

# 2018 Gas Safety Plan – Attachment 4

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## **Gas System Operation Control Room Management**

## Gas System Operations Control Room Management

### SUMMARY

This utility standard establishes requirements that ensure compliance with the control room management (CRM) rule issued 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.” This standard is the primary pipeline safety compliance tool for all CRM activities required by the applicable federal and state pipeline safety regulations for both transmission and distribution (T&D) gas control room operations.

This standard and its associated procedures and supporting referenced documents are included in the gas control center (GCC) [\*Control Room Management Operations Manual\*](#).

### TARGET AUDIENCE

The primary audience for this utility standard includes the following gas control room personnel working in the GCC:

- GCC managers, or delegate(s), and GCC supervisors responsible for managing and supervising gas control room personnel
- GTCC: Senior gas system coordinators (SGSC), gas system coordinators, and gas system operators responsible for monitoring, and remote operations of, gas transmission facilities
- GDCC: Senior distribution gas system operators and distribution gas system operators responsible for monitoring and remote operations of gas distribution facilities
- Gas control strategy and support (GCS&S) personnel responsible for managing and maintaining the supervisory control and data acquisition (SCADA) system, including associated procedures, plans, and processes supporting sections, “Alarm Management” and “Management of Pipeline Change” of the *Control Room Management Operations Manual*

The secondary audience for this utility standard includes personnel in gas T&D construction, gas T&D operations, and gas engineering personnel whose responsibilities are outlined in the procedures governed by this utility standard.

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### REQUIREMENTS

#### 1 Overview

1.1 The gas control T&D procedures governed by this standard are as follows:

- [TD-4436P-01, “Gas System Operations CRM – Information Management”](#)
- [TD-4436P-02, “Gas System Operations CRM – Personnel Fatigue Mitigation”](#)
- [TD-4436P-03, “Gas System Operations CRM – Alarm Management”](#)
- [TD-4436P-04, “Gas System Operations CRM – Management of Pipeline Changes”](#)
- [TD-4436P-05, “Gas System Operations CRM – Evaluating Operational Experiences”](#)
- [TD-4436P-06, “Gas System Operations CRM – Gas Transmission and Gas Distribution Training Programs”](#)

1.2 The utility procedures listed above and described below in Sections [3](#) through [9](#) and supporting documents provide the tools for gas control room personnel to effectively manage activities associated with safe operation of Pacific Gas and Electric (Company or PG&E) gas T&D systems. These documents are contained in the [Control Room Management Operations Manual](#) (see the controlled versions identified in Section 1.3 below for manual contents).

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- 1.3 The gas control manager, or delegate, ensures that copies of the *Control Room Management Operations Manual* are kept in the following locations:
- [The Gas Control SharePoint site](#)

- 1.4 This utility standard, along with its attachments, satisfies 49 CFR §192.631(a), “General,” and (b), “Roles and responsibilities.” The implementing procedures described in Sections 3 through 10 below address compliance with the remaining sections of 49 CFR §192.631, “Control room management.”

### 2 Roles and Responsibilities

- 2.1 A summary of the roles and responsibilities for affected personnel is provided in the following attachments:

1. Roles and responsibilities for gas control personnel:
  - [Attachment 1, “Responsibilities for Management Personnel in the Gas Control Center Supporting the CRM Plan”](#)
  - [Attachment 2, “Responsibilities of Personnel Outside the Gas Control Center Supporting the CRM Plan”](#)

### 3 Manned Station Control Room Analysis

- 3.1 The four manned station control rooms are as follows:

- McDonald Island Storage Field
- Los Medanos Storage Field
- Hinkley Compressor Station
- Topock Compressor Station

- 3.2 The four manned stations have been determined not to meet the criteria for defining a “control room” as defined by the Control Room Management Ruling (49 CFR §192.631).

1. Manned stations receive operating orders and direction, specific to their station, from GTCC.
2. Manned station operators are responsible for facility operations within the station fence lines.
3. Manned station operators are not operator qualified for pipeline system operations.
4. Manned station operators are not responsible for operational pipeline system decisions.

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- 3.3 The utility procedures governed by this utility standard describe the roles and responsibilities associated with specific tasks.

### 4 49 CFR §192.631 (c), “Provide Adequate Information”

- 4.1 [Utility Procedure TD-4436P-01, “Gas System Operations CRM – Information Management,”](#) provides T&D control center personnel with the information and tools needed to monitor and operate gas systems in compliance with 49 CFR §192.631 (c). [Utility Procedure TD-4436P-04, “Gas System Operations CRM – Management of Pipeline Changes”](#) addresses the following topics:

- Annual testing and verification of internal communications plans
- Implementing a control room shift change process to ensure proper transfer of information

### 5 49 CFR §192.631 (d), “Fatigue Mitigation”

- 5.1 [Utility Procedure TD-4436P-02, “Gas System Operations CRM – Personnel Fatigue Mitigation,”](#) standardizes fatigue mitigation methods to reduce the risk associated with fatigue that could prevent gas control personnel from carrying out defined roles and responsibilities in compliance with 49 CFR §192.631 (d). This procedure addresses the following topics:

- Managing shift schedules for fatigue mitigation
- Education and training for fatigue mitigation
- Monitoring personnel for signs of fatigue
- Conducting post-incident investigations to see whether fatigue involving gas control personnel contributed to the incident

### 6 49 CFR §192.631 (e), “Alarm Management”

- 6.1 [Utility Procedure TD-4436P-03, “Gas System Operations CRM – Alarm Management,”](#) standardizes a written alarm management plan to provide for effective operator response to alarms, defines alarm setting criteria, and establishes an annual review of alarms in compliance with 49 CFR §192.631 (e). This procedure addresses the following topics:

- Establishing a written alarm management plan to provide for effective response to alarms by gas control personnel
- Monthly (at least once each calendar month) identification of alarm points affecting safety, taken off scan, or inhibited for extended periods

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### 6.1 (continued)

- Annual review of alarms to ensure accuracy and support safe operation of the gas system
- Annual verification of the correct alarm setting values and alarm descriptions
- Annual review of the alarm management plan for effectiveness
- Establishing controls to periodically review procedures for infrequent system setups in advance of application
- Annual testing of the SCADA system
- Monitoring the content and volume of activity for each senior gas system coordinator, gas system coordinator, gas system operator, senior distribution gas system operator, and distribution gas system operator to ensure that they have sufficient time to analyze and properly respond to incoming alarms. (Refer to the *Alarm Management Plan* in the *Gas Control Room Management Operations Manual*, Section 4, for more details.)

## 7 49 CFR §192.631 (f), “Change Management”

7.1 [Utility Procedure TD-4436P-04, “Gas System Operations CRM – Management of Pipeline Changes,”](#) standardizes change management to ensure that all changes to the SCADA system, planning and implementation of physical changes to pipeline equipment, and configuration changes to pipeline systems are coordinated with gas control personnel in compliance with 49 CFR §192.631 (f). This procedure addresses the following topics:

- Establishing a change management plan to ensure that changes that could affect control room operations are coordinated with control room personnel
- Establishing a communication plan between gas control personnel and associated field personnel when planning and implementing physical changes to pipeline equipment or configurations
- Establishing a process for external departments to include control room participation in planning before implementing significant pipeline hydraulic or configuration changes
- Annual verification of SCADA system changes and ongoing point-to-point verification (when field equipment is added or moved)

## 8 49 CFR §192.631 (g), “Operating Experience”

8.1 [Utility Procedure TD-4436P-05, “Gas System Operations CRM – Evaluating Operational Experiences,”](#) standardizes a process to incorporate lessons learned from gas events and abnormal operating conditions (AOCs) in compliance with 49 CFR §192.631 (g) This procedure addresses the following topics:

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- Establishing a procedure to ensure that lessons learned from operating experience are incorporated into this utility standard or affected utility procedures
- Reviewing any incident that meets the criteria established in 49 CFR Part 191, "Transportation of natural and other gas by pipeline; annual reports, incident reports, and safety-related condition reports," to determine whether there is reason to believe control room actions contributed to the event; correcting any discovered deficiencies related to operator fatigue, field equipment, operation of any relief device, procedures, SCADA system configuration, or SCADA system performance
- Incorporating lessons learned from applicable gas events and AOCs into respective training programs

### 9 49 CFR §192.631 (h), "Training"

9.1 [Utility Procedure TD-4436P-06, "Gas System Operations CRM – Gas Transmission and Gas Distribution Training Programs,"](#) standardizes training in monitoring and remote operations of the gas system for gas control personnel in compliance with 49 CFR §192.631 (h). This procedure addresses the following topics:

- Implementing a training program for senior gas system coordinators, senior distribution gas system operators, gas system coordinators, gas system operators, and distribution gas system operators
- Providing training for responding to abnormal and emergency operating conditions that may occur simultaneously or in sequence
- Providing training on responsibilities for communications when performing emergency response procedures
- Providing training to ensure that gas control personnel have a working knowledge of the pipeline system to recognize the development of abnormal and emergency operating conditions
- Providing training in fatigue mitigation and procedures for all areas of control room management

### 10 49 CFR §192.631 (i) and (j), "Compliance Validation and Deviation"

- 10.1 Gas control personnel maintain records that demonstrate compliance with the requirements of 49 CFR §192.631, "Control room management." The procedures governed by this utility standard specify the records that must be kept.
- 10.2 The senior director of gas system operations (GSO) keeps documentation demonstrating that any deviation from the procedures required by this utility standard was necessary for the safe operation of a pipeline facility. Deviations are documented on [Form TD-4436S-F01, "Gas Control Deviation Report."](#)

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- 10.3 Upon request, gas control personnel provide records and documentation to the California Public Utilities Commission (CPUC) or Pipeline Hazardous Material Safety Administration (PHMSA) of the above information to demonstrate compliance with the requirements in this utility standard.

### 11 Audits and Compliance Reviews

- 11.1 The responsible senior director of GSO and the gas control managers, or delegate, measure the implementation and effectiveness of this utility standard once each calendar year, not to exceed 15 months to the date.
- 11.2 Internal Company personnel may also perform periodic audits to ensure compliance.

### 12 Recordkeeping

- 12.1 The gas control managers or delegate perform the following recordkeeping tasks for all control room procedures:
- Implement a plan for retention of records.
  - Conduct an annual review of this utility standard, associated utility procedures, and associated processes and plans in accordance with [Utility Procedure TD-4001P-01, "Gas Document Development and Update Process."](#)
  - Conduct an annual review of the *Control Room Management Operations Manual* identified in Section 1.3 of this utility standard to ensure the contents are updated with the most recent information.
  - Ensure that all documentation required by this utility standard is retained a minimum of 7 years. See [Corporation Standard GOV-7101S, "Records Management Standard."](#)
- 12.2 The gas control center supervisors or delegate perform the following recordkeeping tasks:
- Maintain documentation of training for gas control personnel.



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### 12.2 (continued)

- Maintain documentation of tailboards and operations staff meetings.
- Coordinate with PG&E Academy to ensure that training records for gas control personnel are made available upon request.

### END of Requirements

### DEFINITIONS

**Controller:** PHMSA defines a controller as a qualified individual who performs the following tasks:

- Remotely monitors and controls the safety-related operations of a pipeline facility via a SCADA system from gas control
- Has operational authority and accountability for the remote operational functions of the pipeline facility

See 49 CFR §192.631, "Control room management," for the regulatory definition of "controller."

**Operator:** At the Company, the term "operator" in gas control identifies senior gas system coordinators, senior distribution gas system operators, gas system coordinators, transmission gas system operators, and distribution gas system operators. These individuals perform the tasks described by PHMSA meeting the definition of "controller."

**Pipeline Facility:** As defined in 49 CFR §192.3, "Definitions," and 49 CFR §195.2, "Definitions," new and existing pipelines, rights of way (ROW), and any equipment, facility, or building used in the transportation of gas, hazardous liquids or carbon dioxide or in the treatment of gas, during the course of transportation.

CRM regulations apply to control rooms and controllers that remotely monitor and control pipeline facilities, including but not limited to breakout tanks, pumps, compressors, or other equipment along the pipeline.

### IMPLEMENTATION RESPONSIBILITIES

The senior director in charge of GSO is responsible for the following implementation tasks:

- Approving, revising, and implementing this utility standard
- Implementation of the communications plan

Additionally, the senior director in charge of GSO is authorized to modify this utility standard, forms, or instructions as needed or to approve variances from this utility standard on an exception basis.

## Gas System Operations Control Room Management

The gas control managers who direct the operations of the gas system are responsible for control room management compliance and annual review.

### GOVERNING DOCUMENT

Utility Policy 3-7, "Gas and Electric Operation, Maintenance, and Construction"

### COMPLIANCE REQUIREMENT / REGULATORY COMMITMENT

The compliance requirement and regulatory commitment for this utility standard is 49 CFR 192.631, "Control room management."

This utility standard must be submitted upon request to the applicable federal or state pipeline safety regulatory agencies.

### REFERENCE DOCUMENTS

#### Developmental References:

[Control Room Management Operations Manual](#)

[Utility Standard TD-4008S "Operator Qualification Program Requirements"](#)

[Utility Procedure TD-4001P-01, "Gas Document Development and Update Process."](#)

[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"](#)

#### Supplemental References:

NA

### APPENDICES

NA

## Gas System Operations Control Room Management

### ATTACHMENTS

[Attachment 1, "Responsibilities for Management Personnel in the Gas Control Center Supporting the CRM Plan"](#)

[Attachment 2, "Responsibilities of Personnel Outside the Gas Control Center Supporting the CRM Plan"](#)

[Form TD-4436S-F01, "Control Room Management Deviation Report"](#)

### DOCUMENT REVISION

This document supersedes Utility Standard TD-4436S, "Gas System Operations Control Room Management," Rev: 7 issued 01/2015.

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### REVISION NOTES

Where?	What Changed?
All	Revised text establishes the job definitions for incumbent and future personnel entering into the newly created classification. Removed Attachment 1 and renumbered Attachments 2 and 3 as Attachment 1 and 2 respectively.