



**Pacific Gas and
Electric Company**

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February 1, 2013

Mr. Mike Robertson
Gas Safety and Reliability Branch
Consumers Protection and Safety Division
California Public Utilities Commission
320 West 4th Street, Suite 500
Los Angeles, CA. 90013

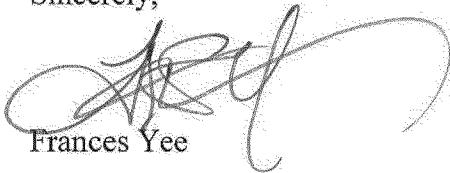
Re: State of California – Public Utilities Commission
General Order 112-E Audit – PG&E's Sonoma Division

Dear Mr. Robertson:

The Consumer Protection and Safety Division (CPSD), Gas Safety and Reliability Branch (GSRB) of the CPUC conducted a General Order 112-E audit of PG&E's Sonoma Division, from June 4-8, 2012. On December 21, 2012, the CPSD submitted their audit report, identifying violations and findings. Attached is PG&E's response to the CPUC audit report.

Please contact Redacted for any questions you may have regarding this response.

Sincerely,



Frances Yee

Attachments

cc: Terence Eng, CPUC
Alula Gebremedhin, CPUC
Julie Halligan, CPUC
Dennis Lee, CPUC
Sunil Shori, CPUC

Jane Yura, PG&E

Larry Denis Redacted

Larry Berg Redacted

**General Order 112-E Findings
CPUC Inspection Report, dated December 21, 2012
Sonoma Division**

INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
June 4-8, 2012	AIR-1	Terence Eng	(415) 703-5326

INSPECTION FINDING

CPUC Finding

A. PG&E's Internal Audit Findings

Prior to the start of the June 4-8, 2012 audit, PG&E provided CPSD with findings from internal audits of its Sonoma Division. Some of PG&E's internal audit findings are violations of PG&E's operations and maintenance standards, and are therefore violations of Title 49 Code of Federal Regulations (CFR), §192.13(c). CPSD also identified other violations of Title 49 CFR 192 within PG&E's internal audit findings. The violations are listed in Table 1.

CPSD is aware that several of PG&E's findings had been corrected by the time of CPSD's audit, or were addressed during the next scheduled maintenance (e.g. annual leak surveys, key valve maintenance) or were of a nature requiring continuous monitoring. Please provide CPSD an update on the items that were still pending corrective actions as of June 8, 2012. Also, CPSD has follow up questions related to a number of internal audit findings. Those follow up questions are listed following Table 1.

Table 1. Sonoma Division Internal Review Summary

Item	Title 49 CFR Part 192	Topic - Finding	# of Violations	# of Violations Corrected	# of Pending Corrections (as of June 8, 2012)
1	192.13(c)	Leak Survey - Grade 2 leaks checked late	56	56	0
2	192.13(c)	Leak Survey - Grade 0 leaks checked late	41	41	0
3	192.13(c)	Leak Survey - Missing calibration check records	435	TBD	TBD
4	192.743(a)	Station Maintenance - Missing relief valve calculation review record	1	1	0
5	192.747(a)	Emergency Valves - Late maintenance	2	2	0
6	192.747(b)	Emergency Valves - No action plan for inoperable emergency valve	1	1	0

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7	192.13(c), 192.465(d)	Corrosion Control - Action plans either missing or completed late	24	24	0
8	192.13(c), 192.465(a)	Corrosion Control - Pipe-to-soil reads were late	15	15	0
9	192.383(b)	Leak Repair - Excess flow valve not installed	1	1	0

Table 1. Sonoma Division Internal Review Summary (continued)

Item	Title 49 CFR Part 192	Topic - Finding	# of Violations	# of Violations Corrected	# of Pending Corrections (as of June 8, 2012)
10	192.13(c)	Leak Repair - Leak repaired late	12	12	0
11	192.13(c)	Leak Repair - Missing leak test info	1	1	0
12	192.13(c)	Leak Repair - Leaks rechecked late	106	106	0
13	192.13(c)	Leak Repair - Leak response late	3	3	0
14	192.13(c)	Deactivation - Stubs were not completed	15	15	0
15	192.13(c)	Deactivation - Need layer in electronic mapping	Multiple	Unknown	Multiple
16	192.13(c), 192.625(f)	Odorization - Sniff tests missed	4	4	0
17	192.805(b)	Odorization - Employee not operator qualified to conduct sniff test	1	1	0
18	192.805(b)	Patrols - Patrol performed by non-OQ'ed inspector	33	33	0
19	192.13(c)	Emergency Zones - Zone binder reviewed late	1	1	0

Follow up questions:

1. Item 3 in Table 1, Leak Survey: What is being done about the 42 leak survey plat maps missing calibration check records? Are the results being discarded? When are the next surveys scheduled?

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	<p>2. Item 10 in Table 1, Leak Repair: The internal audit findings revealed, <i>“PG&E identified 2 Grade 1 leaks not repaired within 3 days in Sonoma.”</i> What is the 3 day timeframe and how was it established?</p> <p>3. Item 15 in Table 1, Deactivation: What is the status of the input of the deactivation layers? What is PG&E’s process for identifying facilities deactivated long ago?</p>
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PG&E RESPONSE

1. During the CPUC audit PG&E representatives pointed out that these calibration records were missing and we would continue to look for them. PG&E did find the missing records shortly after the audit. Please see Attachment 1 for the calibration records of the leak survey equipment. Note: many of the records are “out of area” instruments and only show calibrations for the months/days in use while loaned to Sonoma Division.

These 42 leak survey plats are scheduled for their 5-year survey in 2015.

2. PG&E representatives reviewed this internal finding for Leak #s 44-08-12879-1 and 44-09-00614-1. Grade 1 leaks require response and action within 24 hours, with the understanding that some leaks, although worked continually and safely upon discovery by PG&E crews, may take longer than 24 hours to complete. The three-day timeframe is derived from an internal leak program report that allows PG&E management to monitor how many Grade 1 leaks took more than 24 hours to complete. The managerial report helps PG&E monitor leak repairs that exceed normal repair times, allowing us to look for process and construction improvements. The three-day timeframe is not specified in PG&E’s Utility Operations Standard S4110.

3. Utility Procedure: TD-9500P-16, “Deactivation and/or Retirement of Underground Gas Facilities”, requires that each field office retain all deactivated line, main, and service facility information. This information must include, at minimum, the construction as-built drawings, facility size, material type, physical location of the deactivated facilities, date installed, and date deactivated.

a. Field offices with electronic mapping must place deactivated facility information on the designated mapping layer.

b. Field offices without electronic mapping must establish a cross-reference or index system that allows facility information to be readily accessible.

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During this audit, PG&E representatives from Mapping explained and showed our process of layering deactivated main into the Gas and Electric Mapping System (GEMS) program electronically/digitally. Pre-GEMS/electronic mapping the process for identifying deactivated facilities was to enter the deactivated facilities in mapping books which are maintained in the Mapping Department, and shared with the auditors. Putting deactivated facilities in the GEMS program electronically, per TD-9500P-16, was not retroactive. TD-9500P-16 does not require PG&E to transfer the prior mylar-posted deactivation information into our existing GEMS/electronic mapping system that we use today. A sample screen shot of deactivation notes in the GEMS program is shown in Attachment 2.

ATTACHMENTS

Attachment #	Title or Subject
1	Leak Survey Equipment Calibration Records
2	Deactivation Layer Example in GEMS

ACTION REQUIRED

Action To Be Taken	Due Date	Completion Date	Responsible Dept.
No further action required			

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
June 4-8, 2012	NOV – 1	Terence Eng	(415) 703-5326

INSPECTION FINDING

CPUC Finding	<p>B. Audit Findings and Violations</p> <p>1. <u>Title 49 CFR, §192.13(c) states:</u></p> <p><i>“Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.”</i></p> <p>i.) PG&E’s WP4430-04 Attachment 1, Gas Valve Maintenance Requirements and Procedures, states: <i>“Ensure that all natural gas block valves (2” and greater for gas transmission district-maintained facilities) requiring maintenance per this work procedure and ball or plug valve regulators have a completed ‘Valve Maintenance Equipment Card.’”</i></p> <p>CPSD reviewed the Valve Maintenance Record Forms and discovered that a number of cards (e.g. V-1 at R-060, V-2 at R-396, V-1 at R-420) were missing information including the pressure rating. The Division did not follow PG&E’s Work Procedure WP4430-04 Attachment 1; therefore, the Division is in violation of Title 49 CFR §192.13(c).</p> <p>ii.) PG&E’s UO Standard S4110 – Attachment 1, states that Grade 2+ leaks are to be repaired or cleared not exceeding 90 calendar days from the date reported.</p> <p>CPSD reviewed the Division’s leak reports and found five Grade 2+ leaks (shown in Table 2) that were repaired outside of PG&E’s required timeframe. The Division did not follow PG&E’s procedures for repairing these Grade 2+ leaks within 90 days; therefore, the Division is in violation of Title 49 CFR §192.13(c).</p> <p>Table 2. Grade 2+ leaks repaired exceeding 90 days from found date</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Leak Number</th> <th>Found Date</th> <th>Repaired Date</th> </tr> </thead> <tbody> <tr> <td>4409002081</td> <td>1/20/2009</td> <td>8/31/2011</td> </tr> <tr> <td>4409001151</td> <td>1/6/2009</td> <td>9/4/2009</td> </tr> <tr> <td>4409001751</td> <td>1/15/2009</td> <td>9/21/2009</td> </tr> <tr> <td>4410000061</td> <td>1/4/2010</td> <td>10/9/2010</td> </tr> <tr> <td>4410000431</td> <td>2/8/2010</td> <td>9/22/2010</td> </tr> </tbody> </table>	Leak Number	Found Date	Repaired Date	4409002081	1/20/2009	8/31/2011	4409001151	1/6/2009	9/4/2009	4409001751	1/15/2009	9/21/2009	4410000061	1/4/2010	10/9/2010	4410000431	2/8/2010	9/22/2010
Leak Number	Found Date	Repaired Date																	
4409002081	1/20/2009	8/31/2011																	
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4410000061	1/4/2010	10/9/2010																	
4410000431	2/8/2010	9/22/2010																	

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iii.) Regarding Cathodic Protection Area (CPA) restoration work, PG&E's O-16, p. 11 states: *"If the action plan exceeds 90 days, the action plan needs to be reviewed and approved by corrosion engineering personnel, the area superintendent, and the manager of technical services within 120 days."*

CPSD reviewed the cathodic protection maintenance records and found multiple cases in which approvals were required by corrosion engineering personnel, the area superintendent, and/or the manager of technical services, but were not obtained as in the examples noted below. The Division failed to follow PG&E's standard O-16; therefore, the Division is in violation of Title 49 CFR §192.13(c).

- CPA 634-12, Initial Discovery: 12/16/2011, Restored: 5/10/2012.
- CPA 564-01, Initial Discovery: 11/22/2008, Restored: 10/13/2009.
- CPA 568-01, Initial Discovery: 1/13/2011, Restored: 12/14/2011.

iv.) PG&E's O-16, p. 9 regarding "annuals" states: *"Any P/S potential that is found to be less negative than -850 mV must be restored within 30 calendar days from the day it was discovered. If the CPA restoration work is expected to require more than 30 days to complete, a written action plan must be created and maintained current using the 'CPA Follow-Up Action Plan' form."* The same written action plan requirement applies to "10%ers" and "yearlys" as described on page 10 of O-16.

The following types of facilities are defined by PG&E. **Annuals** are defined as isolated gas distribution piping segments that are over 100 feet long or equal to eight blocks of steel main or one mile. **Yearlys** are defined as where the failure of a locating wire will cause a section of steel main to become isolated or where a regulator station is tied to a CPA via a wire. **10%ers** are defined as individual isolated sections of steel pipeline that must be monitored for cathodic protection once every ten years.

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CPSD found multiple cases of cathodic protection deficiencies in which the Division did not restore the cathodic protection within 30 days of discovery or prepare a Follow-Up Action Plan Form. Table 3 provides examples of these cathodic protection deficiencies.

Table 3. CPA deficiency locations w/ no Follow-Up Action Plan Form

Address	City / Plat	Last Read (mV)	Last Read Date
Avila Annuals & Yearly			
Redacted	Sebastopol	-648	Feb-12
	Santa Rosa	-754	May-12
	Graton	-560	Dec-12
Harris Annuals & Yearly			
Redacted	Petaluma	-788	May-12
10%ers			
Redacted	2704-C7/27	-804	Mar-11
	2704-C7/27	-805	Mar-11
	2504-C1/49	-518	Apr-12
	2504-D1/51	-816	May-12
	2633-E5/2	-348	Aug-04
	2567-J5/2	-475	Dec-06
	2634-F5/15	-820	Feb-02
	2634-A1/17	-815	Aug-04

The Division failed to follow PG&E's Standard O-16; therefore, the Division is in violation of Title 49 CFR §192.13(c).

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PG&E RESPONSE

1.i.) PG&E agrees with this finding. This effort to research as-builts throughout the PG&E system to determine pipeline features and pressure rating of valves and fittings is ongoing, and has an expected completion date of December 31, 2013 for transmission pipeline facilities. The research effort for piping and equipment within transmission station facilities will begin in 2013. Valve specification information will be shared with maintenance and construction organizations in order to complete the Valve Maintenance forms.

1.ii.) PG&E respectfully disagrees that the five leaks in Table 2 were repaired outside of the timeframes specified in PG&E's UO Standard S4110. Please see the explanation below for each of the 5 leaks and Attachments 3 thru 7.

a. Leak # 44-09-00208-1 – This leak met UO Standard S4110 for the timeframes to check, downgrade, or repair, as shown below. However, this is an example of an inefficient way to manage leak backlogs. As noted in response to AOC-6, PG&E is in the process of overhauling its leak survey and repair program, which addresses the management of leak backlogs.

- Found as a Grade 2+ on 1/28/2009
- Downgraded to a Grade 2 on 2/13/2009
- Checked as Grade 2 on 6/8/2009
- Checked as Grade 2 on 8/25/2009
- Checked as Grade 2 on 12/17/2009
- Checked as Grade 2 on 4/14/2010
- Downgraded to a Grade 3 on 7/13/2010
- Upgraded to a Grade 2 on 8/3/2010
- Upgraded to a Grade 2+ on 1/10/2011
- Downgraded to a Grade 2 on 4/6/2011
- Repaired on 8/31/2011

b. Leak # 44-09-00115-1 – This leak was checked and repaired within the timeframes specified in UO Standard S4110. The log activity is as follows:

- Found as Grade 2 on 1/6/2009
- Upgraded to Grade 2+ on 8/12/2009 (This is within the last day of the 7th month after the last leak check)
- Repaired on 9/1/2009

c. Leak # 44-09-00175-1 – This leak was checked and repaired within the timeframes specified in UO Standard S4110. The log activity is as follows:

- Found as a Grade 2+ on 1/15/2009
- Downgraded to a Grade 2 on 2/27/2009
- Upgraded to a Grade 2+ on 9/1/2009
- Repaired on 9/21/2009

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d. Leak # 44-10-00006-1 – This leak was checked and repaired within the timeframes specified in UO Standard S4110. The log activity is as follows:

- Found as a Grade 2 on 1/4/2010
- Upgraded to a Grade 2+ on 8/19/2010 (This is within the last day of the 7th month after the last leak check)
- Repaired on 10/9/2010

e. Leak # 4410000431 – This leak was checked and repaired within the timeframes specified in UO Standard S4110. The log activity is as follows:

- Found as a Grade 2 on 2/8/2010
- Upgraded to a Grade 2+ on 2/12/2010
- Downgraded to a Grade 2 on 5/10/2010
- Upgraded to a Grade 2+ on 9/11/2010
- Repaired on 9/21/2010

1.iii. PG&E agrees with this finding. However, PG&E would like to point out that the requirement to have approvals by corrosion engineering personnel, the area superintendent, and/or the manager of technical services was eliminated in April 2011 with the publication of Gas Information Bulletin TD-O-16B-001 (See Attachment 8).

The three Cathodic Protection Areas had Action Plans created and updated although approvals/signatures of the personnel noted above were not recorded.

The current method of processing CPA Action Plans (as spelled out in TD-O-16B-001) is providing the necessary level of management review to ensure expedited actions to restore cathodic protection. Sonoma Division hired a Corrosion Supervisor in September 2012 to oversee corrosion control activities and ensure corrective work by other departments is appropriately prioritized.

1.iv. PG&E agrees with these findings. Please see the table below for the current status of these pipe-to-soil potentials. On May 31, 2012, the Sonoma Division corrosion personnel were tailboarded on the importance of completing CPA Follow-up Action Plans. (See Attachment 9) As mentioned during the audit, three corrosion mechanics left Sonoma Division in early 2011. All three positions were filled during the latter part of 2011 and early 2012. PG&E hired a Corrosion Supervisor in September 2012. With additional oversight and trained personnel cathodic protection, the proper focus is now being directed on corrosion control.

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Address	City / Plat	Last Read (mV)	Last Read Date	Status
Avila Annuals & Yearly				
Redacted	Sebastopol	-648	Feb-12	Action Plan missed 30 days- Started 8/6/12 Area has been restored 9/24/12 -1039mv
	Santa Rosa	-1091	Oct-12	<i>Not a Finding</i> See page 5 of Attachment 9.
	Graton	-560	Dec-12	Action Plan missed 30 days- Started 8/22/12 Area has been restored 10/9/12 -1039mv
Harris Annuals & Yearly				
Redacted	Petaluma	-788	May-12	Action Plan was started 6/8/12 Area restored 10/29 12. Two entries on Action Plan were late
10%ers				
Redacted	2704-C7/27	-804	Mar-11	No action Plan was created, Anode installed 4/4/12 Reading -1399mv verified 1/10/13
	2704-C7/27	-805	Mar-11	No Action Plan was created. Stl riser was replaced 11/4/11
	2504-C1/49	-518	Apr-12	No Action Plan created. Anode installed Verified read -1443mv 11/26/12
	2504-D1/51	-816	May-12	Sheet shows a re-read of -929mv area not down, Verified read -866mv on 1/11/13
	2633-E5/2	-348	Aug-04	No Action Plan created. Anode installed Verified anode installed, read -1420mv on 1/11/13
	2567-J5/2	-475	Dec-06	No Action Plan created. Anode installed Verified anode installed, read -1457mv on 1/11/13
	2634-F5/15	-820	Feb-02	No Action Plan created, anode installed 4/20/05, Service was cut off/abandon
	2634-A1/17	-815	Aug-04	No Action Plan created. Anode installed Verified anode installed, read -989mv on 1/11/13

ATTACHMENTS

Attachment #	Title or Subject
3	Leak # 44-09-00208-1
4	Leak # 44-09-00115-1
5	Leak # 44-09-00175-1
6	Leak # 44-09-00006-1
7	Leak # 44-09-00043-1
8	Bulletin TD-O-16B-001
9	5/31/2012 Tailboard on CPA Action Plans

ACTION REQUIRED

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Action To Be Taken	Due Date	Completion Date	Responsible Dept.
Finalize valve & fitting identification and transfer data to maintenance departments for transmission pipeline facilities	December 31, 2013		MAOP Validation Team

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
June 4-8, 2012	NOV – 2	Terence Eng	(415) 703-5326

INSPECTION FINDING

CPUC Finding	<p><u>B. Audit Findings and Violations</u></p> <p>2. Title 49 CFR §192.145(c) states:</p> <p><i>“Each valve must be able to meet the anticipated operating conditions.”</i></p> <p>CPSD reviewed the Division’s Valve Maintenance Record Forms and found a number of cards that were missing the pressure rating value.. The Division indicated that pressure ratings for its valves are currently being researched as part of PG&E’s MAOP validation project; therefore, the Division could not determine if each valve was able to meet its anticipated operating condition. As a result, the Division is in violation of Title 49 CFR §192.145(c). CPSD requests an update on PG&E’s MAOP validation project with respect to valves at this Division.</p>
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PG&E RESPONSE

<p>PG&E agrees with this finding. This effort to research as-builts throughout the PG&E system to determine pipeline features and pressure rating of valves and fittings is ongoing, and has an expected completion date of December 31, 2013 for transmission pipeline facilities. The research effort for piping and equipment within transmission station facilities will begin in 2013. Valve specification information will be shared with maintenance and construction organizations in order to complete the Valve Maintenance forms.</p>
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ATTACHMENTS

Attachment #	Title or Subject
None	

ACTION REQUIRED

Action To Be Taken	Due Date	Completion Date	Responsible Dept.
Finalize valve & fitting identification and transfer data to maintenance departments for transmission pipeline facilities	December 31, 2013		MAOP Validation Team

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June 4-8, 2012	NOV – 3	Terence Eng	(415) 703-5326

INSPECTION FINDING

CPUC Finding	<p>B. Audit Findings and Violations</p> <p>3. Title 49 CFR §192.509(b) states:</p> <p><i>“Each main that is to be operated at less than 1 psi (6.9 kPa) gage must be tested to at least 10 psi (69 kPa) gage and each main to be operated at or above 1 psig must be tested to at least 90 psi (621 kPa) gage.”</i></p> <p>CPSD found a segment of pipe, identified on PM Number 30668899 CPA 504-05, Plat 2503-D8 that was listed as having a Normal Operating Pressure of 50 psig. Records indicated that in 2010, the pipe was pressure tested to 10 psig at the time of its installation. The Division did not test the pipe to at least 90 psig as required; therefore, the Division is in violation of Title 49 CFR §192.509(b).</p>
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PG&E RESPONSE

<p>PG&E respectfully disagrees that this finding is a violation of 49 CFR §192.509(b). At the time of this audit, PG&E representatives provided “as-built” records for job order PM 30668899 which included a pressure test stamp showing a pressure test of 10 psig. Upon further investigation and discussion with the lead inspector on this installation project, it was determined that this was a typo/misprint by the inspector. This PG&E inspector also keeps field notes and documentation and was able to provide his notes for the test in question. The inspector was interviewed on June 11, 2012 and provided his pressure test notes for Redacted conducted on January 11, 2010 and indicating a test pressure of 100 psig. See Attachments 10 and 11.</p>

ATTACHMENTS

Attachment #	Title or Subject
10	As-built drawing for PM 30668899
11	Inspectors field notes of 100 psig pressure test

ACTION REQUIRED

Action To Be Taken	Due Date	Completion Date	Responsible Dept.
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CPUC Finding	<p><u>B. Audit Findings and Violations</u></p> <p>4. <u>Title 49 CFR §192.747(a)</u> states:</p> <p><i>“Each valve, the use of which may be necessary for the operation of a distribution system, must be checked and serviced at intervals not exceeding 15 months, but at least once each calendar year.”</i></p> <p>Valve V-1 [Redacted] was not operated in 2010. Therefore, the Division is in violation of Title 49 CFR §192.747(a).</p>
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PG&E RESPONSE

<p>PG&E agrees with this finding. During this audit, PG&E provided this finding as one of our internal findings. The valve (V-1) at [Redacted] was not operated in 2010 as required by Title 49 CFR §192.747(a). PG&E failed to initiate a corrective order to repair or replace the valve.</p> <p>V-1 has since been removed as part of our High Pressure Regulator (HPR) Upgrade Program. There were three HPR’s within this vicinity that were removed under job order PM 30904716, completed on October 26, 2012. (See Attachment 12)</p> <p>The Gas T&R Department has been reminded to initiate a corrective order to repair or replace all valves found to be inoperable, and to designate an Alternate Means of Control Valve by completing the Alternate Means of Control form (See Attachment 13).</p>
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ATTACHMENTS

Attachment #	Title or Subject
12	Job to Remove [Redacted] HPRs
13	TD-4430B-001 AMC for Inoperable Valves

ACTION REQUIRED

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June 4-8, 2012	AOC – 1	Terence Eng	(415) 703-5326

INSPECTION FINDING

CPUC Finding	<p>C. Observations/Concerns</p> <p>1. CPSD reviewed the Division’s District Regulator Data Sheets and noted several typos or inadequacies. Several examples are shown below in Table 4.</p> <p style="text-align: center;">Table 4. District Regulator Data Sheets with typos</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Location</th> <th>Parameter</th> <th>Listed Specification</th> <th>Reason it is inadequate</th> </tr> </thead> <tbody> <tr> <td rowspan="3" style="text-align: center;">Redacted</td> <td>Vault Size</td> <td>17" x 30"</td> <td>Missing 3rd dimension</td> </tr> <tr> <td>Monitor (psig)</td> <td>270155</td> <td>Meant to state 270/155</td> </tr> <tr> <td>Vault Size</td> <td>4x5x5, 80 cu. Ft</td> <td>Meant to state 100 cu. ft.</td> </tr> </tbody> </table>			Location	Parameter	Listed Specification	Reason it is inadequate	Redacted	Vault Size	17" x 30"	Missing 3rd dimension	Monitor (psig)	270155	Meant to state 270/155	Vault Size	4x5x5, 80 cu. Ft	Meant to state 100 cu. ft.
Location	Parameter	Listed Specification	Reason it is inadequate														
Redacted	Vault Size	17" x 30"	Missing 3rd dimension														
	Monitor (psig)	270155	Meant to state 270/155														
	Vault Size	4x5x5, 80 cu. Ft	Meant to state 100 cu. ft.														

PG&E RESPONSE

<p>PG&E agrees with this concern and has updated the noted District Regulator Data Sheets. Please see Attachments 14 and 15 for the updated Regulator Data Sheets of these two stations.</p>
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ATTACHMENTS

Attachment #	Title or Subject
14	Updated Reg Data Sheets R-069
15	Updated Reg Data Sheets R-420

ACTION REQUIRED

Action To Be Taken	Due Date	Completion Date	Responsible Dept.
No further action required.			

Definitions: NOV – Notice of Violation
 AOC – Area of Concern
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**General Order 112-E Findings
CPUC Inspection Report, dated December 21, 2012
Sonoma Division**

INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
June 4-8, 2012	AOC – 2	Terence Eng	(415) 703-5326

INSPECTION FINDING

CPUC Finding	C. Observations/Concerns
	<p>2. In 2002, 10%ers at [Redacted] and [Redacted] [Redacted] were noted as having pipe-to-soil reading values of -938 mV and -1192 mV, respectively. In 2010, Division maintenance noted that these locations had pre-fabricated anodeless risers and that pipe-to-soil readings were unnecessary. As-built maps confirmed that the service lines at [Redacted] were replaced with plastic in 1975 and 1994, respectively. Please advise CPSD how readings taken in 2002 indicated that the individual sections of pipe were cathodically protected.</p>

PG&E RESPONSE

<p>PG&E agrees with this concern. [Redacted] has been verified to be an isolated steel riser, requiring cathodic protection, and shall remain on the “10%er” maintenance list. The service was replaced in 1975 with ½-inch plastic, but has an isolated steel riser. The pipe-to-soil potential reading of -1005 mV was taken on January 11, 2013, verifying adequate cathodic protection.</p> <p>[Redacted] has been verified to be a non-corrodible pre-fabricated riser. It does not require cathodic protection and has been removed from the “10%er” maintenance list. It is believed that the employee noting in 2010 that this location had a non-corrodible pre-fabricated riser was inexperienced in making the distinction between risers or took a reading at an incorrect address. Please see Attachment 16 for documentation on these two locations. The Sonoma Division Corrosion Department has had discussions about the need to verify street address and potential service replacement work whenever non-corrodible pre-fabricated risers are found at “10%er” locations.</p>
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ATTACHMENTS

Attachment #	Title or Subject
16	10%er documentation

ACTION REQUIRED

Action To Be Taken	Due Date	Completion Date	Responsible Dept.

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 AOC – Area of Concern
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**General Order 112-E Findings
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Sonoma Division**

No further action required.			
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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
June 4-8, 2012	AOC – 3	Terence Eng	(415) 703-5326

INSPECTION FINDING

CPUC Finding	C. Observations/Concerns
	<p>3. On June 6, 2012, CPSD observed that cathodic protection at Redacted</p> <p>Redacted</p> <p>Redacted had inadequate readings that did not meet the required -850 mV criteria. Please provide CPSD a status report on the cathodic protection at these two locations.</p>

PG&E RESPONSE

Cathodic Protection Area (CPA) 377-01 is protected galvanically and monitored on an annual basis per Gas Standard & Specification O-16. These monitoring points are normally read each February. During the field inspection portion of this audit, the two read locations for this CPA were measured to have inadequate readings. Unfortunately, PG&E failed to create a corrective work order to promptly initiate troubleshooting efforts to restore adequate cathodic protection as a result of this observation during the audit. Corrective work was initiated on January 11, 2013, and the CPA is expected to be restored by March 1, 2013. Please see Attachment 17 for the CPA maintenance report and CPA Follow-Up Action Plan.

The Sonoma Division Corrosion Department has received a tailboard briefing on the need to create a corrective work order whenever a low pipe-to-soil potential is recorded. (See Attachment 17)

As noted above in NOV-1 Items iii and iv, Sonoma Division has created and filled a Corrosion Supervisor position as of September 2012 to ensure the appropriate priority and resources are directed to corrosion control and documentation.

ATTACHMENTS

Attachment #	Title or Subject
17	CPA 377-01 Maintenance Report & Action Plan
18	Tailboard on action necessary on low potentials

ACTION REQUIRED

Action To Be Taken	Due Date	Completion Date	Responsible Dept.
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**General Order 112-E Findings
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Sonoma Division**

Restore cathodic protection to CPA 377-01	March 1, 2013		Sonoma Division M&C
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**General Order 112-E Findings
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Sonoma Division**

INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
June 4-8, 2012	AOC – 4	Terence Eng	(415) 703-5326

INSPECTION FINDING

CPUC Finding	<p><u>C. Observations/Concerns</u></p> <p>4. On June 7, 2012, CPSD observed the Division perform an A-Type inspection at Regulator Station R-212, [Redacted] [Redacted] During the inspection, the regulator was unable to lock up due to sulfur on the diaphragm. Please advise CPSD on the status of the regulator and why there was sulfur on the regulator diaphragm.</p>
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PG&E RESPONSE

Please see Attachment 19 for documentation of the June 7, 2012 work completed to ensure the station's full functionality. The annual maintenance on this station is due in February 2013. The station is due for an A-type inspection (external). However, PG&E will perform a B-type internal inspection to look for any signs of sulfur on the internal components of the regulators and pilots.

The deposition of elemental sulfur on the internal components of pressure regulators and pilots has been observed intermittently throughout the PG&E system since the late 1990's. This phenomena is not fully understood throughout the industry, however it is believed that the elemental sulfur originates from the natural gas and not the odorant. Large pressure drops which correlate to large temperature drops at pressure regulator stations can allow the sulfur to precipitate out in the solid form on the internal components of the regulators and pilots. Over time, the amount of sulfur can build up to a point where operational problems can occur. Typically, the sulfur buildup on the orifice is the cause of most lockup problems.

The primary solution to avoid sulfur deposition on the pilot is to install a special filter upstream of the pilot, on the pilot line. PG&E issued the attached Gas Information Bulletin TD-4540B-03 "Welker Sulfur-Gon Filter Installation", and has installed these pilot filters at stations where sulfur has been observed (Attachment 20). These filters remove the sulfur in the gas, thereby eliminating sulfur deposition problems. The life of the filter can vary from months to years depending on the amount of sulfur being removed.

If sulfur continues to be observed at this station, these filters will be installed.

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**General Order 112-E Findings
 CPUC Inspection Report, dated December 21, 2012
 Sonoma Division**

ATTACHMENTS

Attachment #	Title or Subject
19	R212 June 2012 Reg Station Maintenance Record
20	TD-4540B-03 Sulfur-Gon Filters

ACTION REQUIRED

Action To Be Taken	Due Date	Completion Date	Responsible Dept.
No further action required.			

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**General Order 112-E Findings
CPUC Inspection Report, dated December 21, 2012
Sonoma Division**

INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
June 4-8, 2012	AOC – 5	Terence Eng	(415) 703-5326

INSPECTION FINDING

CPUC Finding	C. Observations/Concerns
	5. On June 7, 2012, CPSD observed a Division mechanic attempt to operate Valve V-1 [Redacted] The mechanic was unable to operate the valve with the valve key. Please provide CPSD on the status on Valve V-1 and why the valve was not operable.

PG&E RESPONSE

PG&E Field Mechanics indicated that Valve V-1 could not be operated due to a broken operator mechanism not allowing the mechanics to tell what position the valve was in. As noted in NOV-4, PG&E failed to initiate a corrective order to repair or replace the valve. V-1 [Redacted] has been removed as part of PG&E's High Pressure Regulator (HPR) Upgrade Program. There were 3 HPR's within this vicinity that were removed under job order PM 30904716, completed on October 26, 2012. (See Attachment 12)
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ATTACHMENTS

Attachment #	Title or Subject
12	Job to Remove Bowen St HPRs

ACTION REQUIRED

Action To Be Taken	Due Date	Completion Date	Responsible Dept.
No further action required.			

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**General Order 112-E Findings
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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
June 4-8, 2012	AOC – 6	Terence Eng	(415) 703-5326

INSPECTION FINDING

CPUC Finding	C. Observations/Concerns
	<p>6. PG&E's UO Standard S4110 under the Leak Grading Section, included under each Grade (i.e. 1, 2+, 2) lists the following statement.</p> <p style="text-align: center;"><i>"Downgrade to a Grade 0 leak if the leak is not a valid leak or if no leakage is found. Action taken or the reasoning behind the downgrade shall be noted on the leak record. Note that any such downgrade on a suspected low pressure facility (emphasis added) will be checked again within 6 months not to exceed the last day of the seven month."</i></p> <p>Since the consequence of leaks from high pressure facilities may be equal or greater than those from low pressure facilities, CPSD recommends performing the biannual check of leaks downgraded to Grade 0 on suspected low and high pressure facilities, and to update the Standard to reflect as such</p>

PG&E RESPONSE

PG&E agrees with this concern. Gas Standard S4110 has always provided for discretion by the leak grader and/or supervisor to call for a recheck of a Grade Zero leak on high pressure facilities if conditions warrant it. PG&E is currently conducting an end-to-end process review of its entire leak survey and repair program. As part of this review, PG&E is updating and revising many of its leak survey and repair documents. The revised leak survey and repair procedures will clearly define the recheck requirements for leaks downgraded to Grade 0, including on high pressure facilities. It is anticipated that these procedures will be released by December 31, 2013.

ATTACHMENTS

Attachment #	Title or Subject
None	

ACTION REQUIRED

Action To Be Taken	Due Date	Completion Date	Responsible Dept.
Leak Survey and Repair Document Rollout	December 31, 2013		Codes and Standards Department

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