

**CHAPTER 4**  
**APPENDIX A**  
**EXCERPT FROM 2009 AUDIT OF PG&E'S OPERATIONS,**  
**MAINTENANCE AND EMERGENCY PLANS**

## PUBLIC UTILITIES COMMISSION

125 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3246

April 30, 2009

Mr. Glen Carter, Director  
Gas Engineering (GT&D)  
Pacific Gas and Electric Company  
375 N. Widget Lane, Suite 200  
Walnut Creek, CA 94598

**SUBJECT:** Notice of Violations of General Order 112E – Audit of PG&E's OM&E Plan

Dear Mr. Carter:

The staff of the Utilities Safety and Reliability Branch (USRB) of the California Public Utilities Commission conducted a General Order 112-E safety audit of Pacific Gas & Electric Company's (PG&E) Operation, Maintenance, and Emergency (OM&E) Plan. The audit, which was conducted on March 2-5, 2009, consisted of a review of PG&E's gas distribution and transmission standards and guidelines which are the basis of, and support, its OM&E Plan. No field inspections were performed as a part of this audit.

During the audit, PG&E staff provided details on the broad effort PG&E has undertaken to meet compliance with 49 CFR, Part 192, Section 192.805. Through this effort, PG&E is utilizing subject matter experts (SMEs) to review its existing standards and guidelines in order to eliminate outdated standards and to re-label, or expand, others to include work procedures that support, and provide more details related to the standards. Based on findings from our previous OM&E audits of PG&E, we believe this effort was much needed and we look forward to seeing the end product during our next audit.


PG&E staff requested clarification from USRB regarding the frequency on which the USRB was expecting SMEs to review the individual standards to which any SME was assigned. The USRB believes that since Section 192.805 requires the OM&E Plan to be reviewed and updated each calendar year, and a frequency not exceeding 15 months, the individual standards, guidelines, work procedures that together form the OM&E will be expected to be reviewed on the same once per calendar year, not to exceed 15 months, basis. This is not to imply that work to revise a document could not cross from one calendar year into the next; however, a review must be performed within the frequency specified herein, to confirm that procedures within existing documents are still valid and applicable to the work being performed under these documents.

Violations of GO 112-E, identified by USRB staff during the audit, are itemized within the Summary of Inspection Findings (Summary) enclosed with this letter. The Summary also contains any Areas of Concern identified during the audit.

By May 31, 2009, please provide a written response indicating the measures taken by PG&E to address the Violations and Areas of Concern noted in the Summary.

If you have any questions, please do not hesitate to contact me at (415) 703-2407.

Sincerely,

  
Sunil K. Shori  
Utilities Engineer  
Utilities Safety and Reliability Branch  
Consumer Protection and Safety Division

Enclosure: Summary of Inspection Findings

Electronic copy:

Ed Chun - PG&E  
Larry Berg - PG&E  
Ivan Garcia - CPSD/USRB  
Steve Artus - CPSD/USRB  
Terence Eng - CPSD/USRB

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## STANDARD INSPECTION REPORT OF A GAS TRANSMISSION PIPELINE

A completed Standard Inspection Report is to be submitted to the Director within 60 days from completion of the inspection. A Post-Inspection Memorandum (PIM) is to be completed and submitted to the Director within 30 days from the completion of the inspection, or series of inspections, and is to be filed as part of the Standard Inspection Report.

Inspection Report		Post Inspection Memorandum	
Inspector/Submit Date: _____		Inspector/Submit Date: _____	
		Peer Review/Date: _____	
		Director Approval/Date: _____	
POST INSPECTION MEMORANDUM (PIM)			
Name of Operator: Pacific Gas and Electric		OPID #: 15007 & 18608	
Name of Unit(s): Pacific Gas & Electric transmission and Standard Pacific Pipeline (operated by PG&E)		Unit #(s):	
Records Location: San Francisco, CA			
Unit Type & Commodity:			
Inspection Type: Audit of OM&E Standards		Inspection Date(s): March 3-5, 2009	
PHMSA Representative(s): Sunil Shori, Ivan Garcia, Steve Artus, and Terence Eng		AFO Days: 3	

**Summary:**

This report is a centralized audit of documents that form Pacific Gas & Electric Company's (PG&E) Operations, Maintenance, and Emergency Plans. This audit examined gas distribution and transmission related standards; however, only transmission related findings are included in this report (distribution findings are in another report).

The findings from this audit will be resolved and a template for subsequent audits will be created based on the findings of this audit. The template will be used as the USRB Inspection Form for audits of PG&E until PHMSA next revises this form.

**Findings:**

The findings are as noted throughout this report. A written report noting the findings will be sent to the operator.

## STANDARD INSPECTION REPORT OF A GAS TRANSMISSION PIPELINE

Name of Operator: Pacific Gas and Electric		Unit ID No. <sup>(1)</sup>	
OP ID No. <sup>(1)</sup>		System/Unit Name & Address: <sup>(1)</sup>	
HQ Address: 77 Beale Street San Francisco, CA		123 Mission Street San Francisco, CA	
Co. Official: Phone No.: Fax No.: Emergency Phone No.:		Activity Record ID No.: Phone No.: Fax No.: Emergency Phone No.:	
Persons Interviewed	Title	Phone No.	
Lawrence M. Berg	Senior Gas Engineer		
Edward Chun	Consulting Senior Gas Engineer		
Brian J. Leary	Gas Standards Manager		
PHMSA Representative(s) <sup>(1)</sup> See above page		Inspection Date(s) <sup>(1)</sup> March 3-5, 2009	
Company System Maps (Copies for Region Files):		NO MAPS OBTAINED DURING AUDIT	

**Unit Description:**  
Documents related to entire PG&E gas system

**Portion of Unit Inspected:** <sup>(1)</sup>  
Documents related to entire PG&E gas system

For gas transmission pipeline inspections, the attached evaluation form should be used in conjunction with 49 CFR 191 and 192 during PHMSA inspections. For those operators, procedures do not have to be evaluated for content unless: 1) new or amended regulations have been placed in force after the team inspection, or 2) procedures have changed since the team inspection. Items in the procedures sections of this form identified with "\*" reflect applicable and more restrictive new or amended regulations that became effective between 03/16/04 and 03/16/09.

<sup>1</sup> Information not required if included on page 1.

## STANDARD INSPECTION REPORT OF A GAS TRANSMISSION PIPELINE

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If an item is marked U, N/A, or N/C, an explanation must be included in this report.

### 49 CFR PART 191

REPORTING PROCEDURES		S	U	N/A	N/C
.605(b)(4)	Procedures for gathering data for incident reporting				
	191.5 Telephonically reporting incidents to NRC (800) 424-8802	X			
	191.15(a) 30-day follow-up written report (Form 7100-2)	X			
	191.15(b) Supplemental report (to 30-day follow-up)	X			
.605(a)	191.23 Reporting safety-related condition (SRCR)	X			
	191.25 Filing the SRCR within 5 days of determination, but not later than 10 days after discovery	X			
	191.27 Offshore pipeline condition reports - filed within 60 days after the inspections			X	
.605(d)	Instructions to enable operation and maintenance personnel to recognize potential Safety Related Conditions	X			

**Comments:**  
Reporting procedures can be found in UO Standard 4413

### 49 CFR PART 192

CUSTOMER NOTIFICATION PROCEDURES		S	U	N/A	N/C
.13(c)	.16 Procedures for notifying new customers, within 90 days, of their responsibility for those selections of service lines not maintained by the operator.	X			

NORMAL OPERATING and MAINTENANCE PROCEDURES		S	U	N/A	N/C
.605(a)	.605(a) O&M Plan review and update procedure (1 per year/15 months)	X			
	.605(b)(3) Making construction records, maps, and operating history available to appropriate operating personnel	X			
	.605(b)(5) Start up and shut down of the pipeline to assure operation within MAOP plus allowable buildup	X			
	.605(b)(8) Periodically reviewing the work done by operator's personnel to determine the effectiveness and adequacy of the procedures used in normal operation and maintenance and modifying the procedures when deficiencies are found	X			
	.605(b)(9) Taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulations of vapors or gas, and making available when needed at the excavation, emergency rescue equipment, including a breathing apparatus and a rescue harness and line	X			
	.605(b)(10) Routine inspection and testing of pipe-type or bottle-type holders	X			
	.605(b)(11) Responding promptly to a report of a gas odor inside or near a building, unless the operator's emergency proced. under §192.615(a)(3) specifically apply to these reports.	X			

**Comments:**  
A93.3 Excess Flow Valves voluntary installation program; 192.16 addressed by PG&E WP 5449-04; DCS Standard D-S0423 provides 192.16 notice to customers when work takes place;  
192.605(b)(8) being addressed by IQI and PG&E quality assurance program;  
WP 4000-02 (est. 09/2008) addresses review of manuals required by 192.605(a);  
192.605(b)(11) is addressed in Company Gas Emergency Plan (CGEP) Parts 1 and 2.

ABNORMAL OPERATING PROCEDURES		S	U	N/A	N/C
.605(a)					

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ABNORMAL OPERATING PROCEDURES		S	U	N/A	N/C
.605(c)(1)	Procedures for responding to, investigating, and correcting the cause of:				
	(i) Unintended closure of valves or shut downs	X			
	(ii) Increase or decrease in pressure or flow rate outside of normal operating limits	X			
	(iii) Loss of communications	X			
	(iv) The operation of any safety device	X			
	(v) Malfunction of a component, deviation from normal operations or personnel error	X			
.605(c)(2)	Checking variations from normal operation after abnormal operations ended at sufficient critical locations	X			
.605(c)(3)	Notifying the responsible operating personnel when notice of an abnormal operation is received	X			
.605(c)(4)	Periodically reviewing the response of operating personnel to determine the effectiveness of the procedures and taking corrective action where deficiencies are found	X			

**Comments:**

PG&E Company Gas Emergency Plan, Part 1, Section 2.9 and Part 2.  
 UO Standard S4450 (Operator Qualification Program);  
 DCS D-S0355 CPUC and DOT Reportable Incidents, Curtailments & Conditions, and Low Pressure System Problem Reporting.  
 Gas Control (PG&E Gas SCADA Alarm limits (policy and procedure);  
 UO Standard S5351 (District Reg Station Maintenance) and Gas Information Bulletin (GIB) 279

CHANGE in CLASS LOCATION PROCEDURES		S	U	N/A	N/C
.605(a)					
	.609 Class location study	X			
*	.611 Confirmation or revision of MAOP. Final Rule Pub. 10/17/08, eff. 12/22/08.	X			

**Comments:**

Standard S4127

Reviewed and confirmed 03/2009

CONTINUING SURVEILLANCE PROCEDURES		S	U	N/A	N/C
.613					
	.613(a) Procedures for surveillance and required actions relating to change in class location, failures, leakage history, corrosion, substantial changes in CP requirements, and unusual operating and maintenance conditions	X			
	.613(b) Procedures requiring MAOP to be reduced, or other actions to be taken, if a segment of pipeline is in unsatisfactory condition	X			

**Comments:**

Standard 4127;  
 UO Standard S4111-Patrolling Pipelines & Mains;  
 UO Std S0350/S4110-Leak Survey and Repair;  
 GS&S O-16-Corrosion Control;  
 UO Std S4133-Corrosion Control Distribution and Transmission;  
 UO Std S2333-Material Problem Reporting;  
 UO Std S4413-CPUC Curtailments;  
 UO Std S0353-Physical Inspection of Mains and Pipeline Services  
 Reviewed and confirmed same standards 03/2009

DAMAGE PREVENTION PROGRAM PROCEDURES		S	U	N/A	N/C
.605(a)					
	.614 Participation in a qualified one-call program, or if available, a company program that complies with the following:				
	(1) Identify persons who engage in excavating	X			
	(2) Provide notification to the public in the One Call area	X			

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DAMAGE PREVENTION PROGRAM PROCEDURES		S	U	N/A	N/C
(3)	Provide means for receiving and recording notifications of pending excavations	X			
(4)	Provide notification of pending excavations to the members	X			
(5)	Provide means of temporary marking for the pipeline in the vicinity of the excavations	X			
(6)	Provides for follow-up inspection of the pipeline where there is reason to believe the pipeline could be damaged	X			
(i)	Inspection must be done to verify integrity of the pipeline.	X			
(ii)	After blasting, a leak survey must be conducted as part of the inspection by the operator	X			

**Comments:**

UO Standard S4412-Protection of Underground Infrastructure;  
PG&E Manual titled "Protection of Underground Infrastructure"

.615	EMERGENCY PROCEDURES	S	U	N/A	N/C
.615(a)(1)	Receiving, identifying, and classifying notices of events which require immediate response by the operator	X			
.615(a)(2)	Establish and maintain communication with appropriate public officials regarding possible emergency	X			
.615(a)(3)	Prompt response to each of the following emergencies:				
(i)	Gas detected inside a building	X			
(ii)	Fire located near a pipeline	X			
(iii)	Explosion near a pipeline	X			
(iv)	Natural disaster	X			
.615(a)(4)	Availability of personnel, equipment, instruments, tools, and material required at the scene of an emergency	X			
.615(a)(5)	Actions directed towards protecting people first, then property	X			
.615(a)(6)	Emergency shutdown or pressure reduction to minimize hazards to life or property	X			
.615(a)(7)	Making safe any actual or potential hazard to life or property	X			
.615(a)(8)	Notifying appropriate public officials required at the emergency scene and coordinating planned and actual responses with these officials	X			
.615(a)(9)	Instructions for restoring service outages after the emergency has been rendered safe	X			
.615(a)(10)	Investigating accidents and failures as soon as possible after the emergency	X			
.615(b)(1)	Furnishing applicable portions of the emergency plan to supervisory personnel who are responsible for emergency action	X			
.615(b)(2)	Training appropriate employees as to the requirements of the emergency plan and verifying effectiveness of training	X			
.615(b)(3)	Reviewing activities following emergencies to determine if the procedures were effective	X			
.615(c)	Establish and maintain liaison with appropriate public officials, such that both the operator and public officials are aware of each other's resources and capabilities in dealing with gas emergencies	X			

**Comments:**

PG&E's Emergency Plan consists of 2 parts: (1) Basic Plan (company-wide) and (2) Appendix which contains the Division-specific portion. Each division or district is responsible for updating their own binders including any changes received on the company-wide plan and the division-specific plan. The Basic Plan/company-wide plan is reviewed by PG&E's SME by 8/31 of each year. Personnel that may be involved in emergency response are required to do an initial and subsequent training and evaluation. Additionally, personnel are required to take a computer-based examination on emergency procedures to stay informed of any recent changes in the plan.

192.615(a)(4) - Availability of equipment addressed in TO&M EG4124 Emergency Pre-tested Transmission Pipe. This is referenced in

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**Comments:**  
the Emer. Plan Section 2.5.1. EG4124 is currently being revised to become a work procedure.

PUBLIC AWARENESS PROGRAM PROCEDURES (Also in accordance with API RP 1162)			S	U	N/A	N/C
.605(a) *	.616	Public Awareness Program also in accordance with API RP 1162, Amdt 192-99 pub. 5/19/05 eff. 06/20/05.				
	.616(d)	The operator's program must specifically include provisions to educate the public, appropriate government organizations, and persons engaged in excavation related activities on:				
		(1) Use of a one-call notification system prior to excavation and other damage prevention activities;	X			
		(2) Possible hazards associated with unintended releases from a gas pipeline facility;	X			
		(3) Physical indications of a possible release;	X			
		(4) Steps to be taken for public safety in the event of a gas pipeline release; and	X			
		(5) Procedures to report such an event (to the operator);	X			
	.616(e)	The operator's program must include activities to advise affected municipalities, school districts, businesses, and residents of pipeline facility locations.	X			
	.616(f)	The operator's program and the media used must be comprehensive enough to reach all areas in which the operator transports gas.	X			
	.616(g)	The program conducted in English and any other languages commonly understood by a significant number of the population in the operator's area?	X			

**Comments:**  
PG&E's PAP was reviewed by the USDOT Clearinghouse. The USRB (Sunil Shori) worked with PG&E in 2008 to resolve findings noted by the clearinghouse.

.617	FAILURE INVESTIGATION PROCEDURES		S	U	N/A	N/C
	.617	Analyzing accidents and failures including laboratory analysis where appropriate to determine cause and prevention of recurrence	X			

**Comments:**  
WP 1465-02 Gas Event and Near Hit Reporting issued 5/2008.

.605(a)	MAOP PROCEDURES		S	U	N/A	N/C
	Note: If the operator is operating at 80% SMVS with waivers, the inspector needs to review the special conditions of the waivers.					
	.619	Establishing MAOP so that it is commensurate with the class location	X			
	*	MAOP cannot exceed the lowest of the following:				
		(a)(1) Design pressure of the weakest element, Amdt. 192-103 pub. 06/09/06, eff. 07/10/06	X			
		(a)(2) Test pressure divided by applicable factor	X			

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MAOP PROCEDURES			S	U	N/A	N/C												
*	(a)(3) The highest actual operating pressure to which the segment of line was subjected during the 5 years preceding the applicable date in second column, unless the segment was tested according to .619(a)(2) after the applicable date in the third column or the segment was uprated according to subpart K, Amdt 192-102 pub. 3/15/06, eff. 04/14/06. For gathering line related compliance deadlines and additional gathering line requirements, refer to Part 192 including this amendment.																	
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Pipeline segment</th> <th style="text-align: center;">Pressure date</th> <th style="text-align: center;">Test date</th> </tr> </thead> <tbody> <tr> <td>-- Onshore gathering line that first became subject to this part (other than § 192.612) after April 13, 2006.</td> <td rowspan="2" style="text-align: center;">March 15, 2006, or date line becomes subject to this part, whichever is later.</td> <td rowspan="2" style="text-align: center;">5 years preceding applicable date in second column.</td> </tr> <tr> <td>-- Onshore transmission line that was a gathering line not subject to this part before March 15, 2006.</td> </tr> <tr> <td>Offshore gathering lines.</td> <td style="text-align: center;">July 1, 1976.</td> <td style="text-align: center;">July 1, 1971.</td> </tr> <tr> <td>All other pipelines.</td> <td style="text-align: center;">July 1, 1970.</td> <td style="text-align: center;">July 1, 1965.</td> </tr> </tbody> </table>	Pipeline segment	Pressure date	Test date	-- Onshore gathering line that first became subject to this part (other than § 192.612) after April 13, 2006.	March 15, 2006, or date line becomes subject to this part, whichever is later.	5 years preceding applicable date in second column.	-- Onshore transmission line that was a gathering line not subject to this part before March 15, 2006.	Offshore gathering lines.	July 1, 1976.	July 1, 1971.	All other pipelines.	July 1, 1970.	July 1, 1965.	X			
Pipeline segment	Pressure date	Test date																
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Offshore gathering lines.	July 1, 1976.	July 1, 1971.																
All other pipelines.	July 1, 1970.	July 1, 1965.																
	(a)(4) Maximum safe pressure determined by operator.		X															
	(b) Overpressure protective devices must be installed if .619(a)(4) is applicable.		X															
*	(c) The requirements on pressure restrictions in this section do not apply in the following instance: An operator may operate a segment of pipeline found to be in satisfactory condition, considering its operating and maintenance history, at the highest actual operating pressure to which the segment was subjected during the 5 years preceding the applicable date in the second column of the table in paragraph (a)(3) of this section. An operator must still comply with § 192.611. Amdt 192-102 pub. 3/15/06, eff. 04/14/06. For gathering line related compliance deadlines and additional gathering line requirements, refer to Part 192 including this amendment.		X															
*	620 If the pipeline is designed to the alternative MAOP standard in 192.620 does it meet the additional design requirements for: <ul style="list-style-type: none"> <li>• General standards</li> <li>• Fracture control</li> <li>• Plate and seam quality control</li> <li>• Mill hydrostatic testing</li> <li>• Coating</li> <li>• Fittings and flanges</li> <li>• Compressor stations Final Rule Pub. 10/17/08, eff. 12/22/08.</li> </ul>				X													

**Comments:**  
DCS Standard D-S0430 and GTS Standard S4125-Establishing MAOP for Transmission and Gathering Lines installed prior to July 1, 1970;  
MAOP established by test conducted in accordance with GS&S A-34 for lines installed, replaced, or rehabilitated on or after July 1, 1970.  
The form, "Establishing MAOP, exhibit A", and its use needs to be referenced in DCS/GTS Standard D-S0430  
In an email from Ed Chung of PG&E, the company has decided that .620 will not be used in establishing MAOP.

.13(e)	PRESSURE TEST PROCEDURES	S	U	N/A	N/C
	.503 Pressure testing	X			

**Comments:**  
GS&S A-34 Piping Design and Test Requirements, Attachment A-Test Requirements, Table A-1

.13(e)	UPRATING PROCEDURES	S	U	N/A	N/C
	.553 Up-rating	X			

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**Comments:**  
TO&M UO Std S4125 - requires reporting of proposed increase of MAOP to CPUC in accordance to GS&S A34.1; Exhibit I is filled out prior to uprating.  
GS&S A-34.2 - Low, Semi-high, and High Pressure Uprating Procedure; Table 1-Uprating Matrix; Also requires CPUC notification and developing written procedures for the uprate as specified in 192.553(c).

.605(a)	ODORIZATION of GAS PROCEDURES	S	U	N/A	N/C
.625(b)	Odorized gas in Class 3 or 4 locations (if applicable) - must be readily detectable by person with normal sense of smell at $\frac{1}{3}$ of the LEL.	X			
.625(f)	Periodic gas sampling, using an instrument capable of determining the percentage of gas in air at which the odor becomes readily detectable.	X			

**Comments:**  
UO Standard S4350 - Gas Odor Detection at 0.6% gas in air or less; Periodic sampling recorded on Monthly Odorization Report (Form 62-4650)

.605(a)	TAPPING PIPELINES UNDER PRESSURE PROCEDURES	S	U	N/A	N/C
.627	Hot taps must be made by a qualified crew. NDT testing is suggested prior to tapping the pipe. Reference API RP 2201 for Best Practices.	X			

.605(a)	PIPELINE PURGING PROCEDURES	S	U	N/A	N/C
.629	Purging of pipelines must be done to prevent entrapment of an explosive mixture in the pipeline				
	(a) Lines containing air must be properly purged.	X			
	(b) Lines containing gas must be properly purged	X			

**Comments:**  
GS&S A-38 Procedures for Purging Gas Facilities, Attachment A and B.  
\*\*PG&E has not examined API RP 2201 for possible use in its practices.\*\*  
Work Practice (WP 4100-01), Hot and Cold Work Methods for Natural Gas Transmission Pipeline Shutdown and Tie-in; replaces S4131, August 2008.

.605(a)	MAINTENANCE PROCEDURES	S	U	N/A	N/C
.703(b)	Each segment of pipeline that becomes unsafe must be replaced, repaired, or removed from service.	X			
(c)	Hazardous leaks must be repaired promptly	X			

**Comments:**  
192.703(b) - UO Std S4430 CGT Gas Facility Requirements; UO Std S4134 Selection of Steel Gas Pipeline Repair Methods; UO Std S4129 Deactivation of Gas Facilities.  
192.703(c) - UO Std S4110/S0350 addresses repairs of hazardous leaks; UO Policy 3-7 Gas and Electric Operations, Maintenance, and Construction; CT&CS S0205 Replacement of Deteriorated or Damaged Facilities; GS&S A-66 Repair of Cast Iron; GS&S A-67 Repair of Copper.  
S4134 and S4100-11

.605(b)	TRANSMISSION LINES - PATROLLING & LEAKAGE SURVEY PROCEDURES	S	U	N/A	N/C
.705(a)	Patrolling ROW conditions	X			
(b)	Maximum interval between patrols of lines:				



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TRANSMISSION LINES - PATROLLING & LEAKAGE SURVEY PROCEDURES			S	U	N/A	N/C
Class Location	At Highway and Railroad Crossings	At All Other Places	X			
1 and 2	2/yr (7½ months)	1/yr (15 months)				
3	4/yr (4½ months)	2/yr (7½ months)				
4	4/yr (4½ months)	4/yr (4½ months)				
.706	Leakage surveys - 1 year/15 months		X			
	Leak detector equipment survey requirements for lines transporting un-odorized gas					
(a)	Class 3 locations - 7½ months but at least twice each calendar year				X	
(b)	Class 4 locations - 4½ months but at least 4 times each calendar year				X	

**Comments:**

UO Std S4111, Attachment 1 Procedure for Patrolling Pipelines and Mains;  
UO Std S4111, Table 1 Minimum Patrol Frequencies; All transmission and gathering lines are patrolled quarterly  
UO Std S4110, Table 1 Frequency of Periodic Required Gas Leak Surveys

.605(b)	LINE MARKER PROCEDURES	S	U	N/A	N/C
.707	Line markers installed and labeled as required	X			

**Comments:**

GS&S L-10 Pipeline Markers Posts;  
UO Std S4122, Attachment - Detailed Procedures, Table 1 - Pipeline Marking Requirements;  
Appendix A - Pipeline Marker Posts and Signs in GS&S Section L.

.605(b)	RECORD KEEPING PROCEDURES	S	U	N/A	N/C
.709	Records must be maintained...				
(a)	Repairs to the pipe - life of system	X			
(b)	Repairs to "other than pipe" - 5 years		X		
(c)	Operation (Sub L) and Maintenance (Sub M) patrols, surveys, tests - 5 years or until next one	X			

**Comments:**

UO Std S4110, Attachment 1 - Leak Survey, Repair, Inspection, and Gas Quarterly Incident Report (Form "A"), Gas Dig-In Report (Form "A") shall be retained for the life of any gas facility plus 1 year.  
Gas TS Manual, Gas Information Bulletin, Supervisory Review of Leak Survey Documents-provide clarity to assess Grade 1 leaks.  
This document amends Attachment 1 of UO Standard 4110 and will be incorporated into the initial release of Work Procedure WP4110-1  
\*\*PG&E needs to add the correct language to answer .709(b), no set procedure defined for repairs to "other than pipe"\*\*\*

.605(b)	FIELD REPAIR PROCEDURES	S	U	N/A	N/C
	Imperfections and Damages				
.713(a)	Repairs of imperfections and damages on pipelines operating above 40% SMYS				
	(1) Cut out a cylindrical piece of pipe and replace with pipe of ≥ design strength	X			
	(2) Use of a reliable engineering method	X			
.713(b)	Reduce operating pressure to a safe level during the repair	X			
	Permanent Field Repair of Welds				
.715	Welds found to be unacceptable under §192.241(c) must be repaired by:				

## STANDARD INSPECTION REPORT OF A GAS TRANSMISSION PIPELINE

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FIELD REPAIR PROCEDURES		S	U	N/A	N/C
	(a) If feasible, taking the line out of service and repairing the weld in accordance with the applicable requirements of §192.245.	X			
	(b) If the line remains in service, the weld may be repaired in accordance with §192.245 if:				
	(1) The weld is not leaking.	X			
	(2) The pressure is reduced to produce a stress that is 20% of SMYS or less.	X			
	(3) Grinding is limited so that 1/4 inch of pipe weld remains.	X			
	(c) If the weld cannot be repaired in accordance with (a) or (b) above, a full encirclement welded split sleeve must be installed.	X			
	<b>Permanent Field Repairs of Leaks</b>				
.717	Field repairs of leaks must be made as follows:				
	(a) Replace by cutting out a cylinder and replace with pipe similar or of greater design.	X			
	(b)(1) Install a full encirclement welded split sleeve of an appropriate design unless the pipe is joined by mechanical couplings and operates at less than 40% SMYS.	X			
	(b)(2) A leak due to a corrosion pit may be repaired by installing a bolt on leak clamp.	X			
	(b)(3) For a corrosion pit leak, if a pipe is not more than 40,000 psi SMYS, the pits may be repaired by fillet welding a steel plate. The plate must have rounded corners and the same thickness or greater than the pipe, and not more than 1/2D of the pipe size.	X			
	(b)(4) Submerged offshore pipe or pipe in inland navigable waterways may be repaired with a mechanically applied full encirclement split sleeve of appropriate design.			X	
	(b)(5) Apply reliable engineering method.	X			
	<b>Testing of Repairs</b>				
.719(a)	Replacement pipe must be pressure tested to meet the requirements of a new pipeline.	X			
(b)	For lines of 6-inch diameter or larger and that operate at 20% or more of SMYS, the repair must be nondestructively tested in accordance with §192.241(c).	X			

**Comments:**

Transmission field repair procedures are addressed in UO-S4134, GS&S A-60, A-60.1, A-60.2, D-22, A-34, A-64, D-23, B-53, and D-40 (NDT).

	ABANDONMENT or DEACTIVATION of FACILITIES PROCEDURES	S	U	N/A	N/C
.605(b)	.727(b) Operator must disconnect both ends, purge, and seal each end before abandonment or a period of deactivation where the pipeline is not being maintained. Offshore abandoned pipelines must be filled with water or an inert material, with the ends sealed.	X			
	(c) Except for service lines, each inactive pipeline that is not being maintained under Part 192 must be disconnected from all gas sources/supplies, purged, and sealed at each end.	X			
	(d) Whenever service to a customer is discontinued, do the procedures indicate one of the following:				
	(1) The valve that is closed to prevent the flow of gas to the customer must be provided with a locking device or other means designed to prevent the opening of the valve by persons other than those authorized by the operator.			X	
	(2) A mechanical device or fitting that will prevent the flow of gas must be installed in the service line or in the meter assembly.			X	
	(3) The customer's piping must be physically disconnected from the gas supply and the open pipe ends sealed.			X	
	(e) If air is used for purging, the operator shall ensure that a combustible mixture is not present after purging.	X			
*	.727 (g) Operator must file reports upon abandoning underwater facilities crossing navigable waterways, including offshore facilities. Amdt. 192-103 corr. pub 02/01/07, eff. 03/05/07.	X			

**Comments:**

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**Comments:**  
 WP 4100-11 Deactivation of Gas & Electric Facilities issued 10/2008  
 GS&S A-38 Procedures for Purging Gas Facilities  
 WP 6435-04 Procedures for Discontinuing Gas Service

Transmission districts are not involved in deactivating customer services.

.605(b)	COMPRESSOR STATION PROCEDURES	S	U	N/A	N/C
	.605(b)(6) Maintenance procedures, including provisions for isolating units or sections of pipe and for purging before returning to service.	X			
	.605(b)(7) Starting, operating, and shutdown procedures for gas compressor units.	X			
	.731 Inspection and testing procedures for remote control shutdowns and pressure relieving devices (1 per yr/15 months), prompt repair or replacement.	X			
	.733 (a) Storage of excess flammable or combustible materials at a safe distance from the compressor buildings.	X			
	(b) Tank must be protected according to NFPA #30; Amdt 192-103 pub. 06/09/06 eff. 07/10/06.	X			
*	.736 Compressor buildings in a compressor station must have fixed gas detection and alarm systems (must be performance tested), unless:	X			
	• 50% of the upright side areas are permanently open, or	X			
	• It is an unattended field compressor station of 1000 hp or less.	X			

**Comments:**  
 Compressor station procedures are contained in GS&S A-38, UO S4432, UO S4291.  
 Compressor stations have individual Station Operating and Maintenance Procedures.  
 WP 4430-02, S4431 now address 0.735

.605(b)	PRESSURE LIMITING and REGULATING STATION PROCEDURES	S	U	N/A	N/C
	.739(a) Inspection and testing procedures for pressure limiting stations, relief devices, pressure regulating stations and equipment (1 per yr/15 months)	X			
	(1) In good mechanical condition	X			
	(2) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed	X			
*	.739(a) (3) Set to control or relieve at correct pressures consistent with .201(a), except for .739(b). Amdt. 192-96 pub. 5/17/04, eff. 10/8/04	X			
	(4) Properly installed and protected from dirt, liquids, other conditions that may prevent proper oper.	X			
*	.739(b) For steel lines if MAOP is determined per .619(c) and the MAOP is 60 psi (414 kPa) or more . . . Amdt. 192-96 pub. 5/17/04, eff. 10/8/04				
	If MAOP produces hoop stress that				
	Is greater than 72 percent of SMYS	X			
	Is unknown as a percent of SMYS				
	Then the pressure limit is:				
	MAOP plus 4 percent				
	A pressure that will prevent unsafe operation of the pipeline considering its operating and maintenance history and MAOP				
	.743 Testing of Relief Devices				
*	.743 (a) Capacity must be consistent with .201(a) except for .739(b), and be determined 1 per yr/15 mo. Amdt. 192-96 pub. 5/17/04, eff. 10/8/04	X			
	.743 (b) If calculated, capacities must be compared; annual review and documentation are required.	X			
	.743 (c) If insufficient capacity, new or additional devices must be installed to provide required capacity.	X			

**Comments:**

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**Comments:**  
 CES Std C-T & CS-S0351 District Regulator Station Maintenance;  
 CGT Standard 4432 and CGT Std S4433 Gas Pressure Relief Devices - Responsibility for Annual Inspection and Verification of Capacity);  
 GS&S 11-70 Pressure Relief Devices.  
 CGT Std 4431 - Major Gas Facilities.  
 (Note: During an audit, the inspector should ask transmission districts to identify its majore facilities considered per this standard.)  
 Standards review and confirmad as still applicable during audit of 03/3009

.605(b)	VALVE AND VAULT MAINTENANCE PROCEDURES	S	U	N/A	N/C
	Valves				
.745	(a) Inspect and partially operate each transmission valve that might be required during an emergency (1 per yr/15 months)	X			
.745	(b) Prompt remedial action required, or designate alternative valve.	X			
	Vaults				
.749	Inspection of vaults greater than 200 cubic feet (1 per yr/15 months)	X			

.605(b)	PREVENTION of ACCIDENTAL IGNITION PROCEDURES	S	U	N/A	N/C
.751	Reduce the hazard of fire or explosion by:				
	(a) Removal of ignition sources in presence of gas and providing for a fire extinguisher	X			
	(b) Prevent welding or cutting on a pipeline containing a combustible mixture	X			
	(c) Post warning signs	X			

**Comments:**  
 Safety Health & Claims procedure 236, WP-4100-01, A-38  
 192.745-749 - UO Std S4446 Vault Inspection Procedures applies to both Transmission and Distribution; UO Std S4220 and WP S4430-04 Gas Valve Maintenance Requirements, applies to transmission and distribution.  
 G-14832 will become WP 4414-04.

.13(c)	WELDING AND WELD DEFECT REPAIR/REMOVAL PROCEDURES	S	U	N/A	N/C
* .225	(a) Welding procedures must be qualified under Section 5 of API 1104 (19 <sup>th</sup> ed. 1999, 10/31/01 errata) or Section IX of ASME Boiler and Pressure Code (2004 ed. including addenda through July 1, 2005 ) by destructive test. Amdt. 192-94 pub. 6/14/04, eff. 7/14/04; Amdt. 192-103 pub 06/09/06, eff. 07/10/06.	X			
	(b) Retention of welding procedure - details and test	X			
	Note: Alternate welding procedures criteria are addressed in API 1104 Appendix A, section A.3.				
* .227	(a) Welders must be qualified by Section 6 of API 1104 (19 <sup>th</sup> ed. 1999, 10/31/01 errata) or Section IX of ASME Boiler and Pressure Code (2004 ed. including addenda through July 1, 2005) See exception in .227(b). Amdt. 192-94 pub. 6/14/04, eff. 7/14/04; Amdt. 192-103 pub 06/09/06, eff. 07/10/06; Amdt. 192-103 corr. Pub 02/01/07 eff. 03/05/07.	X			
	(b) Welders may be qualified under section 1 of Appendix C to weld on lines that operate at < 20% SMYS.			X	
.229	(a) To weld on compressor station piping and components, a welder must successfully complete a destructive test	X			
	(b) Welder must have used welding process within the preceding 6 months	X			
	(c) A welder qualified under .227(a) -				
* .229(c)	(1) May not weld on pipe that operates at ≥ 20% SMYS unless within the preceding 6 calendar months the welder has had one weld tested and found acceptable under the sections 6 or 9 of API Standard 1104; may maintain an ongoing qualification status by performing welds tested and found acceptable at least twice per year, not exceeding 7½ months; may not requalify under an earlier referenced edition. Amdt. 192-94 pub. 6/14/04, eff. 7/14/04.	X			

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.13(c)	WELDING AND WELD DEFECT REPAIR/REMOVAL PROCEDURES	S	U	N/A	N/C
	(2) May not weld on pipe that operates at > 20% SMYS unless is tested in accordance with 229(c)(1) or requalifies under 229(d)(1) or (d)(2).	X			
	(d) Welders qualified under 227(b) may not weld unless:				
	(1) Requalified within 1 year/15 months, or	X			
	(2) Within 7½ months but at least twice per year had a production weld pass a qualifying test	X			
	.231 Welding operation must be protected from weather	X			
	.233 Miter joints (consider pipe alignment)	X			
	.235 Welding preparation and joint alignment.	X			
*	.241 (a) Visual inspection must be conducted by an individual qualified by appropriate training and experience to ensure: Amdt. 192-94 pub. 6/14/04, eff. 7/14/04	X			
	(1) Compliance with the welding procedure	X			
	(2) Weld is acceptable in accordance with Section 9 of API 1104	X			
	(b) Welds on pipelines to be operated at 20% or more of SMYS must be nondestructively tested in accordance with 192.243 except welds that are visually inspected and approved by a qualified welding inspector if:	X			
	(1) The nominal pipe diameter is less than 6 inches, or	X			
	(2) The pipeline is to operate at a pressure that produces a hoop stress of less than 40% of SMYS and the welds are so limited in number that nondestructive testing is impractical	X			
*	.241 (c) Acceptability based on visual inspection or NDT is determined according to Section 9 of API 1104. If a girth weld is unacceptable under Section 9 for a reason other than a crack, and if Appendix A to API 1104 applies to the weld, the acceptability of the weld may be further determined under that appendix. Amdt. 192-94 pub. 6/14/04, eff. 7/14/04.	X			
	Note: If the alternative acceptance criteria in API 1104 Appendix A are used, has the operator performed an Engineering Critical Assessment (ECA)?				
	.245 Repair and Removal of Weld Defects				
	(a) Each weld that is unacceptable must be removed or repaired. Except for offshore pipelines, a weld must be removed if it has a crack that is more than 8% of the weld length.	X			
	(b) Each weld that is repaired must have the defect removed down to sound metal, and the segment to be repaired must be preheated if conditions exist which would adversely affect the quality of the weld repair. After repair, the weld must be inspected and found acceptable.	X			
	(c) Repair of a crack or any other defect in a previously repaired area must be in accordance with a written weld repair procedure, qualified under §192.225.	X			
	Note: Sleeve Repairs - use low hydrogen rod (Best Practices -ref. API 1104 App. B, In Service Welding)				

**Comments:**

192.231, 192.235 - GS&S D-20 P.2  
 192.233 - GS&S A-36 P.6  
 192.241 - Welding, is addressed in GS&S D-40 and D-22.  
 192.245 - Repair and Removal of Weld Defect, is addressed in UO Std S4134 and GS&S D-30.  
 GS&S D-30 - Welder Qualification For Under 20% of SMYS  
 GS&S D-30.2 - Arc Welder Qualification For Working on Pipelines that Operate At Over 20% SMYS.  
 GS&S D-22 Arc Welding Procedure Requirement All Stress Levels  
 GS&S A-36 Design Construction Requirements

.13(c)	NONDESTRUCTIVE TESTING PROCEDURES	S	U	N/A	N/C
	.243 (a) Nondestructive testing of welds must be performed by any process, other than trepanning, that clearly indicates defects that may affect the integrity of the weld.	X			
	(b) Nondestructive testing of welds must be performed:				
	(1) In accordance with a written procedure, and	X			
	(2) By persons trained and qualified in the established procedures and with the test equipment used	X			
	(c) Procedures established for proper interpretation of each nondestructive test of a weld to ensure acceptability of the weld under 192.241(e)	X			

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NONDESTRUCTIVE TESTING PROCEDURES		S	U	N/A	N/C
	(d) When nondestructive testing is required under §192.241(b), the following percentage of each day's field butt welds, selected at random by the operator, must be nondestructively tested over the entire circumference:				
	(1) In Class 1 locations at least 10%.	X			
	(2) In Class 2 locations at least 15%.	X			
	(3) In Class 3 and 4 locations, at crossings of a major navigable river, offshore, and within railroad or public highway rights-of-way, including tunnels, bridges, and overhead road crossings, 100% unless impractical, then 90%. Nondestructive testing must be impractical for each girth weld not tested.	X			
	(4) At pipeline tie-ins, 100%.	X			
	(c) Except for a welder whose work is isolated from the principal welding activity, a sample of each welder's work for each day must be nondestructively tested, when nondestructive testing is required under §192.241(b).	X			
	(f) Nondestructive testing - the operator must retain, for the life of the pipeline, a record showing by mile post, engineering station, or by geographic feature, the number of welds nondestructively tested, the number of welds rejected, and the disposition of the rejected welds.	X			

**Comments:**

GS&S D-40 Weld Inspection

GS&S D-31 Standard of Acceptability for Welding; Non-destructive and Destructive Testing

192.243(d)(1) - PG&E tests a minimum of 20% instead of 10%.

192.243(d)(2) - PG&E tests a minimum of 20% instead of 15%.

.273(b) JOINING OF PIPELINE MATERIALS		S	U	N/A	N/C
.281	Joining of plastic pipe				
	• Type of plastic used	X			
	• Proper markings in accordance with §192.63	X			
	• Manufacturer	X			
	• Type of joint used	X			
*	.283 Qualified joining procedures for plastic pipe must be in place Amdt. 192-94 pub. 6/14/04, eff. 7/14/04; Amdt. 192-103 pub. 06/09/06, eff. 07/10/06.	X			
*	.285 Persons making joints with plastic pipe must be qualified Amdt. 192-94 pub. 6/14/04, eff. 7/14/04	X			
*	.287 Persons inspecting plastic joints must be qualified Amdt. 192-94 pub. 6/14/04, eff. 7/14/04	X			

**Comments:**

GS&S A-90 Plastic Main and Service Installation

GS&S A-93 Polyethylene Pipe Specifications and Design Considerations

GS&S A-93.1 Plastic Gas Distribution System Construction and Maintenance

GS&S D-34 Qualifications For Joining Plastic Pipes

GS&S D-21 Joining of Polyethylene Pipe

Reviewed and confirmed during 03/2009 audit that existing standards are still applicable.

.605(b) CORROSION CONTROL PROCEDURES		S	U	N/A	N/C
.453	Arc corrosion procedures established and carried out by or under the direction of a qualified person for:				
	• Design	X			
	• Operations	X			
	• Installation	X			
	• Maintenance	X			
.455	(a) For pipelines installed after July 31, 1971, buried segments must be externally coated and (b) cathodically protected within one year after construction (see exceptions in code)	X			

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CORROSION CONTROL PROCEDURES		S	U	N/A	N/C
	(c) Aluminum may not be installed in a buried or submerged pipeline if exposed to an environment with a natural pH in excess of 8 (see exceptions in code)			X	
.457	(a) All effectively coated steel transmission pipelines installed prior to August 1, 1971, must be cathodically protected.	X			
	(b) If installed before August 1, 1971, cathodic protection must be provided in areas of active corrosion for: bare or ineffectively coated transmission lines, and bare or coated c/s, regulator sta, and meter sta. piping.	X			
.459	Examination of buried pipeline when exposed; if corrosion is found, further investigation is required	X			
.461	Procedures must address the protective coating requirements of the regulations. External coating on the steel pipe must meet the requirements of this part.	X			
.463	Cathodic protection level according to Appendix D criteria	X			
.465	(a) Pipe-to-soil monitoring (1 per yr/15 months) or short sections (10% per year, all in 10 years)	X			
	(b) Rectifier monitoring (6 per yr/2 1/2 months)	X			
	(c) Interference bond monitoring (as required)	X			
	(d) Prompt remedial action to correct any deficiencies indicated by the monitoring.	X			
.465	(e) Electrical surveys (closely spaced pipe to soil) on bare/unprotected lines, cathodically protect active corrosion areas (1 per 3 years/39 months).	X			
.467	Electrical isolation (include casings)	X			
.469	Sufficient test stations to determine CP adequacy	X			
.471	Test leads	X			
.473	Interference currents	X			
.475	(a) Proper procedures for transporting corrosive gas?			X	
	(b) Removed pipe must be inspected for internal corrosion. If found, the adjacent pipe must be inspected to determine extent. Certain pipe must be replaced. Steps must be taken to minimize internal corrosion.	X			
* .476	Systems designed to reduce internal corrosion. Final Rule: Pub. 4/23/07, eff. 5/23/07.	X			
	(a) New construction			X	
	(b) Exceptions - offshore pipeline and systems replaced before 5/23/07				
	(c) Evaluate impact of configuration changes to existing systems	X			
.477	Internal corrosion control coupon (or other suit. Means) monitoring (2 per yr/7 1/2 months)	X			
.479	(a) Each exposed pipe must be cleaned and coated (see exceptions under .479(c))	X			
	Offshore splash zones and soil-to-air interfaces must be coated	X			
	(h) Coating material must be suitable	X			
	Coating is not required where operator has proven that corrosion will:				
	(c) (1) Only be a light surface oxide, or	X			
	(2) Not affect safe operation before next scheduled inspection.	X			
.481	(a) Atmospheric corrosion control monitoring (1 per 3 yrs/39 months onshore; 1 per yr/15 months offshore)	X			
.481	(b) Special attention required at soil/air interfaces, thermal insulation, under dishoned coating, pipe supports, splash zones, deck penetrations, spans over water.	X			
.481	(c) Protection must be provided if atmospheric corrosion is found (per §192.479).	X			
.483	Replacement pipe must be coated and cathodically protected (see code for exceptions)	X			
.485	(a) Procedures to replace pipe or reduce the MAOP if general corrosion has reduced the wall thickness?	X			
	(b) Procedures to replace/repair pipe or reduce MAOP if localized corrosion has reduced wall thickness (unless reliable engineering repair method exists)?	X			
	(c) Procedures to use Rstreng or B-31G to determine remaining wall strength?	X			
.491	Corrosion control maps and record retention (pipeline service life or 5 yrs)	X			

Comments:



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**Comments:**  
Overall corrosion control procedures are contained in GS&S O-16, US S 4133, O-10 & A34, GS&S E-27, UO Std S4134, and UO Std S4126. Associated Stds D-10, D-10.1

.605(b)	UNDERWATER INSPECTION PROCEDURES - GULF OF MEXICO and INLETS	S	U	N/A	N/C
* .612(a)	Operator must have a procedure prepared by August 10, 2005 to identify pipelines in the Gulf of Mexico and its inlets in waters less than 15 feet (4.6 meters) deep that are at risk of being an exposed underwater pipeline or a hazard to navigation? Amdt. 192-98 pub. 8/10/04, eff. 9/9/04			X	
* .612(b)	Operator must conduct appropriate periodic underwater inspections based on the identified risk Amdt. 192-98 pub. 8/10/04, eff. 9/9/04			X	
.612(c)	Do procedures require the operator to take action when the operator discovers that a pipeline is: (1) Promptly, within 24 hours, notify the National Response Center of the location of the pipeline?			X	
	(2) Promptly, but not later than 7 days after discovery, mark the location of the pipeline in accordance with 33 CFR Part 64 at the ends of the pipeline segment and at intervals of not over 500 yards long, except that a pipeline segment less than 200 yards long need only be marked at the center?			X	
	(3) Place the pipeline so that the top of the pipe is 36 inches below the seabed for normal excavation or 18 inches for rock excavation within 6 months of discovery or not later than November 1 of the following year if the 6 month period is later than November 1 of the year the discovery is made? See code re: engineering alternatives, PHMSA notification.			X	

.801- .809	<b>Subpart N - Qualification of Pipeline Personnel Procedures</b>	S	U	N/A	N/C
	Refer to Operator Qualification Inspection Forms and Protocols (OPS web site)				

.901- .951	<b>Subpart O - Pipeline Integrity Management</b>	S	U	N/A	N/C
	This form does not cover Gas Pipeline Integrity Management Programs				

Subparts A - C	<b>PART 199 - DRUG and ALCOHOL TESTING REGULATIONS and PROCEDURES</b>	S	U	N/A	N/C
	Drug & Alcohol Testing & Alcohol Misuse Prevention Program - Use PHMSA Form # 13, PHMSA 2008 Drug and Alcohol Program Check.				

**Comments:**

PIPELINE INSPECTION (Field)		S	U	N/A	N/C
.179	Valve Protection from Tampering or Damage			X	
.463	Cathodic Protection				
.465	Rectifiers				
.476	Systems designed to reduce internal corrosion				
.479	Pipeline Components Exposed to the Atmosphere				
.605	Knowledge of Operating Personnel				
.612 (c) (2)	Pipelines exposed on seabed (Gulf of Mexico and Inlets); Marking				
.613(b), 701	Pipeline condition, unsatisfactory conditions, hazards, etc.				
.707	ROW Markers, Road and Railroad Crossings				
.719	Pre-pressure Tested Pipe (Markings and Inventory)				
.7397.743	Pressure Limiting and Regulating Devices (spot-check field installed equipment vs. inspection records)				



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PIPELINE INSPECTION (Field)		S	U	N/A	N/C
.745	Valve Maintenance			X	
.751	Warning Signs				
.801 - .809	Operator Qualification - Use PHMSA Form 15 Operator Qualification Field Inspection Protocol Form				

**Comments:**

COMPRESSOR STATIONS INSPECTION (Field)		S	U	N/A	N/C
(Note: Facilities may be "Grandfathered")					
.163 (c)	Main operating floor must have (at least) two (2) separate and unobstructed exits			X	
	Door latch must open from inside without a key				
	Doors must swing outward				
(d)	Each fence around a compressor station must have (at least) 2 gates or other facilities for emergency exit				
	Each gate located within 200 ft of any compressor plant building must open outward				
	When occupied, the door must be opened from the inside without a key				
(e)	Does the equipment and wiring within compressor stations conform to the National Electric Code, ANSI/NFPA 70?				
.165(a)	If applicable, are there liquid separator(s) on the intake to the compressors?				
.165(b)	Do the liquid separators have a manual means of removing liquids?				
	If slugs of liquid could be carried into the compressors, are there automatic dumps on the separators, Automatic compressor shutdown devices, or high liquid level alarms?			X	
.167(a)	ESD system must:				
	- Discharge blowdown gas to a safe location			X	
	- Block and blowdown the gas in the station				
	- Shut down gas compressing equipment, gas fires, electrical facilities in compressor building and near-gas headers				
	- Maintain necessary electrical circuits for emergency lighting and circuits needed to protect equipment from damage				
	ESD system must be operable from at least two locations, each of which is:				
.167 (b)	- Outside the gas area of the station			X	
	- Not more than 500 feet from the limits of the station				
	- ESD switches near emergency exits?				
.167(c)	For stations supplying gas directly to distribution systems, is the ESD system configured so that the LDC will not be shut down if the ESD is activated?			X	
	Are ESDs on platforms designed to actuate automatically by...				
	- For unattended compressor stations, when:				
	* The gas pressure equals MAOP plus 15%?			X	
	* An uncontrolled fire occurs on the platform?			X	
	- For compressor station in a building, when				
	* An uncontrolled fire occurs in the building?			X	
* Gas in air reaches 50% or more of LEL in a building with a source of ignition (facility conforming to NEC Class 1, Group D is not a source of ignition)?					
.171(a)	Does the compressor station have adequate fire protection facilities? If fire pumps are used, they must not be affected by the ESD system.				
(b)	Do the compressor station prime movers (other than electrical movers) have over-speed shutdown?				
(c)	Do the compressor units alarm or shutdown in the event of inadequate cooling or lubrication of the unit(s)?				

## STANDARD INSPECTION REPORT OF A GAS TRANSMISSION PIPELINE

(Unless otherwise noted, all code references are to 49CFR Part 192. S - Satisfactory U - Unsatisfactory N/A - Not Applicable N/C - Not Checked  
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COMPRESSOR STATIONS INSPECTION (Field)		S	U	N/A	N/C
(Note: Facilities may be "Grandfathered")					
(d)	Are the gas compressor units equipped to automatically stop fuel flow and vent the engine if the engine is stopped for any reason?			X	
(e)	Are the mufflers equipped with vents to vent any trapped gas?			X	
.173	Is each compressor station building adequately ventilated?				
.457	Is all buried piping cathodically protected?				
.481	Atmospheric corrosion of aboveground facilities				
.603	Does the operator have procedures for the start-up and shut-down of the station and/or compressor units?				
	Are facility maps current/up-to-date?				
.615	Emergency Plan for the station on site?				
.707	Markers				
.731	Overpressure protection - reliefs or shutdowns				
.735	Are combustible materials in quantities exceeding normal daily usage, stored a safe distance from the compressor building?				
	Are aboveground oil or gasoline storage tanks protected in accordance with NFPA standard No. 30?				
.736	Gas detection - location				

Comments:

CONVERSION TO SERVICE PERFORMANCE and RECORDS		S	U	N/A	N/C
.14 (a)(2)	Visual inspection of right of way, aboveground and selected underground segments			X	
(a)(3)	Correction of unsafe defects and conditions				
(a)(4)	Pipeline testing in accordance with Subpart J				
(b)	Pipeline records: investigations, tests, repairs, replacements, alterations (life of pipeline)				X

REPORTING PERFORMANCE and RECORDS		S	U	N/A	N/C
191.5	Telephonic reports to NRC (800-424-8802)			X	
191.15	Written incident reports; supplemental incident reports (DOT Form RSPA F 7100.2)				
191.17 (a)	Annual Report (DOT Form RSPA F 7100.2-1)				
191.23	Safety related condition reports				
191.27	Offshore pipeline condition reports				
192.227 (g)	Abandoned facilities offshore, onshore crossing commercially navigable waterways reports				X

CONSTRUCTION PERFORMANCE and RECORDS		S	U	N/A	N/C
225	Test Results to Qualify Welding Procedures			X	
227	Welder Qualification				
241 (a)	Visual Weld Inspector Training/Experience				
243 (b)(2)	Nondestructive Technician Qualification				
(c)	NDT procedures				
(d)	Total Number of Girth Welds				
(e)	Number of Welds Inspected by NDT				
(f)	Number of Welds Rejected				

## STANDARD INSPECTION REPORT OF A GAS TRANSMISSION PIPELINE

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CONSTRUCTION PERFORMANCE and RECORDS		S	U	N/A	N/C
(f)	Disposition of each Weld Rejected			X	
.303	Construction Specifications				
.325	Underground Clearance				
.327	Amount, Location, Cover of each Size of Pipe Installed				
.328	If the pipeline will be operated at the alternative MAOP standard calculated under 192.620 (80% SMYS) does it meet the additional construction requirements for: Quality assurance, Girth welds, depth of cover, initial strength testing, and interference currents?				
.455	Cathodic Protection				

OPERATIONS and MAINTENANCE PERFORMANCE and RECORDS		S	U	N/A	N/C
.16	Customer Notification (Verification - 90 days - and Elements)			Y	
.603(b)	.605(a) Procedural Manual Review - Operations and Maintenance (1 per yr/15 months)				
.603(b)	.605(c) Abnormal Operations				
.603(b)	.605(b)(3) Availability of construction records, maps, operating history to operating personnel				
.603(b)	.605(b)(8) Periodic review of personnel work - effectiveness of normal O&M procedures				
.603(b)	.605(c)(4) Periodic review of personnel work - effectiveness of abnormal operation procedures				
.709	.609 Class Location Study (If Applicable)				
.603(b)	.612(b) Gulf of Mexico/Inlets: Periodic underwater inspections based on the identified risk				
.709	.614 Damage Prevention (Miscellaneous)				
.603(b)	.615(b)(1) Location Specific Emergency Plan				
.603(b)	.615(b)(2) Emergency Procedure training, verify effectiveness of training				
.603(b)	.615(b)(3) Employee Emergency activity review, determine if procedures were followed.				
.603(b)	.615(e) Liaison Program with Public Officials				
.603(b)	.616 Public Awareness Program				
	.616(e & f) Documentation properly and adequately reflects implementation of operator's Public Awareness Program requirements - Stakeholder Audience identification, message type and content, delivery method and frequency, supplemental enhancements, program evaluations, etc. (i.e. contact or mailing rosters, postage receipts, return receipts, audience contact documentation, etc. for emergency responder, public officials, school superintendents, program evaluations, etc.). See table below:			Y	
	<b>API RP 1162 Baseline* Recommended Message Deliveries</b>				
	<b>Stakeholder Audience (Natural Gas Transmission Line Operators)</b>				
	Residents Along Right-of-Way and Places of Congregation				
	Emergency Officials				
	Public Officials				
	Excavator and Contractors				
	One-Call Centers				
	<b>Stakeholder Audience (Gathering Line Operators)</b>				
	Residents and Places of Congregation				
	Emergency Officials				
	Public Officials				
	Excavators and Contractors				
	One-Call Centers				
	* Refer to API RP 1162 for additional requirements, including general program recommendations, supplemental requirements, recordkeeping, program evaluation, etc.				
.616(g)	The program must be conducted in English and any other languages commonly understood by a significant number of the population in the operator's area.				
517	Pressure Testing				

## STANDARD INSPECTION REPORT OF A GAS TRANSMISSION PIPELINE

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OPERATIONS and MAINTENANCE PERFORMANCE and RECORDS			S	U	N/A	N/C												
.553(b)	Uprating				X													
.709	.619 / .620	Maximum Allowable Operating Pressure (MAOP)																
.709	.625	Odorization of Gas																
.709	.705	Patrolling (Refer to Table Below)				X												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Class Location</th> <th style="width: 25%;">At Highway and Railroad Crossings</th> <th style="width: 25%;">At All Other Places</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1 and 2</td> <td style="text-align: center;">2/yr (7½ months)</td> <td style="text-align: center;">1/yr (15 months)</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">4/yr (4½ months)</td> <td style="text-align: center;">2/yr (7½ months)</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">4/yr (4½ months)</td> <td style="text-align: center;">4/yr (4½ months)</td> </tr> </tbody> </table>							Class Location	At Highway and Railroad Crossings	At All Other Places	1 and 2	2/yr (7½ months)	1/yr (15 months)	3	4/yr (4½ months)	2/yr (7½ months)	4	4/yr (4½ months)	4/yr (4½ months)
Class Location	At Highway and Railroad Crossings	At All Other Places																
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3	4/yr (4½ months)	2/yr (7½ months)																
4	4/yr (4½ months)	4/yr (4½ months)																
.709	.706	Leak Surveys (Refer to Table Below)				X												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Class Location</th> <th style="width: 25%;">Required</th> <th style="width: 25%;">Not Exceed</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1 and 2</td> <td style="text-align: center;">1/yr</td> <td style="text-align: center;">15 months</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">2/yr*</td> <td style="text-align: center;">7½ months</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">4/yr*</td> <td style="text-align: center;">4½ months</td> </tr> </tbody> </table> <p style="text-align: center; font-size: small;">* Leak detector equipment survey required for lines transporting un-odorized gas.</p>							Class Location	Required	Not Exceed	1 and 2	1/yr	15 months	3	2/yr*	7½ months	4	4/yr*	4½ months
Class Location	Required	Not Exceed																
1 and 2	1/yr	15 months																
3	2/yr*	7½ months																
4	4/yr*	4½ months																
.709	.731(a)	Compressor Station Relief Devices (1 per yr/15 months)				X												
.709	.731(e)	Compressor Station Emergency Shutdown (1 per yr/15 months)																
.709	.736(c)	Compressor Stations - Detection and Alarms (Performance Test)																
.709	.739	Pressure Limiting and Regulating Stations (1 per yr/15 months)																
.709	.743	Pressure Limiting and Regulator Stations - Capacity (1 per yr/15 months)																
.709	.745	Valve Maintenance (1 per yr/15 months)																
.709	.749	Vault Maintenance (≥ 200 cubic feet)(1 per yr/15 months)																
.603(b)	.751	Prevention of Accidental Ignition (hot work permits)																
.603(b)	.225(b)	Welding - Procedure																
.603(b)	.227,229	Welding - Welder Qualification																
.603(b)	.243(b)(2)	NDT - NDT Personnel Qualification																
.709	.243(f)	NDT Records (Pipeline Life)																
.709		Repair: pipe (Pipeline Life): Other than pipe (5 years)				X												

Comments:

CORROSION CONTROL PERFORMANCE and RECORDS			S	U	N/A	N/C
.453	CP procedures (system design, installation, operation, and maintenance) must be carried out by qualified personnel					X
.491	.491(a)	Maps or Records				
.491	.459	Examination of Buried Pipe when Exposed				
.491	.465(a)	Annual Pipe-to-soil Monitoring (1 per yr/15 months) or short sections (10 % per year, all in 10 years)				
.491	.465(b)	Rectifier Monitoring (6 per yr/2½ months)				
.491	.465(c)	Interference Bond Monitoring - Critical (6 per yr/2½ months)				
.491	.465(c)	Interference Bond Monitoring - Non-critical (1 per yr/15 months)				
.491	.465(d)	Prompt Remedial Actions				
.491	.465(e)	Unprotected Pipeline Surveys, CP active corrosion areas (1 per 3 cal yr/39 months)				X

## STANDARD INSPECTION REPORT OF A GAS TRANSMISSION PIPELINE

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CORROSION CONTROL PERFORMANCE and RECORDS			S	U	N/A	N/C
.491	.467	Electrical Isolation (Including Casings)			X	
.491	.469	Test Stations - Sufficient Number				
.491	.471	Test Leads				
.491	.473	Interference Currents				
.491	.475(a)	Internal Corrosion; Corrosive Gas Investigation				
.491	.475(b)	Internal Corrosion; Internal Surface Inspection; Pipe Replacement				
.491	.476 (d)	Internal Corrosion; New system design; Evaluation of impact of configuration changes to existing systems				
.491	.477	Internal Corrosion Control Coupon Monitoring (2 per yr/7½ months)				
.491	.481	Atmospheric Corrosion Control Monitoring (1 per 3 cal yr/39 months onshore; 1 per yr/15 months offshore)				
.491	.483/485	Remedial; Replaced or Repaired Pipe; coated and protected; corrosion evaluation and actions				

Comments:

Leave this list with the operator:

**Recent PHMSA Advisory Bulletins (Last 2 years)**

<u>Number</u>	<u>Date</u>	<u>Subject</u>
ADB-07-01	April 27, 2007	Pipeline Safety: Senior Executive Signature and Certification of Integrity Management Program Performance Reports
ADB-07-02	September 6, 2007	Pipeline Safety: Updated Notification of the Susceptibility to Premature Brittle-Like Cracking of Older Plastic Pipe
ADB-07-02	February 29, 2008	Correction - Pipeline Safety: Updated Notification of the Susceptibility to Premature Brittle-Like Cracking of Older Plastic Pipe
ADB-08-01	May 13, 2008	Pipeline Safety - Notice to Operators of Gas Transmission Pipelines on the Regulatory Status of Direct Sales Pipelines
ADB-08-02	March 4, 2008	Pipeline Safety - Issues Related to Mechanical Couplings Used in Natural Gas Distribution Systems
ADB-08-03	March 10, 2008	Pipeline Safety - Dangers of Abnormal Snow and Ice Build-Up on Gas Distribution Systems
ADB-08-04	June 5, 2008	Pipeline Safety - Installation of Excess Flow Valves into Gas Service Lines
ADB-08-05	June 25, 2008	Pipeline Safety - Notice to Hazardous Liquid Pipeline Operators of Request for Voluntary Adv Notification of Intent To Transport Biofuels
ADB-08-06	July 2, 2008	Pipeline Safety - Dynamic Riser Inspection, Maintenance, and Monitoring Records on Offshore Floating Facilities

For more PHMSA Advisory Bulletins, go to <http://ops.dot.gov/regs/advise.htm>



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## STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

A completed Standard Inspection Report is to be submitted to the Director within 60 days from completion of the inspection. A Post Inspection Memorandum (PIM) is to be completed and submitted to the Director within 30 days from the completion of the inspection, or series of inspections, and is to be filed as part of the Standard Inspection Report.

Inspection Report	Post Inspection Memorandum
Inspector/Submit Date: _____	Inspector/Submit Date: _____ Peer Review/Date: _____ Director Approval/Date: _____
<b>POST INSPECTION MEMORANDUM (PIM)</b>	
Name of Operator: Pacific Gas and Electric Company	OPID #: 15007
Name of Unit(s): All PG&E Distribution and Transmission	Unit #(s):
Records Location: San Francisco, California	
Unit Type & Commodity: Distribution with some transmission - Natural gas only	
Inspection Type:	Inspection Date(s): March 3-5, 2009
PHMSA Representative(s): Sunil Shori, Ivan Garcia, Steve Artus, and Terence Eng	AFO Days: 3

**Summary:**

This report is a centralized audit of documents that form Pacific Gas & Electric Company's (PG&E) Operations, Maintenance, and Emergency Plans. This audit examined gas distribution and transmission related standards; however, only distribution related findings are included in this report (transmission findings are in another report).

The findings from this audit will be resolved and a template for subsequent audits will be created based on the findings of this audit. The template will be used as the USRB Inspection Form for audits of PG&E conducted until PHMSA next revises this form.

**Findings:**

The findings are as noted throughout this report. A written report noting the findings will be sent to the operator.



## STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

Name of Operator: Pacific Gas and Electric Company		Unit ID No. <sup>(1)</sup>
OP ID No. <sup>(1)</sup>		System/Unit Name & Address: <sup>(1)</sup>
HQ Address: 77 Beale Street San Francisco, CA		123 Mission Street San Francisco, CA
Co. Official: Phone No.: Fax No.: Emergency Phone No.:		Activity Record ID No.: Phone No.: Fax No.: Emergency Phone No.:
Persons Interviewed	Title	Phone No.
Lawrence M. Berg	Senior Gas Engineer	
Edward Chun	Consulting Senior Gas Engineer	
Brian J. Leary	Gas Standards Manager	
PHMSA Representative(s) <sup>(1)</sup>	Inspection Date(s) <sup>(1)</sup>	
Company System Maps (Copies for Region Files):	NO MAPS OBTAINED DURING AUDIT	

<b>Unit Description</b> Documents related to entire PG&E gas system
--

<b>Portion of Unit Inspected:</b> <sup>(1)</sup> Documents related to entire PG&E gas system
---

For gas transmission and distribution pipeline inspections, the attached evaluation form should be used in conjunction with 49CFR Parts 191 and 192.

<sup>1</sup> Information not required if included on page 1.

## STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

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GAS SYSTEM OPERATIONS			
Gas Supplier: N/A	Date:		
Unaccounted for Gas:	Services:	Residential	Commercial
		Industrial	Other
Operating Pressure(s):	MAOP (Within last year)	Actual Operating Pressure (At time of inspection)	
Feeder:			
Town:			
Other:			
Does the operator have any transmission pipelines?			
For compressor station inspections, use Attachment 4.			

### 49CFR PART 191

REPORTING PROCEDURES		S	U	N/A	N/C
.605(b)(4)	Procedures for gathering data for incident reporting				
	191.5 Telephonically reporting incidents to NRC (800) 424-8802	X			
	191.15(a) 30-day follow-up written report (Form 7100-2)	X			
	191.15(b) Supplemental report (to 30-day follow-up)	X			
.605(a)	191.23 Reporting safety-related condition (SRCR)	X			
	191.25 Filing the SRCR within 5 days of determination, but not later than 10 days after discovery	X			
.605(d)	Instructions to enable operation and maintenance personnel to recognize potential Safety Related Conditions	X			

**Comments:**  
PG&E's reporting procedures are addressed in UO Std S4413.

### 49CFR PART 192

CUSTOMER AND EFV INSTALLATION NOTIFICATION PROCEDURES		S	U	N/A	N/C
.13(c)	.16 Procedures for notifying new customers, within 90 days, of their responsibility for those sections of service lines not maintained by the operator.	X			
	.381 If EFVs are installed, they must meet the performance requirements of §192.381	X			
	.383 If the operator has a voluntary installation program for excess flow valves, the program must meet the requirements outlined in §192.383.	X			
	.383 If the operator does not have a voluntary program for EFV installations, customers must be notified in accordance with §192.383.			X	

NORMAL OPERATING and MAINTENANCE PROCEDURES		S	U	N/A	N/C
.605(a)	.605(a) O&M Plan review and update procedure (1 per year/15 months)	X			
	.605(b)(3) Making construction records, maps, and operating history available to appropriate operating personnel	X			
	.605(b)(5) Start up and shut down of the pipeline to assure operation within MAOP plus allowable buildup	X			
	.605(b)(8) Periodically reviewing the work done by operator's personnel to determine the effectiveness and adequacy of the procedures used in normal operation and maintenance and modifying the procedures when deficiencies are found	X			
	.605(b)(9) Taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulations of vapors or gas, and making available when needed at the excavation, emergency rescue equipment, including a breathing apparatus and a rescue harness and line	X			

## STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

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NORMAL OPERATING and MAINTENANCE PROCEDURES		S	U	N/A	N/C
.605(b)(10)	Routine inspection and testing of pipe-type or bottle-type holders	X			
.605(b)(11)	Responding promptly to a report of a gas odor inside or near a building, unless the operator's emergency proced. under § 192.615(a)(3) specifically apply to these reports.	X			

**Comments:**

Procedures for 192.16 are in WP 5449-04. DCS Std D-S0423, which provides 192.16 notice to customers when work takes place, superseded by WP 5449-02. Standard A-93.3 disallows EFVs for 1/4" CTS because no EFV available for 1/4" (e-mail provided noting this fact).

192.605(a) WP 4000-02 established in 09/2008.  
 192.605(b)(3) -- UO Standard S0470  
 192.605(b)(5) -- S4125  
 192.605(b)(8) IQI and PG&E's Quality Assurance Program  
 192.605(b)(9) -- WP 4414-04 & S4415  
 192.605(b)(10) -- S4345, S4414-04, and S4411

S0470 (Design & Construction Standards)  
 GS&S A93.3 Excess Flow Valves voluntary installation program;

192.605(b)(11) addressed in Company Gas Emergency Procedures (CGEP) Part I Section 5.8

CHANGE in CLASS LOCATION PROCEDURES		S	U	N/A	N/C
.609	Class location study	X			
.611	Confirmation or revision of MAOP	X			

**Comments:**

UO Standard 4127 (This was shown as S4126 in Brian Leary's spreadsheet)

CONTINUING SURVEILLANCE PROCEDURES		S	U	N/A	N/C
.613(a)	Procedures for surveillance and required actions relating to change in class location, failures, leakage history, corrosion, substantial changes in CP requirements, and unusual operating and maintenance conditions	X			
.613(b)	Procedures requiring MAOP to be reduced, or other actions to be taken, if a segment of pipeline is in unsatisfactory condition	X			

**Comments:**

UO Std S4127; UO Std S4111 Patrolling of Pipelines and Mains; UO Std S 0350/S4110 Leak Survey and Repair; GS&S O-16 and UO Std S4133 Corrosion Control Distribution and Transmission Pipelines; UO Std S2333 Material Problem Reporting; UO Std S4413 CPUC Curtailments; UO Std S0353 Physical Inspection of Mains and Pipeline Services; GS&S A93.1 Plastic Gas Distribution System Construction and Maintenance.

192.613(b) - UO Std S4134 (DM-Tab A) -- Reviewed during 03/2009 audit and confirmed that same standards apply. These may change as PG&E completes review of standard and transitions to new format.

DAMAGE PREVENTION PROGRAM PROCEDURES		S	U	N/A	N/C
.614(e)	Participation in a qualified one-call program, or if available, a company program that complies with the following:				
	(1) Identify persons who engage in excavating	X			

## STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

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DAMAGE PREVENTION PROGRAM PROCEDURES		S	U	N/A	N/C
(2)	Provide notification to the public in the One Call area	X			
(3)	Provide means for receiving and recording notifications of pending excavations	X			
(4)	Provide notification of pending excavations to the members	X			
(5)	Provide means of temporary marking for the pipeline in the vicinity of the excavations	X			
(6)	Provides for follow-up inspection of the pipeline where there is reason to believe the pipeline could be damaged	X			
(i)	Inspection must be done to verify integrity of the pipeline	X			
(ii)	After blasting, a leak survey must be conducted as part of the inspection by the operator	X			

**Comments:**

UO Standard S4412 Protection of Underground Infrastructure  
PG&E Manual titled "Protection of Underground Infrastructure"  
UO-S4412 (TS); UO S4114 (DM-Tab A) addresses leak survey requirement following blasting.  
Gas Information Bulletin 151 -Rev. 2 addresses 192.614(c)(6)

.615	EMERGENCY PROCEDURES	S	U	N/A	N/C
.615(a)(1)	Receiving, identifying, and classifying notices of events which require immediate response by the operator	X			
.615(a)(2)	Establish and maintain communication with appropriate public officials regarding possible emergency	X			
.615(a)(3)	Prompt response to each of the following emergencies:				
(i)	Gas detected inside a building	X			
(ii)	Fire located near a pipeline	X			
(iii)	Explosion near a pipeline	X			
(iv)	Natural disaster	X			
.615(a)(4)	Availability of personnel, equipment, instruments, tools, and material required at the scene of an emergency	X			
.615(a)(5)	Actions directed towards protecting people first, then property	X			
.615(a)(6)	Emergency shutdown or pressure reduction to minimize hazards to life or property	X			
.615(a)(7)	Making safe any actual or potential hazard to life or property	X			
.615(a)(8)	Notifying appropriate public officials required at the emergency scene and coordinating planned and actual responses with these officials	X			
.615(a)(9)	Instructions for restoring service outages after the emergency has been rendered safe	X			
.615(a)(10)	Investigating accidents and failures as soon as possible after the emergency	X			
.615(b)(1)	Furnishing applicable portions of the emergency plan to supervisory personnel who are responsible for emergency action	X			
.615(b)(2)	Training appropriate employees as to the requirements of the emergency plan and verifying effectiveness of training	X			
.615(b)(3)	Reviewing activities following emergencies to determine if the procedures were effective	X			
.615(c)	Establish and maintain liaison with appropriate public officials, such that both the operator and public officials are aware of each other's resources and capabilities in dealing with gas emergencies	X			

**Comments:**

PG&E's Emergency Plan consists of 2 parts: (1) Basic Plan (company-wide) and (2) Appendix which contains the Division-specific portion. Each division or district is responsible for updating their own binders including any changes received on the company-wide plan and the division-specific plan. The Basic Plan/company-wide plan is reviewed by PG&E's SME by 8/31 of each year. Personnel that may be involved in emergency response are required to do an initial and subsequent training and evaluation. Additionally, personnel are required to take a computer-based examination on emergency procedures to stay informed of any recent changes in the

## STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

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**Comments:**

plan.

UO Std S6434 Gas Leak and Odor Response contains PG&E standards for investigating leak and odor complaints within a customer's premises.

<b>PUBLIC AWARENESS PROGRAM PROCEDURES</b> <small>(Also in accordance with API RP 1162)</small>			S	U	N/A	N/C
.605(a)	.616	Public Awareness Program also in accordance with API RP 1162 (Amdt 192-99 pub. 5/19/05 eff. 06/20/05 and Amdt 192-not numbered pub 12/13/07 eff. 12/13/07).				
	.616(d)	The operator's program must specifically include provisions to educate the public, appropriate government organizations, and persons engaged in excavation related activities on:				
		(1) Use of a one-call notification system prior to excavation and other damage prevention activities;	Y			
		(2) Possible hazards associated with unintended releases from a gas pipeline facility;	X			
		(3) Physical indications of a possible release;	X			
		(4) Steps to be taken for public safety in the event of a gas pipeline release; and	X			
		(5) Procedures to report such an event (to the operator).	X			
	.616(e)	The operator's program must include activities to advise affected municipalities, school districts, businesses, and residents of pipeline facility locations.	Y			
	.616(f)	The operator's program and the media used must be comprehensive enough to reach all areas in which the operator transports gas.	X			
	.616(g)	The program must be conducted in English and any other languages commonly understood by a significant number of the population in the operator's area?	X			
	.616(j)	Operators of a master meter or petroleum gas systems (unless the operator transports gas as a primary activity) must develop/implement a written procedure to provide its customers public awareness messages twice annually that includes: (1) A description of the purpose and reliability of the pipeline; (2) An overview of the hazards of the pipeline and prevention measures used; (3) Information about damage prevention; (4) How to recognize and respond to a leak; and (5) How to get additional information.  (See this subpart for requirements for master meter or petroleum gas system operators not located on property controlled by the operator.)			X	

**Comments:**

PG&E's submitted its PAP into the USDOT Clearinghouse. The USBR received the results of the Clearinghouse's review and has worked with PG&E to resolve the issues noted by the Clearinghouse. Safety, Health, and Claims 103 addresses PG&E's PAP. Master-meter section (616(j)) is not applicable to PG&E since it does not operate master-meter systems.

	<b>FAILURE INVESTIGATION PROCEDURES</b>	S	U	N/A	N/C
.617	.617 Analyzing accidents and failures including laboratory analysis where appropriate to determine cause and prevention of recurrence.	X			

**Comments:**

WP 1465-02 Gas Event and Near Hit Reporting issued 3/2008.

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.605(a)	MAOP PROCEDURES	S	U	N/A	N/C									
.619	Establishing MAOP so that it is commensurate with the class location.	X												
	MAOP cannot exceed the lowest of the following:													
	(a)(1) Design pressure of the weakest element	X												
	(a)(2) Test pressure divided by applicable factor	X												
	(a)(3) The highest actual operating pressure to which the segment of line was subjected during the 5 years preceding the applicable date in second column, unless the segment was tested according to .619(a)(2) after the applicable date in the third column or the segment was updated according to subpart K.													
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Pipeline segment</th> <th style="width: 25%;">Pressure date</th> <th style="width: 25%;">Test date</th> </tr> </thead> <tbody> <tr> <td>- Onshore transmission line that was a gathering line not subject to this part, before March 15, 2006.</td> <td>March 15, 2006, or date line becomes subject to this part, whichever is later.</td> <td>5 years preceding applicable date in second column.</td> </tr> <tr> <td>All other pipelines.</td> <td>July 1, 1970.</td> <td>July 1, 1965.</td> </tr> </tbody> </table>	Pipeline segment	Pressure date	Test date	- Onshore transmission line that was a gathering line not subject to this part, before March 15, 2006.	March 15, 2006, or date line becomes subject to this part, whichever is later.	5 years preceding applicable date in second column.	All other pipelines.	July 1, 1970.	July 1, 1965.	X			
Pipeline segment	Pressure date	Test date												
- Onshore transmission line that was a gathering line not subject to this part, before March 15, 2006.	March 15, 2006, or date line becomes subject to this part, whichever is later.	5 years preceding applicable date in second column.												
All other pipelines.	July 1, 1970.	July 1, 1965.												
	(a)(4) Maximum safe pressure determined by operator.	X												
	(b) Overpressure protective devices must be installed if .619(a)(4) is applicable	X												
	(c) The requirements on pressure restrictions in this section do not apply in the following instance. An operator may operate a segment of pipeline found to be in satisfactory condition, considering its operating and maintenance history, at the highest actual operating pressure to which the segment was subjected during the 5 years preceding the applicable date in the second column of the table in paragraph (a)(3) of this section. An operator must still comply with § 192.611	X												
.621	MAOP - High Pressure Distribution Systems Note: New PA-11 design criteria is incorporated into 192.121 & .123. (Final Rule Pub. 24 December, 2008)	X												
.623	Max/Min. Allowable Operating Pressure - Low Pressure Distribution Systems	X												

**Comments:**

DCS Standard D-S0430, GTS Std S4125, GS&S A-34.  
For low pressure distribution systems installed prior to July 1, 1970 MAOP is established as 150% of Standard Delivery Pressure of 7 inches w.c., the MAOP is 10-1/2 inches w.c.  
The form, "Establishing MAOP, exhibit A", and its use needs to be referenced in DCS/GTS Standard D-S0430

.13(e)	PRESSURE TEST PROCEDURES	S	U	N/A	N/C
	.503 Pressure testing	X			

**Comments:**

GS&S A-34 Piping Design and Test Requirements, Attachment A - Test Requirements, Table A-1.

.605(a)	ODORIZATION of GAS PROCEDURES	S	U	N/A	N/C
.625(a)	Distribution lines must contain odorized gas. - must be readily detectable by person with normal sense of smell at 1/4 of the LEL.	X			
.625(b)	Odorized gas in Class 3 or 4 locations (if applicable).	X			
.625(f)	Periodic gas sampling, using an instrument capable of determining the percentage of gas in air at which the odor becomes readily detectable.	X			

**Comments:**

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**Comments:**  
 UO Std S4350, Gas odor detection at 0.6% gas in air or less;  
 Periodic sampling is done monthly and recorded on Monthly Odorization Report (Form 62-4650).

.605(a)	TAPPING PIPELINES UNDER PRESSURE PROCEDURES	S	U	N/A	N/C
.627	Hot taps must be made by a qualified crew. NDT testing is suggested prior to tapping the pipe. Reference API RP 2201 for Best Practices.	X			

**Comments:**  
 GS&S C-38 Plastic Lateral Connection, Hot Tap Procedure.  
 \*\*PG&E has not examined API RP 2201 for possible use in its practices.\*\*

.605(n)	PIPELINE PURGING PROCEDURES	S	U	N/A	N/C
.629	Purging of pipelines must be done to prevent entrapment of an explosive mixture in the pipeline.				
	(a) Lines containing air must be properly purged.	X			
	(b) Lines containing gas must be properly purged	X			

**Comments:**  
 GS&S A-38 Procedure for Purging Gas Facilities, Attachment A and B.  
 Work Practice (WP 4100-01), Hot and Cold Work Methods for Natural Gas Transmission Pipeline Shutdown and Tie-in) replaces S4131, August 2008.

.605(a)	MAINTENANCE PROCEDURES	S	U	N/A	N/C
.703(b)	Each segment of pipeline that becomes unsafe must be replaced, repaired, or removed from service	X			
	(c) Hazardous leaks must be repaired promptly	X			

**Comments:**  
 192.703(b) - UO Standard S4430 CGT Gas Facility Requirements (This standard is under review (last review done 10/01/2001); UO Std S4134 Selection of Steel Gas Pipeline Repair Methods; UO Std S4129 Deactivation of Gas Facilities;  
 192.703(c) - UO Std S4110/S0350 addresses repair of hazardous leaks; UO Policy 3-7 Gas and Electric Operations, Maintenance and Construction; CT&CS-S0205 Replacement of Deteriorated or Damaged Facilities; GS&S A-66 Repair of Cast Iron; GS&S A-67 Repair of Copper and Gas Bulletin 246. Also, S4100-11.

.605(h)	TRANSMISSION LINES - PATROLLING & LEAKAGE SURVEY PROCEDURES	S	U	N/A	N/C											
.705(a)	Patrolling ROW conditions	X														
	(b) Maximum interval between patrols of lines:															
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Class Location</th> <th style="width: 30%;">At Highway and Railroad Crossings</th> <th style="width: 30%;">At All Other Places</th> </tr> </thead> <tbody> <tr> <td>1 and 2</td> <td style="text-align: center;">2/yr (7½ months)</td> <td style="text-align: center;">1/yr (15 months)</td> </tr> <tr> <td>3</td> <td style="text-align: center;">4/yr (4½ months)</td> <td style="text-align: center;">2/yr (7½ months)</td> </tr> <tr> <td>4</td> <td style="text-align: center;">4/yr (4½ months)</td> <td style="text-align: center;">4/yr (4½ months)</td> </tr> </tbody> </table>	Class Location	At Highway and Railroad Crossings	At All Other Places	1 and 2	2/yr (7½ months)	1/yr (15 months)	3	4/yr (4½ months)	2/yr (7½ months)	4	4/yr (4½ months)	4/yr (4½ months)	X		
Class Location	At Highway and Railroad Crossings	At All Other Places														
1 and 2	2/yr (7½ months)	1/yr (15 months)														
3	4/yr (4½ months)	2/yr (7½ months)														
4	4/yr (4½ months)	4/yr (4½ months)														
.706	Leakage surveys - 1 year/15 months	X														
	Leak detector equipment survey requirements for lines transporting un-odorized gas	X														
	(a) Class 3 locations - 7½ months but at least twice each calendar year			X												
	(b) Class 4 locations - 4½ months but at least 4 times each calendar year			X												



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**Comments:**  
 UO Std S4111, Attachment 1, Procedure for Patrolling Pipelines and Mains.  
 UO Std S4111, Table 1, Minimum Patrol Frequencies; All transmission and gathering lines are patrolled quarterly.  
 UO Std S4110, Table 1, Frequency of Periodic Required Gas Leak Surveys.

.605(b)	DISTRIBUTION SYSTEM PATROLLING & LEAKAGE SURVEY PROCEDURES	S	U	N/A	N/C
.721(a)	Frequency of patrolling mains must be determined by the severity of the conditions which could cause failure or leakage (i.e., consider cast iron, weather conditions, known slip areas, etc.)	X			
.721(b)	Mains in places or on structures where anticipated physical movement or external loading could cause failure or leakage must be patrolled . . .				
(b)(1)	In business districts at intervals not exceeding 4 1/2 months, but at least four times each calendar year; and	X			
(b)(2)	Outside business districts at intervals not exceeding 7 1/2 months, but at least twice each calendar year	X			
.723(a) & (b)	Periodic leak surveys determined by the nature of the operations and conditions.	X			
(b)(1)	In business districts as specified; 1/yr (15 months)	X			
(b)(2)	Outside of business districts as specified, once every 5 calendar years/63 mos.; for unprotected lines subject to .465(e) where electrical surveys are impractical, once every 3 years/39 mos.	X			

**Comments:**  
 UO Std S4111, Attachment 1, Procedure for Patrolling Pipelines and Mains; (5) Frequency, Table 1 - Minimum Patrol Frequencies.  
 UO Std S4110 Leak Survey and Repair of Gas Transmission and Distribution Facilities; Table 1 - Frequency of Periodic Required Gas Leak Surveys.  
 New Work Procedure (WP-4110-01), Leak Survey and Repair Procedures for .723(a) & (b), (b)(1), and (b)(2).

.605(b)	LINE MARKER PROCEDURES	S	U	N/A	N/C
.707	Line markers installed and labeled as required	X			

**Comments:**  
 GS&S L-10 Pipeline Markers Posts.  
 UO Std S4122, Attachment - Detailed Procedures, Table 1 - Pipeline Marking Requirements  
 Appendix A - Pipeline Marker Posts and Signs in GS&S Section L.

.605(b)	TRANSMISSION RECORD KEEPING PROCEDURES	S	U	N/A	N/C
.709	Records must be maintained...	X			
(a)	Repairs to the pipe -- life of system	X			
(b)	Repairs to "other than pipe" - 5 years		X		
(c)	Operation (Sub L) and Maintenance (Sub M) patrols, surveys, tests - 5 years or until next one	X			

**Comments:**  
 UO Std S4110, Attachment 1 Leak Survey, Repair, Inspection, and Gas Quarterly Incident Report (Form "A"), Gas Dig-in Incident Report (Form "A1") shall be retained for the life of any gas facility, plus 1 year.  
 \*\*PG&E needs to add the correct language to answer .709(b), no set procedure defined for repairs to "other than pipe"\*\*\*

.605(b)	TRANSMISSION FIELD REPAIR PROCEDURES	S	U	N/A	N/C
	<i>Imperfections and Damages</i>				
.713(a)	Repairs of imperfections and damages on pipelines operating above 40% SMYS				
(1)	Cut out a cylindrical piece of pipe and replace with pipe of 3 design strength	X			



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TRANSMISSION FIELD REPAIR PROCEDURES		S	U	N/A	N/C
(2)	Use of a reliable engineering method	X			
.713(b)	Reduce operating pressure to a safe level during the repair	X			
<b>Permanent Field Repair of Welds:</b>					
.715	Welds found to be unacceptable under §192.241(c) must be repaired by:				
(a)	Taking the line out of service and repairing in accordance with §192.243:	X			
	▪ Cracks longer than 8% of the weld length (except offshore) must be removed	X			
	▪ For each weld that is repaired, the defect must be removed down to clean metal and the pipe preheated if conditions demand it	X			
	▪ Repairs must be inspected to ensure acceptability	X			
	▪ Crack repairs or defect repairs in previously repaired areas must be done in accordance with qualified written welding procedures	X			
(b)	If the line remains in service, the weld may be repaired in accordance with §192.245 if:	X			
(1)	The weld is not leaking	X			
(2)	The pressure is reduced to produce a stress that is 20% of SMYS or less	X			
(3)	Grinding is limited so that 1/4 inch of pipe weld remains	X			
(c)	If the weld cannot be repaired in accordance with (a) or (b) above, a full encirclement welded split sleeve must be installed	X			
<b>Permanent Field Repairs of Leaks</b>					
.717	Field repairs of leaks must be made as follows:				
(a)	Replace by cutting out a cylinder and replace with pipe similar or of greater design	X			
(b)(1)	Install a full encirclement welded split sleeve of an appropriate design unless the pipe is joined by mechanical couplings and operates at less than 40% SMYS	X			
(b)(2)	A leak due to a corrosion pit may be repaired by installing a bolt on leak clamp	X			
(b)(3)	For a corrosion pit leak, if a pipe is not more than 40,000 psi SMYS, the pits may be repaired by fillet welding a steel plate. The plate must have rounded corners and the same thickness or greater than the pipe, and not more than 1/2D of the pipe size	X			
(b)(4)	Submerged offshore pipe or pipe in inland navigable waterways may be repaired with a mechanically applied full encirclement split sleeve of appropriate design	X			
(b)(5)	Apply reliable engineering method	X			
<b>Testing of Repairs</b>					
.719(a)	Replacement pipe must be pressure tested to meet the requirements of a new pipeline				
(b)	For lines of 6-inch diameter or larger and that operate at 20% or more of SMYS, the repair must be nondestructively tested in accordance with §192.241©	X			

**Comments:**

Transmission field repair procedures are addressed in GS&S A-60, A-60.2, A-64, D-22, A-34, and UO Std S4134.

.605(b)	TEST REQUIREMENTS FOR REINSTATING SERVICE LINES	S	U	N/A	N/C
.725(a)	Except for .725(b), disconnected service lines must be tested the same as a new service line.	X			
(b)	Service lines that are temporarily disconnected must be tested from the point of disconnection, the same as a new service line, before reconnect. See code for exception to this.	X			

**Comments:**

GS&S A-34 and A-93.1

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.605(b)	ABANDONMENT or DEACTIVATION of FACILITIES PROCEDURES	S	U	N/A	N/C
.727(b)	Operator must disconnect both ends, purge, and seal each end before abandonment or a period of deactivation where the pipeline is not being maintained. Offshore abandoned pipelines must be filled with water or an inert material, with the ends sealed	X			
(c)	Except for service lines, each inactive pipeline that is not being maintained under Part 192 must be disconnected from all gas sources/supplies, purged, and sealed at each end.	X			
(d)	Whenever service to a customer is discontinued, do the procedures indicate one of the following:				
	(1) The valve that is closed to prevent the flow of gas to the customer must be provided with a locking device or other means designed to prevent the opening of the valve by persons other than those authorized by the operator	X			
	(2) A mechanical device or fitting that will prevent the flow of gas must be installed in the service line or in the meter assembly	X			
	(3) The customer's piping must be physically disconnected from the gas supply and the open pipe ends sealed	X			
(e)	If air is used for purging, the operator shall ensure that a combustible mixture is not present after purging	X			
.727(g)	Operator must file reports upon abandoning underwater facilities crossing navigable waterways, including offshore facilities.	X			

**Comments:**

WP 4100-11 Deactivation of Gas & Electric Facilities issued 10/2008;  
GS&S A-38 Procedures for Purging Gas Facilities  
WP6435-04 Procedures for Discontinuing Gas Service.

.605(b)	PRESSURE LIMITING and REGULATING STATION PROCEDURES	S	U	N/A	N/C						
.739(a)	Inspection and testing procedures for pressure limiting stations, relief devices, pressure regulating stations and equipment (1 per yr/15 months)	X									
	(1) In good mechanical condition	X									
	(2) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed	X									
	(3) Set to control or relieve at correct pressures consistent with .201(a), except for .739(b).	X									
	(4) Properly installed and protected from dirt, liquids, and other conditions that may prevent proper oper.	X									
.739(b)	For steel lines if MAOP is determined per .619(c) and the MAOP is 60 psi (414 kPa) gage or more:										
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 45%;">If MAOP produces hoop stress that</th> <th style="width: 55%;">Then the pressure limit is:</th> </tr> </thead> <tbody> <tr> <td>Is greater than 72 percent of SMYS</td> <td>MAOP plus 4 percent</td> </tr> <tr> <td>Is unknown as a percent of SMYS</td> <td>A pressure that will prevent unsafe operation of the pipeline considering its operating and maintenance history and MAOP</td> </tr> </tbody> </table>	If MAOP produces hoop stress that	Then the pressure limit is:	Is greater than 72 percent of SMYS	MAOP plus 4 percent	Is unknown as a percent of SMYS	A pressure that will prevent unsafe operation of the pipeline considering its operating and maintenance history and MAOP	X			
If MAOP produces hoop stress that	Then the pressure limit is:										
Is greater than 72 percent of SMYS	MAOP plus 4 percent										
Is unknown as a percent of SMYS	A pressure that will prevent unsafe operation of the pipeline considering its operating and maintenance history and MAOP										
.741	Telemetry or Recording Gauges										
	(a) In place to indicate gas pressure in the district that is supplied by more than one regulating station	X									
	(b) Determine the need in a distribution system supplied by only one district station	X									
	(c) Inspect equipment and take corrective measures when indications of abnormally high or low pressure	X									
.743	Testing of Relief Devices										
.743	(a) Capacity must be consistent with .201(a), except for .739(b), and be determined 1 per yr/15 mo.	X									
	(b) If calculated, capacities must be compared; annual review and documentation are required.	X									
	(c) If insufficient capacity, new or additional devices must be installed to provide required capacity.	X									

**Comments:**

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**Comments:**

Standard S4430 (with WPs under that) will address what is currently addressed by Standard S5351, CES Standard C-1 & CS-S0351 District Regulator Station Maintenance; and DCS Standard D-S0456, Recording Pressures in Distribution Systems; (this is found in DM - Tab H).

For transmission, CGT Standard 4432, CGT S4433 Gas Pressure Relief Devices - Responsibility For Annual Inspection and Verification of Capacity, GS&S H-70 Pressure Relief Devices, CGT Standard 4431, Major Gas Facilities. (Note: Inspector should ask transmission district to identify its major gas facilities considered per this standard, during the audit.)

.605(b)	VALVE AND VAULT MAINTENANCE PROCEDURES	S	U	N/A	N/C
	Transmission Valves				
.745	(a) Inspect and partially operate each transmission valve that might be required during an emergency (1 per yr/15 months)	X			
.745	(b) Prompt remedial action required, or designate alternative valve.	X			
	Distribution Valves				
.747	(a) Check and service each valve that may be necessary for the safe operation of a distribution system (1 per yr/15 months)	X			
	(b) Prompt remedial action required, or designate alternative valve.	X			
	Vaults				
.749	Inspection of vaults greater than 200 cubic feet (1 per yr/15 months)	X			

.605(b)	PREVENTION of ACCIDENTAL IGNITION PROCEDURES	S	U	N/A	N/C
.751	Reduce the hazard of fire or explosion by:				
	(a) Removal of ignition sources in presence of gas and providing for a fire extinguisher	X			
	(b) Prevent welding or cutting on a pipeline containing a combustible mixture.	X			
	(c) Post warning signs	X			

**Comments:**

192.751 - Prevention of accidental ignition procedures are contained in DM - Tab K and in GS&S D-20 and D-23; Rules 1305, 1308, 1309; UO Std S4832; UO Std S4461; GS&S A-93.1; Code of Safe Practices Section 13.

192.745-.749 - UO Std S4220 and WP 4430-04 for valves; and S4446 for vaults; Vault Inspection Procedure applies to distribution and transmission (found in DM - Tab K); UO Std S4220, Gas Valve Maintenance Requirements; applies to distribution and transmission (found in DM - Tab F).

.605(b)	CAULKED BELL AND SPIGOT JOINTS PROCEDURES	S	U	N/A	N/C
.753	Cast-iron caulked bell and spigot joint repair:				
	(a) When subject to more than 25 psig, sealed with mechanical clamp, or sealed with material/device which does not reduce flexibility, permanently bonds, and seals and bonds as prescribed in §192.753(a)(2)(iii)	X			
	(b) When subject to 25 psig or less, joints, when exposed for any reason, must be sealed by means other than caulking.	X			

.605(b)	PROTECTING CAST-IRON PIPELINE PROCEDURES	S	U	N/A	N/C
.755	Operator has knowledge that the support for a segment of a buried cast-iron pipeline is disturbed must provide protection.				
	(a) Vibrations from heavy construction equipment, trains, trucks, buses or blasting?	X			
	(b) Impact forces by vehicles?	X			
	(c) Earth movement?	X			
	(d) Other foreseeable outside forces which might subject the segment of pipeline to a bending stress	X			

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	(c) Provide permanent protection for the disturbed section as soon as feasible	S	U	N/A	N/C	
.13(c)	<b>WELDING AND WELD DEFECT REPAIR/REMOVAL PROCEDURES</b>	<b>S</b>	<b>U</b>	<b>N/A</b>	<b>N/C</b>	
	.225 (a) Welding procedures must be qualified under Section 5 of API 1104 (19 <sup>th</sup> ed. 1999, 10/31/01 errata) or Section IX of ASME Boiler and Pressure Code (2004 ed. Including addenda through July 1, 2005 ) by destructive test.	X				
	(b) Retention of welding procedure – details and test	X				
	.227 (a) Welders must be qualified by Section 6 of API 1104 (19 <sup>th</sup> ed. 1999, 10/31/01 errata) or Section IX of ASME Boiler and Pressure Code (2004 ed. Including addenda through July 1, 2005) See exception in .227(b).	X				
	(b) Welders may be qualified under section I of Appendix C to weld on lines that operate at < 20% SMYS.			X		
	.229 (a) To weld on compressor station piping and components, a welder must successfully complete a destructive test	X				
	(b) Welder must have used welding process within the preceding 6 months	X				
	(c) A welder qualified under .227(a)–					
	.229(c) (1) May not weld on pipe that operates at ≥ 20% SMYS unless within the preceding 6 calendar months the welder has had one weld tested and found acceptable under the sections 6 or 9 of API Standard 1104; may maintain an ongoing qualification status by performing welds tested and found acceptable at least twice per year, not exceeding 7½ months; may not requalify under an earlier referenced edition.	X				
	(2) May not weld on pipe that operates at < 20% SMYS unless is tested in accordance with .229(c)(1) or requalifies under .229(d)(1) or (d)(2).	X				
	(d) Welders qualified under .227(b) may not weld unless:					
	(1) Requalified within 1 year/15 months, or	X				
	(2) Within 7½ months but at least twice per year had a production weld pass a qualifying test	X				
	.231 Welding operation must be protected from weather	X				
	.233 Miter joints (consider pipe alignment)	X				
	.235 Welding preparation and joint alignment	X				
	.241 (a) Visual inspection must be conducted by an individual qualified by appropriate training and experience to ensure:	X				
	(1) Compliance with the welding procedure	X				
	(2) Weld is acceptable in accordance with Section 9 of API 1104	X				
	(b) Welds on pipelines to be operated at 20% or more of SMYS must be nondestructively tested in accordance with 192.243 except welds that are visually inspected and approved by a qualified welding inspector if:	X				
	(1) The nominal pipe diameter is less than 6 inches, or	X				
	(2) The pipeline is to operate at a pressure that produces a hoop stress of less than 40% of SMYS and the welds are so limited in number that nondestructive testing is impractical	X				
	.241 (c) Acceptability based on visual inspection or NDT is determined according to Section 9 of API 1104; if a girth weld is unacceptable under Section 9 for a reason other than a crack, and if Appendix A to API 1104 applies to the weld, the acceptability of the weld may be further determined under that appendix.	X				
	Repair and Removal of Weld Defects					
	.245 (a) Each weld that is unacceptable must be removed or repaired. Except for offshore pipelines, a weld must be removed if it has a crack that is more than 8% of the weld length	X				
(b) Each weld that is repaired must have the defect removed down to sound metal, and the segment to be repaired must be preheated if conditions exist which would adversely affect the quality of the weld repair. After repair, the weld must be inspected and found acceptable.	X					
(c) Repair of a crack or any other defect in a previously repaired area must be in accordance with a written weld repair procedure, qualified under §192.225	X					
Note: Sleeve Repairs – use low hydrogen rod (Best Practices –ref. API 1104 App. B, In Service Welding)						

**Comments:**

## STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

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**Comments:**  
 192.753 - Caulked Bell and Spigot Joints Procedures. The code requirements are addressed in GS&S A-39, B-51.2, and B-50.1  
 192.755 - Protecting Cast Iron Pipelines Procedures. The code requirements are addressed in GS&S A-39 and UO Std S4412.  
 192.225 - GS&S D-20 Oxyacetylene Weld Procedure; GS&S D-22 Arc Welding Procedure Requirement All Stress Levels.  
 192.231, 192.235 - GS&S D-20 P.2  
 192.233 - GS&S A-36 P.6  
 192.241 - Welding; Addressed in GS&S D-31, D-30, D-40 (Inspection).  
 192.243 - Repair and Removal of Weld Defects is addressed in UO Std S4134 - this is the governing documents that tabulates methods of repair for different conditions. GS&S D-31 Repair or Removal of Defects (for Production Welds).  
 GS&S D-30 Welder Qualification For Under 20% of SMYS  
 GS&S D-30.2 Arc Welder Qualification For Working on Pipelines That Operate At Over 20% SMYS  
 GS&S A-36 Design and Construction Requirements

.13(e)	NONDESTRUCTIVE TESTING PROCEDURES	S	U	N/A	N/C
.243	(a) Nondestructive testing of welds must be performed by any process, other than trepanning, that clearly indicates defects that may affect the integrity of the weld	X			
	(b) Nondestructive testing of welds must be performed:				
	(1) In accordance with a written procedure, and	X			
	(2) By persons trained and qualified in the established procedures and with the test equipment used	X			
	(c) Procedures established for proper interpretation of each nondestructive test of a weld to ensure acceptability of the weld under 192.241(c)	X			
	(d) When nondestructive testing is required under §192.241(b), the following percentage of each day's field butt welds, selected at random by the operator, must be nondestructively tested over the entire circumference				
	(1) In Class 1 locations at least 10%	X			
	(2) In Class 2 locations at least 15%	X			
	(3) In Class 3 and 4 locations, at crossings of a major navigable river, offshore, and within railroad or public highway rights-of-way, including tunnels, bridges, and overhead road crossings, 100% unless impractical, then 90%. Nondestructive testing must be impractical for each girth weld not tested.	X			
	(4) At pipeline tie-ins, 100%	X			
	(e) Except for a welder whose work is isolated from the principal welding activity, a sample of each welder's work for each day must be nondestructively tested, when nondestructive testing is required under §192.241(b)	X			
	(f) Nondestructive testing - the operator must retain, for the life of the pipeline, a record showing by mile post, engineering station, or by geographic feature, the number of welds nondestructively tested, the number of welds rejected, and the disposition of the rejected welds.	X			

**Comments:**  
 GS&S D-40 Weld Inspection  
 GS&S D-31 Standard of Acceptability for Welding: Non-destructive and Destructive Testing.  
 Per D-40: 192.243(d)(1) - PG&E tests a minimum of 10%; and 192.243(d)(2) - PG&E tests a minimum of 15%.

.273(b)	JOINING OF PIPELINE MATERIALS	S	U	N/A	N/C
.281	(a) A plastic pipe joint that is joined by solvent cement, adhesive, or heat fusion may not be disturbed until it has properly set. Plastic pipe may not be joined by a threaded joint or miter joint.	X			
	(b) Each solvent cement joint on plastic pipe must comply with the following:				
	(1) The mating surfaces of the joint must be clean, dry, and free of material which might be detrimental to the joint.			X	
	(2) The solvent cement must conform to ASTM Designation: D 2513.			X	
	(3) The joint may not be heated to accelerate the setting of the cement.			X	
	(c) Each heat-fusion joint on plastic pipe must comply with the following:				

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JOINING OF PIPELINE MATERIALS		S	U	N/A	N/C
(1)	A butt heat-fusion joint must be joined by a device that holds the heater element square to the ends of the piping, compresses the heated ends together, and holds the pipe in proper alignment while the plastic hardens.	X			
(2)	A socket heat-fusion joint must be joined by a device that heats the mating surfaces of the joint uniformly and simultaneously to essentially the same temperature.	X			
(3)	An electrofusion joint must be joined utilizing the equipment and techniques of the fittings manufacturer or equipment and techniques shown, by testing joints to the requirements of § 192.283(a)(1)(iii), to be at least equivalent to those of the fittings manufacturer.	X			
(4)	Heat may not be applied with a torch or other open flame.	X			
(d)	Each adhesive joint on plastic pipe must comply with the following:				
(1)	The adhesive must conform to ASTM Designation: D 2517.			X	
(2)	The materials and adhesive must be compatible with each other.			X	
(c)	Each compression type mechanical joint on plastic pipe must comply with the following:				
(1)	The gasket material in the coupling must be compatible with the plastic.	X			
(2)	A rigid internal tubular stiffener, other than a split tubular stiffener, must be used in conjunction with the coupling.	X			
.283 (a)	Before any written procedure established under § 192.273(b) is used for making plastic pipe joints by a heat fusion, solvent cement, or adhesive method, the procedure must be qualified by subjecting specimen joints made according to the procedure to the following tests:				
(1)	The burst test requirements of:				
(i)	Thermoplastic pipe: paragraph 6.6 (sustained pressure test) or paragraph 6.7 (Minimum Hydrostatic Burst Test) or paragraph 8.9 (Sustained Static Pressure Test) of ASTM D2513	X			
(ii)	Thermosetting plastic pipe: paragraph 8.5 (Minimum Hydrostatic Burst Pressure) or paragraph 8.9 (Sustained Static Pressure Test) of ASTM D2517; or			X	
(iii)	Electrofusion fittings for polyethylene pipe and tubing: paragraph 9.1 (Minimum Hydraulic Burst Pressure Test), paragraph 9.2 (Sustained Pressure Test), paragraph 9.3 (Tensile Strength Test), or paragraph 9.4 (Joint Integrity Tests) of ASTM Designation F1055.	X			
(2)	For procedures intended for lateral pipe connections, subject a specimen joint made from pipe sections joined at right angles according to the procedure to a force on the lateral pipe until failure occurs in the specimen. If failure initiates outside the joint area, the procedure qualifies for use; and,	X			
(3)	For procedures intended for non-lateral pipe connections, follow the tensile test requirements of ASTM D638, except that the test may be conducted at ambient temperature and humidity if the specimen elongates no less than 25 percent or failure initiates outside the joint area, the procedure qualifies for use.	X			
(b)	Before any written procedure established under § 192.273(b) is used for making mechanical plastic pipe joints that are designed to withstand tensile forces, the procedure must be qualified by subjecting five specimen joints made according to the procedure to the following tensile test:				
(1)	Use an apparatus for the test as specified in ASTM D 638 (except for conditioning).	X			
(2)	The specimen must be of such length that the distance between the grips of the apparatus and the end of the stiffener does not affect the joint strength.	X			
(3)	The speed of testing is 0.20 in. (5.0 mm) per minute, plus or minus 25 percent.	X			
(4)	Pipe specimens less than 4 inches (102 mm) in diameter are qualified if the pipe yields to an elongation of no less than 25 percent or failure initiates outside the joint area.	X			
(5)	Pipe specimens 4 inches (102 mm) and larger in diameter shall be pulled until the pipe is subjected to a tensile stress equal to or greater than the maximum thermal stress that would be produced by a temperature change of 100° F (38° C) or until the pipe is pulled from the fitting. If the pipe pulls from the fitting, the lowest value of the five test results or the manufacturer's rating, whichever is lower must be used in the design calculations for stress.			X	
(6)	Each specimen that fails at the grips must be retested using new pipe.	X			
(7)	Results pertain only to the specific outside diameter, and material of the pipe tested, except that testing of a heavier wall pipe may be used to qualify pipe of the same material but with a lesser wall thickness.			X	
(c)	A copy of each written procedure being used for joining plastic pipe must be available to the persons making and inspecting joints.	X			
(d)	Pipe or fittings manufactured before July 1, 1980, may be used in accordance with procedures that the manufacturer certifies will produce a joint as strong as the pipe.			X	



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JOINING OF PIPELINE MATERIALS		S	U	N/A	N/C
.285	(a) No person may make a plastic pipe joint unless that person has been qualified under the applicable joining procedure by:				
	(1) Appropriate training or experience in the use of the procedure; and	X			
	(2) Making a specimen joint from pipe sections joined according to the procedure that passes the inspection and test set forth in paragraph (b) of this section.	X			
	(b) The specimen joint must be:				
	(1) Visually examined during and after assembly or joining and found to have the same appearance as a joint or photographs of a joint that is acceptable under the procedure; and	X			
	(2) In the case of a heat fusion, solvent cement, or adhesive joint:	X			
	(i) Tested under any one of the test methods listed under §192.283(a) applicable to the type of joint and material being tested;	X			
	(ii) Examined by ultrasonic inspection and found not to contain flaws that may cause failure; or			X	
	(iii) Cut into at least three longitudinal strips, each of which is:				
	(A) Visually examined and found not to contain voids or discontinuities on the cut surfaces of the joint area; and	X			
	(B) Deformed by bending, torque, or impact, and if failure occurs, it must not initiate in the joint area.	X			
	(c) A person must be requalified under an applicable procedure, if during any 12-month period that person:				
	(1) Does not make any joints under that procedure; or	X			
	(2) Has 3 joints or 3 percent of the joints made, whichever is greater, under that procedure that are found unacceptable by testing under §192.513.	X			
	(d) Each operator shall establish a method to determine that each person making joints in plastic pipelines in the operator's system is qualified in accordance with this section.	X			
.287	No person may carry out the inspection of joints in plastic pipes required by §§192.273(c) and 192.285(b) unless that person has been qualified by appropriate training or experience in evaluating the acceptability of plastic pipe joints made under the applicable joining procedure.	X			

**Comments:**

192.281 PG&E Standards and Specs D-21 (pg 2-4/17);  
 192.283 (a)(1)(i) (PG&E 10/02/89 TES);  
 192.283 (a)(1)(ii) not used by PG&E;  
 192.283(a)(1)(iii) (PG&E 03/87 TES);  
 192.283 (a)(2) and (3) (PG&E 10/02/89 TES); PG&E does not use thermosetting plastic pipe.  
 192.2833 (b)(1-4) (PG&E 01/17/06 Southwest High Density and 05/21/90 Medium density);  
 192.283(b)(5) PG&E doesn't perform mechanical joints for diameters greater than 4-inch;  
 192.283(b)(7) (PG&E tested same wall as size being used);  
 192.283(c) (PG&E D-21); 192.283(d) (PG&E does not have anything of that vintage);  
 192.285(b)(2)(i) (PG&E D-34);  
 192.285(b)(2)(ii) (PG&E does not utilize ultrasonic on plastic);  
 192.285(b)(iii)--192.287 (addressed by PG&E D-34). Standards reviewed and confirmed as applicable during 03/2009 audit.  
 \*\* 192.283 (a) and (b) -- PG&E does not have a procedure requiring that joining procedures be qualified.\*\*

CORROSION CONTROL PROCEDURES		S	U	N/A	N/C
.405(b)					
.453	Are corrosion procedures established and carried out by or under the direction of a qualified person for:				
	• Design	X			
	• Operations	X			
	• Installation	X			
	• Maintenance	X			
.455	(a) For pipelines installed after July 31, 1971, buried segments must be externally coated and	X			
	(b) cathodically protected within one year after construction (see exceptions in code)				
	(c) Aluminum may not be installed in a buried or submerged pipeline if exposed to an environment with a natural pH in excess of 8 (see exceptions in code)			X	



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CORROSION CONTROL PROCEDURES		S	U	N/A	N/C
.457	(a) All effectively coated steel transmission pipelines installed prior to August 1, 1971, must be cathodically protected.	X			
	(b) If installed before August 1, 1971, cathodic protection must be provided in areas of active corrosion for: bare or ineffectively coated transmission lines, and bare or coated c/s, regulator sta., meter sta. piping, and (except for cast iron or ductile iron) bare or coated distribution lines.	X			
.459	Examination of buried pipeline when exposed: if corrosion is found, further investigation is required	X			
.461	Procedures must address the protective coating requirements of the regulations. External coating on the steel pipe must meet the requirements of this part.	X			
.463	Cathodic protection level according to Appendix D criteria	X			
.465	(a) Pipe-to-soil monitoring (1 per yr/15 months) or short sections (10% per year, all in 10 years)	X			
	(b) Rectifier monitoring (6 per yr/2 1/2 months)	X			
	(c) Interference bond monitoring (as required)	X			
	(d) Prompt remedial action to correct any deficiencies indicated by the monitoring	X			
.465	(e) Electrical surveys (closely spaced pipe to soil) on bare/unprotected lines, cathodically protect active corrosion areas (1 per 3 years/39 months)	X			
.467	Electrical isolation (include casings)	X			
.469	Sufficient test stations to determine CP adequacy	X			
.471	Test lead maintenance	X			
.473	Interference currents	X			
.475	(a) Proper procedures for transporting corrosive gas?			X	
	(b) Removed pipe must be inspected for internal corrosion. If found, the adjacent pipe must be inspected to determine extent. Certain pipe must be replaced. Steps must be taken to minimize internal corrosion.	X			
.476	Systems designed to reduce internal corrosion Amdt 192-(no number) Pub. 4/23/07, eff. 5/23/07	X			
	(a) New construction	X			
	(b) Exceptions - offshore pipeline and systems replaced before 5/23/07	X			
	(c) Evaluate impact of configuration changes to existing systems	X			
.477	Internal corrosion control coupon (or other suit. Means) monitoring (2 per yr/7 1/2 months)	X			
.479	(a) Each exposed pipe must be cleaned and coated (see exceptions under .479(c))	X			
	Offshore splash zones and soil-to-air interfaces must be coated	X			
	(b) Coating material must be suitable	X			
	Coating is not required where operator has proven that corrosion will:				
	(c) (1) Only be a light surface oxide, or	X			
	(2) Not affect safe operation before next scheduled inspection	X			
.481	(a) Atmospheric corrosion control monitoring (1 per 3 yrs/39 months onshore; 1 per yr/15 months offshore)	X			
.481	(b) Special attention required at soil/air interfaces, thermal insulation, under disbonded coating, pipe supports, splash zones, deck penetrations, spans over water	X			
.481	(c) Protection must be provided if atmospheric corrosion is found (per §192.479)	X			
.483	Replacement and required pipe must be coated and cathodically protected (see code for exceptions)	X			
.485	(a) Procedures to replace pipe or reduce the MAOP if general corrosion has reduced the wall thickness?	X			
	(b) Procedures to replace/repair pipe or reduce MAOP if localized corrosion has reduced wall thickness (unless reliable engineering repair method exists)?	X			
	(c) Procedures to use Rstreng or B-3IG to determine remaining wall strength?				
.487	Remedial measures (distribution lines other than cast iron or ductile iron)	X			
.489	Remedial measures (cast iron and ductile iron pipelines)				
.491	Corrosion control maps and record retention (pipeline service life or 5 yrs)	X			

Comments:

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**Comments:**  
Overall corrosion control program is contained in GS&S O-16.  
GS&S E-27, UO Std S4134, UO Std S4133, and UO Std S4126 S5467 contains CPA assessment and reassessment procedures.  
Cased pipelines are contained in O-16. Measurement for corrosive gas is described in S4300. See also WP4330-02.  
Note: For 192.465(a), monitoring is done 6 times per year. For 192.465(b), monitoring is performed annually per CPUC Resolution RU-39, for distribution and local transmission piping.

.801- .809	<b>Subpart N — Qualification of Pipeline Personnel Procedures</b>	S	U	N/A	N/C
	Refer to Operator Qualification Inspection Forms and Protocols (OPS web site)				

.901- .951	<b>Subpart O — Pipeline Integrity Management</b>	S	U	N/A	N/C
	This form does not cover Gas Pipeline Integrity Management Programs				

Subparts A - C	<b>PART 199 - DRUG and ALCOHOL TESTING REGULATIONS and PROCEDURES</b>	S	U	N/A	N/C
	Drug & Alcohol Testing & Alcohol Misuse Prevention Program - Use PHMSA Form # 13, PHMSA 2008 Drug and Alcohol Program Check.				

**Comments:**

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PIPELINE INSPECTION (Field)		S	U	N/A	N/C
.119	Valve Protection from Tampering or Damage			X	
.463	Cathodic Protection				
.465	Rectifiers				
.476	Systems designed to reduce internal corrosion				
.479	Pipeline Components Exposed to the Atmosphere				
.605	Knowledge of Operating Personnel				
.707	ROW Markers, Road and Railroad Crossings				
.719	Pre-pressure Tested Pipe (Markings and Inventory)				
.741	Telemetry, Recording gauges				
.739/.743	Pressure Limiting and Regulating Devices (spot-check field installed equipment vs. inspection records)				
.745	Valve Maintenance				
.751	Warning Signs				
.801 - .809	Operator Qualification - Use PHMSA Form 15 Operator Qualification Field Inspection Protocol Form				X

Comments:

REGULATORY REPORTING PERFORMANCE AND RECORDS		S	U	N/A	N/C
191.5	Telephonic reports to NRC			X	
191.15	Written incident reports; supplemental incident reports (Form R 7100.2)				
191	Annual Reports (Forms 7100.1-1, 7100.2-1)				
191.23	Safety related condition reports				
192.16	Customer Notification (Verification - 90 days - and Elements)				
192.727 (b)	Abandoned facilities offshore, onshore crossing commercially navigable waterways reports				X

CONSTRUCTION PERFORMANCE AND RECORDS		S	U	N/A	N/C
.225	Test Results to Qualify Welding Procedures			X	
.227	Welder Qualification				
.241 (a)	Visual Weld Inspector Training/Experience				
.241 (b)(2)	Nondestructive Technician Qualification				
(c)	NDT procedures				
(f)	Total Number of Girth Welds				
(f)	Number of Welds Inspected by NDT				
(f)	Number of Welds Rejected				
(f)	Disposition of each Weld Rejected				
.273/.283	Qualified Joining Procedures Including Test Results				
.285	Personnel Joining Qualifications				
.287	Joining Inspection Qualifications				
.303	Construction Specifications				
.325	Underground Clearance				X

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CONSTRUCTION PERFORMANCE AND RECORDS		S	U	N/A	N/C
.327	Amount, Location, Cover of each Size of Pipe Installed			X	
.383(c)	EFV customer notification				
.455	Cathodic Protection			✓	

OPERATIONS and MAINTENANCE PERFORMANCE AND RECORDS		S	U	N/A	N/C
.517 (a)	Pressure Testing (operates at or above 100 psig) - useful life of pipeline:			X	
.517 (b)	Pressure Testing (operates below 100 psig, service lines, plastic lines) - 5 years				
.603(b)	.605(a) Procedural Manual Review - Operations and Maintenance (1 per yr/15 months)				
	.605(b)(3) Availability of construction records, maps, operating history to operating personnel				
	.605(b)(8) Periodic review of personnel work - effectiveness of normal O&M procedures				
	.605(c)(4) Periodic review of personnel work - effectiveness of abnormal operation procedures				
.709	.614 Damage Prevention (Miscellaneous)				
	.609 Class Location Study (If Applicable)				
.603(b)	.615(b)(1) Location Specific Emergency Plan				
	.615(b)(2) Emergency Procedure training, verify effectiveness of training				
	.615(b)(3) Employee Emergency activity review, determine if procedures were followed.				
	.615(c) Liaison Program with Public Officials				✓
	.616 Public Awareness Program				
.616(c & f) Documentation properly and adequately reflects implementation of operator's Public Awareness Program requirements - Stakeholder Audience identification, message type and content, delivery method and frequency, supplemental enhancements, program evaluations, etc. (i.e. contact or mailing rosters, postage receipts, return receipts, audience contact documentation, etc. for emergency responder, public officials, school superintendents, program evaluations, etc.). See table below:				X	
<b>API RP 1162 Baseline* Recommended Message Deliveries</b>					
<b>Stakeholder Audience (Natural Gas Transmission Line Operators)</b>		<b>Baseline Message Frequency (starting effective date of Plan)</b>			
Residents Along Right-of-Way and Places of Congregation		2 years			
Emergency Officials		Annual			
Public Officials		3 years			
Excavator and Contractors		Annual			
One-Call Centers		As required of One-Call Center			
<b>Stakeholder Audience (Gathering Line Operators)</b>		<b>Baseline Message Frequency (starting from effective date of Plan)</b>			
Residents and Places of Congregation		Annual			
Emergency Officials		Annual			
Public Officials		3 years			
Excavators and Contractors		Annual			
One-Call Centers		As required of One-Call Center			
<b>Stakeholder Audience (LDCs)</b>		<b>Baseline Message Frequency (starting from effective date of Plan)</b>			
Residents Along Local Distribution System		Annual			
LDC Customers		Twice annually			
Emergency Officials		Annual			
Public Officials		3 years			
Excavator and Contractors		Annual			
One-Call Centers		As required of One-Call Center			
* Refer to API RP 1162 for additional requirements, including general program recommendations, supplemental requirements, recordkeeping, program evaluation, etc.					
.616(g)	The program must be conducted in English and any other languages commonly understood by a significant number of the population in the operator's area.			X	

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OPERATIONS and MAINTENANCE PERFORMANCE AND RECORDS		S	U	N/A	N/C												
.616(j)	Operators of a master meter or petroleum gas systems - public awareness messages 2 times annually: (1) A description of the purpose and reliability of the pipeline; (2) An overview of the hazards of the pipeline and prevention measures used; (3) Information about damage prevention; (4) How to recognize and respond to a leak; and (5) How to get additional information.			X													
.517	Pressure Testing																
.709	.619 .621 .623 Maximum Allowable Operating Pressure (MAOP) Note: New PA-11 design criteria is incorporated into 192.121 & .123. (Final Rule Pub. 24 December, 2008)																
	.625 Odorization of Gas																
	.705 Patrolling (Refer to Table Below)																
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Class Location</th> <th style="width: 35%;">At Highway and Railroad Crossings</th> <th style="width: 35%;">At All Other Places</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1 and 2</td> <td style="text-align: center;">2/yr (7½ months)</td> <td style="text-align: center;">1/yr (15 months)</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">4/yr (4½ months)</td> <td style="text-align: center;">2/yr (7½ months)</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">4/yr (4½ months)</td> <td style="text-align: center;">4/yr (4½ months)</td> </tr> </tbody> </table>						Class Location	At Highway and Railroad Crossings	At All Other Places	1 and 2	2/yr (7½ months)	1/yr (15 months)	3	4/yr (4½ months)	2/yr (7½ months)	4	4/yr (4½ months)	4/yr (4½ months)
Class Location	At Highway and Railroad Crossings	At All Other Places															
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3	4/yr (4½ months)	2/yr (7½ months)															
4	4/yr (4½ months)	4/yr (4½ months)															
.709	.706 Leak Surveys (Refer to Table Below)			X													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Class Location</th> <th style="width: 35%;">Required</th> <th style="width: 35%;">Not Exceed</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1 and 2</td> <td style="text-align: center;">1/yr</td> <td style="text-align: center;">15 months</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">2/yr*</td> <td style="text-align: center;">7½ months</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">4/yr*</td> <td style="text-align: center;">4½ months</td> </tr> </tbody> </table> <p style="text-align: center; font-size: small;">* Leak detector equipment survey required for lines transporting un-odorized gas.</p>						Class Location	Required	Not Exceed	1 and 2	1/yr	15 months	3	2/yr*	7½ months	4	4/yr*	4½ months
Class Location	Required	Not Exceed															
1 and 2	1/yr	15 months															
3	2/yr*	7½ months															
4	4/yr*	4½ months															
.603(b)	.721(b)(1) Patrolling Business District (4 per yr/4½ months)			X													
	.721(b)(2) Patrolling Outside Business District (2 per yr/7½ months)																
	.723(b)(1) Leakage Survey - business District (1 per yr/15 months)			X													
	.723(b)(2) Leakage Survey																
	• Outside Business District (5 years)			X													
	• Cathodically unprotected distribution lines (3 years)																
	.725 Tests for reinstating service lines																
.603(b), 727g	.727 Abandoned Pipelines; Underwater Facility Reports																
.709	.739 Pressure Limiting and Regulating Stations (1 per yr/15 months)																
	.743 Pressure Limiting and Regulator Stations - Capacity (1 per yr/15 months)																
	.745 Valve Maintenance Transmission Lines (1 per yr/15 months)																
.603(b)	.747 Valve Maintenance Distribution Lines (1 per yr/15 months)																
.709	.749 Vault Maintenance (≥200 cubic feet)(1 per yr/15 months)																
.603(b)	.751 Prevention of Accidental Ignition (hot work permits)																
	.755 Caulked Bell and Spigot Joint Repair																
	.225(b) Welding - Procedure																
	.227/.229 Welding - Welder Qualification																
	.243(b)(2) NDT - NDT Personnel Qualification																
	.283 Joining - Procedures																
	.285 Joining - Personnel Qualifications																
	.287 Joining - Inspector Qualifications																
.709	.243(f) NDT Records (Pipeline Life): Repair: pipe (Pipeline Life); Other than pipe (5 years)				X												

## STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

Unless otherwise noted, all code references are to 49CFR Part 192. S - Satisfactory U - Unsatisfactory N/A - Not Applicable N/C - Not Checked  
If an item is marked U, N/A, or N/C, an explanation must be included in this report.

Comments:

CORROSION CONTROL PERFORMANCE AND RECORDS			S	U	N/A	N/C
.491	.491(a)	Maps or Records			x	
.491	.459	Examination of Buried Pipe when Exposed				
.491	.465(a)	Annual Pipe-to-soil Monitoring (1 per yr/15 months) for short sections (10% per year; all in 10 years)				
.491	.465(b)	Rectifier Monitoring (6 per yr/2½ months)				
.491	.465(c)	Interference Bond Monitoring - Critical (6 per yr/2½ months)				
.491	.465(c)	Interference Bond Monitoring - Non-critical (1 per yr/15 months)				
.491	.465(d)	Prompt Remedial Actions				
.491	.465(e)	Unprotected Pipeline Surveys, CP active corrosion areas (1 per 3 cal yr/39 months)				
.491	.467	Electrical Isolation (Including Casings)				
.491	.469	Test Stations - Sufficient Number				
.491	.471	Test Lead Maintenance				
.491	.473	Interference Currents				
.491	.475(a)	Internal Corrosion; Corrosive Gas Investigation				
.491	.475(b)	Internal Corrosion; Internal Surface Inspection; Pipe Replacement				
.491	.476 (d)	Internal Corrosion; New system design; Evaluation of Impact of configuration changes to existing systems				
.491	.477	Internal Corrosion Control Coupon Monitoring (2 per yr/7½ months)				
.491	.481	Atmospheric Corrosion Control Monitoring (1 per 3 cal yr/39 months onshore; 1 per yr/15 months offshore)				
.491	.483/485	Remedial: Replaced or Repaired Pipe; coated and protected; corrosion evaluation and actions				x

Comments:

## Attachment I Distribution Operator Compressor Station Inspection

Unless otherwise noted, all code references are to 49CFR Part 192. S - Satisfactory U - Unsatisfactory N/A - Not Applicable N/C - Not Checked  
If an item is marked U, N/A, or N/C, an explanation must be included in this report.

.605(b) COMPRESSOR STATION PROCEDURES		S	U	N/A	N/C
.605(b)(6)	Maintenance procedures, including provisions for isolating units or sections of pipe and for purging before returning to service			X	
.605(b)(7)	Starting, operating, and shutdown procedures for gas compressor units				
.731	Inspection and testing procedures for remote control shutdowns and pressure relieving devices (1 per yr/15 months), prompt repair or replacement				
.735	(a) Storage of excess flammable or combustible materials at a safe distance from the compressor buildings				
	(b) Tank must be protected according to NFPA #30				
.736	Compressor buildings in a compressor station must have fixed gas detection and alarm systems (must be performance tested), unless:				
	• 50% of the upright side areas are permanently open, or				
	• It is an unattended field compressor station of 1000 hp or less				

Comments:

COMPRESSOR STATIONS INSPECTION (Field)		S	U	N/A	N/C
(Note: Facilities may be "Grandfathered")					
.163	(c)	Main operating floor must have (at least) two (2) separate and unobstructed exits			X
		Door latch must open from inside without a key			
		Doors must swing outward			
	(d)	Each fence around a compressor station must have (at least) 2 gates or other facilities for emergency exit			
		Each gate located within 200 ft of any compressor plant building must open outward			
		When occupied, the door must be opened from the inside without a key			
	(c)	Does the equipment and wiring within compressor stations conform to the National Electric Code, ANSI/NFPA 70?			
.165	(a)	If applicable, are there liquid separator(s) on the intake to the compressors?			
	(b)	Do the liquid separators have a manual means of removing liquids? If slugs of liquid could be carried into the compressors, are there automatic dumps on the separators, Automatic compressor shutdown devices, or high liquid level alarms?			✓
.167	(a)	ESD system must:			
		- Discharge blowdown gas to a safe location			✓
		- Block and blowdown the gas in the station			
		- Shut down gas compressing equipment, gas fires, electrical facilities in compressor building and near gas headers			
		- Maintain necessary electrical circuits for emergency lighting and circuits needed to protect equipment from damage			✓
		ESD system must be operable from at least two locations, each of which is:			
		- Outside the gas area of the station			X
	- Not more than 500 feet from the limits of the station				
	- ESD switches near emergency exits?				
	(b)	For stations supplying gas directly to distribution systems, is the ESD system configured so that the LDC will not be shut down if the ESD is activated?			✓
	(c)	Are ESDs on platforms designed to actuate automatically by...			
		- For unattended compressor stations, when:			
		• The gas pressure equals MAOP plus 15%?			X



## Attachment 1 Distribution Operator Compressor Station Inspection

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If an item is marked U, N/A, or N/C, an explanation must be included in this report.

COMPRESSOR STATIONS INSPECTION (Field)		S	U	N/A	N/C
(Note: Facilities may be "Grandfathered")					
	• An uncontrolled fire occurs on the platform?			X	
	- For compressor station in a building, when:				
	• An uncontrolled fire occurs in the building?			X	
	• Gas in air reaches 50% or more of LEL in a building with a source of ignition (facility conforming to NEC Class 1, Group D is not a source of ignition)?				
.171	(a) Does the compressor station have adequate fire protection facilities? If fire pumps are used, they must not be affected by the ESD system.				
	(b) Do the compressor station prime movers (other than electrical movers) have over-speed shutdown?				
	(c) Do the compressor units alarm or shutdown in the event of inadequate cooling or lubrication of the unit(s)?				
	(d) Are the gas compressor units equipped to automatically stop fuel flow and vent the engine if the engine is stopped for any reason?				
	(e) Are the mufflers equipped with vents to vent any trapped gas?				
.173	Is each compressor station building adequately ventilated?				
.457	Is all buried piping cathodically protected?				
.481	Atmospheric corrosion of aboveground facilities				
.603	Does the operator have procedures for the start-up and shut-down of the station and/or compressor units?				
	Are facility maps current/up-to-date?				
.615	Emergency Plan for the station on site?				
.619	Review pressure recording charts and/or SCADA				
.707	Markers				
.731	Overpressure protection - reliefs or shutdowns				
.735	Are combustible materials in quantities exceeding normal daily usage, stored a safe distance from the compressor building?				
	Are aboveground oil or gasoline storage tanks protected in accordance with NFPA standard No. 30?				
.736	Gas detection - location			X	

Comments:

COMPRESSOR STATION O&M PERFORMANCE AND RECORDS		S	U	N/A	N/C
.709	.731(a) Compressor Station Relief Devices (1 per yr/15 months)			X	
	.731(c) Compressor Station Emergency Shutdown (1 per yr/15 months)				
	.736(c) Compressor Stations - Detection and Alarms (Performance Test)			X	

Comments:

Recent PHMSA Advisory Bulletins (Last 2 years)

Leave this list with the operator.

<u>Number</u>	<u>Date</u>	<u>Subject</u>
ADB-07-01	April 27, 2007	Pipeline Safety: Senior Executive Signature and Certification of Integrity Management Program Performance Reports
ADB-07-02	September 6, 2007	Pipeline Safety: Updated Notification of the Susceptibility to Premature Brittle-Like Cracking of Older Plastic Pipe
ADB-07-02	February 29, 2008	Correction - Pipeline Safety: Updated Notification of the Susceptibility to Premature Brittle-Like Cracking of Older Plastic Pipe
ADB-08-01	May 13, 2008	Pipeline Safety - Notice to Operators of Gas Transmission Pipelines on the Regulatory Status of Direct Sales Pipelines
ADB-08-02	March 4, 2008	Pipeline Safety - Issues Related to Mechanical Couplings Used in Natural Gas Distribution Systems
ADB-08-03	March 10, 2008	Pipeline Safety - Dangers of Abnormal Snow and Ice Build-Up on Gas Distribution Systems
ADB-08-04	June 5, 2008	Pipeline Safety - Installation of Excess Flow Valves into Gas Service Lines
ADB-08-05	June 25, 2008	Pipeline Safety - Notice to Hazardous Liquid Pipeline Operators of Request for Voluntary Adv Notification of Intent To Transport Biofuels
ADB-08-06	July 2, 2008	Pipeline Safety - Dynamic Riser Inspection, Maintenance, and Monitoring Records on Offshore Floating Facilities



**CHAPTER 4**

**APPENDIX B**

**EXCERPT FROM 2010 AUDIT OF PG&E'S PENINSULA DIVISION**

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



September 24, 2010

Mr. Glen Carter, Senior Director  
Gas Engineering  
Pacific Gas and Electric Company  
375 North Wiget Lane  
Walnut Creek, CA 94598

**SUBJECT:** General Order 112-E Audit of PG&E's Peninsula Division

Dear Mr. Carter:

On behalf of the Utilities Safety and Reliability Branch of the California Public Utilities Commission, Aimee Cauquiran, Terence Eng, and I conducted a General Order (GO) 112-E Inspection of PG&E's Peninsula Division from August 9 through 13, 2010. The audit included a review of Peninsula Division records for the period 2008 and 2009.

During the audit, we identified one or more violations of GO 112-E. These violations are itemized within the Audit Summary enclosed with this letter. Please note that the violations included within the Audit Summary may differ from the potential violations discussed with PG&E's representatives during the exit meeting of our audit. Any differences are generally attributed to research, conducted subsequent to the audit, which can result in some potential violations being excluded and other violations, not discussed during the exit meeting, being included in the Audit Summary.

Within 30 days of your receipt of this letter, please provide a written response indicating the measures taken by PG&E to address the violations noted in the Audit Summary.

If you have any questions, please contact me at (415) 703-2214.

Sincerely,

A handwritten signature in cursive script that reads "Dennis Lee".

Dennis Lee, P.E.  
Utilities Engineer  
Utilities Safety and Reliability Branch  
Consumer Protection and Safety Division

Enclosure: Audit Summary

Copy: Larry Deniston – Pacific Gas and Electric Company  
Larry Berg – Pacific Gas and Electric Company

## AUDIT SUMMARY

### AREAS OF VIOLATIONS

1. Title 49 CFR §192.723 Distribution systems: Leakage surveys.

§192.723 (b)(1) requires that "A leakage survey with leak detector equipment must be conducted in business districts, including tests of the atmosphere in gas, electric, telephone, sewer, and water system manholes, at cracks in pavement and sidewalks, and at other locations providing an opportunity for finding gas leaks, at intervals not exceeding 15 months, but at least once each calendar year."

During the review of the annual leak survey records, we noted that some of the areas indicated on map 3348-C1 were not leak surveyed in 2008 as required by §192.723 (b)(1). The entire area on map 3348-C1 was leak surveyed in 2009.

2. Title 49 CFR §192.621 Maximum allowable operating pressure: High-pressure distribution systems.

§192.621 requires that "No person may operate a segment of high pressure distribution system at a pressure that exceeds the lowest of the following pressures, as applicable: (1) The design pressure of the weakest element in the segment..."

Title 49 CFR §192.619 Maximum allowable operating pressure: Steel or plastic pipelines.

§192.619 requires that "No person may operate a segment of steel or plastic pipeline at a pressure that exceeds the lowest of the following: (1) The design pressure of the weakest element in the segment..."

During the review of the regulator station records, we noted that the pressure ratings on the downstream valves at regulator / relief stations, C-28, A-59, and A-15, were less than the maximum allowable operating pressure (MAOP) of the regulator / relief station for which the valves were employed. Regulator / relief station C-28's downstream valve pressure rating is 175 psi, which is less than the inlet station MAOP of 375 psi. Regulator / relief station A-59's downstream valve pressure rating is 125 psi, which is less than the inlet station MAOP of 375 psi. Regulator / relief station A-15's downstream valve pressure rating is 200 psi, which is less than the inlet station MAOP of 375 psi.

PG&E performed Operational Lockup at these stations in 2008 and 2009 as part of its normal Regulator Station Maintenance. If the regulators at these stations do not properly lockup during testing or normal operations, the pressure ratings on the valves could be exceeded, which is a violation of §192.621 and §192.619.

Please ensure that PG&E's entire system regulator / relief stations have the appropriate station pressure ratings so that the pressure ratings will not be exceeded.

## STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

A completed Standard Inspection Report is to be submitted to the Director within 60 days from completion of the inspection. A Post Inspection Memorandum (PIM) is to be completed and submitted to the Director within 30 days from the completion of the inspection, or series of inspections, and is to be filed as part of the Standard Inspection Report.

Inspection Report		Post Inspection Memorandum	
Inspector/Submit Date: <u>Dennis Lee / 9-24-2010</u>	Inspector/Submit Date:	n/a	
	Peer Review/Date:	n/a	
	Director Approval/Date:	n/a	
POST INSPECTION MEMORANDUM (PIM)			
Name of Operator: <u>Pacific Gas and Electric Company</u>		OPID #: <u>15007</u>	
Name of Unit(s): <u>Pacific Gas and Electric - Distribution</u>		Unit #(s):	
Records Location: <u>San Francisco, CA</u>		Activity #	
Unit Type & Commodity:			
Inspection Type: <u>GO 112-E of PG&amp;E Peninsula Division</u>		Inspection Date(s): <u>8/9/10-8/13/10</u>	
PHMSA Representative(s): <u>Dennis Lee, Aimee Canguiran, &amp; Terence Eng</u>			AFO Days:

Company System Maps (copies for Region Files): <u>n/a</u>	
Validate SMART Data (components, miles, etc): <input type="checkbox"/>	Acquisition(s), Sale or New Construction (submit SMART update): <input type="checkbox"/>
Validate Additional Requirements Resulting From Waiver(s) or Special Permit(s): <u>n/a</u>	

**Summary:**  
 This report is a centralized audit of documents that form Pacific Gas and Electric Company's (PG&E) Operations, Maintenance, and Emergency Plans. This audit examined gas transmission and distribution standards; however, only distribution-related findings are included in this report (see PHMSA Form-1 for transmission-related findings).

**Findings:**  
 The findings for each subpart are noted in each individual section. A written report noting the findings will be sent to the operator.



## STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

<b>Name of Operator:</b> Pacific Gas and Electric Company		<b>Unit ID No. <sup>(1)</sup></b>	
<b>OP ID No. <sup>(1)</sup></b>		<b>System/Unit Name &amp; Address: <sup>(1)</sup></b>	
77 Beale San Francisco, CA			
<b>Co. Official:</b>	n/a	<b>Activity Record ID No.:</b>	n/a
<b>Phone No.:</b>	n/a	<b>Phone No.:</b>	n/a
<b>Fax No.:</b>	n/a	<b>Fax No.:</b>	n/a
<b>Emergency Phone No.:</b>	n/a	<b>Emergency Phone No.:</b>	n/a
<b>Persons Interviewed</b>	<b>Title</b>	<b>Phone No.</b>	
See Sign In Sheet	See Sign In Sheet	See Sign In Sheet	
<b>PHMSA Representative(s) <sup>(1)</sup></b>			<b>Inspection Date(s) <sup>(1)</sup></b>
Company System Maps (Copies for Region Files): No maps obtained from the audit			

<b>Unit Description</b> See Statistics Report.
---

<b>Portion of Unit Inspected: <sup>(1)</sup></b> See inspection report.
--

For gas transmission and distribution pipeline inspections, the attached evaluation form should be used in conjunction with 49CFR Parts 191 and 192.

<sup>1</sup> Information not required if included on page 1.

# STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

Unless otherwise noted, all code references are to 49CFR Part 192. S – Satisfactory U – Unsatisfactory N/A – Not Applicable N/C – Not Checked  
If an item is marked U, N/A, or N/C, an explanation must be included in this report.

GAS SYSTEM OPERATIONS							
Gas Supplier		n/a		Date:	n/a		
Unaccounted for gas:		n/a		Services:	Residential	Commercial	Industrial
					n/a	n/a	n/a
					n/a		n/a
Operating Pressure(s):		MAOP (Within last year)			Actual Operating Pressure (At time of inspection)		
Feeder:	n/a	n/a			n/a		
Town:	n/a	n/a			n/a		
Other:	n/a	n/a			n/a		
Does the operator have any transmission pipelines?				n/a			
For compressor station inspections, use Attachment 4.				n/a			

## 49CFR PART 191

REPORTING PROCEDURES								
.605(b)(4)	Procedures for gathering data for incident reporting							
	191.5	Telephonically reporting incidents to NRC (800) 424-8802					X	
	191.15(a)	30-day follow-up written report (Form 7100-2)					X	
	191.15(b)	Supplemental report (to 30-day follow-up)					X	
.605(a)	191.23	Reporting safety-related condition (SRCR)					X	
	191.25	Filing the SRCR within 5 days of determination, but not later than 10 days after discovery					X	
.605(d)	Instructions to enable operation and maintenance personnel to recognize potential Safety Related Conditions						X	

**Comments:**

191.15(b), 191.23, 191.25, 192.605(d): S4413 Reporting requirements  
 191.5, 191.15(a): Gas Asset Strategy On-Call Manual-Reporting Procedures (including contact numbers, forms, etc.)  
 Other: Emergency Plan, WP4000-02 (Leading document)

## 49CFR PART 192

.13(c) CUSTOMER AND EFV INSTALLATION NOTIFICATION PROCEDURES								
.13(c)	.16	Procedures for notifying new customers, within 90 days, of their responsibility for those selections of service lines not maintained by the operator.					X	
	.381	If EFVs are installed, they must meet the performance requirements of §192.381					X	
	.383	If the operator has a voluntary installation program for excess flow valves, the program must meet the requirements outlined in §192.383.					X	
	.383	If the operator does not have a voluntary program for EFV installations, customers must be notified in accordance with §192.383.					X	

.605(a) NORMAL OPERATING and MAINTENANCE PROCEDURES								
.605(a)	.605(a)	O&M Plan review and update procedure (1 per year/15 months)					X	
	.605(b)(3)	Making construction records, maps, and operating history available to appropriate operating personnel					X	
	.605(b)(5)	Start up and shut down of the pipeline to assure operation within MAOP plus allowable buildup					X	
	.605(b)(8)	Periodically reviewing the work done by operator's personnel to determine the effectiveness and adequacy of the procedures used in normal operation and maintenance and modifying the procedures when deficiencies are found					X	
	.605(b)(9)	Taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulations of vapors or gas, and making available when needed at the excavation, emergency rescue equipment, including a breathing apparatus and a rescue harness and line					X	

## STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

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If an item is marked U, N/A, or N/C, an explanation must be included in this report.

.605(a)	NORMAL OPERATING and MAINTENANCE PROCEDURES	S	U	N/A	N/C
.605(b)(10)	Routine inspection and testing of pipe-type or bottle-type holders	X			
.605(b)(11)	Responding promptly to a report of a gas odor inside or near a building, unless the operator's emergency proced. under §192.615(a)(3) specifically apply to these reports.	X			

**Comments:**

Procedures for 192.16 are in WP5449-02, which provides 192.16 notice to customers when work takes place; superceded by WP5449-02. GS&S A-93.3 disallows EFVs for 1/4" CTS because no EFV available for 1/4" (email provided noting this fact).

192.605(a): WP4000-02 established in 09/2008  
 192.605(b)(3): UO Std S0470  
 192.605(b)(5): UO Std S4125, D-S0430  
 192.605(b)(8): IQI and PG&E's Quality Assurance Program  
 192.605(b)(9): WP4414-04, UO Std S4415  
 192.605(b)(10): UO Std S4411, WP4430-02, WP4540-01  
 192.605(b)(11): Addressed in company's Gas Emergency Procedures (CGEP) Part 1, Section 5.8 and WP6434-01 (Gas Leak & Odor Investigation); UO Std S6434

S0470 (Design & Construction Standards)  
 GS&S A93.3 Excess Flow Valves voluntary installation program

.605(a)	CHANGE in CLASS LOCATION PROCEDURES	S	U	N/A	N/C
.609	Class location study	X			
.611	Confirmation or revision of MAOP	X			

**Comments:**

UO Std S4127 and D-S0430/S4125

.613	CONTINUING SURVEILLANCE PROCEDURES	S	U	N/A	N/C
.613(a)	Procedures for surveillance and required actions relating to change in class location, failures, leakage history, corrosion, substantial changes in CP requirements, and unusual operating and maintenance conditions	X			
.613(b)	Procedures requiring MAOP to be reduced, or other actions to be taken, if a segment of pipeline is in unsatisfactory condition	X			

**Comments:**

192.613(a): UO Std S4127; TD4412P-07 Patrolling of Pipelines and Mains; UO Std s0350/S4110 Leak Survey and Repair; GS&S O-16 and UO Std S4133 Corrosion Control of Distribution and Transmission Pipelines; UO Std S2333 Material Problem Reporting; UO Std S4413 CPUC Curtailments; UO Std S0353 Physical Inspection of Mains and Pipeline Services; GS&S A93.1 Plastic Gas Distribution System Construction and Maintenance.  
 192.613(b): UO Std S4134 (DM-Tab A) and TD4412-07, S4127

.605(a)	DAMAGE PREVENTION PROGRAM PROCEDURES	S	U	N/A	N/C
.614(c)	Participation in a qualified one-call program, or if available, a company program that complies with the following:				
	(1) Identify persons who engage in excavating	X			
	(2) Provide notification to the public in the One Call area	X			
	(3) Provide means for receiving and recording notifications of pending excavations	X			

# STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

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If an item is marked U, N/A, or N/C, an explanation must be included in this report.

DAMAGE PREVENTION PROGRAM PROCEDURES		S	U	N/A	N/C
(4)	Provide notification of pending excavations to the members	X			
(5)	Provide means of temporary marking for the pipeline in the vicinity of the excavations	X			
(6)	Provides for follow-up inspection of the pipeline where there is reason to believe the pipeline could be damaged	X			
(i)	Inspection must be done to verify integrity of the pipeline	X			
(ii)	After blasting, a leak survey must be conducted as part of the inspection by the operator	X			

**Comments:**  
 UO Std S4412 Protection of Underground Infrastructure  
 PG&E Manual titled "Protection of Underground Infrastructure"  
 UO Std S4412 (TS); WP4412-05(c) and S4110 Attachment 1 (Leak survey requirements following blasting)  
  
 192.614(c)(6): Gas Information Bulletin 151 – Rev. 2

.615	EMERGENCY PROCEDURES		S	U	N/A	N/C
.615(a)(1)	Receiving, identifying, and classifying notices of events which require immediate response by the operator	X				
.615(a)(2)	Establish and maintain communication with appropriate public officials regarding possible emergency	X				
.615(a)(3)	Prompt response to each of the following emergencies:					
(i)	Gas detected inside a building	X				
(ii)	Fire located near a pipeline	X				
(iii)	Explosion near a pipeline	X				
(iv)	Natural disaster	X				
.615(a)(4)	Availability of personnel, equipment, instruments, tools, and material required at the scene of an emergency	X				
.615(a)(5)	Actions directed towards protecting people first, then property	X				
.615(a)(6)	Emergency shutdown or pressure reduction to minimize hazards to life or property	X				
.615(a)(7)	Making safe any actual or potential hazard to life or property	X				
.615(a)(8)	Notifying appropriate public officials required at the emergency scene and coordinating planned and actual responses with these officials	X				
.615(a)(9)	Instructions for restoring service outages after the emergency has been rendered safe	X				
.615(a)(10)	Investigating accidents and failures as soon as possible after the emergency	X				
.615(b)(1)	Furnishing applicable portions of the emergency plan to supervisory personnel who are responsible for emergency action	X				
.615(b)(2)	Training appropriate employees as to the requirements of the emergency plan and verifying effectiveness of training	X				
.615(b)(3)	Reviewing activities following emergencies to determine if the procedures were effective	X				
.615(c)	Establish and maintain liaison with appropriate public officials, such that both the operator and public officials are aware of each other's resources and capabilities in dealing with gas emergencies	X				

**Comments:**  
 PG&E's Emergency Plan consists of 2 parts: (1) Basic Plan (company-wide), and (2) Appendix (contains District/Division-specific information). Each PG&E division is responsible for updating their own binders (Appendix) including any changes received on the Basic plan. The Basic Plan is reviewed by PG&E's SME by 8/21 of each year.  
  
 Division personnel who are possible first responders (including managers, supervisors, mechanics, etc.) are required to take an annual web-based training and evaluation.  
  
 S6434 and WP6434-01: Gas Leak & Odor Response contains Field Services procedures for responding to customer calls of gas leaks or

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Comments:  
odor complaints.

PUBLIC AWARENESS PROGRAM PROCEDURES (Also in accordance with API RP 1162)							
.605(a)	.616	Public Awareness Program also in accordance with API RP 1162 (Amdt 192-99 pub. 5/19/05 eff. 06/20/05 and Amdt 192-not numbered pub 12/13/07 eff. 12/13/07).					
	.616(d)	The operator's program must specifically include provisions to educate the public, appropriate government organizations, and persons engaged in excavation related activities on:					
		(1)	Use of a one-call notification system prior to excavation and other damage prevention activities;	X			
		(2)	Possible hazards associated with unintended releases from a gas pipeline facility;	X			
		(3)	Physical indications of a possible release;	X			
		(4)	Steps to be taken for public safety in the event of a gas pipeline release; and	X			
	(5)	Procedures to report such an event (to the operator).					
	.616(e)	The operator's program must include activities to advise affected municipalities, school districts, businesses, and residents of pipeline facility locations.		X			
	.616(f)	The operator's program and the media used must be comprehensive enough to reach all areas in which the operator transports gas.		X			
	.616(g)	The program must be conducted in English and any other languages commonly understood by a significant number of the population in the operator's area?		X			
.616(h)	IAW API RP 1162, the operator's program should be reviewed for effectiveness within four years of the date the operator's program was first completed. <u>For operators in existence on June 20, 2005, who must have completed their written programs no later than June 20, 2006, the first evaluation is due no later than June 20, 2010.</u>						
.616(j)	Operators of a master meter or petroleum gas systems (unless the operator transports gas as a primary activity) must develop/implement a written procedure to provide its customers public awareness messages twice annually that includes: (1) A description of the purpose and reliability of the pipeline; (2) An overview of the hazards of the pipeline and prevention measures used; (3) Information about damage prevention; (4) How to recognize and respond to a leak; and (5) How to get additional information.  (See this subpart for requirements for master meter or petroleum gas system operators not located on property controlled by the operator.)				X		

Comments:  
PG&E submitted its PAP into the USDOT Clearinghouse. The USRB received the results of the Clearinghouse's review and has worked with PG&E to resolve the issues noted by the Clearinghouse. Safety Health and Claims 103 addresses PG&E's PAP. PG&E's RMP-12 addresses PG&E's PAP.  
  
Master-meter section 192.616(j) is not applicable to PG&E since it does not operate master-meter systems.

	FAILURE INVESTIGATION PROCEDURES	S	U	N/A	N/C
.617	.617 Analyzing accidents and failures including laboratory analysis where appropriate to determine cause and prevention of recurrence	X			

Comments:

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**Comments:**  
 WP1465-02: Gas Event and Near Hit Reporting  
 S2333: Material Problem Reporting

.605(a)	MAOP PROCEDURES	S	U	N/A	N/C									
.619	Establishing MAOP so that it is commensurate with the class location	X												
	MAOP cannot exceed the lowest of the following:													
	(a)(1) Design pressure of the weakest element	X												
	(a)(2) Test pressure divided by applicable factor	X												
	(a)(3) The highest actual operating pressure to which the segment of line was subjected during the 5 years preceding the applicable date in second column, unless the segment was tested according to .619(a)(2) after the applicable date in the third column or the segment was uprated according to subpart K.													
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Pipeline segment</th> <th style="width: 20%;">Pressure date</th> <th style="width: 30%;">Test date</th> </tr> </thead> <tbody> <tr> <td>- Onshore transmission line that was a gathering line not subject to this part before March 15, 2006.</td> <td>March 15, 2006, or date line becomes subject to this part, whichever is later.</td> <td>5 years preceding applicable date in second column.</td> </tr> <tr> <td>All other pipelines.</td> <td>July 1, 1970.</td> <td>July 1, 1965.</td> </tr> </tbody> </table>	Pipeline segment	Pressure date	Test date	- Onshore transmission line that was a gathering line not subject to this part before March 15, 2006.	March 15, 2006, or date line becomes subject to this part, whichever is later.	5 years preceding applicable date in second column.	All other pipelines.	July 1, 1970.	July 1, 1965.	X			
Pipeline segment	Pressure date	Test date												
- Onshore transmission line that was a gathering line not subject to this part before March 15, 2006.	March 15, 2006, or date line becomes subject to this part, whichever is later.	5 years preceding applicable date in second column.												
All other pipelines.	July 1, 1970.	July 1, 1965.												
	(a)(4) Maximum safe pressure determined by operator.	X												
	(b) Overpressure protective devices must be installed if .619(a)(4) is applicable	X												
	(c) The requirements on pressure restrictions in this section do not apply in the following instance. An operator may operate a segment of pipeline found to be in satisfactory condition, considering its operating and maintenance history, at the highest actual operating pressure to which the segment was subjected during the 5 years preceding the applicable date in the second column of the table in paragraph (a)(3) of this section. An operator must still comply with § 192.611	X												
.621	MAOP - High Pressure Distribution Systems Note: New PA-11 design criteria is incorporated into 192.121 & .123, (Final Rule Pub. 24 December, 2008)	X												
.623	Max./Min. Allowable Operating Pressure - Low Pressure Distribution Systems	X												

**Comments:**  
 DCS Std D-S0430, GTS Std S4125, GS&S A-34  
 For low pressure distribution systems installed prior to July 1, 1970, MAOP is established as 150% of Standard Delivery Pressure or 7-inches w.c., the MAOP is 10-1/2 inches w.c.  
 Bulletin 302 addresses, "Establishing MAOP, Exhibit A"

.13(c)	PRESSURE TEST PROCEDURES	S	U	N/A	N/C
.503	Pressure testing	X			

**Comments:**  
 GS&S A-34 Piping Design and Test Requirements, Attachment A -- Test Requirements  
 DCS Std D-S0430 and GTS Std S4125

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.605(a)	ODORIZATION of GAS PROCEDURES	S	U	N/A	N/C
.625(a)	Distribution lines must contain odorized gas. - must be readily detectable by person with normal sense of smell at 1/5 of the LEL.	X			
.625(b)	Odorized gas in Class 3 or 4 locations (if applicable).	X			
.625(f)	Periodic gas sampling, using an instrument capable of determining the percentage of gas in air at which the odor becomes readily detectable.	X			

**Comments:**

UO Std S4350 Gas Odor Detection at 0.6% gas in air or less  
Periodic sampling is done monthly and recorded on Monthly Odorization Report (Form 62-4650)

.605(a)	TAPPING PIPELINES UNDER PRESSURE PROCEDURES	S	U	N/A	N/C
.627	Hot taps must be made by a qualified crew NDT testing is suggested prior to tapping the pipe. Reference API RP 2201 for Best Practices.	X			

**Comments:**

GS&S C-38 Plastic Lateral Connection, Hot Tap Procedure  
GS&S A-52 Hot Tap Branch Connection Requirements  
GS&S D-40 Weld Inspection

.605(a)	PIPELINE PURGING PROCEDURES	S	U	N/A	N/C
.629	Purging of pipelines must be done to prevent entrapment of an explosive mixture in the pipeline				
	(a) Lines containing air must be properly purged.	X			
	(b) Lines containing gas must be properly purged	X			

**Comments:**

GS&S A-38 Procedure for Purging Gas Facilities, Attachment A and B  
WP4100-01 Hot and Cold Work Methods for Natural Gas Transmission Pipeline Shutdown and Tie-in, which replaces S4131, August 2008

.605(a)	MAINTENANCE PROCEDURES	S	U	N/A	N/C
.703(b)	Each segment of pipeline that becomes unsafe must be replaced, repaired, or removed from service	X			
	(c) Hazardous leaks must be repaired promptly	X			

**Comments:**

192.703(b): US Std S4430 CGT Gas Facility Requirements; UO Std S4134 Selection of Steel Gas Pipeline Repair Methods; UO Std S4129 Deactivation of Gas Facilities  
192.703(c): UO Std S4110/S0350 addresses repairs of hazardous leaks; UO Policy 3-7 Gas and Electric Operations, Maintenance and Construction; CT&CS S0205 Replacement of Deteriorated or Damaged Facilities; GS&S A-66 Repair of Cast Iron; GS&S A-67 Repair of Copper and Gas Bulletin 246; S4100-11  
WP4100-11 Deactivation and/or Retirement of Underground Gas Facilities

.605(b)	TRANSMISSION LINES - PATROLLING & LEAKAGE SURVEY PROCEDURES	S	U	N/A	N/C
.705(a)	Patrolling ROW conditions	X			
	(b) Maximum interval between patrols of lines:				



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TRANSMISSION LINES - PATROLLING & LEAKAGE SURVEY PROCEDURES			S	U	N/A	N/C
Class Location	At Highway and Railroad Crossings	At All Other Places				
1 and 2	2/yr (7½ months)	1/yr (15 months)	X			
3	4/yr (4½ months)	2/yr (7½ months)				
4	4/yr (4½ months)	4/yr (4½ months)				
.706	Leakage surveys – 1 year/15 months		X			
	Leak detector equipment survey requirements for lines transporting un-odorized gas		X			
	(a) Class 3 locations - 7½ months but at least twice each calendar year		X			
	(b) Class 4 locations - 4½ months but at least 4 times each calendar year		X			

**Comments:**

192.705(a): WP4412-07  
 192.705(b): UO Std S4111, Attachment 1 Procedure for Patrolling Pipelines and Mains  
 192.706(a) and (b): WP4110-05, UO Std S4110 Leak Survey and Repair of Gas Transmission and Distribution Facilities, Attachment 1, Table 1 Frequency of Periodic Required Gas Leak Surveys, CGT Transmission Class 3 and 4, Semi-annual

.605(b)	DISTRIBUTION SYSTEM PATROLLING & LEAKAGE SURVEY PROCEDURES		S	U	N/A	N/C
.721(a)	Frequency of patrolling mains must be determined by the severity of the conditions which could cause failure or leakage (i.e., consider cast iron, weather conditions, known slip areas, etc.)		X			
.721(b)	Mains in places or on structures where anticipated physical movement or external loading could cause failure or leakage must be patrolled					
(b)(1)	In business districts at intervals not exceeding 4½ months, but at least four times each calendar year; and		X			
(b)(2)	Outside business districts at intervals not exceeding 7½ months, but at least twice each calendar year		X			
.723(a) & (b)	Periodic leak surveys determined by the nature of the operations and conditions.		X			
(b)(1)	In business districts as specified, 1/yr (15 months)		X			
(b)(2)	Outside of business districts as specified, once every 5 calendar years/63 mos.; for unprotected lines subject to .465(e) where electrical surveys are impractical, once every 3 years/39 mos.		X			

**Comments:**

192.721(a): WP4412-07 replaces UO Std S4111  
 192.721(b)(1): WP4412-07; UO Std S4412  
 192.721(b)(2): WP4412-07, US Std S 4111  
 192.723(a) and (b)(1) and (b)(2): UO Std S4110

.605(b)	LINE MARKER PROCEDURES		S	U	N/A	N/C
.707	Line markers installed and labeled as required		X			

**Comments:**

GS&S L-10 Pipeline Marker Posts  
 UO Std S4122, Attachment – Detailed Procedures, Table I-Pipeline Marking Requirements  
 Appendix A-Pipeline Marker Posts and Signs in GS&S Section L

.605(b)	TRANSMISSION RECORD KEEPING PROCEDURES		S	U	N/A	N/C
.709	Records must be maintained...		X			
	(a) Repairs to the pipe – life of system		X			
	(b) Repairs to "other than pipe" – 5 years		X			

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	S	U	N/A	N/C
<b>TRANSMISSION RECORD KEEPING PROCEDURES</b>				
(c) Operation (Sub L) and Maintenance (Sub M) patrols, surveys, tests – 5 years or until next one	X			

**Comments:**

192.709(a) and (c): UO Std S4110, Attachment 1 Leak Survey, Repair, Inspection, and Gas Quarterly Incident Report (Form "A"), Gas Dig-In Incident Report (Form "A1") shall be retained for the life on any gas facility plus 1 year.  
192.709(b): Bulletin 319

		S	U	N/A	N/C
.605(b)	<b>TRANSMISSION FIELD REPAIR PROCEDURES</b>				
	<b>Imperfections and Damages</b>				
	.713(a) Repairs of imperfections and damages on pipelines operating above 40% SMYS				
	(1) Cut out a cylindrical piece of pipe and replace with pipe of $\geq$ design strength	X			
	(2) Use of a reliable engineering method	X			
	.713(b) Reduce operating pressure to a safe level during the repair	X			
	<b>Permanent Field Repair of Welds</b>				
	.715 Welds found to be unacceptable under §192.241(c) must be repaired by:				
	(a) Taking the line out of service and repairing in accordance with §192.245:	X			
	• Cracks longer than 8% of the weld length (except offshore) must be removed	X			
	• For each weld that is repaired, the defect must be removed down to clean metal and the pipe preheated if conditions demand it	X			
	• Repairs must be inspected to ensure acceptability	X			
	• Crack repairs or defect repairs in previously repaired areas must be done in accordance with qualified written welding procedures	X			
	(b) If the line remains in service, the weld may be repaired in accordance with §192.245 if:	X			
	(1) The weld is not leaking	X			
	(2) The pressure is reduced to produce a stress that is 20% of SMYS or less	X			
	(3) Grinding is limited so that 1/4 inch of pipe weld remains	X			
	(c) If the weld cannot be repaired in accordance with (a) or (b) above, a full encirclement welded split sleeve must be installed	X			
	<b>Permanent Field Repairs of Leaks</b>				
	.717 Field repairs of leaks must be made as follows:				
	(a) Replace by cutting out a cylinder and replace with pipe similar or of greater design	X			
	(b)(1) Install a full encirclement welded split sleeve of an appropriate design unless the pipe is joined by mechanical couplings and operates at less than 40% SMYS	X			
	(b)(2) A leak due to a corrosion pit may be repaired by installing a bolt on leak clamp	X			
	(b)(3) For a corrosion pit leak, if a pipe is not more than 40,000 psi SMYS, the pits may be repaired by fillet welding a steel plate. The plate must have rounded corners and the same thickness or greater than the pipe, and not more than 1/2D of the pipe size	X			
	(b)(4) Submerged offshore pipe or pipe in inland navigable waterways may be repaired with a mechanically applied full encirclement split sleeve of appropriate design	X			
	(b)(5) Apply reliable engineering method	X			
	<b>Testing of Repairs</b>				
	.719(a) Replacement pipe must be pressure tested to meet the requirements of a new pipeline				
	(b) For lines of 6-inch diameter or larger and that operate at 20% of more of SMYS, the repair must be nondestructively tested in accordance with §192.241©	X			

**Comments:**

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**Comments:**

Transmission field repair procedures are addressed in GS&S A-60, A-60.2, A-64, D-22, A-34, UO Std S4131, and Transmission standards S4110

.605(b)	TEST REQUIREMENTS FOR REINSTATING SERVICE LINES		S	U	N/A	N/C
	.725(a)	Except for .725(b), disconnected service lines must be tested the same as a new service line.	X			
(b)	Service lines that are temporarily disconnected must be tested from the point of disconnection, the same as a new service line, before reconnect. See code for exception to this.	X				

**Comments:**

GS&S A-34 Piping Design & Test Requirements under General Information Section, Item #6  
GS&S A-93.1 Plastic Gas Distribution System Construction and Maintenance references GS&S A-34 under its "Test Requirements" section on page 9 of 13

.605(b)	ABANDONMENT or DEACTIVATION of FACILITIES PROCEDURES		S	U	N/A	N/C
	.727(b)	Operator must disconnect both ends, purge, and seal each end before abandonment or a period of deactivation where the pipeline is not being maintained. Offshore abandoned pipelines must be filled with water or an inert material, with the ends sealed	X			
(c)	Except for service lines, each inactive pipeline that is not being maintained under Part 192 must be disconnected from all gas sources/supplies, purged, and sealed at each end.	X				
(d)	Whenever service to a customer is discontinued, do the procedures indicate one of the following:					
	(1) The valve that is closed to prevent the flow of gas to the customer must be provided with a locking device or other means designed to prevent the opening of the valve by persons other than those authorized by the operator	X				
	(2) A mechanical device or fitting that will prevent the flow of gas must be installed in the service line or in the meter assembly	X				
	(3) The customer's piping must be physically disconnected from the gas supply and the open pipe ends sealed	X				
(e)	If air is used for purging, the operator shall ensure that a combustible mixture is not present after purging	X				
.727(g)	Operator must file reports upon abandoning underwater facilities crossing navigable waterways, including offshore facilities.	X				

**Comments:**

WP4100-11 Deactivation and/or Retirement of Underground Gas Facilities  
GS&S A-38 Procedures for Purging Gas Facilities  
GS&S A-93.2 Deactivation of Plastic Services  
GS&S A-38.2 Pre-purging Procedure for 2" Plastic Pipe  
WP6435-04 Procedures for Discontinuing Gas Service

.605(b)	PRESSURE LIMITING and REGULATING STATION PROCEDURES		S	U	N/A	N/C
	.739(a)	Inspection and testing procedures for pressure limiting stations, relief devices, pressure regulating stations and equipment (1 per yr/15 months)	X			
	(1) In good mechanical condition	X				
	(2) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed	X				
	(3) Set to control or relieve at correct pressures consistent with .201(a), except for .739(b).	X				
	(4) Properly installed and protected from dirt, liquids, and other conditions that may prevent proper oper.	X				
.739(b)	For steel lines if MAOP is determined per .619(c) and the MAOP is 60 psi (414 kPa) gage or more . . .					

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PRESSURE LIMITING and REGULATING STATION PROCEDURES		S	U	N/A	N/C						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 45%;">If MAOP produces hoop stress that</td> <td style="width: 55%;">Then the pressure limit is:</td> </tr> <tr> <td>Is greater than 72 percent of SMYS</td> <td>MAOP plus 4 percent</td> </tr> <tr> <td>Is unknown as a percent of SMYS</td> <td>A pressure that will prevent unsafe operation of the pipeline considering its operating and maintenance history and MAOP</td> </tr> </table>	If MAOP produces hoop stress that	Then the pressure limit is:	Is greater than 72 percent of SMYS	MAOP plus 4 percent	Is unknown as a percent of SMYS	A pressure that will prevent unsafe operation of the pipeline considering its operating and maintenance history and MAOP	X			
If MAOP produces hoop stress that	Then the pressure limit is:										
Is greater than 72 percent of SMYS	MAOP plus 4 percent										
Is unknown as a percent of SMYS	A pressure that will prevent unsafe operation of the pipeline considering its operating and maintenance history and MAOP										
.741	Telemetering or Recording Gauges										
	(a) In place to indicate gas pressure in the district that is supplied by more than one regulating station	X									
	(b) Determine the need in a distribution system supplied by only one district station	X									
	(c) Inspect equipment and take corrective measures when indications of abnormally high or low pressure	X									
.743	Testing of Relief Devices										
.743	(a) Capacity must be consistent with .201(a) except for .739(b), and be determined 1 per yr/15 mo.	X									
	(b) If calculated, capacities must be compared; annual review and documentation are required.	X									
	(c) If insufficient capacity, new or additional devices must be installed to provide required capacity.	X									

**Comments:**

TD4430P-02, UO Std S4540, WP4540-01, and WP4540-04 CES Standard CT&CS-S0351 District Regulator Station Maintenance and DCS Standard D-S0456, Recording Pressures in Distribution Systems (this is found in DM-Tab H).

For transmission, CGT Standard TD4430-02, CGT S4433 Gas Pressure Relief Devices - Responsibility For Annual Inspection and Verification of Capacity, GS&S H-70 Pressure Relief Devices. CGT Standard 4431, Major Gas Facilities.

Note: Inspector should ask transmission districts to identify its major gas facilities considered per this standard, during the audit.

.605(b) VALVE AND VAULT MAINTENANCE PROCEDURES		S	U	N/A	N/C
Transmission Valves					
.745	(a) Inspect and partially operate each transmission valve that might be required during an emergency (1 per yr/15 months)	X			
.745	(b) Prompt remedial action required, or designate alternative valve.	X			
Distribution Valves					
.747	(a) Check and service each valve that may be necessary for the safe operation of a distribution system (1 per yr/15 months)	X			
	(b) Prompt remedial action required, or designate alternative valve.	X			
Vaults					
.749	Inspection of vaults greater than 200 cubic feet (1 per yr/15 months)	X			

.605(b) PREVENTION of ACCIDENTAL IGNITION PROCEDURES		S	U	N/A	N/C
.751	Reduce the hazard of fire or explosion by:				
	(a) Removal of ignition sources in presence of gas and providing for a fire extinguisher	X			
	(b) Prevent welding or cutting on a pipeline containing a combustible mixture	X			
	(c) Post warning signs	X			

**Comments:**

192.745-.749: WP4430-04 for valves, and S4446 for vaults. Vault Inspection Procedure applies to distribution and transmission (found in DM-Tab K)

192.751: Code of Safe Practices, Utility Standard Practice 22, WP4414-04, G-14832, Gs Distribution and Maintenance Manual Section K, SG&C 236 (Tab A-38 Procedures for Purging Gas Facilities), GS&S A-93.1

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.605(b)	<b>CAULKED BELL AND SPIGOT JOINTS PROCEDURES</b>					
	.753	Cast-iron caulked bell and spigot joint repair:				
	(a)	When subject to more than 25 psig, sealed with mechanical clamp, or sealed with material/device which does not reduce flexibility, permanently bonds, and seals and bonds as prescribed in §192.753(a)(2)(iii)	X			
	(b)	When subject to 25 psig or less, joints, when exposed for any reason, must be sealed by means other than caulking	X			

.605(b)	<b>PROTECTING CAST-IRON PIPELINE PROCEDURES</b>					
	.755	Operator has knowledge that the support for a segment of a buried cast-iron pipeline is disturbed must provide protection.				
	(a)	Vibrations from heavy construction equipment, trains, trucks, buses or blasting?	X			
	(b)	Impact forces by vehicles?	X			
	(c)	Earth movement?	X			
	(d)	Other foreseeable outside forces which might subject the segment of pipeline to a bending stress	X			
	(e)	Provide permanent protection for the disturbed section as soon as feasible	X			

.13(c)	<b>WELDING AND WELD DEFECT REPAIR/REMOVAL PROCEDURES</b>						
	.225	(a) Welding procedures must be qualified under Section 5 of API 1104 or Section IX of ASME Boiler and Pressure Code by destructive test.	X				
		(b)	Retention of welding procedure – details and test	X			
	.227	(a) Welders must be qualified by Section 6 of API 1104 (19th Ed., 1999, including errata October 31, 2001; and 20 <sup>th</sup> edition 2007, including errata 2008) or Section IX of ASME Boiler and Pressure Code (2004 ed. Including addenda through July 1, 2005) See exception in .227(b).	X				
		(b)	Welders may be qualified under section I of Appendix C to weld on lines that operate at < 20% SMYS.	X			
	.229	(a) To weld on compressor station piping and components, a welder must successfully complete a destructive test	X				
		(b)	Welder must have used welding process within the preceding 6 months	X			
		(c)	A welder qualified under .227(a)–				
	.229(c)	(1) May not weld on pipe that operates at ≥ 20% SMYS unless within the preceding 6 calendar months the welder has had one weld tested and found acceptable under the sections 6 or 9 of API Standard 1104; may maintain an ongoing qualification status by performing welds tested and found acceptable at least twice per year, not exceeding 7½ months; may not requalify under an earlier referenced edition.	X				
		(2)	May not weld on pipe that operates at < 20% SMYS unless is tested in accordance with .229(c)(1) or requalifies under .229(d)(1) or (d)(2).	X			
		(d)	Welders qualified under .227(b) may not weld unless:				
		(1)	Requalified within 1 year/15 months, or	X			
		(2)	Within 7½ months but at least twice per year had a production weld pass a qualifying test	X			
	.231	Welding operation must be protected from weather	X				
	.233	Miter joints (consider pipe alignment)	X				
	.235	Welding preparation and joint alignment	X				
	.241	(a) Visual inspection must be conducted by an individual qualified by appropriate training and experience to ensure:	X				
		(1)	Compliance with the welding procedure	X			
		(2)	Weld is acceptable in accordance with Section 9 of API 1104	X			
		(b)	Welds on pipelines to be operated at 20% or more of SMYS must be nondestructively tested in accordance with 192.243 except welds that are visually inspected and approved by a qualified welding inspector if:	X			
	(1)	The nominal pipe diameter is less than 6 inches, or	X				
	(2)	The pipeline is to operate at a pressure that produces a hoop stress of less than 40% of SMYS and the welds are so limited in number that nondestructive testing is impractical	X				

# STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

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.13(c)	WELDING AND WELD DEFECT REPAIR/REMOVAL PROCEDURES	S	U	N/A	N/C
.241	(c) Acceptability based on visual inspection or NDT is determined according to Section 9 of API 1104. If a girth weld is unacceptable under Section 9 for a reason other than a crack, and if Appendix A to API 1104 applies to the weld, the acceptability of the weld may be further determined under that appendix.	X			
Repair and Removal of Weld Defects					
.245	(a) Each weld that is unacceptable must be removed or repaired. Except for offshore pipelines, a weld must be removed if it has a crack that is more than 8% of the weld length	X			
	(b) Each weld that is repaired must have the defect removed down to sound metal, and the segment to be repaired must be preheated if conditions exist which would adversely affect the quality of the weld repair. After repair, the weld must be inspected and found acceptable.	X			
	(c) Repair of a crack or any other defect in a previously repaired area must be in accordance with a written weld repair procedure, qualified under §192.225	X			
Note: Sleeve Repairs – use low hydrogen rod (Best Practices –ref. API 1104 App. B, In Service Welding)					

**Comments:**

92.753 GS&S A 39.  
 192,755 GS&S A-39  
 192.225 (a) and (b) GS&S D-20 Oxyacetylene Weld Procedure; GS&S D-22 Arc Welding Procedure Requirement All Stress Levels  
 192.227 (a) GS&S D-22 (b) GS&S D-30, Form FD-30-A, Welder Qualification for Under 20% SMYS  
 192.229 (a)(b) and (c) D-30  
 192.231: GS&S D-20 Oxyacetylene Weld Procedure, Page 2 of 4 Item #5  
 192.233: GS&S A-36 Design and Construction Requirements Gas Lines and Related Facilities  
 (Note: PG&E uses 20% SMYS as the upper threshold for miter joints)  
 192.235: GS&S D-22 Arc Welding Procedure Requirement All Stress Levels, Page 3 of 15 Item #4  
 192.241(a), 192.241(b): GS&S D-40 Weld Inspections  
 192.241(c): GS&S D-31 Acceptability Criteria for all welds  
 129.245: Production Welds: GS&S D-31 #22-25. In-Service Welds: GS&S D-23 #3-4, GS&S D-23.1 #10-18. Repair Criteria: S4134

.13(c)	NONDESTRUCTIVE TESTING PROCEDURES	S	U	N/A	N/C
.243	(a) Nondestructive testing of welds must be performed by any process, other than trepanning, that clearly indicates defects that may affect the integrity of the weld	X			
	(b) Nondestructive testing of welds must be performed:				
	(1) In accordance with a written procedure, and	X			
	(2) By persons trained and qualified in the established procedures and with the test equipment used	X			
	(c) Procedures established for proper interpretation of each nondestructive test of a weld to ensure acceptability of the weld under 192.241©	X			
	(d) When nondestructive testing is required under §192.241(b), the following percentage of each day's field butt welds, selected at random by the operator, must be nondestructively tested over the entire circumference				
	(1) In Class 1 locations at least 10%	X			
	(2) In Class 2 locations at least 15%	X			
	(3) In Class 3 and 4 locations, at crossings of a major navigable river, offshore, and within railroad or public highway rights-of-way, including tunnels, bridges, and overhead road crossings, 100% unless impractical, then 90%. Nondestructive testing must be impractical for each girth weld not tested.	X			
	(4) At pipeline tie-ins, 100%	X			
	(e) Except for a welder whose work is isolated from the principal welding activity, a sample of each welder's work for each day must be nondestructively tested, when nondestructive testing is required under §192.241(b)	X			
	(f) Nondestructive testing – the operator must retain, for the life of the pipeline, a record showing by mile post, engineering station, or by geographic feature, the number of welds nondestructively tested, the number of welds rejected, and the disposition of the rejected welds.	X			



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Comments:  
GS&S D-40, Weld Inspection  
GS&S D31 Standard of Acceptability for Welding: non-destructive and Destructive testing.

.273(b)	JOINING of PIPELINE MATERIALS	S	U	N/A	N/C
.281	(a) A plastic pipe joint that is joined by solvent cement, adhesive, or heat fusion may not be disturbed until it has properly set. Plastic pipe may not be joined by a threaded joint or miter joint.	X			
	(b) Each solvent cement joint on plastic pipe must comply with the following:				
	(1) The mating surfaces of the joint must be clean, dry, and free of material which might be detrimental to the joint.			X	
	(2) The solvent cement must conform to ASTM Designation: D 2513.			X	
	(3) The joint may not be heated to accelerate the setting of the cement.			X	
	(c) Each heat-fusion joint on plastic pipe must comply with the following:				
	(1) A butt heat-fusion joint must be joined by a device that holds the heater element square to the ends of the piping, compresses the heated ends together, and holds the pipe in proper alignment while the plastic hardens.	X			
	(2) A socket heat-fusion joint must be joined by a device that heats the mating surfaces of the joint uniformly and simultaneously to essentially the same temperature.	X			
	(3) An electrofusion joint must be joined utilizing the equipment and techniques of the fittings manufacturer or equipment and techniques shown, by testing joints to the requirements of §192.283(a)(1)(iii), to be at least equivalent to those of the fittings manufacturer.	X			
	(4) Heat may not be applied with a torch or other open flame.	X			
	(d) Each adhesive joint on plastic pipe must comply with the following:				
	(1) The adhesive must conform to ASTM Designation: D 2517.			X	
	(2) The materials and adhesive must be compatible with each other.			X	
	(e) Each compression type mechanical joint on plastic pipe must comply with the following:				
	(1) The gasket material in the coupling must be compatible with the plastic.	X			
	(2) A rigid internal tubular stiffener, other than a split tubular stiffener, must be used in conjunction with the coupling.	X			
.283	(a) Before any written procedure established under §192.273(b) is used for making plastic pipe joints by a heat fusion, solvent cement, or adhesive method, the procedure must be qualified by subjecting specimen joints made according to the procedure to the following tests:				
	(1) The burst test requirements of-				
	(i) Thermoplastic pipe: paragraph 6.6 (sustained pressure test) or paragraph 6.7 (Minimum Hydrostatic Burst Test) or paragraph 8.9 (Sustained Static pressure Test) of ASTM D2513	X			
	(ii) Thermosetting plastic pipe: paragraph 8.5 (Minimum Hydrostatic Burst Pressure) or paragraph 8.9 (Sustained Static Pressure Test) of ASTM D2517; or			X	
	(iii) Electrofusion fittings for polyethylene pipe and tubing: paragraph 9.1 (Minimum Hydraulic Burst Pressure Test), paragraph 9.2 (Sustained Pressure Test), paragraph 9.3 (Tensile Strength Test), or paragraph 9.4 (Joint Integrity Tests) of ASTM Designation F1055.	X			
	(2) For procedures intended for lateral pipe connections, subject a specimen joint made from pipe sections joined at right angles according to the procedure to a force on the lateral pipe until failure occurs in the specimen. If failure initiates outside the joint area, the procedure qualifies for use; and	X			
	(3) For procedures intended for non-lateral pipe connections, follow the tensile test requirements of ASTM D638, except that the test may be conducted at ambient temperature and humidity if the specimen elongates no less than 25 percent or failure initiates outside the joint area, the procedure qualifies for use.	X			
	(b) Before any written procedure established under §192.273(b) is used for making mechanical plastic pipe joints that are designed to withstand tensile forces, the procedure must be qualified by subjecting five specimen joints made according to the procedure to the following tensile test:				

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.273(b)	JOINING of PIPELINE MATERIALS	S	U	N/A	N/C
	(1) Use an apparatus for the test as specified in ASTM D 638 (except for conditioning).	X			
	(2) The specimen must be of such length that the distance between the grips of the apparatus and the end of the stiffener does not affect the joint strength.	X			
	(3) The speed of testing is 0.20 in. (5.0 mm) per minute, plus or minus 25 percent.	X			
	(4) Pipe specimens less than 4 inches (102 mm) in diameter are qualified if the pipe yields to an elongation of no less than 25 percent or failure initiates outside the joint area.	X			
	(5) Pipe specimens 4 inches (102 mm) and larger in diameter shall be pulled until the pipe is subjected to a tensile stress equal to or greater than the maximum thermal stress that would be produced by a temperature change of 100° F (38° C) or until the pipe is pulled from the fitting. If the pipe pulls from the fitting, the lowest value of the five test results or the manufacturer's rating, whichever is lower must be used in the design calculations for stress.			X	
	(6) Each specimen that fails at the grips must be retested using new pipe.	X			
	(7) Results pertain only to the specific outside diameter, and material of the pipe tested, except that testing of a heavier wall pipe may be used to qualify pipe of the same material but with a lesser wall thickness.			X	
	(c) A copy of each written procedure being used for joining plastic pipe must be available to the persons making and inspecting joints.	X			
	(d) Pipe or fittings manufactured before July 1, 1980, may be used in accordance with procedures that the manufacturer certifies will produce a joint as strong as the pipe.			X	
.285	(a) No person may make a plastic pipe joint unless that person has been qualified under the applicable joining procedure by:				
	(1) Appropriate training or experience in the use of the procedure; and	X			
	(2) Making a specimen joint from pipe sections joined according to the procedure that passes the inspection and test set forth in paragraph (b) of this section.	X			
	(b) The specimen joint must be:				
	(1) Visually examined during and after assembly or joining and found to have the same appearance as a joint or photographs of a joint that is acceptable under the procedure; and	X			
	(2) In the case of a heat fusion, solvent cement, or adhesive joint;	X			
	(i) Tested under any one of the test methods listed under §192.283(a) applicable to the type of joint and material being tested;	X			
				X	
	(ii) Examined by ultrasonic inspection and found not to contain flaws that may cause failure; or				
	(A) Visually examined and found not to contain voids or discontinuities on the cut surfaces of the joint area; and	X			
	(B) Deformed by bending, torque, or impact, and if failure occurs, it must not initiate in the joint area.	X			
	(c) A person must be requalified under an applicable procedure, if during any 12-month period that person:				
	(1) Does not make any joints under that procedure; or	X			
	(2) Has 3 joints or 3 percent of the joints made, whichever is greater, under that procedure that are found unacceptable by testing under §192.513.	X			
	(d) Each operator shall establish a method to determine that each person making joints in plastic pipelines in the operator's system is qualified in accordance with this section.	X			
.287	No person may carry out the inspection of joints in plastic pipes required by §§192.273(c) and 192.285(b) unless that person has been qualified by appropriate training or experience in evaluating the acceptability of plastic pipe joints made under the applicable joining procedure.	X			

**Comments:**

192.281 PG&E Standards and Specs D-21 (pg 2-4/17); and S4170 (with specification #4750)  
 192.283 (a)(1)(i) (PG&E 10/02/89 TES);  
 192.283 (a)(1)(ii) not used by PG&E;  
 192.283(a)(1)(iii) (PG&E 03/87 TES);  
 192.283 (a)(2) and (3) (PG&E 10/02/89 TES); PG&E does not use thermosetting plastic pipe.  
 192.2833 (b)(1-4) (PG&E 01/17/06 Southwest High Density and 05/21/90 Medium density);



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**Comments:**

192.283(b)(5) PG&E doesn't perform mechanical joints for diameters greater than 4-inch;  
192.283(b)(7) (PG&E tested same wall as size being used);  
192.283(c) (PG&E D-21); 192.283(d) (PG&E does not have anything of that vintage);

192.285 (a)(b)(c) GS&S D34, S4170 (Leading Document). PG&E does not perform ultrasonic inspection on their plastic.

.605(b)	CORROSION CONTROL PROCEDURES	S	U	N/A	N/C
.453	Are corrosion procedures established and carried out by or under the direction of a qualified person for:				
	▪ Design	X			
	▪ Operations	X			
	▪ Installation	X			
	▪ Maintenance	X			
.455	(a) For pipelines installed after July 31, 1971, buried segments must be externally coated and	X			
	(b) cathodically protected within one year after construction (see exceptions in code)				
	(c) Aluminum may not be installed in a buried or submerged pipeline if exposed to an environment with a natural pH in excess of 8 (see exceptions in code)				X
.457	(a) All effectively coated steel transmission pipelines installed prior to August 1, 1971, must be cathodically protected	X			
	(b) If installed before August 1, 1971, cathodic protection must be provided in areas of active corrosion for: bare or ineffectively coated transmission lines, and bare or coated c/s, regulator sta., meter sta. piping, and (except for cast iron or ductile iron) bare or coated distribution lines.	X			
.459	Examination of buried pipeline when exposed: if corrosion is found, further investigation is required	X			
.461	Procedures must address the protective coating requirements of the regulations. External coating on the steel pipe must meet the requirements of this part.	X			
.463	Cathodic protection level according to Appendix D criteria	X			
.465	(a) Pipe-to-soil monitoring (1 per yr/15 months) or short sections (10% per year, all in 10 years)	X			
	(b) Rectifier monitoring (6 per yr/2½ months)	X			
	(c) Interference bond monitoring (as required)	X			
	(d) Prompt remedial action to correct any deficiencies indicated by the monitoring	X			
.465	(e) Electrical surveys (closely spaced pipe to soil) on bare/unprotected lines, cathodically protect active corrosion areas (1 per 3 years/39 months)	X			
.467	Electrical isolation (include casings)	X			
.469	Sufficient test stations to determine CP adequacy	X			
.471	Test lead maintenance	X			
.473	Interference currents	X			
.475	(a) Proper procedures for transporting corrosive gas?				X
	(b) Removed pipe must be inspected for internal corrosion. If found, the adjacent pipe must be inspected to determine extent. Certain pipe must be replaced. Steps must be taken to minimize internal corrosion.	X			
.476	Systems designed to reduce internal corrosion Amdt 192-(no number) Pub. 4/23/07, eff. 5/23/07				
	(a) New construction	X			
	(b) Exceptions - offshore pipeline and systems replaced before 5/23/07	X			
	(c) Evaluate impact of configuration changes to existing systems	X			
.477	Internal corrosion control coupon (or other suit. Means) monitoring (2 per yr/7½ months)	X			
.479	(a) Each exposed pipe must be cleaned and coated (see exceptions under .479(e))	X			
	Offshore splash zones and soil-to-air interfaces must be coated	X			
	(b) Coating material must be suitable	X			
	Coating is not required where operator has proven that corrosion will:				
	(c) (1) Only be a light surface oxide, or	X			

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.605(b)	CORROSION CONTROL PROCEDURES	S	U	N/A	N/C
	(2) Not affect safe operation before next scheduled inspection	X			
.481	(a) Atmospheric corrosion control monitoring (1 per 3 yrs/39 months onshore; 1 per yr/15 months offshore)	X			
.481	(b) Special attention required at soil/air interfaces, thermal insulation, under disbonded coating, pipe supports, splash zones, deck penetrations, spans over water	X			
.481	(c) Protection must be provided if atmospheric corrosion is found (per §192.479)	X			
.483	Replacement and required pipe must be coated and cathodically protected (see code for exceptions)	X			
.485	(a) Procedures to replace pipe or reduce the MAOP if general corrosion has reduced the wall thickness?	X			
	(b) Procedures to replace/repair pipe or reduce MAOP if localized corrosion has reduced wall thickness (unless reliable engineering repair method exists)?	X			
	(c) Procedures to use Rstreng or B-31G to determine remaining wall strength?				
.487	Remedial measures (distribution lines other than cast iron or ductile iron)	X			
.489	Remedial measures (cast iron and ductile iron pipelines)				
.491	Corrosion control maps and record retention (pipeline service life or 5 yrs)	X			

**Comments:**

Corrosion requirements are found in the new PG&E Gas Transmission & Distribution Manual: Corrosion Control Volume.

.801- .809	<b>Subpart N — Qualification of Pipeline Personnel Procedures</b>	S	U	N/A	N/C
	Refer to Operator Qualification Inspection Forms and Protocols (OPS web site)				

.901- .951	<b>Subpart O — Pipeline Integrity Management</b>	S	U	N/A	N/C
	This form does not cover Gas Pipeline Integrity Management Programs				

Subparts A - C	<b>PART 199 – DRUG and ALCOHOL TESTING REGULATIONS and PROCEDURES</b>	S	U	N/A	N/C
	Drug & Alcohol Testing & Alcohol Misuse Prevention Program - Use PHMSA Form # 13, PHMSA 2008 Drug and Alcohol Program Check.				

**Comments:**

Conducted as general office audit of PG&E

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PIPELINE INSPECTION (Field)		S	U	N/A	N/C
.179	Valve Protection from Tampering or Damage	X			
.463	Cathodic Protection	X			
.465	Rectifiers	X			
.476	Systems designed to reduce internal corrosion	X			
.479	Pipeline Components Exposed to the Atmosphere	X			
.605	Knowledge of Operating Personnel	X			
.707	ROW Markers, Road and Railroad Crossings	X			
.719	Pre-pressure Tested Pipe (Markings and Inventory)	X			
.741	Telemetry, Recording gauges	X			
.739/.743	Pressure Limiting and Regulating Devices (spot-check field installed equipment vs. inspection records)	X			
.745	Valve Maintenance	X			
.751	Warning Signs	X			
.801 - .809	Operator Qualification - Use PHMSA Form 15 Operator Qualification Field Inspection Protocol Form	X			

**Comments:**

REGULATORY REPORTING PERFORMANCE AND RECORDS		S	U	N/A	N/C
191.5	Telephonic reports to NRC	X			
191.15	Written incident reports; supplemental incident reports (Form F 7100.2)	X			
191	Annual Reports (Forms 7100.1-1, 7100.2-1)	X			
191.23	Safety related condition reports	X			
192.16	Customer Notification (Verification - 90 days - and Elements)	X			
192.727(g)	Abandoned facilities offshore, onshore crossing commercially navigable waterways reports	X			

CONSTRUCTION PERFORMANCE AND RECORDS		S	U	N/A	N/C
.225	Test Results to Qualify Welding Procedures	X			
.227	Welder Qualification	X			
.241 (a)	Visual Weld Inspector Training/Experience	X			
.243 (b)(2)	Nondestructive Technician Qualification	X			
(c)	NDT procedures	X			
(f)	Total Number of Girth Welds	X			
(f)	Number of Welds Inspected by NDT	X			
(f)	Number of Welds Rejected	X			
(f)	Disposition of each Weld Rejected	X			
.273/.283	Qualified Joining Procedures Including Test Results	X			
.285	Personnel Joining Qualifications	X			
.287	Joining Inspection Qualifications	X			
.303	Construction Specifications	X			
.325	Underground Clearance	X			

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CONSTRUCTION PERFORMANCE AND RECORDS		S	U	N/A	N/C
.327	Amount, Location, Cover of each Size of Pipe Installed	X			
.383(e)	EFV customer notification	X			
.455	Cathodic Protection	X			

OPERATIONS and MAINTENANCE PERFORMANCE AND RECORDS		S	U	N/A	N/C
.517 (a)	Pressure Testing (operates at or above 100 psig) – useful life of pipeline	X			
.517 (b)	Pressure Testing (operates below 100 psig, service lines, plastic lines) – 5 years	X			
.603(b)	.605(a) Procedural Manual Review – Operations and Maintenance (1 per yr/15 months)	X			
	.605(b)(3) Availability of construction records, maps, operating history to operating personnel	X			
	.605(b)(8) Periodic review of personnel work – effectiveness of normal O&M procedures	X			
	.605(c)(4) Periodic review of personnel work – effectiveness of abnormal operation procedures	X			
.709	.614 Damage Prevention (Miscellaneous)	X			
	.609 Class Location Study (If Applicable)	X			
.603(b)	.615(b)(1) Location Specific Emergency Plan	X			
	.615(b)(2) Emergency Procedure training, verify effectiveness of training	X			
	.615(b)(3) Employee Emergency activity review, determine if procedures were followed.	X			
	.615(c) Liaison Program with Public Officials	X			
	.616 Public Awareness Program				
.616(e & f)	Documentation properly and adequately reflects implementation of operator's Public Awareness Program requirements - Stakeholder Audience identification, message type and content, delivery method and frequency, supplemental enhancements, program evaluations, etc. (i.e. contact or mailing rosters, postage receipts, return receipts, audience contact documentation, etc. for emergency responder, public officials, school superintendents, program evaluations, etc.). See table below:	X			
<b>API RP 1162 Baseline* Recommended Message Deliveries</b>					
<b>Stakeholder Audience (Natural Gas Transmission Line Operators)</b>		<b>Baseline Message Frequency (starting effective date of Plan)</b>			
Residents Along Right-of-Way and Places of Congregation		2 years			
Emergency Officials		Annual			
Public Officials		3 years			
Excavator and Contractors		Annual			
One-Call Centers		As required of One-Call Center			
<b>Stakeholder Audience (Gathering Line Operators)</b>		<b>Baseline Message Frequency (starting from effective date of Plan)</b>			
Residents and Places of Congregation		Annual			
Emergency Officials		Annual			
Public Officials		3 years			
Excavators and Contractors		Annual			
One-Call Centers		As required of One-Call Center			
<b>Stakeholder Audience (LDCs)</b>		<b>Baseline Message Frequency (starting from effective date of Plan)</b>			
Residents Along Local Distribution System		Annual			
LDC Customers		Twice annually			
Emergency Officials		Annual			
Public Officials		3 years			
Excavator and Contractors		Annual			
One-Call Centers		As required of One-Call Center			
* Refer to API RP 1162 for additional requirements, including general program recommendations, supplemental requirements, recordkeeping, program evaluation, etc.					
.616(g)	The program must be conducted in English and any other languages commonly understood by a significant number of the population in the operator's area.	X			
.616(h)	Effectiveness Review of operator's program.	X			

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OPERATIONS and MAINTENANCE PERFORMANCE AND RECORDS																		
	.616(j)	Operators of a master meter or petroleum gas systems - public awareness messages 2 times annually: (1) A description of the purpose and reliability of the pipeline; (2) An overview of the hazards of the pipeline and prevention measures used; (3) Information about damage prevention; (4) How to recognize and respond to a leak; and (5) How to get additional information.	X															
.517		Pressure Testing	X															
.709	.619 .621 .623	Maximum Allowable Operating Pressure (MAOP) Note: New PA-11 design criteria is incorporated into 192.121 & .123. (Final Rule Pub. 24 December, 2008)		X														
	.625	Odorization of Gas	X															
	.705	Patrolling (Refer to Table Below)	X															
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Class Location</th> <th style="width: 35%;">At Highway and Railroad Crossings</th> <th style="width: 35%;">At All Other Places</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1 and 2</td> <td style="text-align: center;">2/yr (7½ months)</td> <td style="text-align: center;">1/yr (15 months)</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">4/yr (4½ months)</td> <td style="text-align: center;">2/yr (7½ months)</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">4/yr (4½ months)</td> <td style="text-align: center;">4/yr (4½ months)</td> </tr> </tbody> </table>							Class Location	At Highway and Railroad Crossings	At All Other Places	1 and 2	2/yr (7½ months)	1/yr (15 months)	3	4/yr (4½ months)	2/yr (7½ months)	4	4/yr (4½ months)	4/yr (4½ months)
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4	4/yr (4½ months)	4/yr (4½ months)																
.709	.706	Leak Surveys (Refer to Table Below)		X														
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Class Location</th> <th style="width: 35%;">Required</th> <th style="width: 35%;">Not Exceed</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1 and 2</td> <td style="text-align: center;">1/yr</td> <td style="text-align: center;">15 months</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">2/yr*</td> <td style="text-align: center;">7½ months</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">4/yr*</td> <td style="text-align: center;">4½ months</td> </tr> </tbody> </table> <p>* Leak detector equipment survey required for lines transporting un-odorized gas.</p>							Class Location	Required	Not Exceed	1 and 2	1/yr	15 months	3	2/yr*	7½ months	4	4/yr*	4½ months
Class Location	Required	Not Exceed																
1 and 2	1/yr	15 months																
3	2/yr*	7½ months																
4	4/yr*	4½ months																
.603(b)	.721(b)(1)	Patrolling Business District (4 per yr/4½ months)	X															
	.721(b)(2)	Patrolling Outside Business District (2 per yr/7½ months)	X															
	.723(b)(1)	Leakage Survey - business District (1 per yr/15 months)		X														
	.723(b)(2)	Leakage Survey																
		• Outside Business District (5 years)	X															
		• Cathodically unprotected distribution lines (3 years)	X															
	.725	Tests for reinstating service lines	X															
.603b/.727g	.727	Abandoned Pipelines; Underwater Facility Reports	X															
.709	.739	Pressure Limiting and Regulating Stations (1 per yr/15 months)	X															
	.743	Pressure Limiting and Regulator Stations - Capacity (1 per yr/15 months)	X															
	.745	Valve Maintenance Transmission Lines (1 per yr/15 months)	X															
.603(b)	.747	Valve Maintenance Distribution Lines (1 per yr/15 months)	X															
.709	.749	Vault Maintenance (≥200 cubic feet)(1 per yr/15 months)	X															
.603(b)	.751	Prevention of Accidental Ignition (hot work permits)	X															
	.755	Caulked Bell and Spigot Joint Repair	X															
	.225(b)	Welding - Procedure	X															
	.227/.229	Welding - Welder Qualification	X															
	.243(b)(2)	NDT - NDT Personnel Qualification	X															
	.283	Joining - Procedures	X															
	.285	Joining - Personnel Qualifications	X															
	.287	Joining - Inspector Qualifications	X															
.709	.243(f)	NDT Records (Pipeline Life)	X															
		Repair; pipe (Pipeline Life); Other than pipe (5 years)	X															

## STANDARD INSPECTION REPORT OF A GAS DISTRIBUTION OPERATOR

Unless otherwise noted, all code references are to 49CFR Part 192. S – Satisfactory U – Unsatisfactory N/A – Not Applicable N/C – Not Checked  
If an item is marked U, N/A, or N/C, an explanation must be included in this report.

**Comments:**

See inspection report dated September 24, 2010.

### CORROSION CONTROL PERFORMANCE AND RECORDS

.491	.491(a)	Description	S	U	N/A	N/C
.491	.491(a)	Maps or Records	X			
.491	.459	Examination of Buried Pipe when Exposed	X			
.491	.465(a)	Annual Pipe-to-soil Monitoring (1 per yr/15 months) for short sections (10% per year; all in 10 years)			X	
.491	.465(b)	Rectifier Monitoring (6 per yr/2½ months)	X			
.491	.465(c)	Interference Bond Monitoring – Critical (6 per yr/2½ months)	X			
.491	.465(c)	Interference Bond Monitoring – Non-critical (1 per yr/15 months)	X			
.491	.465(d)	Prompt Remedial Actions	X			
.491	.465(e)	Unprotected Pipeline Surveys, CP active corrosion areas (1 per 3 cal yr/39 months)	X			
.491	.467	Electrical Isolation (Including Casings)	X			
.491	.469	Test Stations – Sufficient Number	X			
.491	.471	Test Lead Maintenance	X			
.491	.473	Interference Currents	X			
.491	.475(a)	Internal Corrosion; Corrosive Gas Investigation	X			
.491	.475(b)	Internal Corrosion; Internal Surface Inspection; Pipe Replacement	X			
.491	.476 (d)	Internal Corrosion; New system design; Evaluation of impact of configuration changes to existing systems	X			
.491	.477	Internal Corrosion Control Coupon Monitoring (2 per yr/7½ months)	X			
.491	.481	Atmospheric Corrosion Control Monitoring (1 per 3 cal yr/39 months onshore; 1 per yr/15 months offshore)			X	
.491	.483/485	Remedial: Replaced or Repaired Pipe; coated and protected; corrosion evaluation and actions	X			

**Comments:**

See inspection report dated September 24, 2010.

## Attachment 1

### Distribution Operator Compressor Station Inspection

Unless otherwise noted, all code references are to 49CFR Part 192. S – Satisfactory U – Unsatisfactory N/A – Not Applicable N/C – Not Checked  
If an item is marked U, N/A, or N/C, an explanation must be included in this report.

.605(b)	COMPRESSOR STATION PROCEDURES	S	U	N/A	N/C
.605(b)(6)	Maintenance procedures, including provisions for isolating units or sections of pipe and for purging before returning to service			X	
.605(b)(7)	Starting, operating, and shutdown procedures for gas compressor units			X	
.731	Inspection and testing procedures for remote control shutdowns and pressure relieving devices (1 per yr/15 months), prompt repair or replacement			X	
.735	(a) Storage of excess flammable or combustible materials at a safe distance from the compressor buildings			X	
	(b) Tank must be protected according to NFPA #30			X	
.736	Compressor buildings in a compressor station must have fixed gas detection and alarm systems (must be performance tested), unless:			X	
	▪ 50% of the upright side areas are permanently open, or			X	
	▪ It is an unattended field compressor station of 1000 hp or less			X	

**Comments:**

COMPRESSOR STATIONS INSPECTION (Field)		S	U	N/A	N/C
(Note: Facilities may be "Grandfathered")					
.163	(c) Main operating floor must have (at least) two (2) separate and unobstructed exits			X	
	Door latch must open from inside without a key			X	
	Doors must swing outward			X	
	(d) Each fence around a compressor station must have (at least) 2 gates or other facilities for emergency exit			X	
	Each gate located within 200 ft of any compressor plant building must open outward			X	
	When occupied, the door must be opened from the inside without a key			X	
(e) Does the equipment and wiring within compressor stations conform to the National Electric Code, ANSI/NFPA 70?			X		
.165	(a) If applicable, are there liquid separator(s) on the intake to the compressors?			X	
	(b) Do the liquid separators have a manual means of removing liquids?			X	
	If slugs of liquid could be carried into the compressors, are there automatic dumps on the separators, Automatic compressor shutdown devices, or high liquid level alarms?			X	
.167	(a) ESD system must:				
	- Discharge blowdown gas to a safe location			X	
	- Block and blowdown the gas in the station			X	
	- Shut down gas compressing equipment, gas fires, electrical facilities in compressor building and near gas headers			X	
	- Maintain necessary electrical circuits for emergency lighting and circuits needed to protect equipment from damage			X	
	ESD system must be operable from at least two locations, each of which is:				
	- Outside the gas area of the station			X	
	- Not more than 500 feet from the limits of the station			X	
	- ESD switches near emergency exits?			X	
	(b) For stations supplying gas directly to distribution systems, is the ESD system configured so that the LDC will not be shut down if the ESD is activated?			X	
(c) Are ESDs on platforms designed to actuate automatically by...					
	- For unattended compressor stations, when:				



## Attachment 1

### Distribution Operator Compressor Station Inspection

Unless otherwise noted, all code references are to 49CFR Part 192. S – Satisfactory U – Unsatisfactory N/A – Not Applicable N/C – Not Checked  
If an item is marked U, N/A, or N/C, an explanation must be included in this report.

COMPRESSOR STATIONS INSPECTION (Field)		S	U	N/A	N/C
(Note: Facilities may be "Grandfathered")					
	▪ The gas pressure equals MAOP plus 15%?			X	
	▪ An uncontrolled fire occurs on the platform?			X	
	- For compressor station in a building, when				
	▪ An uncontrolled fire occurs in the building?			X	
	▪ Gas in air reaches 50% or more of LEL in a building with a source of ignition (facility conforming to NEC Class I, Group D is not a source of ignition)?			X	
.171	(a) Does the compressor station have adequate fire protection facilities? If fire pumps are used, they must not be affected by the ESD system.			X	
	(b) Do the compressor station prime movers (other than electrical movers) have over-speed shutdown?			X	
	(c) Do the compressor units alarm or shutdown in the event of inadequate cooling or lubrication of the unit(s)?			X	
	(d) Are the gas compressor units equipped to automatically stop fuel flow and vent the engine if the engine is stopped for any reason?			X	
	(e) Are the mufflers equipped with vents to vent any trapped gas?			X	
.173	Is each compressor station building adequately ventilated?			X	
.457	Is all buried piping cathodically protected?			X	
.481	Atmospheric corrosion of aboveground facilities			X	
.603	Does the operator have procedures for the start-up and shut-down of the station and/or compressor units?			X	
	Are facility maps current/up-to-date?			X	
.615	Emergency Plan for the station on site?			X	
.619	Review pressure recording charts and/or SCADA			X	
.707	Markers			X	
.731	Overpressure protection – reliefs or shutdowns			X	
.735	Are combustible materials in quantities exceeding normal daily usage, stored a safe distance from the compressor building?			X	
	Are aboveground oil or gasoline storage tanks protected in accordance with NFPA standard No. 30?			X	
.736	Gas detection – location			X	

**Comments:**

COMPRESSOR STATION O&M PERFORMANCE AND RECORDS		S	U	N/A	N/C
.709	.731(a) Compressor Station Relief Devices (1 per yr/15 months)			X	
	.731(c) Compressor Station Emergency Shutdown (1 per yr/15 months)			X	
	.736(c) Compressor Stations – Detection and Alarms (Performance Test)			X	

**Comments:**



**Recent PHMSA Advisory Bulletins (Last 2 years)**

Leave this list with the operator.

**Recent PHMSA Advisory Bulletins (Last 2 years)**

<u>Number</u>	<u>Date</u>	<u>Subject</u>
ADB-07-02	February 29, 2008	Correction - Pipeline Safety: Updated Notification of the Susceptibility to Premature Brittle-Like Cracking of Older Plastic Pipe
ADB-08-01	May 13, 2008	Pipeline Safety - Notice to Operators of Gas Transmission Pipelines on the Regulatory Status of Direct Sales Pipelines
ADB-08-02	March 4, 2008	Pipeline Safety - Issues Related to Mechanical Couplings Used in Natural Gas Distribution Systems
ADB-08-03	March 10, 2008	Pipeline Safety - Dangers of Abnormal Snow and Ice Build-Up on Gas Distribution Systems
ADB-08-04	June 5, 2008	Pipeline Safety - Installation of Excess Flow Valves into Gas Service Lines
ADB-08-05	June 25, 2008	Pipeline Safety - Notice to Hazardous Liquid Pipeline Operators of Request for Voluntary Adv Notification of Intent To Transport Biofuels
ADB-08-06	July 2, 2008	Pipeline Safety - Dynamic Riser Inspection, Maintenance, and Monitoring Records on Offshore Floating Facilities
ADB-09-01	May 21, 2009	Potential Low and Variable Yield and Tensile Strength and Chemical Composition Properties in High Strength Line Pipe
ADB-09-02	Sept 30, 2009	Weldable Compression Coupling Installation
ADB-09-03	Dec 7, 2009	Operator Qualification Program Modifications
ADB-09-04	Jan 14, 2010	Reporting Drug and Alcohol Test Results for Contractors and Multiple Operator Identification Numbers
ADB-10-01	Jan 26, 2010	Pipeline Safety: Leak Detection on Hazardous Liquid Pipelines
ADB-10-02	Feb 3, 2010	Implementation of Revised Incident/Accident Report Forms for Distribution Systems, Gas Transmission and Gathering Systems, and Hazardous Liquid Systems
ADB-10-03	March 24, 2010	Girth Weld Quality Issues Due to Improper Transitioning, Misalignment, and Welding Practices of Large Diameter Line Pipe

For more PHMSA Advisory Bulletins, go to <http://ops.dot.gov/regs/advise.htm>