be issued for any division where there is an imminent threat of severe weather within the next 12 hours unless the imminent threat was already anticipated and/or communicated through other notification methods such as E-page.

3.2.4.3.3 Other Weather Related Plans

Gas Operations coordinates with Electric Operations during dual commodity responses in areas of fire threat.

PG&E Fire Prevention Plan (from Electric Annex)

PG&E's Fire Prevention Plan reflects PG&E policy on fire prevention pre-planning, threat mitigation, and fire readiness and response. The plan also outlines the actions that PG&E takes to prevent and mitigate the risk of fire ignitions associated with the operation of overhead electric power facilities.

In addition to the fire prevention and mitigation measures for the entire service territory, the plan also includes an Addendum A, "Special Fire Threat Zones: Santa Barbara County" (which discusses PG&E's plan for additional fire mitigation measures to be taken specifically in Santa Barbara County, a high fire threat area). Refer to **Electric Annex- Appendix D** for the **Fire Prevention Plan**.

PG&E Fire Index (from Electric Annex)

During fire season, through arrangements with the California Department of Forestry and Fire Protection (CAL FIRE) and the United States Forest Service, the Transmission Operations Center (TOC) and Emergency Management Department are notified daily of "extreme" or "very high" zone ratings for the 106 designated Fire Zones located in the PG&E territory on a nightly basis. The TOC updates the PG&E Fire Adjective Index site each day by 5:00 a.m. Then Geographic Information System (GIS) produces a Fire Index Map, and Meteorology Services distributes the information via email in its Distribution System Operations Weather Forecast each morning. The information is also covered in the Electric Distribution Operations Daily Status Call.

Utility Standard TD-1464S, "Fire Danger Precautions in Hazardous Fire Areas"

Utility Standard TD-1464S, "Fire Danger Precautions in Hazardous Fire Areas" establishes precautions for Company personnel when working, traveling, or operating in hazardous fire areas. This document contains specific precautions to be taken by employees and supervisors while in the Fire Danger zones.

Utility Standard TD-1464S states that personnel must adhere to specific requirements when operating in "very high" and "extreme" zone ratings. Automatic notification via e-mail and E-page has been made available for all PG&E personnel in order to enhance fire danger awareness.

3.2.4.3.4 Non-Weather Related Warnings

Non-weather related warnings may be obtained from a number of sources including operations reports and alerts from the state or local Office of Emergency Services (OES).

State OES information can be found at: www.caloes.ca.gov

3.2.4.3.5 Technology Event Predictions

The Technology Solution Center (TSC) Service Desk provides Gas Operations with notifications related to technological issues impacting or potentially impacting IT software and systems that

support day-to-day, as well as emergency, operations (i.e. SharePoint, Outlook, internet, servers, phones, etc.).

The TSC sends email alerts with the following classifications:

- Urgent Event
- Outage
- Awareness
- Planned Maintenance

3.2.4.4 Pre-Event Notification

Upon receipt of a weather warning, weather watch, weather advisory, or non-weather related warning, each level of Gas Operations will ensure that pre-designated personnel are advised, and that appropriate pre-event actions are taken. This may include placing personnel on alert/standby status, advising personnel to pack overnight bags in advance, reviewing emergency plans, identifying key personnel available for restoration activities, pre-staging personnel, evaluating supplies and equipment, and canceling non-critical meetings. If warranted, affected emergency centers may be activated in anticipation of an event occurrence.

3.2.4.5 Briefings and Conference Calls

Appropriate Gas Operations management (e.g. Officers, Directors, Superintendents, Supervisors, including designated/on-call IMT (OEC/GEC) C&GS will coordinate and conduct pre-event conference calls within their regions to discuss activation, staffing, materials, pre-staging, and pre-arranged resources.

Upon receipt of a significantly adverse weather forecast (i.e., Cold Weather Event), the On-Call GEC Director, OEC Commander, and/or IC Advisor will conduct a briefing for appropriate Gas Operations Officers, Directors, and key emergency response personnel to discuss the situation and identify pre-event actions.

3.2.4.6 Available and Pre-Arranged Resources

When forecasted conditions warrant, the GEC Director may request that OECs submit plans in advance of the event for the number and classification of personnel who will be available to respond. These counts are often requested two to three days in advance of a forecasted event, and updated daily until the event occurs. Available resources include all personnel who are available to respond including personnel scheduled for normal shifts, those pre-arranged or held-over, and those signed up for the 212 call-out list.

3.2.4.7 Pre-Staging Resources

When indicated by the nature and severity of the pre-event forecast, the GEC Director may direct pre-staging of crews, personnel and/or certain equipment (e.g. CNG/LNG) in areas expected to be severely impacted. Gas Operations officers will be advised of all pre-event actions to be

implemented. OEC Commanders, with support from their respective logistics sections, may also activate local staging areas.

As necessary, GEC/EOC Logistics will work with the MTCC to support resource requirements including pre-arranging personnel at the distribution centers, specialty stores and service centers, as well as verifying service center inventory stocking levels are adequate to support the event.

3.2.5 Incident Response

3.2.5.1 Response Priorities

All PG&E emergency planning and response activities are governed by the following priorities, which are contained in the CERP:

- Protect the **health and welfare** of the public, PG&E responders, and others
- Protect the **property** of the public, PG&E, and others
- **Restore** gas and electric service and power generation
- **Inform** customers, governmental agencies and representatives, the news media, and other constituencies
- **Restore** critical business functions and move towards business as usual

These priorities are maintained through all phases of response to an emergency.

3.2.5.2 Incident Command System (ICS)

The Incident Command System (ICS) is a systematic tool used for the command, control, and coordination of emergency response. ICS provides a common framework within which people can work together effectively. PG&E uses this system to manage emergency response consistent with the California Standardized Emergency Management System (SEMS), and the National Incident Management System (NIMS). See Utility Policy EMRG-01, Emergency Response and Business Continuity Policy, for reference. Refer to the CERP for more detail on ICS.

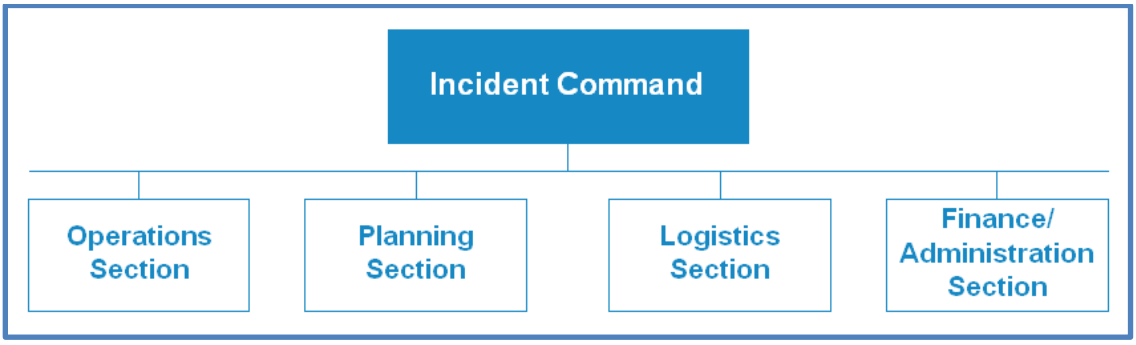

Figure 3.4 Basic ICS Organization

3.2.5.2.1 Key Response Steps

PG&E uses the structure of the ICS to complete key steps in the incident response. The management characteristics of ICS include (taken from NIMS 2008, p.46):

- Common terminology (Organizational Functions, Resource Descriptions, Incident Facilities)
- Modular Organization
- Management by Objectives
- Incident Action Planning
- Manageable Span of Control
- Incident Facilities and Locations
- Comprehensive Resource Management
- Integrated Communications
- Establishment and Transfer of Command
- Chain of Command and Unity of Command
- Unified Command
- Accountability
- Dispatch/Deployment
- Information and Intelligence Management

The key incident response steps below represent a typical process flow through the cycle of an incident. Every incident may not necessarily follow this exact sequence. For example, it may be appropriate to “Make-safe” at several points during the response process and not just after “Assess the Situation.” In addition, these response steps define how gas operations achieves its response priorities.

Table 3.3 Key Incident Response Steps

Objective	Description
Establish command	1. Determine the Incident Commander (IC) 2. Set up an Incident Command Post (ICP) 3. If necessary, activate Emergency Center(s)
Assess the situation	1. Gather information about emergency 2. Assess the situation in coordination with the appropriate 911 Agency(s) and PG&E's Gas Control Center (GCC)
Make-safe	Communicate to/notify the appropriate: 1. PG&E personnel 2. Regulatory agencies 3. Public agencies such as fire, police, city, and county emergency operations 4. GCC 5. Customers and media
Communicate/notify	Create leak survey packages for Leak Survey and Super Crew based on the DASH Report and AK&IM direction. Upon receipt of leak survey results, map leaks in GIS and provide maps to the GEC and AK&IM.
Restore	Restore gas service
Recover	Deactivate ICP or Emergency Centers and return to business as usual

3.2.5.3 Make-safe

"Make-safe" actions are those actions taken by PG&E personnel in response to conditions threatening the public, other first responders, or PG&E personnel. Make-safe actions often include: determining an isolation strategy, restricting site access, eliminating ignition sources, closing valves, or engaging automatic shut-off switches. Make-safe actions may occur at any time throughout the incident response.

Field responders may initially facilitate evacuation measures while initiating actions required in making a gas incident safe for the public, Company personnel, and others. As all emergency situations are different, the need to evacuate will vary. Field responders may also conduct air monitoring and determine a safe zone.

In addition, external first responders may also coordinate evacuation measures with their internal plans and procedures. The Department of Transportation (DOT) provides evacuation guidance related to natural gas incidents for external first responders, which is included in **Appendix B – Response Aids.**

Further, field responders consider the potential for subsurface gas migration and/or escaping gas ignition in their decisions on determining an evacuation zone prior to commencement of leak pinpointing. Field responders will also attempt to eliminate sources of ignition during the make-safe process. Gas Operations field responders will coordinate with Electric Operations in such activities, if appropriate.

Refer to Utility Procedures TD-6100P-02, "Gas Leak and Odor Investigations," and TD-6100P-04, "Gas Event Evacuation For Gas Service Representatives (GSR)" for additional information.

3.2.5.4 Assessment, Repair and Restoration/Return to Normal Operations

Higher consideration should be given to requests for priority restoration of customers such as individuals on life support, hospitals, fire departments, police stations, critical communications centers, emergency shelters, sewage treatment plants, and critical water pumping stations. During emergency events, it is imperative that all levels of the organization coordinate its efforts with local and state governments.

In larger emergencies when resources are constrained, it may be necessary to establish work priorities for restoration of service. These priorities are operationally-driven, and are primarily focused on restoring as many customers as soon as possible. However, priorities may need to be modified to accommodate the needs of the communities served. Work may also need to be coordinated with other infrastructure repairs that may be occurring simultaneously by other utilities, government, and property owners. The GEC and EOC will manage priority/objective-setting in a coordinated manner whenever possible and work with local government and other impacted utilities.

3.2.5.5 Damage Assessment

3.2.5.5.1 Assessment Goals and Guidelines

The initiation of damage assessment actions, in many cases, is automatically triggered by the event occurrence and existing procedures; however, some facilities will require specific deployment of qualified personnel and equipment. Damage estimates will be collected at the lowest possible level (ICPs, OECs) and reported up to the GEC.

3.2.5.5.2 Field Personnel (GSRs, M&C / GPOM / Gas Transmission Backbone Crews/General Construction Crews)

Initially assesses the damage and make repairs, if possible.

3.2.5.5.3 Emergency Center and Dispatch Personnel

Manages the information to ensure the assessment information is timely and accurate throughout the restoration/return to normal process.

Coordinates with Electric as needed.

3.2.5.5.4 Gas Transmission System

Transmission Integrity Management Program (TIMP)

- Determines iterative transmission pipe patrol scope and provides guidance to Pipeline Patrol.
- Provides direction to field crews and works with Pipeline Engineering (PLE) to mitigate exposed and damaged transmission pipe.

Pipeline Engineering (PLE)

- Performs and collects Initial Damage Evaluation (IDE) data on transmission pipe in affected area.
- Acts as liaison between TIMP and OEC/GEC.
- Works with TIMP to mitigate exposed and damaged transmission pipe.

Pipeline Patrol

- Performs aerial and ground patrol of transmission pipe in affected area, and communicates findings to OEC/GEC and TIMP.
- Works with TIMP to perform iterative patrols as extent of damage is known.

Leak Survey

- Performs leak survey in affected area in conjunction with Super Crew.
- Reports all transmission leaks to the OEC/GEC and TIMP.
- Compiles and reports results to DIMP and Production Mapping.
- Coordinates deployment of Picarro units.
- Acts as Ground “Foot” Patrol.

3.2.5.5.5 Gas Distribution System

Distribution Integrity Management Program (DIMP)

- Determines iterative leak survey scope, and provides scope to Production Mapping to create a leak survey package.
- Provides direction to leak survey and field crews to mitigate damage to the distribution system.

Production Mapping

- Creates leak survey packages for Leak Survey and Super Crew based on the DASH Report and DIMP direction.
- Upon receipt of leak survey results, maps leaks in GIS and provides maps to EOC/GEC and DIMP.

Super Crew

- Performs leak survey in conjunction with the Leak Survey team.
- Compiles and reports results to DIMP and Production Mapping.

3.2.5.5.6 Gas System Planning

- Provides hydraulic modelling and analysis to determine system efficiency.
- Provides input on gas facilities that are critical to serving customers.
- Provides prioritization of gas facility damage assessment.

In order to facilitate prioritization of restoration and resource deployment in a Level 2 or higher emergency, information is required regarding damage sustained and estimates of work required to restore equipment to operations. Local facility management and field personnel are trained to identify and report the condition of damaged equipment to the OEC when activated at a level 2 or higher. The OEC will consolidate the damage assessment and pass the information up to the GEC if activated at a level 3 or higher, or Gas Control will pass the information to the EOC if it is activated.

Damage assessment may take considerable time following an emergency and requires specially qualified personnel to complete correctly. In larger emergencies, damage assessment information will not be available immediately. The GEC may use modeling and monitoring software, pre-established loss estimates, as well as estimates from recent incidents to initiate planning, and then will refine the estimates as valid data is received from the field.

During emergencies, Gas System Planning (GSP) provides hydraulic planning and modeling support for immediate Make-safe. GSP provides immediate hydraulic operational support to bring the gas system to a safe condition. GSP addresses the need for shutting in portions of the system to make-safe by determining the best method for system isolation and resulting impacts to customers on the remaining portions of the gas system. GSP also facilitates the development of contingency strategies for incidents. (Refer to "Gas System Planning Emergency Response Reference Guide for detailed GSP Make-safe activities).

3.2.5.5.7 Damage Assessment Tools

The IDE program provides immediate response guidance for earthquakes. The Asset Knowledge and Integrity Management (AK&IM) Earthquake Playbook provides key damage assessment response protocols.

Gas Operations may use decision matrices such as in **Figure 3.5** below to determine resource needs.

TD-6435P-08-JA01
Published: 03/09/2011, Rev: 0

FSRC Emergency Gas Shutdown and Restoration Resource Decision Matrix

PPE: NA	Tools: NA	Guidance Document References: Utility Procedure TD-6435P-08, "Gas Outage Restoration Procedure."	Level of Use: ✓Information ☐Reference ☐Continuous

Table 1. FSRC Emergency Gas Shutdown Resource Decision Matrix

CUSTOMERS	1 DAY* (12 HRS)	2 DAYS* (24 HRS)	3 DAYS* (36 HRS)
0 – 500	4	2	1
501 – 1,000	7	3	2
1,001 – 1,500	10	5	4
1,501 – 2,000	14	7	5
2,001 – 2,500	17	9	6
2,501 – 3,000	21	10	7
3,001 – 3,500	24	12	8
3,501 – 4,000	28	14	9
4,001 – 4,500	31	16	10
4,501 – 5,000	35	17	12

* Factored at 12 gas meters shut off per hour.

Table 2. FSRC Emergency Gas Restoration Resource Decision Matrix

CUSTOMERS	1 DAY* (12 HRS)	2 DAYS* (24 HRS)	3 DAYS* (36 HRS)
0 – 500	10	5	4
501 – 1,000	21	10	7
1,001 – 1,500	31	16	10
1,501 – 2,000	42	21	14
2,001 – 2,500	52	26	17
2,501 – 3,000	63	31	21
3,001 – 3,500	73	37	24
3,501 – 4,000	83	42	28
4,001 – 4,500	94	47	32
4,501 – 5,000	104	52	35

* Factored at 4 gas meters turned on per hour.

Example
There are 2,500 customers without gas due to a dig in. The gas line will be repaired and ready for restoral of gas service in 12 hours. Management wants gas restored within 12 hours after repairs are made. According to the matrix it will take 17 gas service representative (GSR) personnel to shut off all the gas meters within a 12 hour period and 52 GSR personnel to restore the gas within 12 hours.

Figure 3.5 FRCS Emergency Gas Shutdown and Restoration Resource Decision Matrix

3.2.5.6 Repair and Restoration/Return to Normal

As each incident varies in type, scope, severity, and duration, the respective response from Gas Operations must adapt to the incident. Repairing, restoring, and returning the gas system to normal involves different actions for each situation. Common Gas Operations activities such as isolation, curtailment, customer considerations/prioritization, and emergency clearances are discussed in this section. Departments within Gas Operations initiate these and other emergency response actions often simultaneously to provide and efficient and effective response. Response actions taken and individual timelines are developed in coordination between the field (e.g. ICP), the OEC(s), GEC, and EOC in alignment with response priorities and incident objectives.

3.2.5.6.1 Repair and Restoration Strategies

Gas Operations will set repair and restoration strategies based on the most current situational awareness when responding to the incident. Strategies will prioritize safety and may include the development of triggers or decision points upon which repair and restoration/return to normal actions are taken.

3.2.5.6.2 Gas Distribution Emergency Shutdown Zones (ESZ) General Guidelines

Utility Standard S5000, "Gas Distribution Emergency Shutdown Zones" gives criteria to establish and maintain distribution Emergency Shutdown Zones (ESZ). Note that using distribution ESZ are NOT intended for single location emergencies, such as blowing gas at a dig-in, but rather are intended for wide-scale catastrophic emergencies, such as earthquakes, or the loss of gas supply to a large geographical area. Local Distribution Engineering should be consulted whenever the use of distribution ESZ are being considered. The priority of ESZ is to make-safe and maintain the safety of the public and Company personnel.

Use of a gas distribution ESZ requires very careful consideration and analysis. A zone could potentially contain several thousand customers within it who, if shut-in, would be without gas for several days. Shutting down this number of customers would have other implications for PG&E including, but not limited to: increased claims, rescheduled appointments, missed relights due to "Can't Get In" (CGI), upset customers and regulators, and lower results from brand surveys.

Gas Operations supports the continued use of localized control of natural gas during an event, as opposed to using an assortment of valves or Shutdown Zones to control the gas. Getting as close to the source(s) as safely as possible along with excavation in close proximity to "squeeze" and/or apply pressure control fittings, stopping the flow of gas, is supported by benchmarked companies. In some events, it is possible to use one or two valves, but only if it minimizes the number of customers impacted. In most instances and locations, valves are not available, and ESZ are too large to shut down in a timely manner and would leave large numbers of customers without gas.

The Control Room Management Gas Transmission Control Center (GTCC) Emergency Shutdown Zone Plan provides direction to GTCC personnel during an emergency operating condition requiring the immediate isolation of a gas transmission system to prevent and minimize

hazard to the public, property or the environment. Under this plan, GTCC personnel will activate a previously reviewed and approved Emergency Shutdown Zone Process based on the specified geographic location, and the nature of the emergency operating condition. This plan outlines the roles and responsibilities to ensure control room personnel are provided with information, tools, and training needed to respond to an identified pipeline rupture.

Initiating the Transmission Emergency Shutdown Zone Plan

As specific gas system emergencies occur, GTCC will be required to consider initiating the Transmission Emergency Shutdown Zone Plan. Upon initiation of this plan, the GTCC may activate geographically specific Transmission Emergency Shutdown Zone Processes to facilitate the isolations of gas transmission systems.

After the system has been made safe, an emergency clearance must be written and authorized according to Utility Standard TD-4441S, "Gas Clearances" in order to document valve positions and work performed. This clearance will include the steps required to return the system back to normal operations.

Criteria for Initiation of the Transmission Emergency Shutdown Zone Plan

The GTCC will initiate the Transmission Emergency Shutdown Zone Plan after analyzing data from SCADA and other sources including input from GTCC personnel. See the GTCC Emergency Shutdown Zone Plan for initiation criteria.

3.2.5.6.3 General Customer Curtailment Guidelines

1. Determine magnitude and location of load reduction needed to maintain customer service to portions of the system not isolated.
    - Determine level of analysis required to meet response time requirements.
    - Communicate need for additional planning engineer support to emergency leads.
2. Determine customers to be curtailed.
    - Consider time required to curtail customers, and time required to restore service when developing customer curtailments.
    - Note hierarchy of curtailments.
    - Non-core customers curtailed first.
    - Non-critical core customers curtailed next (retail outlets, office buildings, etc.).
    - Single core customers with larger load relief should be curtailed ahead of multiple small customers to increase system isolation and restoration times.
    - Residential customers should have higher priority for maintaining service.
    - Critical customers to community health and safety such as hospitals and shelters should be curtailed last.
3. Support restoration of customer service in reverse order of 2.

3.2.5.6.4 General Critical Customer Guidelines During Emergencies

1. Identify critical customers in portion of gas system being affected.
    - Customers critical to public health and safety (hospitals, shelters, sewage treatment, etc.).
    - Residential customers due to health and cooking issues especially for longer term outages and/or if outages occur during colder weather.
    - Depending on damage to electric grid and Electric Grid (EG) facilities, certain gas fired EG may be critical.
    - Refineries may be critical if fuel supply shortages occur.
    - Electric Generation or other customers may drive economic impacts.
2. Communicate critical customers to emergency team.

3.2.5.6.5 Repair and Restoration Strategies

Gas Operations will set repair and restoration strategies based on the most current situational awareness when responding to the incident. Strategies may include the development of triggers or decision points upon which repair and restoration/return to normal actions are taken.

3.2.5.6.6 Portable Natural Gas: LNG/CNG Response

Early notification of the Portable Natural Gas (PNG) team concerning the potential loss of customers is critical to Gas Operations emergency response. Early notification allows time to for PNG personnel to prepare and respond to the location needed and can provide the following benefits:

- Prevents the outage to the customer (eliminating the need for relights)
- Shortens the duration of supply interruptions
- Provides a higher level of contingency in the event that a pipeline has the potential to be shut in

Typically, equipment and operators can respond from multiple locations within 1-2 hours of the callout (which varies depending on time of day and day of week).

3.2.5.6.7 Emergency Clearances

An important part of public safety is ensuring that the Company uses a clearance procedure for Gas Operations. Clearance procedures are an added safety step to confirm that a plan and procedure is in place before work is performed. The Transmission Clearance Procedure is used for work that impacts gas flows, pressures, or gas quality. If a transmission facility is to be taken out of service for repairs, a plan and procedure (“clearance”) must be formalized in writing and reviewed by the field and engineering personnel scheduled to perform the work. Transmission system clearances are managed and approved by Gas Transmission Control.

PG&E implemented a gas distribution clearance process to permit the GDCC to oversee safety monitoring and risk mitigation from the inception of a project through its completion. Any work

that affects gas pressure, flow or quality, deactivation or activation of facilities, affects remote monitoring and control, or may impact the ability to maintain service to customers requiring a gas clearance. Clearances are prepared with the input of the team that will perform the work, the engineering team, and the team that executes the clearance. Clearance initiation includes identifying a way to safely isolate the work area, maintain service to customers, and to develop the steps that will be taken to isolate the work area. Every request for a clearance must be requested and scheduled through, and then managed by, the GDCC.

Upon completion of an emergency clearance:

- Transfer the gas system back to GCC.
- Communicate the Return to Normal status.

If facilities must be restored, the GCC and Site IC must transfer control to the restoration team:

- GCC transfers internal and external communication to Gas Dispatch, and reporting responsibilities to the restoration team lead.
- Site IC transfers incident command to the restoration team lead.

3.2.6 Resource Management

During any emergency event, PG&E personnel play a central role in restoring gas to customers through an effective and efficient use of available resources. Resources must be organized, assigned, directed, tracked, and otherwise managed throughout the duration of an event in order to effectively respond. The following describes PG&Es approach in Gas Operations to resource management during emergencies.

Using available information and sound judgment, the emergency centers will allocate resources to support established response priorities. Gas Operations re-evaluates response priorities throughout the incident to ensure optimum allocation and deployment of resources. Gas Operations uses multiple internal and external systems for resource requesting and management. In addition, General Construction (GC) personnel typically fill the role of resource tracking or logistics during incidents involving the coordination of large numbers of resources. Gas Operations local resources (personnel, vehicles, equipment, and supplies) can be found in **Appendix F – Internal Resources**.

In localized, short-term emergencies (Level 1), gas service M&C representatives needing resources from neighboring Division headquarters can request them from the Region GC Superintendent, or the GEC On-Call Coordinator.

Each Division headquarters location maintains an OEC to coordinate response to emergencies. If additional support is required by one of the 18 OECs, additional support will first be provided by neighboring Divisions before an OEC reaches out to the Region's M&C Director to activate the GEC. The GEC assumes logistical coordination when it is activated. The OEC, GEC, and EOC have corresponding positions that communicate to one another during an event by scheduled conference calls.

The Logistics Section Chief at the affected Emergency Center contacts the Resource Management Center (RMC) if supplementary clerical and estimating resources are needed.

In Level 1 emergencies: Materials and equipment requested by field personnel are provided by Supply Chain (Materials Operations and Sourcing) and Transportation and Aviation Services Departments.

In Level 2 emergencies: Region GC Superintendents, as the OEC/GEC Logistics Section Chief, assume responsibility for obtaining material and moving resources and equipment, with the approval of the EOC/GEC On-Call representatives if they are activated. In addition, the Field Service Resource Coordinator (FSRC) may assume the role of Logistics Chief or Crew Logistics Leader, and is responsible for obtaining and moving gas service personnel between Regions. Materials and equipment requested by field personnel are provided by Supply Chain (Materials Operations and Sourcing) and Transportation and Aviation Services Departments.

In Level 3 or higher emergencies: the Materials Transportation Coordination Center (MTCC) may be activated through the GEC/EOC to provide materials and equipment. Within the GEC/EOC, representatives from the Supply Chain (Materials Operations and Sourcing) and Transportation and Aviation Services Departments also coordinate support for restoration efforts.

In Level 3 or higher emergencies involving both Regions: the EOC/GEC will establish priorities for the allocation of resources. The FSRC will report to the RMC.

However, if the need for FSRC representation is evident in the GEC/EOC, the FSRC will report to the GEC/EOC upon request from the GEC Director /EOC Commander and will be assigned to the Logistics Section.

Table 3.4 below summarizes logistics support positions and personnel for gas emergencies.

Table 3.4 Logistics Support

Center	Position/Role	Ideal Person for Role	Notes
No Emergency Center – Level 1 Emergency	Logistical Support	Region GC Superintendent or GEC On-Call	Can be called upon if Level 1 appears to be escalating beyond local resources
OEC	Logistics Section Chief/Deputy	FSRC	Obtains and moves gas field service personnel between Regions
REC	Logistics Section Chief/Deputy	Region GC Superintendent	Obtains both Gas M&C and construction personnel and equipment
EOC/GEC	Logistics Section Chief	Director and above leadership from Workforce Management or Safety and Shared Services	EOC/GEC maintains Logistics Section Chief roster

Gas Operations manages resources through the use of the ICS 211 Form – Check-in and Check-out Log and ICS 215 Form – Operational Planning Worksheet. The ICS 211 is maintained as the sign-in sheet for all personnel at each activated location. The ICS 215 separates resources in categories of have/need/requested, mutual aid/contractor, assessment/repair, etc.

Internally, GEP personnel gather lists of Gas Operations resources (Contacts, Radio Information, Vehicles and Equipment, and Materials and Tools) for annual inclusion in the hardcopy version of the GERP (Volume 2 - Appendix F).

In addition, GEP maintains a GERP Resources SharePoint site, which contains all of the electronic files in Volume 2 - Appendix F, Gas Operations: Internal Resource Directory separated into Divisions and Districts. The clerks in the Divisions and Districts update inventory files in the SharePoint site at least once per year and a minimum of every 6 months for contact lists.

Gas Operations uses Rental Central for vehicle and equipment rental process provided by PG&E Safety and Shared Services.

- Call **530-757-5959 (8-254-5959 internally)** for all rental needs: light duty vehicles, heavy duty vehicles, construction equipment, portable restrooms, and tools.
- The Rental Central team is available 24 hours a day.
- Managers approve or deny all rentals by phone or email. If rentals aren't approved within 4 hours, they will be approved by the rental group and reported after the fact. The rentals can be approved or denied by email using a smart phone.
- The rental group will handle all billing. Rental fees will be charged back to the LOBs. Clients will continue to manage budgeting and cost allocations.

Additional information including procedures, job aids, etc. is available on the Rental Central intranet.

3.2.6.1 Check-In and Check-Out Process

Resource management begins with accurate check-in and check-out processes of available personnel. Understanding correct resources during an event is critical to an effective response.

The Resource Unit will establish and oversee the check-in/out function at designated incident locations and Emergency Centers. Maintaining the status of all checked-in personnel is vital for tracking resources and is essential for personnel safety, accountability, and fiscal control. The Resource Unit establishes and oversees the check-in/out function at designated incident locations. The Resource Unit Leader will assign a Recorder to each location where resources will check-in and out. If the Resource Unit has not been activated, the Director, Commander, or Planning Section Chief is responsible for setting up the check-in/out process. The Resources Unit maintains the ICS Form 211 – Check-in and Check-out Log throughout the incident to ensure accountability of all personnel.

Personnel must check in with the Supervisor or Emergency Lead upon arrival to any PG&E reporting location and check out at the end of each shift. This may be an Emergency Center (EOC, GEC, REC, OEC) Service Center, Base Camp, Staging Area, or Micro Site. All personnel

must also check out upon dismissal. All personnel are required to receive a safety briefing before commencement of work, and prior to being released.

3.2.6.2 PG&E Contract Crew Support

PG&E has contracts in place to use Contract Crew and/or equipment resources during incidents where Company resources alone are not able to restore the gas infrastructure in a timely manner.

3.2.6.3 Contracts for Emergency Response

Supply Chain-Sourcing issues contract agreements to provide assistance in restoring gas service during an emergency response. Agreements are established with contractors to provide assistance upon request, and include furnishing personnel, equipment, and/or expertise in a specified manner. During an emergency event, Logistics is responsible for managing the contracts and issuing emergency purchase orders.

3.2.6.3.1 Contract Crew Request

Once a need arises for Contract Crews, the Contract Logistics Manager makes an initial call to determine current contractor availability on property. If more Contract Crews are needed, the Contract Logistics Manager contacts the contractors for additional resources. If there is still a shortage of resources, the Mutual Assistance process is followed to release Contract crews from other Utilities.

3.2.6.4 Mutual Assistance and Memorandum of Understanding

Refer to **GERP Appendix D** for details on Mutual Assistance and Memorandum of Understanding.

3.2.6.4.1 Agreements and Requesting Mutual Assistance

The term “Mutual Assistance,” in the context of this Annex, is intended to mean any crew or other resource from another Utility. The Company has established agreements (i.e., California Utilities Emergency Association [CUEA], Western Region Mutual Assistance Agreement [WRMAA], American Gas Association (AGA), etc.) with other Utilities to provide help, or receive assistance, to restore gas and gas service during a major emergency.

Refer to the CERP on how to evaluate the need for mutual assistance, the request process, and recordkeeping.

3.2.6.5 Deployment Order and Priorities

Deployment priorities will be based on priorities of Gas Operations senior leadership, and the goals and objectives of the overall PG&E emergency response that support the Response Priorities. The establishment of priorities is dependent on the understanding of current capabilities and their limitations.

Decisions regarding allocation and deployment of resources should be based on priorities that govern assessment or restoration. Refer to the **Resource Allocation** section in the CERP for additional details on deployment priorities.

The typical order for requesting and deploying personnel resources includes, but is not limited to:

Division

- Title 200 (T200) distribution (M&C division crews) from within the impacted division
- T300 distribution (General Construction crews) from within the impacted division
- T300 transmission and T200 transmission from within the impacted division (given there are no transmission impacts or risk)
- Contract from within the impacted division

Region

- T300 distribution from within the impacted region
- T200 distribution from within the impacted region
- Contract from within the impacted region

System

- T300 distribution from less impacted regions
- T300 transmission and T200 transmission from less impacted regions (given there are no transmission impacts or risk)
- T200 distribution from less impacted regions
- Contract from less impacted regions

Non-PG&E Resources

- Contract Crews from outside Utilities (Contract Crews may be used before GC Transmission Line, depending on the incident)*
- Mutual assistance crews
- Government resources

*For efficiency and cost effectiveness PG&E Gas Operations personnel should consider Contract Crew support prior to requesting mutual assistance.

3.2.7 Demobilization / Release of Resources

> ***Note.*** *References to an REC in this section indicate Gas Operations personnel supporting/coordinating with Electric RECs during dual commodity or electric incidents.*

Demobilization includes overseeing and validating the safe and efficient return of resources to their original location and status when they are no longer needed to support the response. Planning for demobilization starts soon after the resource mobilization process begins to facilitate accountability of resources.

The order for demobilization is executed in reverse of the deployment order and includes, but is not limited to the following resources[2]:

Non-PG&E Resources

- Government resources
- Mutual assistance crews
- Contract crews from outside utilities system
- Contract from less impacted regions

System

- T200 distribution from less impacted regions
- T300 transmission and T200 transmission from less impacted regions
- T300 distribution from less impacted regions

Region

- Contract from within the impacted region
- T200 distribution from within the impacted region
- T300 distribution from within the impacted region

Division

- Contract from within the impacted division
- T300 transmission and T200 transmission from within the impacted division
- T300 distribution from within the impacted division
- T200 distribution from within the impacted division

The demobilization process involves two way communications. It can be initiated from the bottom up or from the top down. Ultimately, the highest level activated Emergency Center makes decisions on whether resources can demobilize or should be reallocated. This decision is based both on information passed up from the lower level emergency centers, as well as from information garnered through analytic tools.

To ensure personnel safety, and to prevent resources from being released in one area when they are needed in another, it is essential that a demobilization process is followed. The ICS 221 Form – Field Employee Demobilization Release must be completed for all responders.

[2] The demobilization of resources should follow the order outlined in the section. There may be exceptions to the demobilization order based on the support of incident objectives and assigned resources.

Listed below are the responsibilities by Section/Unit in the demobilization process:

Resource Unit[3]:

- Identifies excess resources in collaboration with the Section Chiefs and Demobilization Unit and informs their Emergency Center commander.
- Checks with the Resource Unit at the next level's Emergency Center to see if resources are needed elsewhere and whether demobilization is authorized. The highest level activated Emergency Center makes the ultimate decision to demobilize resources. For example, when open, the EOC takes into account information and recommendations from the REC/OEC, but it ultimately makes final demobilization decisions.
- Once approval is secured to demobilize, the Resource Unit notifies the Logistics Section and the Demobilization Unit of the excess resources.

OEC/REC/GEC Demobilization Unit

- In collaboration with the Resource Unit, assesses the current and projected resource needs and obtains the identification of surplus resources and probable release times.
- Forwards demobilization instructions for field resources from the EOC.
- Creates the demobilization plan and monitors its implementation for the Emergency Center. (The demobilization plan includes the release priorities, demobilization process, any specific release procedures, responsibilities for implementing the demobilization plan, and directories, if needed [e.g., maps, telephone listings, etc.].)
- Communicates with the sending and receiving offices, as well as the released personnel, to ensure the safe and efficient return of resources.

EOC Demobilization Unit

- Creates the demobilization plan for the EOC.
- Work with Operations Section Chief and Resource Unit to identify excess resources.
- Creates instructions for the GEC/RECs to direct REC and OEC demobilization of field resources (e.g., order for the demobilization of resources, demobilization checklist, and safety considerations).
- Is responsible for the demobilization of outside contract, mutual assistance crews, and out of region PG&E crews (i.e., communicates with the RECs who are returning and ETA, notifies the contract unit to release crews, calls outside utilities to notify when resources have been released, and confirms the number acquired equals number released).
- Keeps the sending and receiving GEC/REC Logistics Chiefs and Resource Units apprised of resource movement during the demobilization process.

[3] If the Resource Unit and Demobilization Unit are not staffed during an incident, the Planning and Intelligence Section Chief is responsible for these functions.

Emergency Center Commander

- Approves the demobilization plan for their emergency center.

Logistics Section

- Orders and/or restocks supplies/equipment to ensure operational readiness.
- Supports demobilization of all rentals via Rental Central.
- Initiates the demobilization plan for the base camp, staging area and/or micro site for the emergency services provider.

Example Process for the Release of Excess Resources Identified in the OEC

- The OEC Resource Unit identifies excess resources in collaboration with Operations and the Demobilization Unit, informs the OEC Commander, and contacts the GEC/REC Resource Unit before approving the demobilization of resources.
- The GEC/REC Resource Unit checks to see if the resources can be used elsewhere in the region. If not, it initially checks with the EOC, if activated, to see if the resources are needed elsewhere in the system.
- If the resources are not needed elsewhere, and the EOC provides permission to demobilize resources, the GEC/REC Resource Unit informs the OEC Resource Unit that they can demobilize.
- The OEC Resources/Demobilization Unit informs the OEC Logistics Section of the excess resources.
- The OEC Resources/Demobilization Unit communicates with the sending and receiving offices to ensure the safe return of personnel, and Logistics orders and/or restocks supplies/equipment.

Demobilization Process for the Release of Mutual Aid/Assistance Resources

The GEC P&I Section Chief will inform the EOC P&I Section when mutual aid/assistance is no longer needed. The EOC will determine if these mutual aid/assistance resources are to be transferred to assist restoration in another Region, or if they are to be demobilized and returned to their own Utility. Demobilization will be consistent with the Demobilization Plan, and will be agreed to by the EOC IC and the EOC Operations Section Chief. Upon demobilization, a release process is followed that includes a debriefing of the mutual aid/assistance personnel, return of equipment borrowed from PG&E, and other steps.

Demobilization priority considerations may be revised based on concerns such as returning GC or division/district crews to critical projects not related to emergency response.

4 Coordination and Communication

4.1 Internal Coordination and Communication

The PG&E emergency response system is designed to provide a comprehensively safe and effective emergency incident management approach. It includes the CERP, the GERP, field resources, EOCs and Coordination Centers, and the training and exercise system, and it may include additional mutual assistance resources. See **Appendix D**, **Mutual Assistance Agreements and Memorandum of Understanding**, for more information regarding mutual assistance.

The GCC coordinates internal communications through procedures and internal communications plans. For example, the GTCC maintains a detailed Emergency Response Process by which the following internal stakeholders are appropriately notified of issues affecting their functions.

4.2 Gas Incident Reporting

The Planning and Intelligence (P&I) Chief is responsible for the preparation and communication of the gas incident report. Gas incident reports to the GEC (Level 3 or higher) will be designed to allow sufficient time for compiling, analyzing, and summarizing information before reporting to the next level. For details on these reports and links to templates, refer to the CERP and the GERP Website. See below for information regarding important reporting methods used to support gas incident response.

4.2.1 Pre-event reporting

4.2.1.1 Gas Operations Daily Briefing

Gas System Operations facilitates a daily conference call with Gas Leadership at 7:30 A.M.to discuss current system status, gas operations projects, as well as situations that may have an impact on the gas system. In addition, anticipated events such as Cold Weather Events are discussed on the call held weekly to update status of preparedness and response activities.

4.2.1.2 PG&E Service Area Forecast

PG&E Meteorology Services provides daily weather reporting through both email and a weather site. The PG&E Meteorology Services also provides incident specific weather forecasts.

Figure 4.1 PG&E Meteorology Services

4.2.1.3 Incident Reports

Within one hour of the incident, field responders collect information for the Gas Incident Report (CPUC Form 420) and communicate information to the GCC. As necessary, the GCC develops and distributes the Incident Situation Reports for Level 1 incidents meeting criteria for notifications beyond day-to-day incident response. The EPC and/or activated Emergency Center(s) (e.g. OEC, GEC) develop and distribute the Incident Situation Reports for Emergency Activations of Level 2 through Level 5.

The Gas Incident Report provides the following information:

From:
To:
Subject: Gas Incident [type, location, etc.]

GAS INCIDENT REPORT

Location:

Impacted Division/District:
Date and Time:
Incident Level: [1, 2, 3, 4, or 5]
Incident: [Describe incident. State what initially caused our response. This information stays the same throughout the incident]
Current Action: [State which OEC is activated, describe current response]
Objectives:
[SMART Objective #1 (note if complete or ongoing)
SMART Objective #2
SMART Objective #3]
Potential Customer Impact: [Describe how many customers are impacted and if there are any large/significant customers affected]
Communications: [Describe any external communications]
ICS Organizational Chart
- Incident Commander:
- DIRT (cq) Rep.:
- PSS (Public Safety Officer):
- OEC Commander:
- IC Advisor:
- Public Information Officer:
- Customer Strategy Officer:
- Safety Officer
- Liaison Officer:
- Operations:
- Planning and Intelligence (P&I):
- Technical Specialist:
- Logistics:
- Finance:

Figure 4.2 Gas Incident Report

Refer to **Appendix E.6, CPUC/DOT Required Notifications/Testing** for detailed DOT and CPUC reporting requirements.

4.2.1.4 Incident Action Plan

The Incident Action Plan (IAP) is an oral or written plan for the next operational period that ensures a common understanding of objectives, communications, organization structure, resources, etc., and reflects the overall strategy for managing an incident.

Refer to the CERP for additional details regarding the IAP.

4.2.2 Systems Information Management

Gas Operations uses a wide range of tools to provide situational awareness and respond to system conditions during normal, abnormal, and emergency operations or Incident Levels 1-5. The SCADA system is the first line of defense allowing Gas System Operators to not only view data from the field sensors, such as pressure and flow, but also directly respond by adjusting valves in key locations where remote controllable devices are located. Live system data and alarms are replicated up to the PI system and Alarm Manager, respectively, for consumption by other Gas Operations teams. When system conditions require further investigation and planning, several tools are available including Synergee to run hydraulic models of the system, Tactical Analysis and Mapping Integration (TAMI) to geographically view PG&E and external data, and Smart Boards to collaborate locally and with remote locations. The Gas Control Center (GCC) uses the Turret phone system for direct calls In addition, Gas Operations uses the E-page system to send out mass communications on event status to responders and management. Gas Management uses the Daily Briefing Dashboard (DBD) to review daily system events and conditions.

Gas Operations uses the following critical communications applications, tools, and devices during emergency events:

- **Supervisory Control and Data Acquisition (SCADA)**: System that allows the operator to analyze and control the gas system from a remote location.
- **Field Automation System (FAS)**: Work Orders from customers and first responders are input by CC&B, AFW, SAP or OIS and then sent to FAS. FAS is then used by Gas Service Representatives, Field Meter Technicians, Electric Restoration Troublemen, Dispatchers and Supervisors to assign, dispatch and complete field work orders.
- **SAP**: Business operations software tool used by PG&E to track emergency jobs as they move through their life cycle. It is a tool that is used to plan, track, and charge labor and to schedule work. SAP is integrated with FAS, so damaged locations that are assessed by field resources and entered into FAS are automatically sent to SAP.
- **Tactical Analysis Mapping Integration (TAMI)**: Geographic Information System (GIS) that provides graphical displays of situational information including gas distribution and transmission system status, odor calls, Dig-ins from habitual offenders, immediate responses from GSRs, traffic, weather, etc.

- **Daily Briefing Dashboard (DBD)**: System that provides graphical displays of safety, reliability, operations, trends, and compliance dashboards and data.
- **Incident Management Team (IMT)**: The Incident Commander and appropriate Command and General Staff (C&GS) personnel assigned to an incident.
- **MapGuide**: System that provides detailed graphical situational analysis.
- **Turret Phone System**: System that notifies emergency contacts.
- **E-page**: Electronic message sent by GCC and EPCs regarding incidents and emergency center activations.
- **Send Word Now** {XE "Send Word Now}: Electronic message (phone, e-mail, and text messaging) sent to activate or deactivate emergency center personnel.
- **Calling Tree**: Gas Operations' individual department maintained phone lists for personnel.
- **SharePoint**: Software application that provides a secure documentation storage and collaboration platform for emergency responders.
- **Network**: System used to monitor live broadcast news feeds.
- **Smart Boards**: Devices used to provide situational analysis and collaborations between emergency centers and GCC.
- **Smart Phones**: Devices used to provide communications and photos.
- **Personal Hotspot/Tethering**: Smart Phone utility which provides user with internet access for devices (e.g. laptop, I-pads, etc.) through their Smartphone.
- **Satellite Phones**: Redundant communication phone which uses satellite service rather than standard analog or cellular service (Refer to **Appendix F** for Gas Operations Satellite Phone List).
- **Virtual Private Network (VPN)**: VPN provides secure, reliable and fully-functional remote access to PG&E network and software applications. This service is not allowed on a personal computer.
- **Citrix:** A service that allows remote access to Email and widely used applications using any computer that has an internet browser such as Microsoft Internet Explorer or Google Chrome. This service is especially aimed at those remote access users that have their own computers and Internet Service Provider (ISP).
- **RSA Security Token**: Either a hardware or software token which authenticates the identity of the remote access user before accessing the PG&E network through Citrix or VPN.
- **Lync**: Instant messaging tool for PG&E personnel.
- **Gas Logging System (GLS)**: Instant messaging and logging of system changes and conditions used by the GCC and PG&E manned stations.
- **Text (iMessage)**: Instant messaging tool available on iPhones.
- **Government Emergency Telecommunications Service (GETS)**: Individually assigned access card used to provide designated emergency personnel priority access and prioritized processing in the local and long distance segments of the

landline networks, greatly increasing the probability of call completion. (Refer to **Appendix F** for Gas Operations GETS List).

- **Wireless Priority Service (WPS)** Individually assigned access card used to provide designated emergency personnel priority access and prioritized processing in all nationwide and several regional cellular networks, greatly increasing the probability of call completion. (Refer to **Appendix F** for Gas Operations WPS List).
- **WebEx**: WebEx is the Cisco product which provides online meeting, teleconferencing and screen sharing capability.

4.3 External Coordination and Communication

4.3.1 Communicating with the Public and the Media

Refer to the CERP for detailed information regarding communicating with the public and the media.

4.3.2 Government Coordination

PG&E communicates with agencies responding to the same incident. The PG&E first responder and/or the responding agency establish communication at the scene upon arrival. PG&E's Incident Commander (the first responder) and the agency's incident commander meet to review the hazards and public safety issues, establish a command structure, and determine how and when they will communicate with each other. The PG&E Incident Commander can request Public Safety Specialists (PSS) from the Gas Operations' Compliance Programs department to facilitate communications with external first responders. First responders may facilitate communication through the exchange of hand-held radios or cell phones. Additionally, the PG&E Mobile Command Vehicles (MCV) are equipped with radio interoperability equipment that can cross-connect different radio networks used by first responder agencies.

Coordination with external agencies is critical for effective incident command and, in some cases, such coordination is a legal obligation. Depending on the type of incident, extensive coordination will be required. The Incident Commander may choose to assign one or more Liaison Officers to fulfill this important role.

A list of external agency contacts is included in **Appendix E, External Resources (Non-Gas Operations Resources)**. Refer to this list when establishing coordination with public and regulatory agencies.

Refer to the CERP for additional details on how PG&E coordinates with governmental agencies.

4.3.2.1 911 Agency Communication

PG&E communicates with 911 agencies. This communication may initially take place between either the agency and Gas Dispatch and Scheduling or the agency and the GCC depending on how the interaction is initiated or on-scene personnel.

Refer to the CERP and External Relations Annex for additional details on how PG&E coordinates public information.

4.3.2.2 Agency Representative Communication

If the incident involves multiple agencies and PG&E, additional coordination between PG&E, the city, the county, and/or the state may be required. At that point, the Incident Commander may assign one or more Agency Representatives to various responding agency EOCs to coordinate communication, typically from Public Relations or PSS group.

Refer to the CERP for detailed information regarding Agency Representatives and Liaison Officers.

5 Performance Indicators

5.1 Indicator Evaluation

Performance indicators are used to monitor response and recovery performance during Level 2 or higher emergencies. Key indicators are monitored and evaluated during an event so that actions can be taken to quickly adjust the response plan. Post-event evaluation of indicators is used to improve processes, increase efficiency, and revise emergency plans.

Some of the following indicators have established measurements while others are subjectively evaluated during the event or during post-event critiques:

Indicators will be used to:

- Monitor safety practices
- Determine if safety practices are consistent with established Company standards
- Ensure that hazardous conditions reported to PG&E are identified for response
- Ensure hazards are mitigated and affected area is made safe before response and restoration actions are carried out
- Ensure PG&E responders are knowledgeable of response plan and procedures, organize under an ICS structure, and effectively execute their emergency response role

5.2 Safety

Indicators will be used to:

- Monitor safety practices
- Determine if safety practices are consistent with established Company standards
- Ensure that hazardous conditions reported to PG&E are identified for response

Indicators:

- Employee injuries
- Public injuries
- Vehicle accidents
- Response time to immediate response notifications

5.3 Assessment

Indicators will be used to:

- Monitor the timeliness of compiling a comprehensive damage assessment
- Determine resource movement needs
- Determine the need for Mutual Assistance and Contractor Crews

Indicators:

- Appropriate prioritization of outages, to include duration
- Use of non-traditional assessment teams
- Number of Mutual Assistance and Contractor resources

5.4 Restoration

Indicators will be used to:

- Monitor the timeliness of customer restoration
- Evaluate the effectiveness of resource management
- Monitor forecast versus actual restoration times

Indicators:

- Customer restoration times
- Critical facilities restored against forecast
- Outage restoration rate against forecast
- Number of customers experiencing extended duration outages

5.5 Response Metrics

5.5.1 Make-safe Response Time for Mains and Services

Gas Operations' end of year target response times of Shutting in the Gas (SITG) for events related to gas mains or services:

- Mains – 117 minutes
- Services – 50.20 minutes

5.5.2 Response to Customer Odor Calls

Gas Operations response to customer calls for gas odors was in the top decile performance of benchmarked Utilities in 2015:

- PG&E responded to 99.6 percent of all gas emergency response calls within 60 minutes.
- On average, PG&E responded in less than 21 minutes.

6 Training and Exercise Activities

PG&E trains its internal emergency responders to know and understand the GERP. Internal training is implemented through specialized training classes and practical exercises that follow Homeland Security Exercise and Evaluation Program (HSEEP) guiding principles. Annually, the Senior Vice President (SVP) of Gas Operations must ensure that GERP training and exercising are conducted. GEP staff act on behalf of the SVP to design, plan, and deliver GERP training.

The detailed training requirements for PG&E employees are found in the Utility Standards EMER-1001S, "Business Continuity and Emergency Operations Plan, Training, Exercise and Critique Standard," and EMER-6010S, "Training and Exercising Gas Emergency Response Plan Standard." Gas Emergency Preparedness maintains a Multi-year Training and Exercise Plan (MTEP) to align long-term strategies based on core capabilities, prioritized efforts, and guided training and exercise activities. For more information on GERP training, exercise, and evaluation activities please see EMER-6010S and the MTEP.

The Training and Exercise Schedule for the GERP is posted on the GERP home page in the Toolkit.

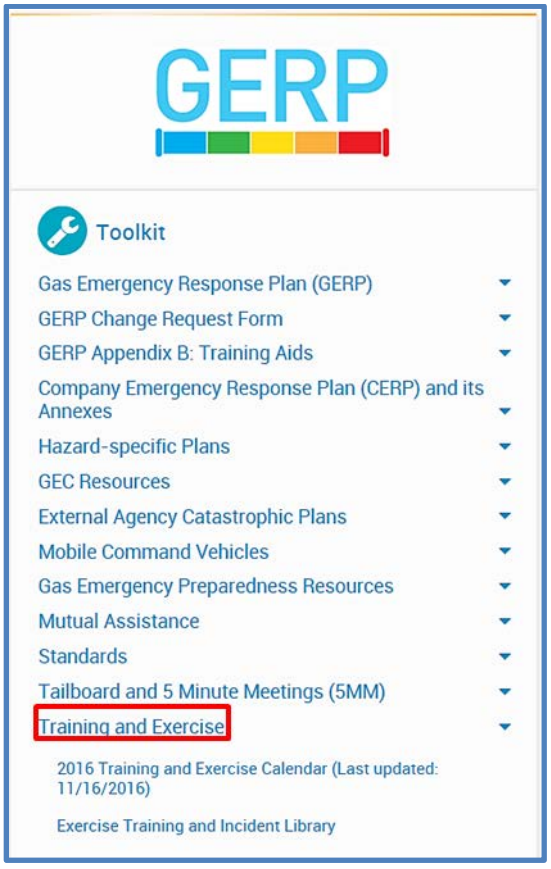

Figure 6.1 Training and Exercise Schedule on the GERP Website

6.1 Training Program

All Gas Operations personnel are profiled for GERP training according to their emergency response responsibilities and job classifications with emphasis on those designated with primary or backup Emergency Center roles described in the GERP.

6.1.1 GERP Training

- GAS-9121: GERP Awareness Training (web-based training)
- GAS-9122: GERP Field Responder Training (web-based training)
- GAS-9123: GERP Emergency Center Training (instructor-led training)

GAS-9121, “GERP Awareness Training,” and GAS- 9122, “GERP Field Responder Training” are both available as web-based training (WBT) modules. GAS-9123, “GERP Emergency Center Training” is only available as an instructor- led training (ILT) course. Annual GERP training of Gas Operations personnel is captured in My Learning.

6.1.2 Planning and Intelligence Training

- GAS-9202: P&I Training

The P&I Section is responsible for collecting, evaluating, and disseminating information and status updates about an incident. Training of the functions , roles, and responsibilities of the P&I Section of the OEC will occur during this training.

6.2 Exercise Program

An essential component of the GERP is the exercise program that allows for realistic testing and evaluation of PG&E core capabilities so emergency processes outlined in the GERP can be strengthened and improvement items can be shared. The exercise program applies to both internal exercises and joint exercises conducted with external public safety agencies such as local offices of emergency services, police and fire departments, and state and federal agencies. Per EMER-6010S, the GERP must be exercised at the OEC and GEC level on an annual basis.

6.2.1 Gas Control Center Exercise Activities

Gas System Operations (GSO) performs an annual test and review to validate the Internal Communications Plan including the Gas Transmission Control Center (GTCC) Contact Matrix, and ensure it can manage pipeline operations during a significant or widespread Supervisory Control and Data Acquisition (SCADA) outage lasting for an extended period of time. The exercise requirement is found in 49 CFR §192.631, Control room management. Each year the exercise focuses on different gas transmission districts. GSO critiques these exercises, evaluating the effectiveness of the Internal Communications Plan, and documenting areas of improvement. Refer to the Gas Transmission Control Center Control Room Management (CRM) Operation Manual, Section 2.4 - Internal Communications Plan, Section 1.4 – Internal Communications Plan Test for more information on this annual exercise.

7 After-Action Reviews, Event Logs and Records

The section below discusses, at a high level, the PG&E internal After Action Review (AAR) process. This AAR should be performed after exercises, trainings, emergency deployment of an MCV (on a case-by-case basis), Level 2 or higher incidents, high-profile incidents, or any time there is an opportunity for identifying response process improvements.

7.1 Hotwash

Immediately following an exercise, training session, or incident response, staff can conduct a Hotwash to discuss and evaluate performance. This is a less formal discussion that allows participants to talk about what happened while information and activities are still pertinent.

7.2 After Action Review (AAR) and After Action Report

Internal AARs are to be performed within 20 working days of a Level 2 or higher incident, or any time there is an opportunity for identifying response process improvement. The Incident Commander is responsible to ensure that an AAR is performed, task/action items are identified and assigned to task owners, as well as a deadline for completion.

Completed After Action Reports are created and distributed to various stakeholders including the Incident Commander and responders of the incident. GEP uploads corrective actions from the After Action Reports into the Corrective Action Program (CAP) database. In order to ensure awareness of AAR trends to senior leadership within Gas Operations, GEP reports high-level best practices and areas of improvement during RES meetings. Copies of After Action Reports may be requested from the GEP, which maintains them on the departmental SharePoint site in the Exercise and Incident Library, or can be accessed by typing AAR into the PG&E intranet browser. For additional information on After Action Reviews, refer to EMER-6010S.

7.3 Corrective Action Program (CAP)

Utility Standard GOV-6101S, “Enterprise Corrective Action Program Standard,” and its associated Utility Procedure TD-4020P-01, “Gas Corrective Action Program” outline requirements and procedures for CAP in further detail.

The CAP standard and associated procedure apply to all asset-related failures, incidents, nonconformities, and problems involving and/or affecting Gas Operations personnel. GEP uses the CAP database to enter corrective actions identified during the After Action Review completed after Level 2 and higher gas incidents and during a Hotwash after drills and exercises. More information about the CAP Process is contained in Section 7 (After Action Report, Event Logs, and Records) and Appendix E (External Resources - Red Tab: CPUC/DOT Reportable Gas Incidents) of this document.

AAR Incident Categories for Questions

GEC/OEC Gas – Post-event Critique Categories:

- Safety
- Pre-Activation
- Incident Command System
- Field Response
- Communication
- Post-Event
- Additional Areas of Improvement or Best Practices

7.4 ICS 214 Unit Log

All positions in the Emergency Centers are responsible to maintain an ICS 214 Unit Log to document aspects of the emergency response. This will include the date and time of key activities, decisions, contacts made, and similar topics. Completed logs must be archived in accordance with Company policies for record retention.

7.5 Recordkeeping

Gas Operations personnel use many technologies (e.g. FAS, SharePoint, shared drives, etc.) and hardcopy sources (ICS Form 211, 214, notepads, etc.) to maintain records of gas incidents. Further, Gas operations personnel are required to retain all correspondence and other written materials relating to gas incidents in accordance with:

- Utility Standard TD-4016S, “Gas Operations Records and Information Management”
- Corporation Standard GOV-7101S, “Enterprise Records and Information Management Standard”
- Corporation Policy GOV-01, “Enterprise Records and Information Management Policy”

7.5.1 Legal Hold

A legal hold is a communication issued by the Law Department as a result of current or anticipated litigation, audit, government investigation or other such matter that suspends the normal disposition or processing of documents. Legal hold communications specify which types of documents must be retained. Legal holds apply to records and non-records, as well as physical and electronic documents.

If PG&E personnel receive a legal hold communication, those personnel must cooperate and retain specified documents until further notice. The Law Department will notify management when the legal hold is lifted, at which time the documents may be discard.

For questions about the San Bruno legal hold, or questions related to legal holds other than San Bruno, please contact DiscoveryTeam@pge.com.

7.5.2 Resources

ERIM publishes and maintains a list of Guidance Documents that establishes standards for how records are managed throughout their life cycle. These documents can be found in the Governance and Performance section of the Guidance Document Library and on the ERIM website.

For questions regarding the handling of records and information generated in the course of an emergency response , or anything other RIM related questions, contact the GERP team at gerp@pge.com or the Gas RIM team at gasops@pge.com.

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Appendix A. Glossary, Acronyms and References

Appendix A of this Plan presents information to assist with understanding the Gas Emergency Response Plan.

This section provides:

- Definitions of PG&E terminology
- Definitions of acronyms that appear throughout the Plan
- A list of the reference documents used in developing this Gas Emergency Response Plan

A.1 Glossary, Acronyms and References: Index

Appendix	Page	Title
A.2	A.2	Glossary
A.3	A.10	Acronyms
A.4	A.16	References

A.2 Glossary

Many of the terms defined in this glossary are derived from the glossary listed in the Federal Emergency Management Agency's ICS Resource Center.

AFTER ACTION REVIEW (AAR): A review that occurs after every Level 2 or other significant incident, event, and exercise, to critique the work that took place to find the gaps, strengths, and weaknesses of the response. The information is put in an After Action Report that identifies best practices and lessons learned. An AAR includes a review debrief/Hotwash notes, participant critiques, and/or evaluator comments.

AGENCY: An agency is a division of government with a specific function, or a nongovernmental organization (e.g., private contractor, business) that offers a particular kind of assistance. In ICS, agencies are defined as jurisdictional (having statutory responsibility for incident mitigation) or assisting and/or cooperating (providing resources and/or assistance). (See Assisting Agency, Cooperating Agency, and Multiagency.)

ASSIGNED RESOURCES: Resources checked in and assigned work tasks on an incident.

ASSIGNMENTS: Tasks given to resources to perform within a given operational period, based on tactical objectives in the Incident Action Plan.

ASSISTANT: Title for subordinates of the Command Staff positions. The title indicates a level of technical capability, qualifications, and responsibility subordinate to the primary positions Assistants may also be used to supervise unit activities at camps.

ASSISTING AGENCY: An agency that directly contributes tactical or service resources to another agency. (See Agency, Cooperating Agency, and Multiagency.)

AVAILABLE RESOURCES: Incident-based resources that are ready for deployment.

BASE: The location at which primary logistics functions for an incident are coordinated and administered. There is only one Base per incident. (Incident name or other designator will be added to the term Base.) The Incident Command Post may be co-located with the Base.

BRANCH: The organizational level having functional or geographic responsibility for major parts of incident operations. The Branch level is organizationally between Section and Division/Group in the Operations Section, and between Section and Units in the Logistics Section. Branches are identified by the use of Roman numerals or by functional name (e.g., medical, security).

CALIFORNIA GOVERNOR'S OFFICE OF EMERGENCY SERVICES (CAL OES): The agency responsible for the coordination of overall state agency response to major disasters in support of local government. Cal OES is responsible for assuring the state's readiness to respond to and recover from all hazards—natural, manmade, war-caused emergencies, and disasters—and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts.

CHAIN OF COMMAND: A series of management positions in order of authority.

CHECK-IN: The process whereby resources first report to an incident.

CHIEF: The ICS title for individuals responsible for command of functional

sections: Operations, Planning, Logistics, and Finance/Administration.

CLEAR TEXT: The use of plain English in radio communications transmissions. No Ten Codes or agency-specific codes are used when Clear Text is used.

COMMAND POST: The location at which the primary command functions are executed. May be collocated with the incident base or other incident facilities. Also see Incident Command Post.

COMMAND STAFF: The Command Staff consists of the Information Officer, Safety Officer, and Liaison Officer. They report directly to the Incident Commander. They may have an assistant or assistants, as needed.

COMMAND: The act of directing and/or controlling resources by virtue of explicit legal, agency, or delegated authority. May also refer to the Incident Commander.

COMMUNICATIONS UNIT: An organizational unit in the Logistics Section responsible for providing communication services at an incident. A Communications Unit may also be a facility (e.g., a trailer or mobile van) used to provide the major part of an Incident Communications Center (ICC).

COMPACTS: Formal working agreements among agencies to obtain mutual aid.

COMPLEX: Two or more individual incidents located in the same general area and assigned to a single Incident Commander or to Unified Command.

COOPERATING AGENCY: An agency supplying assistance other than direct tactical or support functions or resources to the incident control effort (e.g., Red Cross, telephone company). (See Agency, Assisting Agency, and Multiagency.)

COORDINATION CENTER: Term used to describe any facility that is used for the coordination of agency or jurisdictional resources in support of one or more incidents.

COORDINATION: The process of systematically analyzing a situation, developing relevant information, and informing appropriate command authority of viable alternatives for selection of the most effective combination of available resources to meet specific objectives. The coordination process (which can be either intra- or inter-agency) does not involve dispatch actions. However, personnel responsible for coordination may perform command or dispatch functions within the limits established by specific agency delegations, procedures, legal authority, etc.

COST SHARING AGREEMENTS: Agreements between agencies or jurisdictions to share designated costs related to incidents. Cost sharing agreements are normally written but may also be oral between authorized agency or jurisdictional representatives at the incident.

CREW: A team of individuals with an identified work supervisor that can be used on an incident. See also Single Resource.

DELEGATION OF AUTHORITY: A statement provided to the Incident Commander by the Agency Executive delegating authority and assigning responsibility. The Delegation of Authority can include objectives, priorities, expectations, constraints, and other considerations or guidelines, as needed. Many agencies require written Delegation of Authority to be given to Incident Commanders prior to their assuming command on larger incidents.

DEMOBILIZATION UNIT: Functional unit within the Planning Section responsible for assuring orderly, safe, and efficient demobilization of incident resources.

DEPUTY: A fully qualified individual who, in the absence of a superior, could be delegated the authority to manage a functional operation or perform a specific task. In some cases, a Deputy could act as relief for a superior and therefore must be fully qualified in the position. Deputies can be assigned to the Incident Commander, General Staff, and Branch Directors.

DIRECTOR: The ICS title for individuals responsible for emergency centers (i.e. GEC) or the supervision of a Branch.

DISPATCH CENTER: A facility from which resources are assigned to an incident.

DISPATCH: The implementation of a command decision to move a resource or resources from one place to another.

DIVISION: Divisions are used to divide an incident into geographical areas of operation. A Division is located within the ICS organization between the Branch and the Task Force/Strike Team. (See Group.) Divisions are identified by alphabetic characters for horizontal applications and, often, by floor numbers when used in buildings.

DOCUMENTATION UNIT: Functional unit within the Planning Section responsible for collecting, recording, and safeguarding all documents relevant to the incident.

EMERGENCY MANAGEMENT ADVANCEMENT PROGRAM (EMAP): A multi-year effort to strengthen PG&E preparedness and response to emergencies and catastrophic events across the company. The EMAP team reviews possible disaster scenarios and develops response plans that are scalable to hazards and focus on restoring normalcy as soon as possible.

EMERGENCY MANAGEMENT COORDINATOR/DIRECTOR: The individual within each political subdivision that has coordination responsibility for jurisdictional emergency management.

EMERGENCY OPERATIONS CENTER (EOC): A pre-designated facility established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency.

EMERGENCY OPERATIONS PLAN: The plan that each jurisdiction has and maintains for responding to appropriate hazards.

EVENT MANAGEMENT TOOL (EMT): Tool used by the GCC and Dispatch to track incident information during an event. It ties to FAS and other systems, and has about 200 entry fields for incident data, such as if PD is onsite, etc. This tool will provide gas system and incident visibility to users outside external to the GCC and Dispatch.

EVENT: A planned, nonemergency activity. ICS can be used as the management system for a wide range of events (e.g., parades, concerts, or sporting events).

FINANCE/ADMINISTRATION SECTION: The Section responsible for all incident costs and financial considerations. Includes the Time, Procurement, Compensation/Claims, and Cost Units.

FUNCTION: In ICS, function refers to the five major activities in the ICS; i.e., Command, Operations, Planning, Logistics, and Finance/Administration. The term “function” is also used when describing the activity involved; e.g., the planning function.

GAS EMERGENCY CENTER (GEC): An Emergency Center established by PG&E Gas Operations to coordinate overall agency

or jurisdictional response and support to a gas-only high-level emergency, or to support the EOC during a dual commodity high-level emergency by providing intelligence from the Gas Operations Center at Bishop Ranch.

GENERAL STAFF: The group of incident management personnel reporting to the Incident Commander. They may each have a deputy, as needed. The General Staff consists of:

- Operations Section Chief
- Planning Section Chief
- Logistics Section Chief
- Finance/Administration Section Chief

GROUP: Groups are established to divide the incident into functional areas of operation. Groups are composed of resources assembled to perform a special function not necessarily within a single geographic division. (See Division.) Groups are located between Branches (when activated) and Resources in the Operations Section.

HIERARCHY OF COMMAND: A series of management positions in order of authority. Also see Chain of Command.

INCIDENT ACTION PLAN (IAP): Contains objectives reflecting the overall incident strategy and specific tactical actions and supporting information for the next operational period. The Plan may be oral or written. When written, the Plan may have a number of forms as attachments (e.g., traffic plan, safety plan, communications plan, and map).

INCIDENT COMMAND POST (ICP): The location at which the primary command functions are executed. The ICP may be collocated with the incident base or other incident facilities.

INCIDENT COMMAND SYSTEM (ICS): A standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents without being hindered by jurisdictional boundaries.

INCIDENT COMMANDER (IC): The individual responsible for the management of all incident operations at the incident site.

INCIDENT MANAGEMENT TEAM (IMT): The Incident Commander and appropriate Command and General Staff (C&GS) personnel assigned to an incident or OEC.

INCIDENT SUPPORT TEAM (IST): The GEC Director and appropriate C&GS personnel assigned to an incident at the GEC.

INCIDENT OBJECTIVES: Statements of guidance and direction necessary for the selection of appropriate strategy(s), and the tactical direction of resources. Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed. Incident objectives must be achievable and measurable, yet flexible enough to allow for strategic and tactical alternatives.

INCIDENT SUPPORT ORGANIZATION: Includes any off-incident support provided to an incident; e.g., Agency Dispatch centers, Airports, and Mobilization Centers.

INCIDENT: An occurrence caused by human or natural phenomena that requires action by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources.

INITIAL ACTION: The actions taken by resources that are the first to arrive at an incident.

INITIAL RESPONSE: Resources initially committed to an incident.

JURISDICTION: The range or sphere of authority. Public agencies have jurisdiction at an incident related to their legal responsibilities and authority for incident mitigation. Jurisdictional authority at an incident can be political/geographical (e.g., city, county, state, or federal boundary lines) or functional (e.g., police department, health department, etc.). (See Multijurisdiction.)

JURISDICTIONAL AGENCY: The agency having jurisdiction and responsibility for a specific geographical area or a mandated function.

LEADER: The ICS title for an individual responsible for a Task Force, Strike Team, or functional unit.

LEVEL 1 EMERGENCY: The first and lowest PG&E emergency response level; a local emergency that involves impact to a relatively small number of customers (less than 200 estimated core customers), handled by local crews and resources within its assigned geographical area, with minimal impact on customers and operations.

LEVEL 2 EMERGENCY: This may be a Region-wide or higher profile local emergency involving impact to 200 to 2,000 estimated core customers and/or major impact to non-core customers. A Level 2 emergency restoration duration is 1 to 2 days and requires a regular shift with some resources on extended overtime to complete the work. The resources involved include local crews and may require additional resources moved within the Area or Region.

LEVEL 3 EMERGENCY: Typically a serious incident that involves impact to a large number of core customers (2,000 to 10,000 estimated core customers and/or major impact to multiple non-core customers). This type of incident requires local resources that mainly move within the Area/Region, but may need to move between Areas/Regions. Outside resources are brought in from other Divisions, and Gas Construction (GC) resources may be mobilized. Restoration duration is 2 to 4 days, with regular shift and additional resources placed on 12- to 16-hour schedules for more than a single operational period.

LEVEL 4 EMERGENCY: Typically, a severe incident that involves impact to large numbers of customers (more than 10,000 estimated core/non-core customers out). This type of incident requires significant resources that are brought in from outside the Area/Region. Gas Construction (GC) and contractor resources are mobilized across Regions. Restoration duration is more than 4 days and requires 24/7 coverage over multiple operational periods. In a Level 4 emergency, routine work is curtailed.

LEVEL 5 EMERGENCY: The fifth and highest PG&E emergency response level; a catastrophic emergency that involves a large number of customers (more than 10,000 core customers). This level of emergency requires the full mobilization and prioritization of company-wide resources. Restoration duration is more than 10 days and requires 24/7 coverage over multiple operational periods, with rotating shifts implemented for the duration of the event. This level of emergency also requires mutual assistance resources. It will require new cost accounting structures to track costs.

LIAISON OFFICER: A member of the Command Staff responsible for coordinating with representatives from cooperating and assisting agencies.

LIFE-SAFETY: Refers to the joint consideration of both the life and physical wellbeing of individuals.

LOGISTICS SECTION: The Section responsible for providing facilities, services, and materials for the incident.

MANAGEMENT BY OBJECTIVES: In ICS, this is a top-down management activity that involves a three-step process to achieve the incident goal. The steps are establishing the incident objectives, selection of appropriate strategy(s) to achieve the objectives, and the tactical direction associated with the selected strategy. Tactical direction includes selection of tactics, selection of resources, resource assignments, and performance monitoring.

MANAGERS: Individuals within ICS organizational units that are assigned specific managerial responsibilities; e.g., Staging Area Manager or Camp Manager.

MOBILE COMMAND VEHICLE (MCV): A vehicle equipped to help field personnel manage an emergency/disaster (e.g., communications, computers, and administrative tools in a self-contained vehicle).

MOBILIZATION CENTER: An off-incident location at which emergency service personnel and equipment are temporarily located pending assignment, release, or reassignment.

MOBILIZATION: The process and procedures used by all organizations—federal, state, and local— for activating, assembling, and transporting all resources that have been requested to respond to or support an incident.

MULTIAGENCY INCIDENT: An incident in which one or more agencies assist a jurisdictional agency or agencies. May be single or unified command.

MULTIJURISDICTION INCIDENT: An incident requiring action from multiple agencies that have a statutory responsibility for incident mitigation. In ICS, these incidents will be managed under Unified Command.

MUTUAL AID AGREEMENT: Written agreement between agencies and/or jurisdictions in which they agree to assist one another by furnishing personnel and equipment upon request.

NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS): NIMS is a systematic, proactive approach to guide departments and agencies at all levels of government, nongovernmental organizations, and the private sector to work together seamlessly and manage incidents involving all threats and hazards—regardless of cause, size, location, or complexity—in order to reduce loss of life, property and harm to the environment.

OFFICER: The ICS title for the personnel responsible for the Command Staff positions of Safety, Liaison, and Information.

OPERATIONAL PERIOD: The period of time scheduled for execution of a given set of operation actions as specified in the Incident Action Plan. Operational Periods can be of various lengths, although usually not more than 24 hours.

OPERATIONS SECTION: The Section responsible for all tactical operations at the incident. Includes Branches, Divisions

and/or Groups, Task Forces, Strike Teams, Single Resources, and Staging Areas.

PLANNING MEETING: A meeting held at intervals as needed throughout the duration of an incident to select specific strategies and tactics for incident control operations and for service and support planning. On larger incidents, the planning meeting is a major element in the development of the Incident Action Plan.

PLANNING SECTION: Responsible for the collection, evaluation, and dissemination of tactical information related to the incident and for the preparation and documentation of Incident Action Plans. The Section also maintains information on the current and forecasted situation, and on the status of resources assigned to the incident. Includes the Situation, Resource, Documentation, and Demobilization Units, as well as Technical Specialists.

PUBLIC INFORMATION OFFICER: A member of the Command Staff responsible for interfacing with the public and media or with other agencies requiring information directly from the incident. There is only one Information Officer per incident. The Information Officer may have assistants.

REPORTING LOCATIONS: Location or facilities at which incoming resources can check in at the incident. (See Check-in.)

RESOURCES: Personnel and equipment available, or potentially available, for assignment to incidents. Resources are described by kind and type; e.g., ground, water, or air, and may be used in tactical support or overhead capacities at an incident.

RESOURCES UNIT: Works within the Planning Section, and is responsible for checking in, ordering, and tracking resources.

SAFETY OFFICER: A member of the Command Staff responsible for monitoring and assessing safety hazards or unsafe situations, and for developing measures for ensuring personnel safety. The Safety Officer may have assistants.

SECTION: That organization level with responsibility for a major functional area of the incident; e.g., Operations, Planning, Logistics, Finance/Administration. The Section is organizationally between Branch and Incident Commander.

SECTOR: Term used in some applications to describe an organizational level similar to an ICS Division or Group. “Sector” is not a part of ICS terminology.

SINGLE RESOURCE: An individual, a piece of equipment and its personnel complement, or a crew or team of individuals with an identified work supervisor that can be used on an incident.

SPAN OF CONTROL: The supervisory ratio ranging from one supervisor per three to seven individuals (1:3 to 1:7), with 1:5 being established as optimum.

STAGING AREA: A location set up at an incident where resources can be placed while awaiting a tactical assignment. Staging Areas are managed by the Operations Section.

STRATEGY: The general plan or direction selected to accomplish incident objectives.

STRIKE TEAM: Specified combinations of the same kind and type of resources, with common communications and a leader.

SUPERVISOR: The ICS title for individuals responsible for command of a Division or Group.

SUPPORT RESOURCES: Non-tactical resources under the supervision of the

Logistics, Planning, or Finance/Administration Sections, or the Command Staff.

SUPPORTING MATERIALS: Refers to the several attachments that may be included with an Incident Action Plan; e.g., communications plan, map, safety plan, traffic plan, and medical plan.

TACTICAL ANALYSIS MAPPING INTEGRATION: An end user tool for searching and displaying data geospatially. TAMI is supported by numerous databases, gathering data from many data sources that can be used for other applications such as the Daily Briefing Dashboard (DBD).

TASK FORCE: A combination of single resources assembled for a particular tactical need, with common communications and a leader.

TEAM: (See Single Resource.)

TECHNICAL SPECIALISTS: Personnel with special skills that can be used anywhere within the ICS organization.

TYPE: Refers to resource capability. A Type 1 resource provides a greater overall capability due to power, size, capacity, etc., than would be found in a Type 2 resource. Resource typing provides managers with additional information in selecting the best resource for the task.

UNIFIED COMMAND: In ICS, Unified Command is a unified team effort that allows all agencies with responsibility for the incident, either geographical or functional, to manage an incident by establishing a common set of incident objectives and strategies. This is accomplished without losing or abdicating agency authority, responsibility, or accountability.

UNIT: The organizational element having functional responsibility for a specific incident planning, logistics, or finance/administration activity.

UNITY OF COMMAND: The concept by which each person within an organization reports to one and only one designated person.

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A.3 Acronyms

A

AAR After Action Report or Review

AFO Asset Family Owner

AGA American Gas Association

AGCC Alternate Gas Control Center

AK&IM Asset Knowledge and Integrity Management

ALPIS Airborne LIDAR Pipeline Inspection System

API American Petroleum Institute

ASV Automatic Shut Off Valve

B

BC Business Continuity

BCMS Business Continuity Management System

BCP Business Continuity Plan

BNSF Burlington Northern Santa Fe

BUOC Business/Utility Operations Center

C

C&GS Command and General Staff

CA-ESF California Emergency Support Function

CAL FIRE California Department of Forestry and Fire Protection

CAL OES California Office of Emergency Services

CAL/OSHA California Occupational Safety and Health Administration

CAP Corrective Action Program

CCECC Customer Contact Emergency Coordination Center

CERP Company Emergency Response Plan

CERT Community Emergency Response Team

CFR Code of Federal Regulations

CFS Customer Field Services

CHP California Highway Patrol

CNG Compressed Natural Gas

CO Carbon Monoxide

CPG Comprehensive Preparedness Guide

CPUC California Public Utilities Commission

CRM Control Room Management

CSO Customer Service Office

CSP Code of Safe Practices

CSR Customer Service Representative

CTCC Customer Traffic Control Center

CUEA California Utilities Emergency Association

CWD Cold Winter Day

D

DBD Daily Briefing Dashboard

DIMP Distribution Integrity Management Program

DiRT Dig-in Prevention / Dig-in Response Team

DOD Department of Defense (U.S.)

DOT Department of Transportation (U.S.)

DP Damage Prevention

E

EG Electric Grid

EMT Event Management Tool

EOC Emergency Operations Center

EORM Enterprise and Operational Risk Management

EP&RS Emergency Preparedness and Response Support

EPC Emergency Preparedness Coordinator

ESD Emergency Shut Down

ESF Emergency Support Function

ESZ Emergency Shutdown Zones

ETA Estimated Time of Arrival

F

FAS Field Automation System

FBI Federal Bureau of Investigation

FEMA Federal Emergency Management Agency

FOG Field Operations Guide

FSRC Field Service Resource Coordinator

G

GC General Construction

GCC Gas Control Center

GDCC Gas Distribution Control Center

GDED Gas Distribution Engineering and Design

GDL Guidance Document Library

GEC Gas Emergency Center

GEP Gas Emergency Preparedness

GERP Gas Emergency Response Plan

GETS Government Emergency Telecommunications Service

GIS Geographic Information System

G.O. General Office

GOST Gas Operations Support Team

GPOM Gas Pipeline Operations and Maintenance

GSO Gas System Operations/Operator

GSP Gas System Planning

GSR Gas Service Representative

GT Gas Transmission

GTCC Gas Transmission Control Center

GTO Gas Transmission Operations

GTO&M Gas Transmission Operations and Maintenance

H

HCA High Consequence Area

HOA Home Owner Association

HSEEP Homeland Security Exercise Evaluation Program

I

IAP Incident Action Plan

IC Incident Commander

IC or **UC** Incident Command or Unified Command

ICC Incident Communications Center

ICP Incident Command Post

ICS Incident Command System

IDE Initial Damage Evaluation

ILT Instructor-Led Training

IMT Incident Management Team/Incident Management Tool

ISO International Standards Organization

IST Incident Support Team

IT Information Technology

ITCC Information Technology Coordination Center

IVR(U) Interactive Voice Response (Unit)

J

JHA Job Hazard Analysis

JIS Joint Information System

L

L&M Locate and Mark

LIDAR Light Detection and Ranging

LNG liquefied Natural Gas

LNO Liaison Officer

LOB Line of Business

M

M&C Maintenance and Construction

MAA Mutual Assistance Agreement

MAC(S) Multiagency Coordination (System)

MAOP Maximum Allowable Operating Pressure

MCV Mobile Command Vehicle

MOU Memoranda of Understanding

MTCC Materials Transportation Coordination Center

MTEP Multi-year Training and Exercise Plan

N

NDE Non-Destructive Examination

NIMS National Incident Management System

NRC National Response Center

O

O&M Operations and Maintenance

OA Operational Area

OEC Operations Emergency Center

OES Office of Emergency Services

P

P&I Planning and Intelligence

PA Public Awareness

PAP Public Awareness Program

PAS Publicly Available Specification

PAT Post-Accident Testing

PG&E Pacific Gas and Electric

PHMSA Pipeline and Hazardous Materials Safety Administration

PIO Public Information Officer

PNG Portable Natural Gas Program

PPD Presidential Policy Directive

PPE Personal Protective Equipment

PSS Public Safety Specialist

R

RC Responsible Care

RCV Remote Control Valve

REOC Regional Emergency Operations Center

RMC Resource Management Center

RMP Risk Management Program/Plan

S

SCADA Supervisory Control and Data Acquisition

SCE Southern California Edison

SEMS California Standardized Emergency Management System

SITG Shut In The Gas

SLA Service Level Agreement

SME Subject Matter Expert

SMUD Sacramento Municipal Utilities District

SOC State Operations Center (Cal OES)

SVP Senior Vice President

T

TAMI Tactical Analysis Mapping Integration

T&D Transmission and Distribution

TCC Telecommunications Control Center

TIL Technical Information Library

TIMP Transmission Integrity Management Program

TSA Transportation Security Administration

TSC Technology Solution Center

U

UC Unified Command

UOC Utility Operations Center

UP Union Pacific Railroad

USCG United States Coast Guard

V

VPN Virtual Private Network

W

WBT Web-Based Training

WC Water Column

WFM Work Force Management

WPS Wireless Priority Service

WRMAA Western Region Mutual Assistance Agreement

Back to Glossary, Acronyms and References Index

A.4 References

This section lists the PG&E policies, standards, procedures, and other documents referenced in this Plan. The documents are listed in alpha-numeric order.

AGA Master Operations Assistance Agreement

Asset Knowledge and Integrity Management (AK&IM) Earthquake Playbook

California Governor's Office of Emergency Services (Cal OES) State Emergency Plan

California Public Utilities Commission (CPUC) General Order No. 112-F: State of California Rules Governing Design, Construction, Testing, Operation, and Maintenance of Gas Gathering, Transmission, and Distribution Piping Systems

California Senate Bill (SB) 705, Natural gas: service and safety (2011-2012)

California SB-887, Pavley. Natural gas storage wells (2015-2016)

Catastrophic Emergency Response Plan Annex: Stations and Gas Storage

Catastrophic Incident Response Plan Annex: Pipeline Patrol

Catastrophic Response Plan Annex: Gas Dispatch, Scheduling and Field Services

Catastrophic Response Plan Annex: Gas Emergency Reporting & Response Processes (OEC Activation)

Catastrophic Response Plan Annex: Leak Survey

Cold Weather Communication Process

Corporation Policy GOV-01, "Enterprise Records and Information Management Policy"

Corporation Standard GOV-7101S, "Enterprise Records and Information Management Standard"

CPUC File No. 420, "Report of Gas Leak or Interruption"

EMER-3001M, "Company Emergency Response Plan (CERP)"

Federal Emergency Management Agency's (FEMA) Developing and Maintaining Emergency Operations Plans, Comprehensive Preparedness Guide (CPG 101)

Form 61-0384, "Report of Bomb Threat"

Form TD-4413P-01-F01, "Gas Incident Report Data Collection Form"

Gas System Planning Emergency Response Reference Guide

Gas Transmission Control Center Control Room Management (CRM) Operation Manual

Gas Transmission Control Center (GTCC) Emergency Shutdown Zone Plan

Hazardous Materials Trailer Transportation Incident Response and Recovery Procedure

ICS 211 Form – Check-in and Check-out Log

ICS 215 Form – Operational Planning Worksheet

ICS 221 Form – Field Employee Demobilization Release

Mutual Assistance Program Request For Assistance (RFA)

Pacific Gas and Electric Company Gas Safety Plan, 2016

PG&E's DOT Drug and Alcohol Misuse Prevention Plan

PG&E's Drug-Free Workplace Program DOT Controlled Substance and Alcohol Testing Program

Pipeline Security Guidelines

Presidential Policy Directive 8 (PPD-8)

Risk Management Procedure RMI-04A, "Gas Pipeline Rainfall Plan and Response Instruction"

Utility Policy EMER-01, "Emergency Preparedness and Response Policy"

Utility Procedure LCNG-4552P-31, "Hazardous Materials Trailer Transportation Incident Response and Recovery Procedure"

Utility Procedure TD-4006P-01, "Process Hazard Analysis"

Utility Procedure TD-4006P-02, "Pre-Startup Safety Review"

Utility Procedure TD-4020P-01, "Gas Corrective Action Program"

Utility Procedure TD-4110P-01, "Leak Survey Process"

Utility Procedure TD-4125P-07, "Establishing Set Points on Regulators and Overpressure Protection Devices"

Utility Procedure TD-4412P-07, "Patrolling Gas Pipelines"

Utility Procedure TD-4413P-01, "Reporting of Gas Events"

Utility Procedure TD-4413P-02, "Reporting Safety-Related Conditions, Pressure Test Failures and Leaks, Over-Pressurization Events, Low Pressure System Problems, and Encroachments"

Utility Procedure TD-4413P-04, "Determining the Scope of Drug and Alcohol Testing for Gas-Related Events"

Utility Procedure TD-4435P-01, "Extreme Weather-Related Gas Service Curtailment Procedure"

Utility Procedure TD-4436P-01, "Gas System Operations CRM – Information Management"

Utility Procedure TD-4436P-02, "Gas System Operations CRM – Personnel Fatigue Mitigation"

Utility Procedure TD-4436P-03, "Gas System Operations CRM – Alarm Management"

Utility Procedure TD-4436P-04, "Gas System Operations CRM – Management of Pipeline Changes"

Utility Procedure TD-4436P-05, "Gas System Operations CRM – Evaluating Operational Experiences"

Utility Procedure TD-4436P-06, "Gas System Operations CRM – Gas Transmission and Gas Distribution Training Programs"

Utility Procedure TD-4441P-04, “Emergency Clearances for Gas Distribution Facilities”

Utility Procedure TD-4441P-10, “System New Clearances for Gas Transmission Facilities”

Utility Procedure TD-4444P-01, “Gas Distribution Control Emergency Response”

Utility Procedure TD-4444P-02, “Gas Transmission Control Center Emergency Response”

Utility Procedure TD-4470P-01, “Gas Crew Tracking Process for Gas Leak or Odor Investigation”

Utility Procedure TD-4570P-01, “Emergency Response to an Odorant Spill or Release”

Utility Procedure TD-4632P-02, “Cross Bore Immediate Response”

Utility Procedure TD-6100P-01, “Universal Responsibilities for Field Services”

Utility Procedure TD-6100P-02, “ Gas Leak and Odor Investigations”

Utility Procedure TD-6100P-03, “Major Gas Event Response: Fire, Explosion, and Gas Pipeline Rupture”

Utility Procedure TD-6100P-04, “Gas Event Evacuation – For Gas Service Representatives (GSR)”

Utility Procedure TD-6100P-05, “Carbon Monoxide Investigation”

Utility Procedure TD-6100P-17, “Servicing Natural Gas Appliances”

Utility Procedure TD-6100P-18, “Inspecting Gas Appliance Venting”

Utility Procedure TD-6100P-19, “Inspecting Gas Appliance Locations and Combustion Ventilation Air (CVA)”

Utility Procedure TD-6700P-03, “Gas Dispatch and Scheduling Handling 911 Calls – Emergency Response”

Utility Procedure TD-6700P-04, “Gas Dispatch and Scheduling – Handling Emergency Conditions Reported by Outside Agencies”

Utility Standards EMER-1001S, “Business Continuity and Emergency Operations Plan, Training, Exercise and Critique Standard”

Utility Standard EMER-2001S, “Company Emergency Operations Plans Standard”

Utility Standard EMER-6010S, “Gas Emergency Response Plan Training, Exercise, and Evaluation”

Utility Standard GOV-6101S, “Enterprise Corrective Action Program Standard”

Utility Standard S5000, “Gas Distribution Emergency Shutdown Zones”

Utility Standard TD-1202S, “PG&E CIP-002 BES Cyber Systems Identification and Classification”

Utility Standard TD-1203S, “CIP-003 PG&E Cyber Security Management Controls Standard”

Utility Standard TD-1204S, “PG&E CIP-004: Cyber Security - Personnel & Training”

Utility Standard TD-1205S, “PG&E CIP-005 Cyber Security- Electronic Security Perimeters(s)”

Utility Standard TD-1207S, “PG&E CIP-007: Cyber Security - System Security Management”

Utility Standard TD-1208S, “PG&E CIP-008 Cyber Security — Incident Reporting and Response Planning”

Utility Standard TD-1464S, “Fire Danger Precautions in Hazardous Fire Areas”

Utility Standard TD-4050S, “Security Standard for Gas Operations”

Utility Standard TD-4014S, “Change Control (Management of Change)”

Utility Standard TD-4016S, “Gas Operations Records and Information Management”

Utility Standard TD-4110S, “Gas Leak Survey and Detection Program”

Utility Standard TD-4125S, “Maximum Allowable Operating Pressure Requirements”

Utility Standard TD-4413S, “Gas Event Reporting Requirements”

Utility Standard TD-4435S, “Gas System Curtailment Requirements”

Utility Standard TD-4436S, “Gas System Operations Control Room Management”

Utility Standard TD-4441S, “Gas Clearances”

Utility Standard TD-4444S, “Gas Control Emergency Response”

Utility Standard TD-5801S, “Pipeline Public Awareness Program”

Utility Standard TRAN-2005S, “Drug and Alcohol Testing Requirements Standard”

Well Control Tactical Considerations

Western Region Mutual Assistance Agreement (WRMAA)

49 CFR §192.605, “Procedural manual for operations, maintenance, and emergencies”

49 CFR §192.616, “Public awareness”

49 CFR §192.617, “Investigation of failures”

49 CFR §192.631,” Control room management”

49 CFR Part 199, “Drug and Alcohol Testing”

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Appendix B. Response Aids

Appendix B contains Response Aids (formerly known as Training Aids) that describe actions that PG&E personnel could take during common emergency situations involving Gas Operations. Response Aids can be accessed from the GERP website, under the Toolkit.

NOTE: These Response Aids are included for reference only, and provide suggested actions that can apply to a broad range of emergency situations. They are not intended to replace or supersede any PG&E emergency policies and procedures.

The Response Aids in Appendix B, begin with First Responder/Incident Commander Immediate Action (Response Aid A) and provides general guidance to PG&E first responders and Incident Commanders during initial emergency assessment and then progress through Emergency Center Activation (Response Aid B).The Response Aid C is a matrix that includes incident specific guidelines PG&E responders may use for 19 common and potential emergency scenarios encountered within Gas Operations.

Therefore, completion of these Response Aids should not impede emergency response, and it is understood that certain emergency response activities, such as evacuation, are not discretionary.

Response Aids: Index

Response Aid	Title
Response Aid A	**First Responder/Incident Commander**
Response Aid B	**Emergency Center Activation**
Response Aid C	**Incident Specific Matrix** 1. Asphyxiation and/or Carbon Monoxide 2. Bomb Threat/Suspicious Package on Gas Facility 3. Gas Curtailment – Emergency Load Shedding 4. Emergency Weather-Related Gas Curtailment 5. Dig-In 6. Earthquake 7. Fire/Explosion 8. Flood 9. Unintended Release of Gas or Environmental Material 10. Gas Leak and Odor Investigation 11. Low-Pressure/No Gas 12. Heavy Rains/Landslides Causing Non-Contiguous Pipeline Breaks 13. Over-Pressurization of Low Pressure System 14. Impact to Gas Riser/Meter (e.g. Vehicle Impact) 15. Water in Low-Pressure System

Response Aid	Title
	16. Compressor Station Fire 17. Gas Storage Facility Fire or Uncontrolled Release of Gas from Storage Well 18. Wildland Fire 19. Cybersecurity Event

These Response Aids are primarily informational and do not supersede PG&E emergency policies and procedures.

Scenario specific Response Aid C and charts act as guidelines to help emergency responders identify key emergency response actions and Incident Command(IC)/support positions. The charts also identify key PG&E Emergency Centers that might be activated in each scenario.

Because all emergency situations are unique, these Response Aids cannot provide guidance for all potential hazards that PG&E personnel will encounter. Therefore, in addition to the actions suggested in these Response Aids, PG&E emergency responders should maintain situational awareness and respond consistently with the priorities outlined in PG&E's Company Emergency Response Plan (CERP):

- Protect the health and welfare of the public, PG&E responders, and others
- Protect the property of the public, PG&E, and others
- Restore gas and electric service and power generation
- Inform customers, governmental agencies and representatives, the news media, and other constituencies
- Restore critical business functions and move towards business as usual.

Several Response Aids refer to evacuation (under "Evaluating Danger" and "Making Safe"). **Figure B.1** is provided as a reference guide for minimum evacuation distances from distribution and transmission gas leaks. This should not be used in place of PG&E policies and procedures.

For Distribution Gas Leaks

Federal DOT's Emergency Response Guidebook recommends as an immediate precautionary measure for flammable gases to isolate the spill or leak **at least** 330 feet (100 meters) in all directions.

For Transmission Gas Leaks

EVACUATION DISTANCES IN FEET

pressure (psig)	pipeline diameter (inches)											
	4	6	8	10	12	16	20	22	24	30	36	42
100	91	137	182	228	274	365	456	502	547	684	821	958
200	129	193	258	322	387	516	645	709	774	967	1161	1354
300	158	237	316	395	474	632	790	869	948	1185	1422	1659
400	182	274	365	456	547	730	912	1003	1094	1368	1642	1915
500	204	306	408	510	612	816	1020	1122	1224	1529	1835	2141
600	223	335	447	558	670	894	1117	1229	1340	1675	2011	2346
700	241	362	483	603	724	965	1206	1327	1448	1810	2172	2534
800	258	387	516	645	774	1032	1290	1419	1548	1935	2322	2709
900	274	410	547	684	821	1094	1368	1505	1642	2052	2462	2873
1000	288	433	577	721	865	1154	1442	1586	1730	2163	2596	3028
1100	302	454	605	756	907	1210	1512	1664	1815	2269	2722	3176
1200	316	474	632	790	948	1264	1580	1738	1896	2369	2843	3317
1300	329	493	658	822	986	1315	1644	1809	1973	2466	2959	3453
1400	341	512	682	853	1024	1365	1706	1877	2047	2559	3071	3583
1500	353	530	706	883	1060	1413	1766	1943	2119	2649	3179	3709
1600	365	547	730	912	1094	1459	1824	2006	2189	2736	3283	3830
1700	376	564	752	940	1128	1504	1880	2068	2256	2820	3384	3948
1800	387	580	774	967	1161	1548	1935	2128	2322	2902	3482	4063
1900	398	596	795	994	1193	1590	1988	2186	2385	2981	3578	4174
2000	408	612	816	1020	1224	1631	2039	2243	2447	3059	3671	4283
2100	418	627	836	1045	1254	1672	2090	2299	2508	3134	3761	4388
2200	428	642	856	1069	1283	1711	2139	2353	2567	3208	3850	4492

SOURCE: Pipeline Association for Public Awareness at *www.pipelineawareness.org* under "Emergency Response Resources," in the document "Pipeline Emergency Response Guidelines," pg 20 (Appendix A).

Not Applicable for butane, propane, or other hazardous gases or liquids.

Figure B.1 Reference Guide For Minimum Evacuation Distances From Gas Leaks

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Response Aid A: First Responder/Incident Commander

FOR: Staff Responding to Incident

NOTE: This aid is **not intended to replace** other response/operational policies, plans and procedures and is not all inclusive. It is intended to be used only as a **reference in addition** to these items.

Item		Action
Assess Situation and Minimize Hazards		
1.		Assess public safety, employee safety, and potential property damage.
2.		Make-safe.
3.		If required, safely evacuate people to a safe distance from the building (refer to Figure B.1 for recommended evacuation distances).
4.		Eliminate sources of ignition (i.e. overhead power lines, radios, cell phones, etc.).
5.		Warn other responding personnel and/or public of ignition hazards: open flames/smoking, electric switches and/or motors, equipment or vehicle operations.
6.		If safe, administer First Aid based on level of training.
7.		Block off street/re-route traffic, if necessary. Secure perimeter with signs and caution tape.
8.		Determine if one or more PG&E Facilities are at risk (i.e., backbone transmission line, local transmission line, distribution line, DFM, Regulator Station, service, main, etc.,).
Notify and Coordinate		
1.		Contact Gas Control Center (GCC) with the following information on the situation: *Phone numbers below.
	a.	Request 911 agency be notified and request a need for assistance.

Item		Action
	b.	Basic details of the abnormal or emergency condition.
	c.	Location – address and cross street.
	d.	Time situation occurred.
	e.	Notify if local first responder's (Fire/Law Enforcement) or media are on-scene.
	f.	Request GCC contact electric to de-energize power lines, if necessary.
	g.	If required, request the start of a Clearance Action Plan.
	h.	Request additional resources if needed, such as; Public Safety Specialist, LNG/CNG, MCV, and Emergency Preparedness Coordinator (EPC).
	i.	**Note: Gas Control will make internal notifications and contact appropriate personnel to make external notifications (e.g. CPUC/DOT and other on-call personnel), as required.

Emergency Contact Numbers

Gas Control - Distribution (24/7)	[redacted]
Gas Control – Transmission (24/7)	
Gas Dispatch (24/7)	
Gas Emergency On-Call (24/7)	(925) 244-4000
Environmental Field Services (24/7)	(800) 874-4043

Item		Action	
		Corporate Security	(415) 973-6920 After Hours: (800) 691-0410
		Media Hotline (24/7)	(415) 973-5930
		Pipeline Engineer Hotline (24/7)	(925) 328-6266
	j.	When situation is mitigated and work is completed, notify GCC so it can provide close-out communication.	
2.	Notify supervisor, manager or superintendent of situation and need for help at incident location.		
3.	If incident is near railroad, then notify railroad/Federal Railroad Authority (work through Gas Control to accomplish this).		
4.	If Electric is involved or potentially involved, contact Gas Superintendent and request that he/she notifies the Electric Superintendent for the area. (Gas Control will also coordinate with applicable Electric Control Center).		
5.	If Physical or Cyber Security incident then notify Corporate Security at the number listed in the Emergency Contact table above.		
6.	Make contact with community first responder agencies and establish a Unified Command. Share immediate actions and objectives.		
Consider the Following Actions			
1.	Consider the need to activate an Emergency Center. Determine level of activation based on pre-identified incident levels. Use Table 3.1, Gas Incident Level Matrix (in Section 3 of the GERP) to determine the emergency level, based on the listed criteria.		
2.	***IF** Emergency Center activation is needed, **THEN** also refer to Response Aid B: "Emergency Center Activation."*		
3.	Establish Incident Command Post in coordination with community first responders and communicate location to Gas Control Center or Dispatch.		

Item	Action
4.	Follow established PG&E procedures for shutdown of affected pipes/systems.
5.	Review Response Aid C for incident specific actions, as applicable.
6.	Establish incident priorities/objectives, check-in process for PG&E personnel, and assess need for more resources (emergency trailer).
7.	Consider environmental issues (e.g. environmental or gas release).
8.	Contact land owner to identify potential onsite hazardous materials/conditions, if necessary.
9.	Determine leak spread and venting as needed, per Utility Procedure TD-6100P-02, " Gas Leak and Odor Investigations"
10.	Evaluate damages to third party property.
11.	Identify any environmental impacts resulting from the incident and notify a PG&E environmental engineer.
12.	Continue to assess situation and be aware of incident danger increasing, decreasing, or stabilizing.
13.	Preserve Gas Facilities for potential investigation and maintain chain of custody.
14.	Preserve and maintain any documents from scene.
15.	When situation is mitigated and work is completed, notify Gas Control Center so it can provide close-out communication.
16.	Determine if drug and alcohol testing is required.

Reference Documents

- Utility Procedure TD-4413P-01, "Reporting of Gas Events"
- Utility Standard TD-4413S, "Gas Event Reporting Requirements"
- Utility Procedure TD-6100P-02, "Gas Leak and Odor Investigations"
- Utility Procedure TD-6100P-04, "Gas Event Evacuation – For Gas Service Representatives (GSR)"

Response Aid B: Emergency Center Activation

FOR: Staff Responding to an Emergency Center

NOTE: This aid is **not intended to replace** other response/operational policies, plans and procedures and is not all inclusive. It is intended to be use as a **reference in addition** to these items.

Item		Action
Assess Situation and Minimize Hazards		
1.		Assess public safety, employee safety, and potential property damage.
2.		Determine level of activation based on pre-identified incident levels. Use Table 3.1, Gas Incident Level Matrix (in Section 3 of the GERP) to determine the emergency level based on the listed criteria.
3.		Assess the safest location for Incident Command Post (ICP) and OEC set-up.
4.		Assess resources needed (personnel, equipment, MCV, LNG/CNG, PSS).
Notify and Coordinate		
1.		Notify and Coordinate with Gas Control Center (GCC) with the following information on the situation:
	a.	Which Emergency Center needs to activate: OEC, GEC, or EOC.
	b.	If a Division OEC is activating, then communicate that Division to the GCC.
	c.	Address/Location of the OEC and ICP and if they are collocated.
	d.	Estimated time that the OEC will become operational.
	e.	Level of Emergency.
	f.	OEC Commander and/or GEC Director.

Item		Action
	g.	Incident Commander.
	h.	Request MCV, if needed.
	i.	Request LNG/CNG support, if needed.
2.		Notify supervisor, manager or superintendent of situation and need for help at incident location.
3.		If not previously accomplished, call Gas Emergency On-Call at **(925) 244-4000** to reach the current EPC On-Call. **Note:** EPC On-Call in coordination with Gas Control and GEP facilitate the Emergency Center Activation and completes additional internal notifications to response personnel and initiates the recall of the Emergency Center personnel.
4.		If not previously accomplished and if incident is near railroad, then notify railroad/Federal Railroad Authority (work through Gas Control to accomplish this).
5.		If not previously accomplished, and if Electric is involved or potentially involved, contact Gas Superintendent and request that he/she notifies the Electric Superintendent for the area. Confirm elimination of ignition sources.
6.		Appoint clearance writer to work with GCC and ensure appropriate planning engineer is notified.
Consider the Following Actions		
1.		Review Response Aid C for incident specific response actions, as applicable.
2.		Establish incident priorities/objectives in coordination with ICP/OEC/GEC/EOC.
3.		Work with EPC to coordinate initial incident briefing/conference call.
4.		Follow established PG&E procedures for shutdown of affected pipes/systems.
5.		If LNG/CNG was requested, consider possible injection points. Ensure LNG/CNG on-call is aware of the situation.

Item	Action
6.	Start gathering information to be included in Gas Incident Report: initial objectives, develop strategies, and clearly communicate status of situation.
7.	Continue to assess customer impact.
8.	Determine the potential for increased media or regulatory attention.
9.	Continuously communicate situation updates with Gas Control until the Emergency Center is fully operational. Ensure all clearances are routed through GCC.
10.	Preserve Gas Facilities for potential investigation and maintain chain of custody.
11.	Preserve and maintain any photos or documents from scene.
12.	Continue to assess situation and be aware of incident danger increasing, decreasing, or stabilizing.
13.	Determine appropriate staffing levels.
14.	Determine operational period (less than, equal to or greater than 24 hours) and need for a second shift.
15.	Assess potential impact from weather.
16.	Determine DOT/CPUC reportable.
17.	Identify Safety Officer.
18.	Ensure check-in procedures are established.
19.	Ensure all EC staff members are documenting actions in ICS-214 form.
20.	Determine if drug and alcohol testing is required.

Reference Documents

- Utility Procedure TD-4413P-01, "Reporting of Gas Events"
- Utility Standard TD-4413S, “Gas Event Reporting Requirements”

Response Aid C: Incident Specific Matrix

FOR: Staff Responding to Incident

NOTE: This aid is **not intended to replace** other response/operational policies, plans and procedures and is not all inclusive. It is intended to be use as a **reference in addition** to these items.

CAUTION: Ensure Response Aid A and B has been completed **PRIOR** to using Response Aid C. This response aid matrix is designed as a supplement to Response Aid A and B and only identifies incident specific actions, notifications and considerations.

Incident	Specifics
Asphyxiation and/or Carbon Monoxide	**Assess | Minimize Hazards** • Measure combustible gas/carbon monoxide (CO)/oxygen level before entering the area using an intrinsically safe leak detection instrument. • Ensure victims get fresh air immediately. • If not previously accomplished, secure the area (use tape/cones) to cordon the area to prevent re-entry.
	Notify | Coordinate • Notify and coordinate with Gas Dispatch **(888) 353-3477** and request a Gas Service Representative (GSR) to investigate, as needed.
	Consider • Assess/determine CO/Asphyxiation source: take CO readings for as-found conditions at appliances and surroundings using an intrinsically safe leak detection instrument.
	Reference Documents • Utility Procedure TD-4413P-02, "Reporting Safety-Related Conditions, Pressure Test Failures and Leaks, Over-Pressurization Events, Low Pressure System Problems, and Encroachments" • Utility Procedure TD-4413P-01, "Reporting of Gas Events" • Utility Procedure TD-6100P-02, " Gas Leak and Odor Investigations" • Utility Procedure TD-6100P-01, "Universal Responsibilities for Field Services" • Utility Procedure TD-6100P-04, "Gas Event Evacuation – For Gas Service Representatives (GSR)" • Utility Procedure TD-6100P-05, "Carbon Monoxide Investigation"

Incident	Specifics
Asphyxiation and/or Carbon Monoxide (cont.)	• Utility Procedure TD-6100P-17, "Servicing Natural Gas Appliances" • Utility Procedure TD-6100P-18, "Inspecting Gas Appliance Venting" • Utility Procedure TD-6100P-19, "Inspecting Gas Appliance Locations and Combustion Ventilation Air (CVA)"

Bomb Threat/Suspicious Package on Gas Facility	**Assess | Minimize Hazards**
	• The package should be isolated (**not handled**).
	• Radios should not be used to transmit in the proximity of the suspicious package.
	• If a bomb threat is received by phone follow Form 61-0384, "Report of Bomb Threat" Remain calm and keep the caller on the line as long as possible. Signal to nearby personnel for assistance and direct them to complete notifications. In addition, the call recipient should note the time of the call and attempt to ascertain the following information:
	  • Where is the bomb?
	  • When is it set to go off?
	  • What does it look like?
	  • Why is the caller doing this?
	  • Unusual voice characteristics, gender of the caller, and background sound.
	• Assess safety to shelter in-place or evacuate. Sheltering in-place could be a safer option if the potential bomb / suspicious package is outdoors.
	• IF you are unsure what may or may not be safe THEN complete notifications and wait for additional instructions from Law Enforcement and/or Corporate Security personnel.

	Notify | Coordinate
	• Notify and coordinate with Corporate Security Department **(415) 973-6926 or 8/223-6926** should be notified immediately to assist in coordinating a response that may include:
	  • Notifying the local police or sheriff's department
	  • Offering advice as to the appropriate course of action

Incident	Specifics
Bomb Threat/Suspicious Package on Gas Facility (cont.)	**Consider** • If evacuation ordered, consider the following: the plan should include provisions for an assembly area which is close, but not co-located with the facility which is the subject of the threat. It should be far enough from the facility or have sufficient cover to ensure safety if there is a detonation. • At the assembly point take accountability of personnel. • Ensure that all updates and details are communicated with Corporate Security, Law Enforcement personnel, and Gas Control.
	Reference Documents • Utility Procedure TD-6100P-04, "Gas Event Evacuation – For Gas Service Representatives (GSR)" • Gas Transmission Control Center Control Room Management (CRM) Operation Manual
Gas Curtailment – Emergency Load Shedding	**Assess | Minimize Hazards** • Determine what size area needs to be isolated and how many customers need to be curtailed. • Identify necessary customer shutoff valves to be closed. • Assess resource needs and personnel needed (crews and GSRs) and make contact.
	Notify | Coordinate • Notify and Coordinate with Customer Care.
	Consider • Obtain gas plats, operating maps and diagrams, and regulator station data sheets, as needed. • For main shutdowns, use Emergency Zone Valves Binders. Request information for isolation plan from Gas Control Center. • Identify shutdown zones on plat maps and/or Operating Maps, as needed. • Identify necessary distribution and/or transmission valves to be closed, or other locations to be used as squeeze points. • Make repairs to the affected system. • Develop purge plan to purge air from system. • Restore service to customers. • Communicate with customers. • Determine the potential for increased media or regulatory attention.

Incident	Specifics
Gas Curtailment – Emergency Load Shedding (cont.)	**Reference Documents** • Utility Standard TD-4435S, "Gas System Curtailment Requirements" • Utility Procedure TD-4435P-01, "Extreme Weather-Related Gas Service Curtailment Procedure" • Utility Standard S5000, "Gas Distribution Emergency Curtailment Zones" • Utility Standard TD-4413S, "Gas Event Reporting Requirements"
Emergency Weather-Related Gas Curtailment	**Assess | Minimize Hazards** • Assess long term weather forecast. • Determine curtailment details.
	Notify | Coordinate • Follow Cold Weather Communication Process. • Coordinate through Gas Control for Strategy Technology & Support and Customer Strategy Officer Support.
	Consider • Follow steps in Utility Procedure TD-4435P-01, "Extreme Weather-Related Gas Service Curtailment Procedures." • Inform the GCC and the Customer Strategy Officer if the customer does not make a reasonable effort to curtail. • If noncompliance is indicated, assist the Customer Strategy Officer with verification and enforcement. • If noncompliance is risking service to system, follow the Cold Weather Communications Process of actions to be taken.
	Reference Documents • Cold Weather Communication Process. • Utility Standard TD-4435S, "Gas System Curtailment Requirements" • Utility Procedure TD-4435P-01, "Extreme Weather-Related Gas Service Curtailment Procedure"

Incident	Specifics
Dig-In	**Assess | Minimize Hazards**
	Notify | Coordinate • Notify and coordinate with Gas Engineering Department for repair consultation, as needed. • Notify and coordinate continuously with any activated emergency centers.
	Consider • Determine if main or service is damaged. • If safe, stop the escape of gas. • Obtain gas plans, operating maps and diagrams, and regulator station data sheets, as needed. • Identify if Cross Bore is involved. If Cross Bore is involved determine risk of migration through sewer system, monitor migration, and determine method to ventilate the sew system. • For main shutdowns, use Emergency Zone Valves Binders. Request information for isolation plan from Gas Control Center. • Identify shutdown zones on plat maps and/or Operating Maps, as needed. • Identify necessary distribution and/or transmission valves to be closed, or other locations to be used as squeeze points. • Consider if Dig-In forces could result in pipe failure at other locations (e.g. service tee, mechanical fitting, riser connection) on the main or service from the impact/pull on the pipe. • Make repairs to the affected system. • Develop purge plan to purge air from system in coordination with GCC. • Restore service to customers • Determine the potential for increased media or regulatory attention. • Contact Corporate Security if the scene needs security guard.
	Reference Documents • Utility Standard TD-4110S, "Gas Leak Survey and Detection Program" • Utility Procedure TD-6100P-04, "Gas Event Evacuation – For Gas Service Representatives (GSR)" • Utility Procedure TD-4632P-02, "Cross Bore Immediate Response"

Incident	Specifics
Earthquake	**Assess | Minimize Hazards** • Request Building Services evaluate facilities for any potential damage and have building inspected prior to re-entering after the shaking has stopped. • Be alert for secondary impacts including aftershocks, fires following earthquakes, water line breaks impacting gas and electric facilities, tsunami, dam and levee failure. • Assess area for ruptured lines with an intrinsically safe leak detection device. • If safe, shut off gas if it poses a danger and/or stop the escape of gas by controls or repairs. • Assess available resources and notify employees.
	Notify | Coordinate • Notify and coordinate continuously with any activated emergency centers.
	Consider • Conduct earthquake safety tailboards. • Be prepared to work in tech down mode. • Check the status of local personnel for injuries and arrange treatment or transport as necessary. • Make sure all personal are accounted for. Advise Emergency Center or Gas Control of any deaths or injuries. • If not previously requested, request a (PSS) to liaison with police/fire and local emergency services. • Assign personnel to specific coverage areas. • Dispatch field personnel to assigned areas with procedures to follow and all necessary emergency equipment including: vehicle, safety equipment. • Isolate major damage areas. Implement shut in plan in coordination with Gas Control and Emergency Center (OEC, GEC, and EOC). • For main shutdowns, use Emergency Zone Valves Book. • Review DASH report. • Identify shutdown zones on plat maps. • Protect health and welfare of the public, PG&E responders, and others. • Protect property (both the public's and the Utility's). • Restore gas and electric service and power generation. • Keep customers, governmental agencies and representatives, the news media, and other constituencies informed. • Restore critical business functions and move towards business as usual.

Incident	Specifics
Earthquake (cont.)	**Reference Documents** • Utility Standard TD-4110S, "Gas Leak Survey and Detection Program" • AK&IM Earthquake Playbook • Earthquake Damage Model and Resource Planning Tools • Utility Procedure TD-4413P-01, "Reporting of Gas Events"
Fire/Explosion	**Assess | Minimize Hazards** • If safe, shut off gas if it poses a danger and/or stop the escape of gas by controls or repairs. • Assess if gas is accumulating or burning.
	Notify | Coordinate • Notify and coordinate continuously with any activated emergency centers.
	Consider • Isolate the line. • Work with local first responders (FD/LE) to determine if fire should be extinguished or allowed to burn. • If unknown, determine where gas is coming from. Use intrinsically safe leak detection instrument in this process. • Determine if gas is migrating into nearby buildings or enclosed spaces using intrinsically safe leak detection instrument • Continuously re-evaluate and assess incident site, ensure that evacuation distances are safe, secure perimeter to prevent unauthorized entry to the area, and stay upwind of the site. • Determine extent of damages, what areas and what facilities were damaged and/or affected. • Keep customers, governmental agencies and representatives, the news media, and other constituencies informed. • Check the status of personnel for injuries and arrange treatment or transport as necessary. • Make sure all PG&E personnel on-site are accounted for. Advise Emergency Center or Gas Control of any deaths or injuries. • If not previously requested, request a PSS to liaison with police/fire and local emergency services.

Incident	Specifics
Fire/Explosion (cont.)	**Reference Documents** • Utility Procedure TD-6100P-03, "Major Gas Event Response: Fire, Explosion, and Gas Pipeline Rupture" • Utility Procedure TD-6100P-04, "Gas Event Evacuation – For Gas Service Representatives (GSR)"
Flood	**Assess | Minimize Hazards** • Assess and determine if the flood condition has been controlled. • Gain situational awareness as rapidly as possible for gas and electric hazards. • Be alert for secondary impacts such as dam and/or levee failures. • If preparing for possible flooding, assess and determine if rise valves should be shut before flooding occurs.
	Notify | Coordinate • Request that Gas Control checks for and reviews any rainfall notifications of high risk segments identified per AK&IM Earthquake Playbook. • Notify and coordinate continuously with any activated emergency centers. • Notify Gas Pipeline Patrol Program (through Gas Control Center or Emergency Center).
	Consider • Purge all air from mains and services in affected area. • Determine whether riser valves be shut before flooding occurs. • Develop recovery plans for lines washing out or floating. • Determine whether the flood condition been controlled. • Coordinate with Gas Pipeline Patrol to determine if flooded areas are ground accessible. If so, Patrol contacts Locate & Mark group to perform depth of cover survey. • Determine whether it is safe to restore service. • Determine what size area needs to be restored. • Obtain gas plats, regulation station data sheets. • Notify the Gas Control Center of restoration. • Request GPOM Supervisor inform the Gas Control Center which areas, valves, or Regulator Stations are to be restored. • Notify GPOM Supervisor before operating valves or Regulator Stations.

Incident	Specifics
Flood (cont.)	• Open valves or regulator stations and pressurize system to normal pressure.
	Reference Documents • Utility Standard TD-4110S, "Gas Leak Survey and Detection Program" • Utility Procedure TD-4413P-01, "Reporting of Gas Events" • Utility Procedure TD-6100P-01, "Universal Responsibilities for Field Services" • Utility Procedure TD-4412P-07, "Patrolling Gas Pipelines" • AK&IM Earthquake Playbook
Unintended Release of Gas or Environmental Material	**Assess | Minimize Hazards**
	Notify | Coordinate • Notify and coordinate with Gas Engineering Department for repair consultation, as needed. • Notify and coordinate continuously with any activated emergency centers. • If Transmission Incident coordinate transfer of command from M&C/GPOM. • Notify and Coordinate with Environmental Field Specialist 24/7 at (800) 874-4043. • DOT PHMSA (through Gas Control and Company CPUC On-call Representative). • Utility Partners of America (UPA) (through Environmental Field Specialist). • Air Quality Management District (AQMD) (through Environmental Field Specialist). • Notify and Coordinate with Public Information Officer by contacting the Media Hotline 24/7 at (415) 973-5930.
	Consider • If unknown, determine where gas is coming from. Use intrinsically safe leak detection instrument in this process. • Determine if gas is migrating into nearby buildings or enclosed spaces using intrinsically safe leak detection instrument. • If safe, stop the escape of gas. • Use signs/caution tape to prevent personnel from re-entering the area. • Obtain gas plats, operating maps and diagrams, and regulator station data sheets, as needed. • Determine if system is dead-end or tied. Review maps of the area. • Identify if Cross Bore is involved. If Cross Bore is involved determine risk of migration through sewer

Incident	Specifics
Unintended Release of Gas or Environmental Material (cont.)	system, monitor migration, and determine method to ventilate the sew system. • For main shutdowns, use Emergency Zone Valves Binders. Request information for isolation plan from Gas Control Center. • Identify shutdown zones on plat maps and/or Operating Maps, as needed. • Identify necessary distribution and/or transmission valves to be closed, or other locations to be used as squeeze points. • Make repairs to the affected system. • Develop purge plan to purge air from system in coordination with GCC. • Restore service to customers. • Determine the potential for increased media or regulatory attention.
	Reference Documents • Utility Standard TD-4110S, " Gas Leak Survey and Detection Program" • Utility Standard TD-4413S, "Gas Event Reporting Requirements" • Utility Procedure TD-4570P-01, "Emergency Response to an Odorant Spill or Release" • Utility Procedure TD-6100P-04, "Gas Event Evacuation - For Gas Service Representatives (GSR)" • Utility Procedure TD-4470P-01, "Gas Crew Tracking Process for Gas Leak or Odor Investigation"
Gas Leak and Odor Investigation	**Assess | Minimize Hazards** • Turn off the gas at meter or curb valve if it poses a danger.
	Notify | Coordinate • Notify and coordinate with Gas Engineering Department for repair consultation, as needed. • Notify and coordinate continuously with any activated emergency centers. • Notify and Coordinate with Field Services through Gas Dispatch.
	Consider • Complete a perimeter investigation. • Complete an above ground investigation. • Complete a below ground investigation using an intrinsically safe leak detection instrument. • Check all adjacent substructures using an intrinsically safe leak detection instrument. • Check whether or not gas is getting into nearby buildings or enclosed spaces. If so, determine how.

Incident	Specifics
Gas Leak and Odor Investigation (cont.)	• Identify if Cross Bore is involved. If Cross Bore occurred, determine risk of migration through the sewer system, monitor migration, and determine method to ventilate the sewer system. • Determine if system is dead-end or tied. Review maps of area. • If valve is closed, determine how many customers will lose service. • Close service, curb, or control valve with plugs, clamps, stoppers, pipe squeezer, or other equipment. • For main shutdowns, use Emergency Zone Valves Book. • If not previously requested, request a PSS to liaison with police/fire and local emergency services.
	Reference Documents • Utility Procedure TD-6100P-02, "Gas Leak and Odor Investigations" • Utility Procedure TD-6100P-17, "Servicing Natural Gas Appliances • Utility Procedure TD-6100P-18, "Inspecting Gas Appliance Venting" • Utility Procedure TD-6100P-19, "Inspecting Gas Appliance Locations and Combustion Ventilation Air (CVA)" • Utility Procedure TD-4470P-01, "Gas Crew Tracking Process for Gas Leak or Odor Investigation" • Utility Procedure TD-4570P-01, "Emergency Response to an Odorant Spill or Release"
Low Pressure/No Gas	**Assess | Minimize Hazards** • Determine extent of affected area. • Check pressure locations. • If pressure fallen below 4 inches water column (WC), then determine area to shut in. • Determine personnel needed (crews and GSRs).
	Notify | Coordinate • Request GPOM support if needed. • Notify and coordinate continuously with any activated emergency centers. • Notify and coordinate with Customer Traffic Control Center (CTCC), if activated work through emergency center and/or Gas Control/Gas Dispatch. • Notify and Coordinate with Field Services through Gas Dispatch. • Notify Customer Traffic Control Center (CTCC). Tell customers calling in that we are aware of situation and actively restoring service.

Incident	Specifics
Low Pressure/No Gas (cont.)	• Notify News Department if media attention is expected. • When situation is mitigated and work is completed, notify Gas Control Center so it can provide a close-out communication.
	Consider • Obtain gas plats, regulation station data sheets. • Conduct systematic inspection for cause of condition. • Develop isolation plan. For main shutdowns, use Emergency Zone Valves Binders. Request information for isolation plan from Gas Control Center. • Establish coordination with Gas Control Center (GCC) Liaison in the Gas Emergency Center (GEC). If the GEC deactivates, the GCC Liaison will provide continuity of command and situational awareness into the GCC through the development of Low Pressure triggers, identification of SCADA visibility and other low pressure considerations (e.g. accuracy of pressure measurement at low levels, LNG/CNG operations), or any change or other identified situation or trigger which may be an indication for shut-in and/or GEC personnel notification and reactivation. • Dispatch field personnel to assigned area with procedures, maps and equipment. • Execute isolation plan and close customer riser valves. • Make repairs to affected system or equipment, as needed. • Develop purge plan to purge air from system in coordination with GCC. Restore service to customers.
	Reference Documents • Utility Standard TD-4413S, "Gas Event Reporting Requirements" • Utility Standard S5000, "Gas Distribution Emergency Curtailment Zones"
Heavy Rains/Landslides causing, Non-Contiguous Pipeline Breaks	**Assess | Minimize Hazards** ▪ Determine extent of affected area. • Be alert for secondary impacts including water or other utility line breaks impacting gas and electric facilities. • Assess area for ruptured lines with an intrinsically safe leak detection device. • If safe, Shut off gas if it poses a danger and/or stop the escape of gas by controls or repairs. • Complete a perimeter investigation. • Determine a gas leak pattern and establish a perimeter

Incident	Specifics
Heavy Rains/Landslides causing, Non-Contiguous Pipeline Breaks (cont.)	**Notify | Coordinate** • Request that Gas Control Center checks for and reviews any rainfall notifications of high risk segments identified per Risk Management Procedure RMI-04A, "Gas Pipeline Rainfall Plan and Response Instruction." • Request that Gas Control Center notify Gas Pipeline Patrol Program • Notify and coordinate continuously with any activated emergency centers. • Obtain information from geoscience department.
	Consider • Begin tracking all incidents (e.g. other areas where landslides are imminent).
	Reference Documents • Utility Standard TD-4110S, "Gas Leak Survey and Detection Program" • Utility Procedure TD-6100P-01, "Universal Responsibilities for Field Services" • Risk Management Procedure RMI-04A, "Gas Pipeline Rainfall Plan and Response Instruction."
Over-Pressurization of Low-Pressure System	**Assess | Minimize Hazards**
	Notify | Coordinate • Notify and coordinate with Gas Engineering Department for repair consultation, as needed (work through Gas Control Center). • Notify and coordinate continuously with any activated emergency centers.
	Consider • Dispatch Gas Service Representative (GSR) to check pressure. • If pressure greater than 21 inches WC, consider shutting system down. • Determine if property is in danger. • Allow GSR to shut system down if pressures exceed parameters. • Request GPOM assistance, as needed.

Incident	Specifics
Over-Pressurization of Low-Pressure System (cont.)	**Reference Documents** • Utility Standard TD-4110S, "Gas Leak Survey and Detection Program" • Utility Procedure TD-6100P-02, "Gas Leak and Odor Investigations" • Utility Procedure TD-6100P-04, "Gas Event Evacuation – For Gas Service Representatives (GSR)" • Utility Standard TD-4125S, "Maximum Allowable Operating Pressure Requirements" • Utility Procedure TD-4125P-07, "Establishing Set Points on Regulators and Overpressure Protection Devices" • Utility Procedure TD-4470P-01, "Gas Crew Tracking Process for Gas Leak or Odor Investigation"
Impact to Gas Riser/Meter (e.g. Vehicle Impact)	**Assess | Minimize Hazards** • Assess/Determine if gas is burning. • Determine if the fire should be extinguished or allowed to burn. • Determine if the electrical system is co-located with the gas system. • Determine if the electrical system is damaged.
	Notify | Coordinate
	Consider • Close service, curb, or control valve with plugs, clamps, stoppers, pipe squeezer, or other equipment. • If valve is closed, determine how many customers will lose service.
	Reference Documents • Utility Procedure TD-6100P-02, "Gas Leak and Odor Investigations" • Utility Procedure TD-4570P-01, "Emergency Response to an Odorant Spill or Release" • Utility Procedure TD-4470P-01, "Gas Crew Tracking Process for Gas Leak or Odor Investigation"
Water in Low-Pressure System	**Assess | Minimize Hazards** Assess and Determine possible source of the water in the low-pressure system
	Notify | Coordinate

Incident	Specifics
Water in Low-Pressure System (cont.)	**Consider** • Confirm that Gas Leak is not causing the problem. • Shut off the gas, if appropriate.
	Reference Documents • Utility Standard TD-4413S, "Gas Event Reporting Requirements" • Utility Procedure TD-4413P-01, "Reporting of Gas Events" • Utility Procedure TD-6100P-02, "Gas Leak and Odor Investigations"
Compressor Station Fire	**Assess | Minimize Hazards** • Activate Emergency Shut Down (ESD) if operational and safe to do so. There will be multiple ESD activation stations throughout the compressor station; choose the ESD activation station that can safely be accessed. • Assess if Gas is accumulating or burning. • Assign an individual qualified to identify facility-specific threats to escort firefighters on site. • Notify the Area Superintendent.
	Notify | Coordinate • Notify and coordinate continuously with any activated emergency centers.
	Consider • Work with local first responders (FD/LE) to determine if fire should be extinguished or allowed to burn.
	Reference Documents • Utility Standard TD-4110S, "Gas Leak Survey and Detection Program" • Utility Procedure TD-6100P-03, "Major Gas Event Response: Fire, Explosion, and Gas Pipeline Rupture"

Incident	Specifics
Gas Storage Facility Fire or Uncontrolled Release of Gas from Storage Well	**Assess | Minimize Hazards** • Activate Emergency Shut Down (ESD) if operational and safe to do so. There will be multiple ESD activation stations throughout the compressor station; choose the ESD activation station that can safely be accessed. • Determine if gas facilities were damaged, gas is burning, or if any subsurface fluids are being produced/released as a result of the fire or uncontrolled release of gas from storage well.
	Notify | Coordinate • Notify and coordinate continuously with any activated emergency centers. • Work through Emergency Center and/or Gas Control to ensure notification to Wild Well (280) 784-4700.
	Consider • Work with local first responders (FD/LE) to determine if fire should be extinguished or allowed to burn. • Consider referencing the Well Control Tactical Considerations document for support.
	Reference Documents • Utility Standard TD-4110S, "Gas Leak Survey and Detection Program" • Utility Procedure TD-6100P-03, "Major Gas Event Response: Fire, Explosion, and Gas Pipeline Rupture" • Well Control Tactical Considerations
Wildland Fire	**Assess | Minimize Hazards** • Assess and determine a safe path for egress then safely evacuate people to a safe distance from the effected facilities / area.
	Notify | Coordinate • Notify and coordinate continuously with any activated emergency centers.
	Consider • Work with local first responders (FD/LE) to determine if fire should be extinguished or allowed to burn. • Determine what gas facilities are threatened, damaged, or burning and if they are causing explosions.

Incident	Specifics
Wildland Fire (cont.)	• Obtain gas plats, regulation station data sheets. • Identify shutdown zones on plat maps. • Assign personnel to specific coverage areas. • Isolate major damage areas. Implement shut in plan in coordination with Gas Control and Emergency Center (OEC, GEC, and EOC). • For main shutdowns, use Emergency Zone Valves Book. • Execute isolation plan and close customer riser valves. • Make repairs to affected system or equipment, as needed. • Develop purge plan to purge air from system. • Restore service to customers.
	Reference Documents • Utility Standard TD-4110S, "Gas Leak Survey and Detection Program" • Utility Procedure TD-6100P-03, "Major Gas Event Response: Fire, Explosion, and Gas Pipeline Rupture"
Cybersecurity Event	**Assess | Minimize Hazards** • Disconnect malfunctioning or unnecessary equipment from the network, if possible. Request IT assistance in review and assessment of the impacted equipment. • Monitor your system and infrastructure for any abnormal conditions. Some examples of a potential cybersecurity attack include but are not limited to the following: • System-wide failures in SCADA, such as many SCADA servers and networks failing at the same time. • Multiple incidents at different locations, such as Automatic 574.Moorehutoff Valve/Remote Control Valve (ASV/RCV) at different locations, failing at the same time. • Random failures, such as several reliable pressure readings becoming invalid without scheduled clearance. • Other business application failures. If the attack is not against SCADA, the same process applies. • Assess and establish the amount of lost or damaged data. • Assess and verify data integrity. • Ask personnel if they have clicked on any links or downloaded any attachments sent to them in email. • Secure data logs offline so that the backup can be updated, if necessary.

Incident	Specifics
Cybersecurity Event (cont.)	**Notify | Coordinate** ▪ If not previously accomplished, contact Corporate Security (415) 223-6920. ▪ Contact the Technology Solution Center (TSC) (415-973-9000) and the Information Technology Control Center (ITCC) if activated, and report the issue(s) in detail. If IT confirms the cybersecurity event, continue using tech down procedures until IT clears the event. ▪ Notify and coordinate continuously with any activated emergency centers.
	Consider ▪ Revert to proper tech down procedures (e.g., manually opening or closing valves) until data can be verified. Coordinate with all affected internal and external agencies that you are moving to manual and that they should adjust accordingly (e.g., coordinate use of manual recording methods with Dispatch). ▪ Work with the ITCC communications team to warn the appropriate personnel that their systems may have been compromised and they should pay particular attention to any changes in data. ▪ Instruct direct report staff to monitor and report any issues. Have them gather specific details and prepare a report for the ITCC (TCS will provide instructions). ▪ Develop a chronology of the event to assist IT in evaluating the incident. ▪ Appoint affected and knowledgeable staff to assist IT in the investigation. ▪ Assign a liaison to update IT as employees report possible causes. ▪ Assign a liaison as representative in the GEC and other emergency centers as needed. ▪ When a threat is validated, evaluate the impact on your operations and take the appropriate measures to mitigate any hazards. ▪ Use data logs to enter data held during the incident. ▪ Determine if incident is reportable and make internal and regulatory notifications within the specified time limits. Refer to Utility Standard TD-1208S, "PG&E CIP-008 Cyber Security — Incident Reporting and Response Planning," and make reports in accordance with local procedures. ▪ Once data integrity is restored, return to automated operations.
	Reference Documents • Utility Standard TD-4050S, "Security Standard for Gas Operations" • Utility Standard TD-1202S, "PG&E CIP-002 BES Cyber Systems Identification and Classification" • Utility Standard TD-1203S, "CIP-003 PG&E Cyber Security Management Controls Standard" • Utility Standard TD-1204S, "PG&E CIP-004: Cyber Security - Personnel & Training"

Incident	Specifics
Cybersecurity Event (cont.)	• Utility Standard TD-1205S, "PG&E CIP-005 Cyber Security- Electronic Security Perimeters(s)" • Utility Standard TD-1207S, "PG&E CIP-007: Cyber Security - System Security Management" • Utility Standard TD-1208S, "PG&E CIP-008: Critical Cyber Asset Incident Response

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Appendix C. Incident Command System (ICS) Resources for Gas

Appendix C of this Gas Emergency Response Plan presents an introduction to the Incident Command System (ICS) along with specific components for use by emergency response personnel within Gas Operations.

C.1 ICS Resources for Gas: Index

Appendix	Page	Title
C.2	C-2	Activating an Emergency Center
C.2.1	C-5	Emergency Center Staffing
C.2.2	C-5	Emergency Center Check-In
C.2.3	C-5	Incident Unit Logs
C.2.4	C-6	Status Reporting to an Emergency Operations Center/Gas Emergency Center
C.2.5	C-6	Status Boards
C.2.6	C-6	Emergency Center Resource Requests
C.2.7	C-6	Incident Action Planning Process
C.2.8	C-7	Incident Action Plan Content
C.2.9	C-7	Emergency Center Briefings
C.2.10	C-7	Information Flow Within Emergency Center
C.2.11	C-8	Information Flow into Emergency Center
C.2.12	C-8	Information Flow Out of Emergency Center

C.2 Activating an Emergency Center

The individual who activates an Operations Emergency Center (OEC) (per Activation Triggers noted in **Section 2** of this Plan) will either assume the role of Incident Commander and/or OEC Commander, or will designate and notify pre-identified staff to assume this role. When activating an OEC, the Incident Commander will contact the following of his/her intent to activate an OEC:

- Region Director (M&C), Area Manager (Field Services), or GPOM Director (as applicable)

- Gas Emergency On-Call at **415-244-4000**
- Gas Emergency Preparedness Coordinator (EPC)
- Gas Transmission Control Center Northern at [redacted] or Southern at [redacted]
- Gas Distribution Control Center
  - Northern at [redacted]
  - Bay Area at [redacted]
  - Central Coast at [redacted]
  - Central Valley at [redacted]

The individual who activates the Gas Emergency Center (GEC)(per Activation Triggers noted in Section two of this Plan) will contact the following of his/her intent to activate the GEC:

- GEC Director On-Call and/or Mel Christopher, Senior Director of Gas System Operations
- Gas Emergency On-Call at **415-244-4000**
- GEC IC Advisor On-Call

For an OEC activation an E-page to the affected Division E-Page List will be sent by Gas Control or EPC. For a GEC activation, an E-page to Gas North Update and Gas South Update will be sent by Gas Control or EPC. Emergency Center Commanders/Directors, their designee, or the EPC, will follow the Activation Checklists found on the Gas Emergency Preparedness Resources website (For OEC select the Region from the button menu, which goes to its SharePoint site; Activation Checklists are found in the OEC folders. For GEC select the EOC/GEC button to find the GEC Activation Checklist).

Figure C.1 is an example of the Activation/Deactivation Checklist for OEC.

Figure C.2 is an example of the Activation/Deactivation Checklist for the EOC/GEC.

East Bay OEC Gas
Activation Checklist

Name: _____ Name: _____

Date/Time ___/___/___ ___:___ Date/Time ___/___/___ ___:___

	Activation	Deactivation
To activate the OEC for a gas incident/event, go to the Gas Emergency Preparedness Resources site Click on the red box marked OEC/GEC Activations Click the New button to create a new activation Complete the form and click OK at the bottom of the page	_____	_____
Notify the following for all activation levels:		
Gas Control [redacted]	_____	_____
Service Dispatch: [redacted]	_____	_____
EPC: Alex Gordon 925-216-9020 (cell)	_____	_____
Gas Emergency On Call: 925-244-4000	_____	_____
Enterprise Network Ops Center (ENOC): 8-227-6387 / 707-427-6387	_____	_____
Workforce Mgmt Routing Team: 8-777-7278 / 916-923-7278	_____	_____
Weather Specialists		
Mike Voss 408-807-3127	_____	_____
Scott Strenfel 408-219-8136	_____	_____
Ted Schlaepfer 415-271-9866	_____	_____
Weather Office (staffed 5 a.m. to 3 p.m. 925-244-4630)	_____	_____
If activation is outside of hours 5 a.m. to 3 p.m., you can contact Mike or Scott		
North Region Director: Dennis MacAleese 510-730-9973 (cell)	_____	_____
M&C Superintendent: Kevin P Souza 510-684-1415 (cell)	_____	_____
Field Svc Mgr: Randy Lavering 925-628-1454 (cell)	_____	_____
GC Superintendent: Michael Seitz 925-785-5761 (cell)	_____	_____
Media: Tamar Sarkissian 510-529-5710 (cell)	_____	_____
Also:		
Send E-Page and Email:		
E-Page list: EBGASDE	_____	_____
Email list: Gas North Update	_____	_____

Figure C.1 Emergency Center OEC Gas Activation Checklist

Gas Emergency Center (GEC)
Activation Checklist

Name: _____ Name: _____

Date/Time ___/___/___ ___:___ **Activation** Date/Time ___/___/___ ___:___ **Deactivation**

	Activation	Deactivation
To activate the GEC for a gas incident/event, go to the Gas Emergency Preparedness Resource Site Click on the red box marked OEC/GEC Activations Click the New button to create a new activation Complete the form and click OK at the bottom of the page	_____	_____
Call the following to advise of the GEC Activation		
M&C Director (North/South):	_____	_____
M&C Superintendent:	_____	_____
M&O Superintendent:	_____	_____
Field Service Manager:	_____	_____
GC Superintendent:	_____	_____
Gas Dispatch and Scheduling: 888-353-3477	_____	_____
Gas Distribution Control Center (GDCC): [redacted]	_____	_____
Gas Transmission Control Center (GTCC): Northern: [redacted] Southern [redacted]	_____	_____
Telecommunications Control Center: [redacted]	_____	_____
Customer Contact Traffic Control Ctr: 8-777-7278 / 916-923-727[illegible]	_____	_____
Notify The Teams of GEC Activation:		
Send an epage to (Notify of GEC activation - FYI Only) Gas EOC Teams All	_____	_____
Send an epage to notify of GEC activation - FYI Only GasEOCTeamsAll	_____	_____
Send an epage to notify of GEC Activation GasNorthUpdate GasSouthUpdate	_____	_____
Send an email to notify of GEC Activation Gas North Update Gas South Update	_____	_____
If Notified is not used (See IC Advisor for this section): Send an E-Page (Choose On-Call Team) of reporting instructions: GasEOCAlpha GasEOCBravo GasEOCCharlie GasEOCDelta GasEOCEcho	_____	_____
Send an E-Mail (Choose On-Call Team) of reporting instructions: Gas EOC Alpha Gas EOC Bravo Gas EOC Charlie Gas EOC Delta Gas EOC Echo	_____	_____

Figure C.2 Emergency Center (EOC/GEC) Activation and Deactivation Checklist

C.2.1 Emergency Center Staffing

The Emergency Center Commander will determine the extent to which Command Staff, Section Chiefs, and functions will be activated and staffed. This decision will be based upon the nature and scope of the emergency, the need to coordinate with multiple internal and external groups, and the time of day of the occurrence.

The OEC activation teams will be coordinated as per their Staffing Plan/Contact Lists, which are also located on the Gas Emergency Preparedness Resources website.

When the GEC is activated for a gas-only incident or event, or the GEC is activated for a dual commodity incident or event and sends select personnel to the EOC, there are five designated Gas On-Call teams trained and ready to manage Operations. The teams are Alpha, Bravo, Charlie, Delta, Echo, as discussed in **Section 3** of this plan, and are scheduled for 14-day rotations every 10 weeks. Team rosters and the rotation schedule can be found at the Gas Emergency Preparedness Resources website in the Toolkit.

C.2.2 Emergency Center Check-In

All personnel entering and exiting an Emergency Center will be required to check in and out at the “Check In” desk and sign the “Check in List” ICS Form 211. After checking in, Emergency Center staff should review their specific position checklists. Position Checklists for the EOC can be found at this Emergency Preparedness SharePoint site. Persons who are members of the GEC On-Call teams should download these forms to their laptops so that they are immediately available in the event of an emergency.

The “Check In” desk will be located in an area through which all persons entering and exiting the Emergency Center have to pass. People will sign in, indicate their working section, and note the date/time they entered the Center. Upon exiting, they will enter the date/time they are leaving the Center. This is a requirement of working and supporting the incident.

Access to the Emergency Center will be limited to designated Emergency staff. The Emergency Center Commander/Director will approve access of any other individuals on a case-by-case basis.

C.2.3 Incident Unit Logs

All activated Emergency Center staff are required to initiate and maintain a Unit Log (ICS Form 214). A Unit Log will be started for each separate emergency incident that requires activation.

This Unit Log for each individual will be initiated upon arrival at the Emergency Center and will record the date and time of key activities, decisions, and contacts made. All entries shall be dated and timed, and the log shall be signed by the individual at the conclusion of each shift in the EOC/GEC and OEC. If a Unit Log is not used, all original notes shall be collected in place of said Unit Log.

C.2.4 Status Reporting to Emergency Operations Center (EOC)/Gas Emergency Center (GEC)

Field Units will provide the Operations Chief with an initial status report, followed by updated reports on a regular basis as determined by the OEC Commander/GEC Director. The Operations Chief will provide to the Planning and Intelligence Chief updated reports whenever significant changes occur in the situation, or as requested by the Emergency Center Commander/Director.

C.2.5 Status Boards

The Planning and Intelligence (P&I) Section will maintain status boards listing significant damages, crew deployment, and other information for reference by all Emergency Center staff. This information will also be kept updated in the Gas Incident Reports (emails).

C.2.6 Emergency Center Resource Requests

Requests for personnel will usually come from Operations Chiefs. Requests for supplies, equipment, materials, facilities, communication/technology support will be managed by the Logistics Section. All personnel and resources will be tracked by the Planning and Intelligence Resource Unit Leader in the Emergency Center. These requests will be reviewed and discussed at the Tactics Meeting in that Operational Period.

C.2.7 Incident Action Planning Process

Action planning promotes a proactive approach to emergency response and restoration, and facilitates identification of the most effective restoration strategies and priorities for a given situation. The Incident Action Plan (IAP) lists specific objectives to be accomplished, including who is assigned to each, for the specified operational period.

The Planning and Intelligence Section is responsible for publishing the IAP, but its actual development is a joint effort by the Operations, Logistics, Planning Sections, and relevant command staff. The Emergency Center Commander/Director approves the IAP. Refer to the CERP for details on the ICS Planning Process.

The Situation Unit Leader will review all status/damage reports and will develop an overall situation assessment. Based on that assessment, the need for Subject Matter Expert technical support will be identified and recruited at that time. Additionally, the Situation Unit Leader will actively seek intelligence information and maintain situational awareness. The Situation Unit Leader writes and distributes the Gas Incident Reports (emails).

Objectives will be determined to guide the incident response. Strategies and Tactics will then be developed to achieve the objectives. The Operations and Planning and Intelligence Section staffs will then meet to discuss the options and consequences, determine the most appropriate strategy to be employed, identify any system changes required, and make a recommendation to the Emergency Center Commander/Director, who must approve the final IAP.

A copy of the IAP, with recommended strategies, will be forwarded to Gas System Operations, District/Division Field Response, and all activated Emergency Centers for implementation. One

copy of the IAP will be retained by the Planning and Intelligence Document Unit staff for posting and documentation purposes. The Logistics and Finance Section Chiefs will be requested to provide any special supplies, equipment, or contract services required by the IAP.

C.2.8 Incident Action Plan Content

A new Incident Action Plan (IAP) will be developed for each Operational Period. A set of ICS forms was developed for PG&E Gas Operations and is located on the Gas Emergency Response Plan website under Toolkit. The IAP may include the following:

- Incident Objectives, ICS Form 202. This is updated to meet current Operational Period and "End State" objectives, and should include priorities
- Organization Assignment List, ICS Form 203. This change will occur at each new Operational Period.
- Assignment List, ICS Form 204. The kind and number of resources assigned to implement the selected strategies (personnel, supplies, equipment, contract services).
- Incident Communications Plan, ICS Form 205. The Communications Plan lists all contact numbers and/or radio frequencies for activated personnel in Emergency Centers and/or the field.
- Medical Plan, ICS Form 206. This lists emergency and urgent care locations
- Organization Chart, ICS Form 207. Information received from the ICS 203
- Safety Message and Plan, ICS Form 208
- Incident Safety Analysis, ICS Form 215A. This is to identify safety hazards to mitigation strategies.
- Daily Meeting Schedule, ICS Form 230. This establishes the schedule for the meetings/calls of the day (e.g. Operations Briefing, Tactics Meeting)

All supporting documentation, such as maps, contact phone numbers, status reports, etc., will be kept in one central location for Planning and Intelligence's use in the After Action Review (AAR).

C.2.9 Emergency Center Briefings

At specified intervals throughout the Operational Period, the Emergency Center Commander will conduct briefings for all Command and General staff (C&GS). The Operational Period briefings are held to review with the next Operational Period staff the IAP, Status Reports, strategies, and objectives. Following the Operational Period briefing, Section Chiefs will brief their respective staffs.

Operational Period briefings generally occur prior to the beginning of a new Operational Period, but can be held at the discretion of the OEC Commander/GEC Director.

C.2.10 Information Flow Within Emergency Center

Information and data may be submitted to the Emergency Center from a number of different individuals and groups. Depending on the source and the method of transmission, the information/data will usually come from:

- System Operations to the Operations Section Chief
- The Incident Command Post to the Emergency Center or OEC Operations Section Chief
- The Public Information Officer/Customer Strategy/Liaison to the Emergency Center Commander/Director
- The Situation Unit Leader to the Planning and Intelligence Section Chief

C.2.11 Information Flow into Emergency Center

Planning and Intelligence Section will:

- Devise strategies so that the Emergency Center Commander/Director can safely and effectively manage the incident
- Maintain situational awareness and seek incident intelligence
- Post key information on the status board(s) and update the ICS Form 204
- Retain one copy of all incident documentation
- Distribute the IAP to all Emergency Center C&GS Sections and field incident personnel

The Situation Unit staff will:

- Review all Status Reports, and discuss and analyze the situation
- Determine any technical expertise needed to develop the IAP
- Recruit Technical Support staff as necessary
- Develop Gas Incident Reports (emails)

The Documentation Unit staff will:

- Develop the IAP from information received from all Section and Command staff
- Document incident management strategies and recommendations
- Collect and store all incident records

C.2.12 Information Flow Out of Emergency Center

Information to be disseminated from the EOC/GEC, REC, and OEC includes:

- Gas Incident Reports
- Incident Action Plan (IAP)
- Engineering strategies and recommendations

Various Section roles have responsibility for disseminating certain information to designated individuals and groups

- The System Operations (or Gas Control Liaison) seat in the Operations Section is responsible for keeping Gas Control apprised of the situation on a regular basis, including providing IAP information
- The M&C Branch Director seat in the Operations Section has the same responsibility to field crews via the District/Division Incident Command Post Commanders, who in turn will share with field personnel
- Public Information Officer shares information with the Public Information Office

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Appendix D. Mutual Assistance Agreements (MAA) and Memorandum of Understanding (MOU)

D.1 Mutual Assistance Agreements

A Mutual Assistance Agreement or MAA is an arrangement between two or more companies such that each will assist the other in the event of a disaster, typically by sharing company resources. PG&E has Mutual Assistance Agreements with the American Gas Association (AGA), the California Utilities Emergency Association, and the Western Energy Institute. For Mutual Assistance resources, refer to the GERP Website, under the Toolkit section.

D.2 Mutual Assistance Agreements: Index

Appendix	Page	Title
D.2.1	D-1	American Gas Association (AGA)
D.2.2	D-2	California Utilities Emergency Association (CUEA)
D.2.3	D-2	Western Region Mutual Assistance Agreement (WRMAA)

D.2.1 American Gas Association (AGA)

PG&E is signatory to the Master Operations Assistance Agreement with the AGA. The AGA offers its members (utilities, transmission, and manufacturers/suppliers/service providers) a voluntary, no-fee mutual assistance program designed to suit the wide variation of needs of its member companies across the United States and Canada. The program is based on a coalition of AGA member companies, which agree to a set of baseline provisions that govern mutual assistance. The member companies agree to populate and maintain the AGA Mutual Assistance Database with company-specific emergency contact information, field capabilities, and other key resources available for mutual assistance.

The purpose of the AGA program is to supplement local, state, and regional mutual assistance programs, and it is intended for those unprecedented manmade or natural disasters requiring the dedication of response, recovery, and restoration resources outside the limits of existing mutual aid programs. In times of need, the AGA database can be searched for resources that potentially meet current emergency needs, and an AGA Request For Assistance (RFA) form (the binding contract between Requesting and Responding Companies) can be submitted to the AGA website.

Contact Information

The company contact for the AGA Master Operations Assistance Agreement is:

Evermary Hickey
Director, Emergency Preparedness and Response (EP&R)
Email: EMHP@pge.com

Phone: **(415) 973-3344**

D.2.2 California Utilities Emergency Association (CUEA)

In the event of a major emergency where PG&E's resources (vehicles, equipment, materials, and tools) are inadequate, the CUEA Mutual Assistance Agreement may be called upon. It is PG&E's policy to maintain mutual assistance agreements through the CUEA. The CUEA facilitates the coordination of the transfer of equipment, personnel, and materials between signatory utility companies of the agreement during an emergency. CUEA membership gives PG&E access to State response resources, with the ability to coordinate additional resources from much of the western United States. The CUEA would typically be contacted by the EOC/GEC Cal OES Liaison during a Level 3, 4, or 5 emergencies.

Contact Information

Don Boland (CUEA)

Phone: **(916) 845-8518**

http://www.cueainc.com/

D.2.3 Western Region Mutual Assistance Agreement (WRMAA)

PG&E is a custodial member of the Western Energy Institute (WEI) in the administration of the Western Region Mutual Assistance Agreement (WRMAA). The agreement was developed based on the CUEA Mutual Assistance Agreement and provides for support in the form of expertise and information for emergencies that occur within and outside of the state of California.

Contact Information:

http://www.westernenergy.org/default.htm

D.3 Memoranda of Understanding (MOU)

Memoranda of Understanding that existed between departments at PG&E (agreements of how resources are to be shared between PG&E departments) have been removed from the GERP since they are no longer valid, based on the recent Gas Operations reorganizations. They are being revisited to determine if Service Level Agreements (SLAs) are needed going forward.

Appendix E. External Resources (Non-Gas Operations Resources)

Appendix E presents information on external resources (any resource not found within Gas Operations – i.e., other PG&E Lines of Business, External Agencies (Law, Fire, Utilities, etc.) that may be needed in the event of a gas incident or emergency, and which are not covered in depth in other portions of the GERP. The information may be a phone number, a hyperlink to a website, a link to a document on a SharePoint site, or other data. Information provided in this Appendix is listed in the Index below.

E.1 External Resources (Non-Gas Operations Resources) Index

Appendix	Page	Title
E.2	E-1	Environmental
E.3	E-1	Safety
E.4	E-2	Public Affairs
E.5	E-3	External Agency Contacts– Governmental (Federal, State, Local), Railroads/Utilities

E.2 Environmental

For environmental emergencies after work hours, personnel should call the **24-Hour Environmental Emergency Hotline at 1-800-874-4043**, to be put in contact with the on-call EFS.

The EFS may contact appropriate Safety and other PG&E employees and first responders to aid in identifying the substance(s) released and determine the appropriate level of Personal Protective Equipment (PPE) needed. The EFS will also manage the notification(s) of the release to the appropriate internal and external parties, using PG&E requirements for notification and distribution.

Website: http://pgeweb/sharedservices/environmental

Environmental http://pgeweb/sharedservices/environmental/Pages/24-HourEnvironmentalEmergencyHotline.aspx

Finding your Environmental Field Specialist (EFS) using GIS

Finding your Environmental Field Specialist (EFS) using list

Environmental Guidance Documents in the Guidance Document Library

E.3 Safety

Safety Officers support employees access the following information:

Safety Health and Claims Helpline:

- **1-415-973-8700 (external)**
- **223-8700 (internal)**

Select from the following options:

- Option 1, available 24/7: to report an employee fatality, serious injury or illness, electrical contact or flash requiring medical treatment, or any contact or inquiry by California Occupational Safety and Health Administration (Cal/OSHA) personnel. This 24/7 option is intended for emergencies or urgent safety issues that need to be addressed immediately.
- Option 2, available M-F, 7:30 a.m. to 4:30 p.m.: To receive worker's compensation information (i.e., employee or physician inquiries regarding a claim, billing, or administrative assistance).
- Option 3, available M-F, 8 a.m. to 4 p.m.: to receive general safety and health information
- Option 4, to speak to the Blood borne Pathogen Unit

To report an incident or injury involving non-PG&E and/or damage to equipment or vehicles, contact:

Law Claims Helpline:

- **1-415-973-8000 (external)**
- **223-8000 (internal)**

If you experience a work-related incident, you should first notify your supervisor and then call the 24/7 Nurse Report Line.

24/7 Nurse Report Line: **(888) 449-7787**

24/7 Nurse Report Line website

Safety website: http://pgeweb/sharedservices/safety

Code of Safe Practices (CSP) located in Safety Toolkit

Safety and Health Guidance Documents in the Guidance Document Library

E.4 Public Affairs

Public Affairs representatives are liaisons between PG&E and the county and city officials affected during a gas emergency. There are Regional as well as Special Project Public Affairs representatives. Public Affairs implemented an On-Call Emergency Response process, which allows a 24/7 response coverage to its local operations; provides updates and communication to local elected and other key stakeholders, whenever needed; provides predictable scheduling for

local RECs (electric) and OECs; provides predictable staffing plans for Emergency Preparedness Coordinators (EPCs); and allows for a two weeks on, six weeks off call rotation.

Under the existing process, Public Affairs has five dedicated GEC response teams (Alpha, Bravo, Charlie, Delta, and Echo) that rotate duties throughout the year. One team is on duty at all times. The on-call process is for after-hours and weekends. During the regular workday, Public Affairs reps handle emergency response duties for their respective areas. Personnel changes occurring for a particular shift (due to vacation, etc.) trigger email notifications to all members of the Public Affairs team experiencing the change.

Additionally, the EOC/GEC/OEC On-Call database is updated with these changes.

This link pulls up a contact list by area. Public Affairs Website: http://pgeweb/corporateaffairs/gr

E.5 External Agency Contacts– Governmental (Federal, State, Local), Railroads/Utilities

This section presents contact information for federal, state, and local agencies and other external contacts that might be involved during an emergency involving PG&E's gas transmission and distribution system. In an emergency, gas incident management personnel can use **Table E.1** "Federal and State Reporting Contacts," in this Appendix to contact the appropriate federal, state, or local agency, or other external reporting contacts. Should an emergency take place in your immediate vicinity, dial 9-1-1 for the local Emergency Services Dispatch Center.

Note that if you are calling from a cellular phone, your call may be handled by a California Highway Patrol (CHP) Dispatch center out of the immediate area. You should be prepared to give them the specific location of the emergency. If you are calling remotely to advice of an emergency, dial the 10-digit direct-dial emergency number given in **Table E.1** for the area of the emergency. For all other calls, contact the non-emergency 10-digit direct-dial number.

All of the numbers on **Table E.1** should be monitored and answered 24 hours per day, 7 days per week.

Table E.1 Federal and State Reporting Contacts

Agency	Emergency Number	Non-emergency Number	Comments
FEDERAL			
Department of Defense (DOD)	719-556-4030	719-556-4030	If a base in CA is impacted by PG&E gas lines, call base directly if you have contact number. Numbers listed here go to 24/7 line at DOD's Northern Command (Petersen AFB) who will notify impacted base.

Agency	Emergency Number	Non-emergency Number	Comments
Federal Bureau of Investigations (FBI)	NA	916-481-9110 415-553-7400	Sacramento Office San Francisco Office
National Response Center (NRC)	800-424-8802	800-424-8802	Calling the NRC will pass information to the following agencies: • Department of Transportation (DOT) • Environmental Protection Agency (EPA) • United States Coast Guard (USCG)
United States Coast Guard District Eleven (USCG D 11) Command Center	510-437-3701	510-437-3701	USCG D 11 encompasses the entire state of California.
RAILROADS AND UTILITIES			
Burlington Northern Santa Fe (BNSF)	800-832-5452	800- 832-5452	
Union Pacific Railroad Dispatch (UP)	888-877-7267	800 848-8715	AMTRAK runs on BNSF or UP rails in the state of California; therefore call BNSF or UP to alert AMTRAK
East Bay Municipal Utilities District (EBMUD)	866-403-2683	866-403-2683	
Sacramento Municipal Utilities District (SMUD)	888-456-7683	888-456-7683	
Southern California Edison (SCE)	626-302-1212	626-302-1212	

Agency	Emergency Number	Non-emergency Number	Comments
STATE			
California Utilities Emergency Association (CUEA)	916-845-8911 State Warning Center	916-845-8517 Office 916-717-7570 Cell	Ask for Don Boland or the on-duty CUEA representative
CAL FIRE	9-1-1	916-845-8680	Sacramento Command Center
California Highway Patrol (CHP) General	9-1-1	800-835-5247	
CHP Golden Gate Division	9-1-1	707-551-4100	
CHP Monterey	831-796-2168	831-796-2160	
CHP Valley (Sacramento)	916-861-1330	916-861-1300	
CHP Valley (Stockton)	209-943-8675	209-943-8600	
CHP Ukiah	707-467-4012	707-467-4000	
California Public Utilities Commission (CPUC)	800-235-1076	800-235-1076	
California Transportation (Caltrans)	Contact CHP for area impacted		
California Warning Center	800-852-7550	916-845-8911	
COUNTIES/OPERATIONAL AREAS			
Alameda County	925-462-1212	510-667-7721 510-667-7776	Dublin Sherriff Dispatch Manager
Alpine County	530-694-2231	530-694-2231	
Amador County	209-223-6513	209-223-6500	Sherriff
Butte County	530-538-7322	530-538-7322	Sherriff

Agency	Emergency Number	Non-emergency Number	Comments
Calaveras County	209-754-6753	209-754-6500	Sherriff
Colusa County	530-458-0200	530-458-0200	Sherriff
Contra Costa County	925-646-2441	925-646-2441	Sherriff
Del Norte County	707-464-4191 # 6	707-464-4191 # 6	Sherriff
El Dorado County	530-647-5250	530-647-5221	CAL FIRE Dispatch
Fresno County	559-488-3111	559-488-3111	Sherriff
Glenn County	530-865-1122	530-865-1122	Sherriff
Humboldt County	707-445-7251	707-445-7251	Sherriff
Imperial County	760-339-6312	760-339-6312	Sherriff
Inyo County	760-878-0383	760-878-0383	Sherriff
Kern County	661-861-3110	661-861-3110	Sherriff
King County	559-584-9276	559-584-9276	Sherriff
Lake County	707-263-8655	707-263-2690	
Lassen County	530-257-6121	530-257-6121	
Los Angeles County	323-881-6183	323-881-6183	
Madera County	559-675-7770	559-675-7770	
Marin County	Fire/EMS: 415-472-0911 Law 415-479-2311	Fire/EMS 415-472-0911 Law 415-479-2311	
Mariposa County	209-966-3614	209-966-3614	
Mendocino County	707-463-4086	707-463-4086	
Merced County	209-385-7445	209-385-7445	

Agency	Emergency Number	Non-emergency Number	Comments
Modoc County	530-233-4410	530-233-4416	
Mono County	760-932-7549 # 7	760-932-7549 # 7	
Monterey County	831-755-5111	831-755-5111	
Napa County	707-253-0911	707-253-4451	
Nevada County	530-265-7880	530-265-1471	
Orange County	714-538-3501	714-538-3501	
Placer County	530-889-7800 #4	530-889-7800 #4	
Plumas County	530-283-6300	530-283-6300	
Riverside County	951-684-0911	951-776-1099 #5	951-684-0911 only works if calling from a 951 area code.
Sacramento County	916-874-5128	916-874-5128	
San Benito County	831-636-4080 #1	831-636-4080	
San Bernardino County	760-956-5001	760-956-5001 #1	
San Diego County	858-565-5200	858-565-5200	
San Francisco County	415-553-8090	415-553-0123	
San Joaquin County	209-468-4400	209-468-4400	
San Luis Obispo County	805-543-7082	805-781-4550	
San Mateo County	650-363-4911	650-363-4911	
Santa Barbara County	805-683-2724	805-683-2724	

Agency	Emergency Number	Non-emergency Number	Comments
Santa Clara County	408-299-2311	408-299-2311	
Santa Cruz County	831-471-1170	831-471-1121	
Shasta County	530-245-6000 #0	530-245-6000 #2	
Sierra County	530-289-3700	530-289-3700	
Siskiyou County	530-841-2900	530-841-2900	
Solano County	707-421-7090	707-421-7090	
Sonoma County	707-565-2121	707-565-2121	
Stanislaus County	209-552-2468 209-552-2470 209-552-2474	209-552-3911	Emergency Numbers are County and City (Modesto), respectively
Sutter County		530-822-7307	
Tehama County	530-527-9111	530-529-7900	
Trinity County	530-623-8126	530-623-8126	
Tulare County	559-733-6218	559-733-6218	
Tuolumne County	209-533-5815	209-533-5815	
Ventura County	805-654-9511	805-654-9511	
Yolo County	530-666-6612	530-666-8282	
Yuba County	530-749-7909	530-749-7302	

E.6 CPUC/DOT Required Notifications/Testing

This section summarizes PG&E's notification and reporting requirements for gas incidents, safety-related incidents, and periodic reports as required by applicable regulatory agencies, most notably the California Public Utilities Commission (CPUC) and the U.S. Department of Transportation (DOT). Providing timely notification and reporting of incidents consistent with regulatory guidelines helps ensure prompt response and engagement of regulatory agencies. Additionally, meeting regulatory deadlines ensures compliance with the law and PG&E policy.

All Gas Transmission and Distribution (T&D), Gas Maintenance and Construction (M&C), Engineering, and Customer Field Services (CFS) personnel should refer to **Appendix D.2** for agency reporting requirements.

Gas Operations personnel can use this section as a guide:

1. To identify situations that may require regulatory notification
2. To determine notification deadlines.

E.6.1 CPUC/DOT Reportable Gas Incidents

Utility Procedure TD-4413P-01, "Reporting of Gas Events" identifies the incidents that require notification to the CPUC and DOT within specified timeframes.

The required information for incidents that require notification to the CPUC and DOT will be compiled by the District/Division Incident Commander(s) and relayed to a Gas Engineering on-call person via Gas Control. The on-call person is responsible for filing the requisite reports. If the incident fits reportable criteria, the CPUC File No. 420, "Report of Gas Leak or Interruption must be used (in addition to the Incident Report).

The initial status report from Gas Control will include the information listed below:

- Time of occurrence
- Nature of problem
- Line number
- Pressure status
- Current system status and plans*

The initial status report from District/Divisions will include the information listed below. The information marked with an asterisk(*) will be provided in subsequent reports.

- Type of incident
- Line number and location (mile point or cross streets)
- If, how and when situation isolated or made safe
- Number and type of injuries*
- Number and geographic boundaries of evacuations*
- Extent and type of any property damage*

- Status of incident (line blowing, fires, etc.)*
- Type and number of crews on-scene*
- External agencies on-scene (e.g., police, fire, etc.)
- CAP

The Corrective Action Program (CAP) was established to accomplish the following objectives:

- Capture incidents (events that have already happened) and potential incidents (events that haven't happened but pose a risk).
- Analyze incidents and potential risks, and then recommend corrective actions to reinstate capability and/or prevent recurrence.
- Recommend preventive actions to prevent occurrence in the first place.
- Assess effectiveness, monitor trends, and communicate results on a continuous basis.

In addition, for all CPUC-reportable and complex events, the responsible department supervisor, lead investigator, or superintendent must ensure that an incident critique is conducted with all of the involved departments, as required by Utility Procedure TD-4413P-01, "Reporting of Gas Events"

Copies of the Gas Event Reporting Requirements Standards and Procedures referenced in this section, with select Attachments and the CPUC File No. 420, "Report of Gas Leak or Interruption, are located in **Appendix D.2**.

E.6.2 DOT Drug and Alcohol Testing – Post Accident

Post-accident drug and alcohol tests are performed on employees whose performance cannot be completely discounted as a contributing factor to an accident (an accident is defined as a DOT reportable incident). It is important to conduct post-accident drug and alcohol testing of all potentially involved personnel despite uncertainty about the circumstances of the accident.

The need for this testing is covered in 49 CFR Part 199, "Drug and Alcohol Testing," and strongly emphasized in the Advisory Bulletin ADB-2012-02 issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA) on February 23, 2012, "Pipeline Safety: Post Accident Drug and Alcohol Testing."

Utility Procedure TD-4413P-04, "Determining the Scope of Drug and Alcohol Testing for Gas-Related Events," specifically addresses post-accident testing (PAT) for drugs and alcohol. Utility Standard TRAN-2005S, "Drug and Alcohol Testing Requirements Standard," gives further information on requirements for personnel who are subject to drug and alcohol testing. Supporting documents for the Standard are PG&E's DOT Drug and Alcohol Misuse Prevention Plan and the PG&E's Drug-Free Workplace Program DOT Controlled Substance and Alcohol Testing Program Employee Policy and Handbook (Rev. 1/13). Both of these documents are located on the company DOT Drug and Alcohol Testing Program website. The Plan, Handbook, Standard, and Procedure give greater detail and guidance on PG&E's DOT drug and alcohol testing process.

When is testing required?

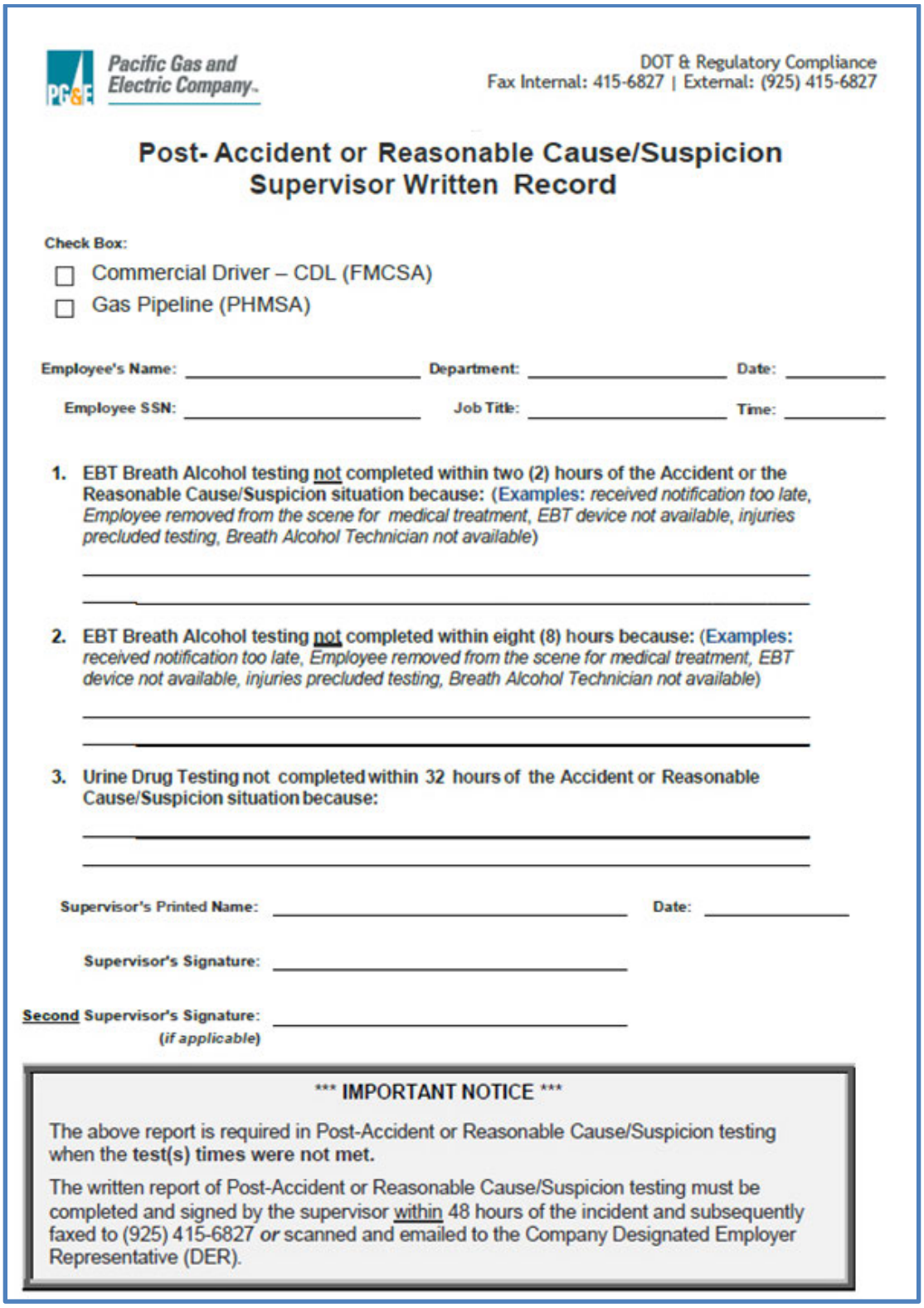
PAT is required when an employee's or PG&E contractor's performance cannot be completely discounted as a contributing factor to any of the following:

- Fatality or personal injury requiring admission to and an overnight stay in a hospital.
- Estimated property damage of $50,000 or more, including loss to the company and others, but excluding cost of gas lost.
- Unintentional estimated gas loss of 3 million cubic feet or more. Use Form TD-4413P-01-F01, "Gas Incident Report Data Collection Form" to determine if this gas loss criterion has been reached for pipeline punctures and complete severing of the pipeline.
- An event that results in an emergency shutdown of a liquefied natural gas (LNG) facility.

If any of the above apply, DOT drug and alcohol testing are required for all parties involved at the time of the incident/accident. Alcohol testing is required within 2 hours of the incident/accident, but not to exceed 8 hours afterward

Drug testing must be completed no later than 32 hours after the accident/incident. If the alcohol test is not completed within the first 2 hours, and exceeds 8 hours, or a urine drug screen was not conducted within 32 hours, the reason must be documented on the Post-Accident or Reasonable Cause/Suspicion Supervisor Written Record form, shown in **Figure E-1**.

Figure E.1 is a decision tree for drug and alcohol PAT summarized from Appendix 2 of Utility Procedure: TD-4413P-04, "Determining the Scope of Drug and Alcohol Testing for Gas-Related Events." The process for PAT at PG&E is shown in greater detail in Appendix 3 of the Procedure. This Procedure, in conjunction with the Handbook and Plan, provides more guidance on the PAT process, including implementation of the testing.



Pacific Gas and Electric Company

DOT & Regulatory Compliance
Fax Internal: 415-6827 | External: (925) 415-6827

Post- Accident or Reasonable Cause/Suspicion Supervisor Written Record

Check Box:

☐ Commercial Driver – CDL (FMCSA)
☐ Gas Pipeline (PHMSA)

Employee's Name: _____ **Department:** _____ **Date:** _____

Employee SSN: _____ **Job Title:** _____ **Time:** _____

1. **EBT Breath Alcohol testing not completed within two (2) hours of the Accident or the Reasonable Cause/Suspicion situation because:** (Examples: *received notification too late, Employee removed from the scene for medical treatment, EBT device not available, injuries precluded testing, Breath Alcohol Technician not available*)

   _____

   _____

2. **EBT Breath Alcohol testing not completed within eight (8) hours because:** (Examples: *received notification too late, Employee removed from the scene for medical treatment, EBT device not available, injuries precluded testing, Breath Alcohol Technician not available*)

   _____

   _____

3. **Urine Drug Testing not completed within 32 hours of the Accident or Reasonable Cause/Suspicion situation because:**

   _____

   _____

Supervisor's Printed Name: _____ **Date:** _____

Supervisor's Signature: _____

Second Supervisor's Signature: _____
(if applicable)

***** IMPORTANT NOTICE *****

The above report is required in Post-Accident or Reasonable Cause/Suspicion testing when the **test(s) times were not met.**

The written report of Post-Accident or Reasonable Cause/Suspicion testing must be completed and signed by the supervisor within 48 hours of the incident and subsequently faxed to (925) 415-6827 *or* scanned and emailed to the Company Designated Employer Representative (DER).

Figure E.1 Post-Accident or Reasonable Cause/Suspicion – Supervisor Written Record

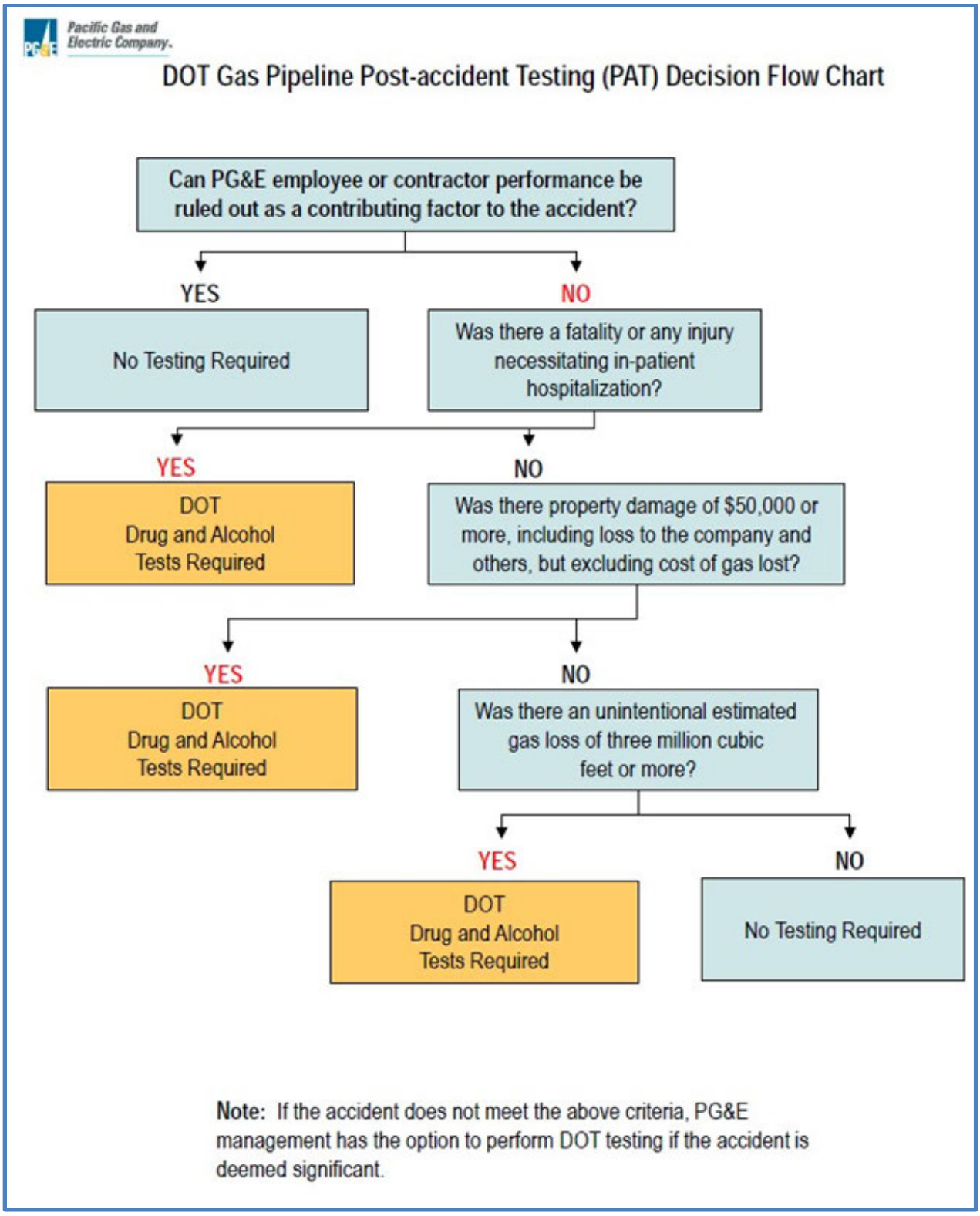


Figure E.2 DOT Gas Pipeline Post-accident Testing (PAT) Decision Flow Chart

E.6.3 Utility Standard TD-4413S, "Gas Event Reporting Requirements"

See Utility Standard TD-4413S, "Gas Event Reporting Requirements" for further information.