

# PG&E GAS SCADA SYSTEM

## Alarm Limits

### Policy and Procedures

The Policy and Procedures described in the following text were developed to ensure the safe operation of PG&E's natural gas system and to maintain its integrity. The responsibility for establishing alarm settings, changing alarm settings, and responding to alarms is described herein. In some cases, the procedure will refer to references in the Appendices for an appropriate action. Throughout this document, all underlined terms will have definitions which are listed on the final pages.

#### ***Alarm Policy***

All transmission system pressure points (including station inlet and outlet piping) will have established Hi-Hi and Lo-Lo alarms.

All high pressure distribution system (60 psig and below) pressure points will have established Hi-Hi, [No Hi alarms are set], Lo, and Lo-Lo alarms.

All low pressure distribution system (inches water column) pressure points will have established Hi-Hi, Hi, Lo and Lo-Lo alarms.

Hi-Hi flow alarms will be set for selected transmission system flow points. Lo-Lo flow alarms will be set on lines that do not normally shut-in and on selected single feed transmission system lines. Distribution Hi-Hi and Lo-Lo flow alarms will be set based on discussions between Gas Control and the responsible Field M&C Personnel.

Gas quality Hi-Hi and Lo-Lo alarms will be determined by the Gas Quality Response Team Lead.

All Gas SCADA system digital points will have established alarm limits and will be managed by the Gas SCADA System Digital Alarm Policy and Procedures (See **Appendix A**).

All new or revised Hi-Hi and Lo-Lo limits must be authorized as outlined in the SCADA Alarm Settings table (See **Appendix B**). Additions or changes to High Pressure Distribution System Lo alarm settings and Low Pressure Distribution System Hi and Lo alarm settings must also be authorized. All revisions to the Hi-Hi and Lo-Lo alarm settings must follow the Gas SCADA, Alarm Change Procedure (See **Appendix C**, Gas SCADA Alarm Change Procedure).

As data points are added or deleted to either the transmission or distribution systems, the SCADA Engineer will follow established procedures (See **Appendix D**, *Gas SCADA Policy and Implementation of Alarm Limit Settings for New Gas SCADA Points*). With certain exceptions Hi and Lo alarms will be set at the discretion of the Transmission Coordinators and/or Gas System Operators to monitor the normal operating range of the system. Exceptions are noted in the Alarm Settings, below.

## **Alarm Settings**

### **Pressure**

#### **Hi-Hi and Lo-Lo Alarm Limits**

##### **Transmission System**

All transmission system pressure points (including inlet and outlet piping at transmission stations) will have established Hi-Hi and Lo-Lo alarms. Hi-Hi alarms will not be set above the lower of Maximum Allowable Operating Pressure (MAOP) plus 3 pounds per square inch (psi) or Maximum Operating Pressure (MOP) plus 3 pounds per square inch (psi). Lo-Lo alarm limits will not be set below the Minimum Required Pressure (MRP) less 3 psi (Transmission systems frequently run at the MOP or MRP. Hi-Hi alarms are set 3 psi above MOP and Lo-Lo alarms are set 3 psi below MRP. (See **Appendix E**, *L-300 Operating Parameters and Hi-Hi Alarm Settings*, for L-300 alarm setpoints affected by elevation change).

##### **High Pressure Distribution Systems (60 psig and below)**

Hi-Hi pressure alarms will be set at Maximum Allowable Operating Pressure (MAOP) The Lo-Lo pressure alarms limits will be set at the Minimum Required Pressure (MRP) less 2 psi. All Hi-Hi, Lo and Lo-Lo alarms are established by the Principal Engineer of Gas Measurement/Gas Quality Engineering, or designee, and may not be changed at operator discretion. There are no longer Hi alarms set for High Pressure Distribution Systems.

##### **Low Pressure Distribution Systems (inches water column)**

Unless otherwise noted (See **Appendix B**, *SCADA Alarm Settings table*), the Low Pressure Distribution System alarms will be set as follows:

Hi-Hi pressure alarms will be set at 12 inches water column.

Hi pressure alarms will be set at 10.5 inches of water column.

Lo pressure alarms will be set at 5 inches of water column.

Lo-Lo pressure alarms will be set at 4 inches water column.

## **Pressure**

### **Hi and Lo Alarm Limits**

#### **Transmission System**

Hi and Lo pressure alarms will be set to monitor the normal operating range of the system being monitored. Hi pressure alarms will be set at or below the MOP. Lo pressure alarms will be set above the MRP. During cold weather Design Day events, Lo pressure alarms will be set as outlined in the Design Criteria Alarm Policy (See **Appendix F**, for the *Design Criteria Alarm Policy (Cold Weather Alarms)*).

#### **High Pressure Distribution Systems (60 psig and below)**

Lo pressure alarms will be set at the MRP. There are no longer seasonal adjustments for Lo alarm settings. All Lo alarms are established by the Principal Engineer of Gas Measurement/Gas Quality Engineering, or designee, and may not be changed at operator discretion. *There are no longer Hi alarms set for High Pressure Distribution Systems.*

#### **Low Pressure Distribution Systems (inches of water column)**

Hi pressure alarms will be set at 10.5 inches water column (See **Appendix G**, *Temporary Exceptions to Alarm Setpoint Criteria*). Lo pressure alarms will be set at 5 inches water column. There are no seasonal adjustments for the Hi and Lo alarm settings. Hi and Lo alarms are established by the Principal Engineer of Gas Measurement/Gas Quality Engineering, or designee, and may not be changed at operator discretion.

## **Flow**

### **Hi-Hi and Lo-Lo Alarm Limits**

#### **Transmission System**

Hi-Hi flow alarms will be set for selected transmission flow set points. Lo-Lo alarm flow limits will be set on lines which do not normally shut in and on selected single feed transmission lines. Hi-Hi and Lo-Lo alarms will be set resulting from a discussion and agreement between Gas Control, TSP, and the responsible Field M&C Personnel.

#### **Distribution Systems**

Hi-Hi and Lo-Lo alarms will be set resulting from a discussion and agreement between Gas Control, GT&D Gas Engineering Personnel, and the responsible Field M&C Personnel.

## **Gas Quality**

### **Hi-Hi and Lo-Lo Alarm Limits**

Gas quality Hi-Hi and Lo-Lo alarm limits will be set based on the recommendation by the Gas Quality Response Team Lead.

## **Temporary Alarm Settings during Clearance Work**

### **Hi-Hi and Lo-Lo Alarm Limits (Pressure, Flow, Gas Quality)**

During clearances it may be necessary to temporarily change Hi-Hi and Lo-Lo alarm limits to settings other than those normally specified (See **Appendix H**, *Alarm Setpoints During Clearance Work*).

### **Alarm Review**

Alarm limits will be reviewed during October of each year. Upon completion of the review, Gas Control will implement the requested alarm limits in mid-November.

## **Transmission System**

### **Hi-Hi and Lo-Lo Alarm Limits (Pressure and Flow)**

Alarm limits will be reviewed during October of each year. Gas Control will provide the responsible Field M&C and GT&D Personnel with the current alarm limits. Gas Control will request that the responsible Field M&C and GT&D Personnel review their transmission pressure and flow limits. Once reviewed, they will either concur with the current settings or request new alarm settings. Gas Control will review the requested changes to the transmission Hi-Hi and Lo-Lo pressure and flow limits and make changes to the limits as required-

## **Design Criteria**

### **Hi-Hi and Lo-Lo Alarm Limits (Pressure and Flow)**

Alarm limits will be reviewed during October of each year. Gas Control will provide the responsible Transmission System Planning Engineers with the current alarm limits. Gas Control will request that the responsible Transmission System Planning Engineers review their transmission pressure and flow limits. Once reviewed, they will either concur with the current settings or request new alarm settings. Gas Control will review the requested changes to the transmission Hi-Hi and Lo-Lo pressure and flow limits and make changes to the limits as required.

## **Distribution System**

### **Hi-Hi, Lo and Lo-Lo Alarm Limits (Pressure and Flow)**

Alarm limits will be reviewed during October of each year. Gas Control will provide the responsible Field M&C and GT&D Personnel with the current alarm limits. The responsible Field M&C and GT&D Personnel will review the limits and concur or request to change the limits. Gas Control will implement the requests in mid-November of each year. Again, all Hi-Hi, [No Hi alarms are set], Lo and Lo-Lo alarms are established by the Principal Engineer of Gas Measurement/Gas Quality Engineering, or designee, and may not be changed at operator discretion.

## Gas Quality

Alarm limits will be reviewed during October of each year. Gas Control will provide the Gas Quality Response Team Lead with the current alarm limits. Gas Control will request that the Gas Quality Response Team Lead review their Gas Quality alarm limits. Once reviewed, they will either concur with the current settings or request new alarm settings. Gas Control will review the requested changes to the Gas Quality Hi-Hi and Lo-Lo alarm limits and make changes to the limits as required.

## Alarm Response

### Alarm Response, Transmission

#### (Pressure, Flow and Gas Quality)

All alarms will be acknowledged. In the case of Hi-Hi and Lo-Lo alarms the acknowledgment of the alarm and notification procedure below will be followed. In the case of Hi and Lo alarms the operator will analyze the system in alarm and determine if the alarm can be explained by system or loading conditions. Notification of responsible Field M&C Personnel is not necessary if the operator's analysis of the alarm indicates that the alarm is due to normal system conditions. If the operator's analysis of the alarm suggests equipment failure or facility problems, the operator will follow the same actions as outlined below for Hi-Hi and Lo-Lo alarms (See **Appendix I**, *Operating Policy for Frequent SCADA Alarms Related to Equipment Problems*).

#### **Required Actions – During the first 10-minute period after alarm acknowledgment**

Transmission Coordinators (TCs), and Gas System Operators (GSOs) will acknowledge, analyze and respond to all alarms.

- Brentwood Gas Control will establish communications with System Gas Control regarding the active alarm.
- Brentwood Gas Control and System Gas Control will analyze the upstream and downstream points to help determine the system condition and the cause of the active alarm.
- Upon completion of the analysis, a corrective action will be taken which may include a remote operation, contacting the responsible Field M&C Personnel, and continued monitoring.

#### **Required Actions- During the second 10-minute period.**

- The TC and the GSO will communicate and coordinate the next steps.
- Communicate next steps with responsible Field M&C Personnel and/or GT&D Gas Engineering Personnel.

If the TC, GSO, and the responsible Field M&C Personnel and/or GT&D Gas Engineering Personnel cannot agree on a course of action, the TC or GSO will contact their operations on-call representative. The Gas System Operations on-call supervisor will discuss and agree on a course of action that will be communicated to the TC or GSO on shift.

**Further Actions Required.**

- Abnormal Incident Report if required by the Senior TC.

**Alarm Response, Distribution  
(Pressure and Flow)**

**High Pressure Distribution (60 psig and below)**

All alarms will be acknowledged. In the case of Hi-Hi and Lo-Lo alarms the acknowledgment of the alarm and notification procedure below will be followed. In the case of Lo alarms the operator will analyze the system in alarm and determine if the alarm can be explained by system or loading conditions. Notification of responsible Field M&C Personnel is not necessary if the operator's analysis of the alarm indicates that the alarm is due to normal system conditions. If the operator's analysis of the alarm suggests equipment failure or facility problems, the operator will follow the same actions as outlined below for Hi-Hi and Lo-Lo alarms.

**Low Pressure Distribution (Inches of Water Column)**

All Low Pressure distribution system alarms will require notification to the responsible Field M&C Personnel. A second notification must be made if a Lo pressure alarm continues to move toward a Lo-Lo alarm state.

**Required Action – During the first 10-minute period after alarm acknowledgment**

Transmission Coordinators (TCs), and Gas System Operators (GSOs) will acknowledge, analyze and respond to all alarms.

- Brentwood Gas Control will establish communications with System Gas Control regarding the active alarm.
- Brentwood Gas Control and System Gas Control will analyze the upstream and downstream points to help determine the system condition and the cause of the active alarm.
- Upon completion of the analysis, the responsible Field M&C Personnel will be notified, and monitoring will resume.

**Required Action- During the second 10-minute period.**

- Continue to monitor the system in alarm.

If the TC, GSO, and the responsible operating personnel cannot agree on a course of action, the TC or GSO will contact their operations on-call representative. The Gas System Operations on-call supervisor will discuss and agree on a course of action which will be communicated to the TC or GSO on shift.

## **Definitions**

Low Pressure Distribution Systems are gas systems measured in inches of water column. Unless otherwise noted, the Hi-Hi is set at 12” and the Lo-Lo is set at 4”.

High Pressure Distribution Systems are gas mains operating at a pressure of 60 psig or less.

Transmission systems are gas pipelines operating at a pressure greater than 60 psig.

SCADA is an acronym for *Supervisory Control and Data Acquisition* and is a means of remotely monitoring and controlling PG&E’s gas transmission and distribution systems. The term SCADA will be used to refer to both the ADACS and Citect systems. SCADA alarms identify data from field devices which are unusually high, low or when devices report a failed condition. Flashing messages, flashing buttons and/or a beeping sound notify the personnel monitoring the SCADA screens. Alarms can be set for analog points having a continuous range of values such as pressures and flows.

Gas Control currently consists of 2 gas system-monitoring facilities. System Gas Control is located in San Francisco and its remote operations center is located in Brentwood.

Field M&C Personnel include the GT M&C Supervisors (Districts) and/or the Area M&C T&R Personnel (Divisions).

GT&D Operations Personnel includes personnel directly associated with gas operations, such as Gas Control (System Gas Control and Brentwood Gas Control) and Station Operations (Topock Compressor Station, Hinkley Compressor Station, Los Medanos Storage Field and McDonald Island Storage Field).

GT&D Gas Engineering Personnel includes groups who lend direct support to gas operations. They include Gas Quality Response Team members, Transmission System Planning Engineers, Principal Engineer of Gas Measurement/Gas Quality Engineering, or designee, and the Sr. Gas Engineers.

GT&D Personnel includes everyone within GT&D Operations Personnel and GT&D Gas Engineering Personnel.

Design Day A statistical planning criteria used to ensure reliable gas service under unusually cold winter temperatures. Cold Winter Day (CWD) planning criteria includes serving all core and non-core customer loads with core customers using 70% of their projected Abnormal Peak Day demand. Abnormal Peak Day (APD) planning criteria includes serving all core customers with all non-core customers fully curtailed.

Design Criteria (DC) established by TSP to identify alarm changes necessary during cold weather events.

*Gary Chrisco*      *4/28/08*

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Gary Chrisco      Date    4/28/08  
Manager, Gas Control

## **Appendix A - Gas SCADA System Digital Alarm Policy & Procedures**



Gas SCADA system digital points are those points that communicate a system or equipment status (on-off, open-closed, normal-failed, etc). A digital point in the alarm state may be an indicator of a serious abnormal system condition or it may be a piece of information about the system that requires no response.

The Policy and Procedures outlined below were developed to ensure the safe operation and to maintain the integrity of PG&E's natural gas system by categorizing and documenting the response to gas SCADA digital alarms.

### **Policy**

The response to each active digital alarm will be defined by the responsible maintenance supervisor.

System Gas Control will maintain a database of each digital alarm and it's associated response.

Additions, deletions, or changes to the digital alarms or alarm responses will follow the same procedure established for analog SCADA alarms.

As alarms occur, the gas control center will acknowledge and analyze each alarm and follow the response outlined by the responsible maintenance group.

### **Procedures**

Digital alarms will be divided into the following categories:

1. Power
2. Data communications
3. Fire
4. Security
5. Digital operating alarms, no maintenance response required

The responsible maintenance supervisor (GSM District Superintendent or OM&C Gas Operating Supervisor) will define the response to each digital alarm in his/her area of responsibility.

## **Alarm Response and Required Action**

Alarm response will be defined as:

- **I=Immediate notification**
- **ND=Next day notification**
- **NWD=Next working day notification**
- **IR=Immediate response**

*Immediate notification* and *immediate response* alarms require that the responsible maintenance group be notified immediately. Immediate notification alarms are those that the maintenance group has deemed significant enough to warrant their attention at any time of the day or night. Depending on the nature of the alarm, the maintenance supervisor may elect not to call out personnel immediately. If an alarm is categorized as *immediate response*, it is of a serious enough nature to require a response to the site by maintenance personnel.

*Next day* alarms require that the responsible maintenance supervisor be contacted during daylight hours at the next opportunity, but no later than the day following the day in which the alarm was initially received.

*Next working day* alarms require that the responsible maintenance supervisor be contacted on the next working day (normally Monday) either by phone, voice mail, e-mail, or maintenance memo.

The Senior Transmission Coordinator may request an immediate response if it is deemed necessary, and may choose to escalate the decision to the OP&C on-call supervisor if the responsible maintenance supervisor is not in agreement.

## **Alarm Review**

During October, of each year, the digital alarm responses will be reviewed by each responsible maintenance supervisor. Upon completion of the review, Operations Planning and Control will implement the requested revisions and update the digital alarm response database spreadsheet.

## Appendix B - SCADA Alarm Settings

PVID	Alarm Setting			
	Hi-Hi	Hi	Lo	Lo-Lo
Transmission (above 60 psig)	not set above MOP plus 3 psi*	set at or below the MOP at the discretion of the TC/Gas System Operator (GSO)	set at the discretion of the TC/GSO except during winter design criteria period*	not set below MRP less 3 psi*
HP Distribution (60 psig and below)	set at the MAOP**	N/A	set at the MRP**	not set below MRP less 2 psi**
LP Distribution (inches of water column)	set at 12" w.c.**	set at 10.5" w.c.**	set at 5" w.c.**	set at 4" w.c.**
Transmission Flow	set for selected points only*	set at the discretion of the TC/GSO	set at the discretion of the TC/GSO	set for selected points only, ie for lines which do not normally shut-in and selected single feeds*
Distribution Flow	set at the responsible O&M group's request*	set at the discretion of the TC/GSO	set at the discretion of the TC/GSO	set at the responsible O&M group's request*
Gas Quality	set as recommended by the gas quality emergency response team***	set at the discretion of the TC/GSO	set at the discretion of the TC/GSO	set as recommended by the gas quality emergency response team***

\*alarm settings can be changed only with the concurrence from Ops Sprvr, Sr TC, Trans Sprvr, or the Mgr of Gas Control.

\*\*must be approved by the Principal Engineer of Gas Measurement/Gas Quality Engineering, or the designee

\*\*\*alarm settings can be changed only with the concurrence of gas quality emergency response team

This table lists the parameters used to establish various pressure, flow, & gas quality alarm setpoints in the gas SCADA system, the authority for initial establishment of alarm settings, and the approval required for making changes to those settings. Changes should be made following the GSO SCADA Alarm Change Procedure (Appendix B)

## Appendix C - GSO SCADA Alarm Change Procedure

To make an alarm database change, in both Citect & ADACS, the person initiating the change is responsible for the steps listed below. Any Senior Transmission Coordinator or Transmission Coordinator can initiate a change.

Step	Purpose
1. Only the following in Gas Control can approve an alarm change: Senior TC, Manager of Gas Control, SGC Transmission Supervisor, and the Brentwood Operations Supervisor. Also, any alarm changes to the Distribution System (60# and under), must be approved by the Principal Engineer of Gas Measurement/Gas Quality Engineering, or the designee.	<i>This ensures that GSO supervision has reviewed &amp; authorized the alarm change.</i>
2. SGC will notify the Brentwood Gas Control Center via the Gas Logging System to make an alarm change. The communication should include the PV/Tag name or ID, point description, desired settings & the name of the approver. <b>Remember, in ADACS, not every PVID in SGC is the same as in the field!</b>	<i>Brentwood Gas Control Center receives instruction from SGC on which alarm points must be changed in ADACS and Citect.</i>
3. SGC will change their alarm settings on the SGC ADACS VAX and Citect. Brentwood will update their respective BNO/BSO ADACS VAXes and Citect. Please use the Policy, Procedures and Responsibilities Letter in the SCADA Alarm Policy Binder* as a guide when making changes.	<i>This updates the actual SCADA alarm points in ADACS and Citect, per the agreed settings in step 1.</i>
4. SGC will update the Alarm Exceptions tab, located as a tab within the Master SCADA Alarm Database. This can be found in the E-Library or at the following path: \\go301\sharefiles\OPC\OPC_HLP\Binder\Binder 7 SCADA PIU, RTU, Telecom\SCADAAlarmUpdate.xls. SGC will make any changes to the Alarm Exceptions tab, noting the date, initials of the person making and/or approving the change, and any pertinent comments. The Alarm Exceptions tab is to be used <u>with</u> the Master SCADA Alarm Database. Since the Master SCADA Alarm Database is updated by the SCADA Alarm Coordinator, and they may not be on shift, one should always check any outstanding exceptions which may not be reflected in the Master SCADA Alarm Database. The SCADA Alarm Coordinator is responsible for transferring ALL permanent alarm changes from the Exceptions tab to the Master SCADA Alarm Database.	<i>This maintains a record of all changes. The Alarm Exceptions tab is an online reference to all SCADA alarm settings which have not been implemented into the Master SCADA Alarm Database. The SCADA Alarm Coordinator is the <u>only</u> person that updates the Master SCADA Alarm Database. Members of SGC will update the Alarm Exceptions Sheet, located as a tab in the Master SCADA Alarm Database, when the SCADA Alarm Coordinator is not on shift. When the SCADA Alarm Coordinator returns on shift, they are responsible for updating the Master SCADA Alarm Database with any permanent changes.</i>
5. The Alarm Exceptions tab is also used for managing any <u>temporary alarms</u> which will <u>not</u> be placed into the Master SCADA Alarm Database. These include changes associated with clearance work, Design Criteria settings, and emergency conditions. All changes documented should include the date, time, initials of the person making and/or approving the change, and any pertinent comments.	<i>Provides information on temporary alarms included within the Alarm Exceptions tab. TCs will add temporary alarm changes to the Alarm Exceptions tab, both when they are in effect, and then when they are returned to normal. The SCADA Alarm Coordinator is responsible for clearing these temporary alarm changes, removing them from the Alarm Exceptions tab, once their state has returned to normal.</i>
6. SGC will cut and paste the GLS entry, pertaining to the alarm change, into the body of an e-mail, and send it to the Gas Control Manager, the Transmission Supervisor, GT&D GSO All Transmission Coordinators, the Brentwood Operation supervisor, GSO BOPS1, and any other responsible personnel (i.e. Field M&C Personnel, GE Personnel Support**.)	<i>Provides an electronic communication to all pertinent parties about any alarm changes.</i>
7. SGC is required to print the e-mail message sent and file it under the Alarm Exceptions tab, located within the SCADA Alarm Information Binder.	<i>Maintains a hard copy of all communications associated with alarm changes.</i>

\* The SCADA Alarm Policy located in Binder 7 contains the official GSO alarm policy. As you can see, each step in the procedure has a purpose. Please follow the procedure carefully. The Master SCADA PIU Alarm Database is updated on a regular basis.

\*\* See Page 7 of the Gas SCADA - System Alarm Limits - Policy and Procedures Document (Alarm-Policy20.doc) for Terms and Definitions.

## APPENDIX D - Gas SCADA Policy and Implementation of Alarm Limit Settings for new Gas SCADA Points

Source: 1  
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 PIU, RTU, Telecom\Alarm-Policy20.doc

Binder Reference 7  
 4/28/08

- ◇ **When new points are added to any Gas SCADA node, the operations supervisor for that node will be specifically provided with a list of the points added to the computer as well as the as-implemented alarm settings for each point.**
- ◇ **Generally new points to Gas SCADA will not have any HI-HI, HI, LO, or LO-LO alarm limit settings. The GSO Operations Supervisor responsible for monitoring that data point(s) will be notified about the new point(s) so that he/she can establish or confirm the correctness of the alarm settings.**

Sample notification message:

Bob:

The following new points have been implemented on SAC:

<u>PVID</u>	<u>Description</u>
400 XXX-STA L999 U/S PRESS	
401 XXX-STA L999 D/S PRESS	

Note that no alarm limits have been set for the new points.

Note: MOP and alarm settings in grey boxes apply to flow from North to South

Appendix E - OPERATING PARAMETERS AND HI-HI ALARM SETTINGS

L300A							L300B						
Location	Elevation (feet)	Elevation difference (feet)	Pressure change due to elevation difference (psi)	MAOP (psig)	MOP due to elev difference (psig)	HI-HI Alarm Setting MOP+ 3psi (psig)	Location	Elevation (feet)	Elevation difference (feet)	Pressure change due to elevation difference (psi)	MAOP (psig)	MOP due to elev difference (psig)	HI-HI Alarm Setting MOP+ 3psi (psig)
Topock	593				865	868	Topock	593				865	868
		87	1.8						87	1.8			
Low Spot	508			887			Low Spot	508			887		
		2045	41.2						2045	41.2			
PLS-1	2551				825	828	PLS-1	2551				825	828
PLS-1	2551				779	782	PLS-1	2551				779	782
		1840	34.9						1840	34.9			
Low Spot	711			815			Low Spot	711			815		
		1426	27.1						1426	27.1			
PLS-2	2137				787	790	PLS-2	2137				787	790
PLS-2	2137				682	685	PLS-2	2137				682	685
		370	5.9						370	5.9			
Low Spot	1767			688			Low Spot	1767			688		
		518	8.3						288	4.6			
PLS-2AX	2285				679	682	PLS-2BX	2055				683	688
PLS-2AX	2285				572	575	PLS-2BX	2055				573	578
		75	1.0						0	0.0			
Low Spot A	2210			573			Low Spot B	2055			573		
		0	0.0						155	2.0			
Hinkley	2210				573	578	Hinkley	2210				570	573
Hinkley	2210				860	863	Hinkley	2210				860	863
		24	0.5						24	0.5			
Low Spot	2186			861			Low Spot	2186			861		
		186	3.8						186	3.8			
PLS-3	2372				857	860	PLS-3	2372				857	860
PLS-3	2372				766	769	PLS-3	2372				766	769
		1932	35.9						1932	35.9			
Low Spot	440			803			Low Spot	440			803		
		0	0.0						0	0.0			
PLS-4	440				803	806	PLS-4	440				803	806

Note: MOP and alarm settings in grey boxes apply to flow from North to South

### Appendix E - OPERATING PARAMETERS AND HI-HI ALARM SETTINGS

L300A							L300B						
Location	Elevation (feet)	Elevation difference (feet)	Pressure change due to elevation difference (psi)	MAOP (psig)	MOP due to elev difference (psig)	HI-HI Alarm Setting MOP+ 3psi (psig)	Location	Elevation (feet)	Elevation difference (feet)	Pressure change due to elevation difference (psi)	MAOP (psig)	MOP due to elev difference (psig)	HI-HI Alarm Setting MOP+ 3psi (psig)
PLS-4	440				754	757	PLS-4	440				754	757
		152	2.7						152	2.7			
Low Spot	288			757			Low Spot	288			757		
		0	0.0						0	0.0			
PLS-5	288				757	760	PLS-5	288				757	760
PLS-5	288				668	671	PLS-5	288				668	671
		70	1.0						70	1.0			
Low Spot	218			669			Low Spot	218			669		
		303	4.5						303	4.5			
Kettleman	521				664	667	Kettleman	521				664	667
Kettleman	521				839	842	Kettleman	521				839	842
		51	1.0						51	1.0			
Low Spot	470			840			Low Spot	470			840		
		377	7.6						377	7.6			
PLS-6A	847				832	835	PLS-6B	882				832	835
PLS-6A	847				620	623	PLS-6B	882				620	623
		717	10.2						666	9.5			
Low Spot A	130			631			Low Spot B	196			631		
		52	0.7						0	0.0			
PLS-7A	182				630	633	PLS-6BX	196				631	634
PLS-6AX has been removed							PLS-6BX	196				631	634
									17	0.2			
							Low Spot B	179			631		
									0	0.0			
PLS-7A	182				555	558	PLS-7B	179			631	634	
		174	2.2				PLS-7B	179			597	600	
Low Spot	8			558			Low Spot	8	171	2.4			
		0	0.0						0	0.0			
Milpitas	8				558	561	Milpitas	8				600	603

## Appendix F – Design Criteria Alarm Policy

The [Design Criteria Temperature Forecast](#) is located at each workstation in System Gas Control. This program provides warnings when local temperature forecasts are expected to create local customer demands on pipelines which reach, or exceed, Design Criteria levels.

This program references a temperature forecast and should be checked a minimum of two times a day, once at 0730 and again at 1030 hrs. Please place a copy of each of these in our Design Criteria folder, located behind the TC-1 desk.

TSP provides the alarm settings and suggested Design Criteria regulation data, which is displayed on specific SCADA screens. Lo alarms will be set at TSP determined values, not at operator discretion, during the period the design criteria is enacted.

### Design Day Process:

- 1) Open the Temperature Forecast by opening the Design Criteria folder and clicking on the Design Criteria Temperature Forecast icon.
- 2) Review column two (Next Day Design) and column three (7 Day Design Criteria).
- 3) The “**COLD**” alarm appears when an area is 70% of APD or greater. The “**CWD**” and “**APD**” alarms are triggered when a location is 75% of APD and 100% of APD, respectively. When any of these three alarms appear, under the Next Day Design Criteria alarm column, follow the instructions in the Design Day Action Plan.
- 4) Design Criteria alarms will remain in effect until the 7 Day Design Criteria column (Column three) is no longer flagged “**COLD, CWD, or APD**”.
- 5) Design Day Action Plan can be triggered by either the Design Criteria Temperature Forecast or TSP defined Hi-Hi flow alarms (90% of CWD).

### Design Day Action Plan:

- a) Go to the ADACS screen “ALMMEN” which displays links to various geographic areas where Normal and Design Criteria alarm settings and recommended pressure control set points can be found. On Citect, select the Alarms tab, and then the Alarm Settings drop down menu. Each of the geographic areas are listed here.
- b) Find the location(s) that matches the alarm (**COLD, CWD, APD**). All of the data points that are listed in the impacted area will need to be set at Design Criteria settings. Utilizing the Gas Logging System, the Brentwood Gas Control Center will be advised of the changes that are necessary for each location. SGC will also advise the Brentwood Gas Control Center on the GLS to notify all responsible supervision, including the TSP Area Engineer(s) (located on the SCADA Design Criteria Alarm screens).



- c) Once all required alarm changes are completed, System Gas Control will print out the effected Design Criteria SCADA screen(s), which will include the time and date of the change(s).
- d) System Gas Control will update any Design Criteria alarm changes within the Alarm Exceptions tab, located in the online SCADA Alarm Database and also file a hard copy of the Design Criteria screenshots in the Alarm Exception Log (Binder 7), to maintain a paper trail.
- e) Once Design Criteria areas have returned to normal, SGC will restore alarms to their normal settings and advise the Brentwood Gas Control Center to do the same, via the GLS. ***Keep in mind that ONLY the 0730 forecast may be used to determine whether the alarm settings can be changed back to normal.*** They will also advise Brentwood Gas Control Center to notify all responsible supervision, including the TSP Area Engineer(s), of this event.
- f) Remove all alarm changes from the Alarm Exception tab, located in the online SCADA Alarm Database.

#### Alarm Response:

Key LO alarms will be established during Design Day events. The response to a Design Day LO alarm is identical to the response for a LO-LO alarm as outlined in the Alarm Policy. LO-LO alarms are set based on the minimum required pressure (MRP) of the piping immediately downstream of the SCADA site. If a LO-LO alarm is breached, service to the customers connected to the piping immediately downstream of the SCADA site may be in jeopardy. Design Day LO alarms are set based on the MRP of the entire piping network downstream of a SCADA site. If a Design Day LO alarm is breached, service to customers at the end of the system served by that SCADA site may be in jeopardy.

## Appendix G – Temporary Exceptions to Alarm Setpoint Criteria

The following are temporary exceptions to the alarm setpoint criteria outlined in the Gas SCADA System Alarm Limits Policy and Procedures:

Site	PVID	Exception	Temporary Alarm Settings			
			Hi-Hi	Hi	Lo	Lo-Lo
Taraval and Wawona San Francisco	12018	Temporary alarm settings to allow system to meet minimum delivery pressures during maximum load periods. Authorized by Gas Distribution Engineering and Planning Manager	12.0 inches water column	11.2 inches water column	5.0 inches water column	4.0 inches water column
Presidio and Geary San Francisco	12022	Temporary alarm settings to allow system to meet minimum delivery pressures during maximum load periods. Authorized by Gas Distribution Engineering and Planning Manager	12.0 inches water column	11.2 inches water column	5.0 inches water column	4.0 inches water column

## Appendix H –Alarm Setpoints During Clearance Work

Alarm setpoints defined for the purpose of monitoring outside of normal HI-HI/LO-LO alarm setpoints during clearance work: (pressure, flow and gas quality)

Source: 1  
 \\Go301\sharefiles\OPC\OPC\_HLP\Binder\Binder 7 SCADA 8  
 PIU, RTU, Telecom\Alarm-Policy20.doc

Binder Reference 7  
 4/28/08

- Will be identified in the clearance process by the clearance supervisor and GSO Clearance Coordinator.
  1. Temporary setpoints will be identified in the clearance document.
  2. Temporary setpoints will be confirmed in the clearance review process by the GSO Clearance Coordinator.
  3. Temporary setpoints will be noted in the clearance cover letter instructions by the GSO Clearance Coordinator.
  4. If there is no SCADA available at the job location, there will be an attempt if feasible to use another SCADA site to provide monitoring capability in addition to the gauge locations.
  5. **ALARM SETPOINTS WILL NOT BE LEFT IN HI-HI OR LO-LO STATUS DURING A JOB. TEMPORARY SETPOINTS WILL BE DEFINED AND IMPLEMENTED FOR MONITORING.**
  6. Hi-Hi alarms will not be set above the lower of Maximum Allowable Operating Pressure (MAOP) plus 3 pounds per square inch (psi) or Maximum Operating Pressure (MOP) plus 3 pounds per square inch (psi).

## **Appendix I – Operating Policy for Frequent SCADA Alarms Related to Equipment Problems**

Repetitive alarms related to SCADA and/or Telecom equipment failures can be distracting, carrying the potential of masking valid pipeline alarms throughout the system. This policy addresses the procedure to be followed for problematic data points that have been analyzed and determined to be Telecom or SCADA equipment problems, as opposed to gas pressure, flow or quality problems.

### **Contact Procedures**

1. If the GSO receives a data outage/problem at a facility that is determined critical by the Senior Transmission Coordinator, contact the responsible supervisor to facilitate repairs immediately. If the problem cannot be repaired immediately, the Senior TC will require the responsible supervisor to station personnel at the facility until all of the necessary repairs are made. If the station or facility is determined non-critical, the request for repairs may be submitted for regular work hours or at the discretion of the responsible supervisor.
2. When a GSO receives a data outage/problem at a particular RTU, they will refer to the RTU Response Binder to determine whether the response is ***Immediate***, ***Next Day***, or ***Next Working Day***. If the response is ***Immediate***, the GSO will respond within 15 minutes of the data failure. During the first 15 minutes, the GSO should perform troubleshooting of the site, by resetting the RTU, checking for power failures, and searching for communication failures (i.e. mountain tops). After 15 minutes, a call must be made to the responsible supervisor to initiate the restoration process by contacting maintenance personnel.
3. If an RTU is designated as ***Next Day***, the responsible personnel will make a call out after 08:00 hours. If an RTU is designated as ***Next Working Day***, the responsible personnel will be notified after the start of the next actual workday.

### **Failed Alarm Management**

1. If an RTU (PIU) fails intermittently, the RTU may be placed in *alarm inhibit* by the GSO. The RTU will continue to be polled for the latest information, but will not alert the operator with an audible PIU failure alarm. The alarm shows on the operator summary as ALARMRESERV until the RTU is placed back to normal. The GSO will notify System Gas Control that data from the RTU may be suspect. Should the RTU fail completely, follow the RTU outage policy in the Gas Control Centers. This decision will require communication with, and concurrence of System Gas Control.

2. A single data point that is frequently alarming (e.g. a single bad pressure transducer at a station) can be placed in off alarm check. The point **must** be placed in off alarm check while it is in the alarm state. This will retain the alarm condition in the operator summary.
3. Send an electronic work request for problems requiring action by field personnel. Utilize the **GSM Work Request** or send a Division Work Request via e-mail if required. The GSO will prioritize the request appropriately, as per the RTU Response Binder.
4. Data points that are used in calculations by SCADA (e.g. for pipeline inventory calculations) may be placed off scan and estimated values inserted. Data points may be taken off scan only with the approval of the Senior TC, Operations Supervisor, Transmission supervisor, or Manager.
5. The alarm inhibit, off alarm check and off scan will be returned to normal when repaired. A point placed in alarm inhibit, off alarm check or off scan will be logged in the shift summary and remain until the repair has been completed.

**PACIFIC GAS AND ELECTRIC COMPANY**  
**San Bruno Gas Transmission Line Incident**  
**Data Response**

PG&E Data Request No.:	NTSB_053-001		
PG&E File Name:	San Bruno GT Line Incident_DR_NTSB_053-001		
Request Date:	March 7, 2011	Requesting Party:	NTSB
Date Sent:	March 17, 2011	Requestor:	Operations (Chhatre/Nicholson)

**QUESTION 1**

Provide all Control room procedures including those for emergency and abnormal conditions response.

**ANSWER 1**

In addition to the 2009 Peninsula Division Gas Emergency Plan and the Gas T&D Emergency Plan Manual that were produced in NTSB\_003-001-S1, the following attached files are the Gas Control procedures responsive to the question above.

- Alternate Gas Control Relocation Plan Master Document
- PG&E Gas SCADA System Alarm Limits Policy and Procedures
- Alternate Transmission Operations Center Inspection Checklist
- CPUC Report of Gas Leak or Interruption – CPUC File No. 420 PRELIMINARY
- Functionality Verification Checklist GSO
- Functionality Verification Checklist Senior TC
- Relocation Communications Checklist
- Satellite Phone Testing Checklist
- Utility Procedure: TD-4413P-01, Procedure for Reportable Gas Incidents
- Utility Standard: TD\_4413S, Gas Event Reporting Requirements



## Gas Event Reporting Requirements

### Summary

This utility standard is the governing document for reporting gas events occurring within Pacific Gas and Electric Company (Company) gas systems. It establishes criteria, requirements, and procedures for reporting and documenting gas events. It includes the following subjects. (For detailed instructions related to these topics, see the referenced utility procedures.)

- Criteria for gas incidents reportable to the Department of Transportation (DOT) and the California Public Utilities Commission (CPUC). See [Utility Procedure TD-4413P-01, "Procedure for Reportable Gas Incidents."](#)
- Criteria for reporting safety-related conditions and low-pressure system problems. See [Utility Procedure TD-4413P-02, "Procedure for Reporting Safety-Related Conditions and Low-Pressure System Problems."](#)
- Preparing quarterly and annual incident reports. See [Utility Procedure TD-4413P-03, "Annual and Quarterly Reporting Requirements for Gas Incidents, Events, and Activities."](#)
- The process for notifying select Company leaders about major gas events.

Also, this standard establishes the requirements for reporting gas incidents to the DOT and/or the CPUC, in accordance with the [Code of Federal Regulations](#) (CFR) 49 CFR Part 191 and [General Order \(GO\) 112-E, "State of California Rules Governing Design, Construction, Testing, Operation, and Maintenance of Gas Gathering, Transmission, and Distribution Piping Systems"](#) (Section 101.4), respectively.

### Target Audience

All personnel involved with gas transmission and distribution (T&D) operations, engineering, customer field services, and gas maintenance and construction (M&C).

### Safety

Perform all work in compliance with the [Code of Safe Practices](#) and [Utility Standard Practice \(USP\) 22, "Safety and Health Program."](#)



## Gas Event Reporting Requirements

### Table of Contents

Subsection	Title	Page
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2	Safety-Related Conditions.....	5
3	Low-Pressure System Problems.....	5
4	Quarterly and Annual Reports.....	6
5	Record Retention Requirements.....	6

### Requirements

#### 1 Gas Incidents

A “gas event” is an occurrence that impacts the safety or reliability of Company gas facilities.

When a gas event meets the criteria outlined below, it is considered a “gas incident.” Such events may require reports to the DOT and/or the CPUC within the time frame allotted. Refer to [Utility Procedure TD-4413P-01](#) for the reporting procedure.

A gas incident is defined as an event that involves or is suspected to involve a release of natural gas from a Company facility and meets certain other regulatory criteria. Usually, Grade 1 leaks are not considered incidents unless protecting the safety of persons and/or property requires actions beyond routine responses.

##### 1.1 CPUC Reportable Criteria

All events that meet any of the following criteria are considered reportable gas incidents and must be reported to the CPUC within 2 hours (during working hours) or 4 hours (during non-working hours) after Company gas employees are aware of the incident and have arrived on the scene. (If the only criterion met is the presence of major media and the media arrives at the site after the gas employee arrives, then the clock starts at the time the media arrives.)

1. Events that involve a release of gas from a transmission or distribution pipeline (up to and including the meter set) or a liquid natural gas (LNG) or compressed natural gas (CNG) facility and that result in one or more of the following:
  - Fatality or personal injury requiring admission to and an overnight stay in a hospital.
  - Property damage (including labor costs) to the Company or others estimated at \$50,000 or more, including the cost of gas lost.





## Gas Event Reporting Requirements

- Other consequences or events deemed significant (see Page 8 for a definition of [“significant event”](#)).
2. Events that have attracted either public attention or coverage by major news media (“major news media” are defined as San Francisco, Sacramento, and/or national network TV news stations), are known or suspected to involve natural gas, and occur in the vicinity of Company facilities, regardless of whether or not Company facilities are involved.
  3. All explosions, with the exception of those in areas where there is no gas service or where it is immediately clear that natural gas did not contribute to the explosion.
  4. Fires involving Company facilities (up to and including the meter set) and the release of gas, if they meet any of the other criteria in Subsections 1.1.1. and 1.1.2. above, regardless of the cause or origin of the fire.

Note: If the only criterion met is the presence of major media, the incident is reportable to the CPUC, but not to the DOT.

### 1.2 DOT Reportable Criteria

1. All events that meet one or more of the criteria listed in the paragraph below are considered reportable gas incidents and must be reported to the DOT within 3 hours (during working hours) or 5 hours (during non-working hours) after Company gas employees are aware of the incident and have arrived on the scene:
2. Events are reportable if they involve a release of gas from a transmission or distribution pipeline (up to and including the meter set) or an LNG or CNG facility and that result in one or more of the following:
  - Fatality or personal injury requiring admission to and an overnight stay in a hospital.
  - Property damage (including labor costs) to the Company or others estimated at \$50,000 or more, including the cost of gas lost.
  - Other consequences or events deemed significant (see Page 8 for a definition of [“significant event”](#)).

Note: If the only criterion met is the presence of major media, the incident is reportable to the CPUC, but not to the DOT.



## Gas Event Reporting Requirements

### 1.3 Criteria for Internal Notification of Major Gas Events

1. Certain Company officers must be notified of major gas events meeting the criteria described in Table 1 below.
2. Within 30 minutes of receiving a report of a gas event, the gas control senior transmission coordinator must determine if the event meets the criteria for reporting to Company officers. If so, the senior transmission coordinator must send a brief description of the event to the [Epage list GSO Gas Event Notification](#).
3. Designated gas control employees “E-page” the notifications to the appropriate distribution list. The list includes officers responsible for energy delivery, operations, and customer care, and is maintained by gas control employees.

**Table 1. Major Event Types**

Type of Major Event	Criteria
CPUC Reportable Incidents	Bay Area and Sacramento TV media presence, damages > \$50,000, injury requiring overnight hospitalization or fatality.
CPUC Possibly Reportable Incidents	Unsure if Bay Area and/or Sacramento TV media presence, extent of damages has yet to be determined, status of injury requiring overnight hospitalization or fatality is unknown.
Fires and Explosions	All fires and explosions that have or may have natural gas involved, regardless of the cause.
Critical Customer Outages	Hospitals, schools, large businesses, tourist attractions, high-profile communities, transit agencies, utilities, power plants, refineries, prisons, and government offices.
CO Poisoning	Carbon monoxide (CO) poisoning related to natural gas facilities and resulting in a fatality or overnight hospitalization.
Evacuations	Any evacuation related or suspected to be related to natural gas that has been ordered by emergency response professionals (fire or police) or Company personnel.
Potential Gas Transmission System Impacts	Compressor and/or other equipment outages resulting in a reduction in supply of 50 million cubic feet (Mmcf) or impacts to the gas transmission system caused by forces such as flooding, earthquakes, or fire.
Gas Quality Upset	Any incident of British thermal units (Btus), odorant, or hydrogen sulfide (H <sub>2</sub> S) outside established limits.
SCADA Outages	Supervisory Control and Data Acquisition (SCADA) failures exceeding 6 hours and affecting multiple mountain-top installations, front-end processors, and/or control room operator data network (ODN) consoles.
Security Breaches	Any act or suspected act of terrorism or vandalism that impacts the operation of the Company gas system.



## Gas Event Reporting Requirements

### 2 Safety-Related Conditions

Safety-related conditions meeting the criteria below must be reported to a Company regulatory support and analysis (RS&A) representative within 2 hours after a gas employee determines that the condition exists. A “safety-related condition” gas event is any event that compromises the safe operation of the Company’s pipeline system. Refer to [Utility Procedure TD-4413P-02](#) for the reporting procedure.

#### 2.1 Criteria for Reporting Safety-Related Conditions

- General corrosion on a line operating over 20% of its specified minimum yield strength (SMYS), if it has reduced the wall thickness to less than that required for the established maximum allowable operating pressure (MAOP) of the line.
- Localized corrosion pitting to a degree where leakage might result.
- Any material defect, crack, or physical damage that impairs the serviceability of the line. (“Impaired serviceability” means that the safe operation of the line is adversely affected.)
- Unintended movement or abnormal loading by environmental causes, such as earthquakes, landslides, or floods that impairs the serviceability of a Company-owned line.
- A leak in a Company facility that constitutes an emergency. (“Emergency” is defined as a situation that requires immediate corrective action to protect personnel, the public, or property.)
- A known safety-related condition involving Company facilities that could lead to an imminent hazard and that causes (either directly or through remedial Company action in response to the condition) a 20% or more reduction in operating pressure or the shutdown of a line.
- An operating error or equipment malfunction that causes pressure in a Company-owned facility to rise above the MAOP permitted by 49 [CFR](#) 192, Section 192.201.

### 3 Low-Pressure System Problems

Low-pressure system problems meeting the criteria below must be reported to an RS&A representative within 2 hours after field personnel determine that the condition exists or within 2 hours of the start of the next business day, if the event occurs during non-business hours. Refer to [Utility Procedure TD-4413P-02](#) for the reporting procedure.



## Gas Event Reporting Requirements

### 3.1 Criteria for Reporting Low-Pressure System Problems

- System pressure above 10.5 inches of water column (WC).
- System pressure below 4 inches WC.
- Unplanned system outages.
- Security valve trips.
- Elevation of regulation set points caused by system pressure or false trips.
- Water intrusion in the system.

## 4 Quarterly and Annual Reports

Quarterly, annual, and other required reports to the DOT and CPUC must be made in accordance with 49 [CFR](#) Part 191 and CPUC [GO 112-E](#). Refer to [Utility Procedure TD-4413P-03](#) for the reporting process.

### 4.1 Quarterly Reports

File quarterly reports listing all gas incidents that met one or more of the following criteria:

- A report was submitted.
- Property damage exceeding \$1,000 was involved, including the cost of lost gas.
- Property damage involving fire or explosion occurred, regardless of monetary value or loss.
- A dig-in to an underground gas facility occurred.

### 4.2 Annual Reports

File annual reports compiled from the information contained in all gas T&D reports submitted on DOT Forms [PHMSA F- 7100.1-1, "Incident Report - Gas Distribution,"](#) and [PHMSA F- 7100.2-1, "Incident Report - Gas Transmission and Gathering Systems."](#)

## 5 Record Retention Requirements

All correspondence and other written materials relating to gas incidents shall be retained in accordance with [USP 4, "Record Retention and Disposal."](#)

**END of Requirements**



## Gas Event Reporting Requirements

### Definitions

**Annual DOT report:** Submitted to the DOT Office of Pipeline Safety, this report identifies pipe by number of miles, sizes, types of installation, coating, cathodic protection, class location, and the number of leaks repaired or eliminated during the year. The report is prepared using information compiled from gas T&D reports submitted on DOT Forms [PHMSA F-7100.1](#) and [PHMSA F-7100.2](#).

**CPUC form:** Refers to a "[California Public Utilities Commission Report of Gas Leak or Interruption - CPUC File No. 420.](#)"

**CPUC Gas Quarterly Incident (GQI) Reporting Criteria:** 1. Incidents that were reported via the CPUC's "Reporting Emergencies" website, 2. Incidents for which either a DOT Form [PHMSA F-7100.1](#) or [PHMSA F-7100.2](#) was submitted, 3. Incidents involving escaping gas from the operator's facilities and property damage including loss of gas in excess of \$1,000, or 4. Incidents including property damage between \$0 and \$1,000, and involving fire, explosion, or underground dig-ins.

**DOT form:** Refers to DOT Form [PHMSA F-7100.1](#) for distribution systems and DOT Form [PHMSA F-7100.2](#) for transmission and gathering systems.

**\*Electronic report:** A report filed on the CPUC and/or DOT website notifying them of a gas incident and providing basic information about the incident.

**\*Email report:** A CPUC Form 420 report that is sent to the CPUC via email.

**Gas Event:** An unplanned occurrence, such as major equipment failure, operator/work procedure error, insufficient design, natural disaster or planned outage that resulted in an outage to customers, damage to major equipment, or impacts system reliability.

**Gas Quarterly Incident (GQI) Report:** The summary listing of reportable and nonreportable incidents submitted to the CPUC within 30 days following the end of each calendar quarter.

**Leak report:** (For distribution systems only) A report submitted on DOT Form [PHMSA F-7100.1](#) for gas incidents that occur on distribution systems operating at less than 20% of their specified minimum yield strength (SMYS).

**\*Leak or test failure report:** (For transmission or gathering systems only) A report submitted on DOT Form [PHMSA F-7100.2](#) for gas incidents or test failures that occur on transmission or gathering facilities.

continued on next page



## Gas Event Reporting Requirements

### Definitions, continued

**Significant event:** For reporting purposes, a “significant event” is left to the judgment of the Company personnel involved with and knowledgeable of the details of the event. “Significant” events must involve Company facilities and the release of natural gas, and may include the following:

- Rupture or explosion
- Fire
- Loss of service
- Evacuation of people in the area
- Involvement of local emergency response personnel (such as fire, police, ambulance)
- Major television coverage (see [Subsection 1.1.2.](#) on Page 3)

**\*Telephonic report:** A telephone call to the CPUC and/or the DOT notifying them of a gas incident and providing basic information about the incident.

**\*Written report:** A letter of explanation sent to the CPUC which gives a more detailed account of an incident and includes, when required, the appropriate DOT Form.

\*If complete information is unavailable by the time the report is required, make an initial incomplete report and then a subsequent report when complete information becomes available.

### Implementation Responsibilities

The senior director responsible for gas engineering is accountable for implementing this standard.

### Governing Document

NA

### Compliance Requirement/ Regulatory Commitment

[Code of Federal Regulations](#) 49 CFR Parts 191 and 192

[General Order \(GO\) 112-E, “State of California Rules Governing Design, Construction, Testing, Operation, and Maintenance of Gas Gathering, Transmission, and Distribution Piping Systems”](#)



## Gas Event Reporting Requirements

### Reference Documents

#### Developmental References:

[Code of Federal Regulations](#) 49 CFR Parts 191 and 192

[Code of Safe Practices](#)

[General Order 112-E, "Rules Governing Design, Construction, Testing, Operation, and Maintenance of Gas Gathering, Transmission, and Distribution Piping Systems"](#)

[Utility Procedure WP1465-02, "Gas Event and Near Hit Reporting"](#)

[Utility Procedure WP6436-12, "Handling Emergency Conditions Reported by Outside Agencies and Other Entities"](#)

[Utility Standard S0353/S4112, "Physical Inspection of Pipelines, Mains and Services"](#)

[Utility Standard S4110, "Leak Survey and Repair of Gas Transmission and Distribution Facilities"](#)

[Utility Standard S6436, "Gas and Electric Field Services and Dispatch and Scheduling Operating Practices"](#)

[Utility Standard Practice \(USP\) 22, "Safety and Health Program"](#)

#### Supplemental References:

[Utility Procedure TD-4413P-01, "Procedure for Reportable Gas Incidents"](#)

[Utility Procedure TD-4413P-02, "Procedure for Reporting Safety-Related Conditions and Low-Pressure System Problems"](#)

[Utility Procedure TD-4413P-03, "Annual and Quarterly Reporting Requirements for Gas Incidents, Events, and Activities"](#)

[USP 4, "Record Retention and Disposal"](#)

### Appendices

NA

### Attachments

[TD-4413S, Attachment 1, "Event Notification Matrix"](#)



## Gas Event Reporting Requirements

**Document Revision** Utility Standard D-S0355/GTS Standard S4413, "CPUC and DOT Reportable Incidents, Curtailments and Conditions and Low Pressure System Problem Reporting"

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**Approved By** Glen Carter, Senior Director

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**Document Owners** Larry Deniston, Senior Program Manager

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**Document Contact** Larry Deniston

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### Revision Notes

Where?	What Changed?
NA	New document.

REDACTED TO MAINTAIN PRIVACY





Procedure for Reportable Gas Incidents, Attachment 1

Gas Control - Gas Incident Procedure

INCIDENT DATA

Where is the incident located? [Address, City, County] \_\_\_\_\_

Incident Time/Date [Exact or Approximate?] \_\_\_\_\_

REASON CONSIDERED REPORTABLE (OR POSSIBLE REPORTABLE)

- Release of Gas? [ ] from Company Facilities [ ] in the Vicinity of Company Facilities [ ] Neither [ ] Unknown
Was there a... [ ] Fire? [ ] Explosion? [ ] Transmission Shutdown?
Deaths? Yes [ ] #: \_\_\_\_\_ Names: \_\_\_\_\_ No [ ] Injury involving hospitalization? Yes [ ] #: \_\_\_\_\_ Names: \_\_\_\_\_ No [ ]
Damage expected to exceed \$50,000? Yes [ ] No [ ]\* Estimate \_\_\_\_\_ Unknown [ ]
Major media coverage? [Bay Area and Sacramento Major TV Stations: KTVU-2, KPIX-5, KGO-7, KNTV-11, KCRA 3, KXTV 10, KOVR 13, KTXL 40 or National TV: FOX News, CNN, ABC, CBS, NBC] Yes [ ] Which Network: \_\_\_\_\_ Time: \_\_\_\_\_ No [ ]\*

\*If No, request caller to contact GSO immediately if major media shows up or if cost escalates to \$50,000 or more.

Considered a Significant Event? Yes [ ] No [ ] Why considered significant? \_\_\_\_\_

AGENCY ON THE SCENE: [ ] Fire [ ] Police [ ] Ambulance [ ] Traffic Rerouted? [ ] Area Blocked off? [ ] Evacuation? #: \_\_\_\_\_

INCIDENT CAUSE: Is this a Dig-in? No [ ] Yes [ ] USA Required? [ ] USA Notified? [ ] Properly Marked? [ ] Ticket Expired? [ ]
Excavator Name: \_\_\_\_\_ Excavator Contact: \_\_\_\_\_ Excavator Phone #: \_\_\_\_\_

- Did a vehicle impact our gas facility? Yes [ ] No [ ]
Other (Describe) \_\_\_\_\_

GAS EQUIPMENT AFFECTED - [ ] Transmission [ ] Distribution [ ] Service [ ] Service Riser [ ] Valve [ ] Meter [ ] Customer's Facilities
[ ] Plastic [ ] Steel Other: \_\_\_\_\_

Pipe Size: \_\_\_\_\_ (inches) [ ] Unknown Operating Pressure: \_\_\_\_\_ (psig) [ ] Unknown MAOP: \_\_\_\_\_

SUMMARY: (Briefly describe the incident and the probable cause.)

\_\_\_\_\_

Follow GSO GAS INCIDENT PROCEDURES (COMMUNICATIONS & DOCUMENTS) Contact the GAS On-Call Person. IT IS IMPORTANT THAT ALL OF THE KEY INFORMATION IS OBTAINED AND RELAYED TO THE GAS ON-CALL PERSON! THE ON-CALL PERSON ONLY HAS 1/2 HOUR TO MAKE A DECISION TO CALL THE CPUC.