Pacific Gas and Electric Company®

Redacted
Manager
Regulatory & Field Compliance
Gas Operations

Redacted

July 21, 2014

Mr. Ken Bruno
Gas Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

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

Dear Mr. Bruno:

The Safety and Enforcement Division (SED), Gas Safety and Reliability Branch (GSRB) of the CPUC conducted a General Order 112-E audit of PG&E's Sacramento Division, from May 20 - 24, 2013 and on June 4, 2013. On June 5, 2014, the SED 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,

/S/
Redacted

Attachments

cc: Banu Acimis, CPUC
Aimee Cauguiran, CPUC
Dennis Lee, CPUC
Liza Malashenko, CPUC
Redacted PG&E
Redacted PG&E
Bill Gibson, PG&E
Sumeet Singh, PG&E

General Order 112-E Findings
CPUC Inspection Report, dated June 5, 2014
Sacramento Division

INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
May 20 - 24, 2013	Internal Review	Banu Acimis	(916) 928-3826

INSPECTION FINDING

CPUC Finding

Prior to SED's audit of PG&E's Sacramento Division (Division) records and field inspection, PG&E provided SED the results of its internal review audit. During the audit, SED discussed the details of PG&E's internal findings and reviewed related records. Table 1 shows a summary of leaks that PG&E determined that the Division did not monitor or repair in a timely manner. Table 2 shows other deficiencies that PG&E identified in its internal review audit. Most of the violations listed in Table 1 and 2 are violations of PG&E's own procedures and standards; therefore,a violation of Title 49 Code of Federal Regulations (CFR) §192.605(a).

Please provide a status update on the items presented in Table 2 that are still pending corrective and/or preventive actions.

Table 1. Results of Sacramento Division Internal Review Summary- Leak Repairs

Title 49, CFR Part 192Code Section, GO 112-E	Leak Survey - Distribution							Number of Pending Corrective and Preventive Actions
	Year	Grade 2+ Leaks		Grade 2 Leaks		Grade 3 Leaks		
		NR	NM	NR	NM	NR	NM	
192.605(a) A total of 207 distribution pipeline gas leaks were either repaired or monitored late according to PG&E's internal leak repair procedures	2010	23	27	2	15	1	0	
	2011	3	1	8	91	0	0	
	2012	7	1	0	9	19	0	
	Total	33	29	10	115	20	0	
	(NR=Not repaired, NM=Not monitored) Total number of leaks not repaired within allowed time=63 Total number of leaks not monitored within allowed time=144							

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Table 2. Results of Sacramento Division Internal Review Summary

Item	Title 49, CFR Part 192Code Section, GO 112-E	Topic-Finding	Number of Violations Identified	Number of Violations Corrected	Pending Corrective Actions	Pending Preventive Actions
1	192.706	Transmission Leak Survey completed outside of compliance timeframe	3	3	None	None
2	192.723	Distribution Leak Surveys of services missed compliance dates	11	11	None	None
3	192.723(b)(1)	Annual Leak surveys conducted late	51	51	None	None
4	192.723(b)(2)	5-year leak surveys conducted late	72	72	None	None
5	192.605(a)	Working and Standby regulators were not swapped at dual run Regulator Stations	1	1	None	None
6	192.739	A regulator station was converted from Farm Tap Reg Set to a District Regulator station but it's not been maintained annually	1	1	None	Regulator Station scheduled to be abandoned and converted to main in 2014 is pending
7	192.739	Regulator stations should have been converted from Farm Tap Regulator Set to District Regulator Set when 3rd service was added	2	0	Scheduled to be rebuilt in 3rd Quarter of 2013. On 5/21/2013 T&R Created Reg Station Binder and is	Tailboard Utility Bulletin: TD-0470B-001 "Recognizing High Pressure Regulator (HPR)-Type Customer Stations

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					being maintained. Awaiting update from gas planner on status of relief valve calculation.	with Three or More Services as HPR-District Regulator Stations" with Gas Estimators.
8	192.745 & 192,747	Valves were not maintained properly	31	31	None	None
9	192.745	Valve was not maintained prior to 2011	1	1	None	None
10	192.745	Inoperable valves were not restored within 12 months	6	5	1 valve has been scheduled to be removed from service	None
11	192.743	Annual review of Relief Valve Capacity calculation was not done in 2011 and 2012	1	1	None	None
12	192.743	Missed annual relief valve review for gas supply racks subsequent to creating Relief Valve Capacity Review documentation	6	0	Awaiting status update from Pipeline Engineering on 2013 Relief Valve Calculations.	Assign responsibilities for annual relief valve review of gas supply racks to Local distribution engineering.
13	192.605(a)	Odor intensity tests exceeded 0.6% on read date	3	3	None	None
14	192.605(a)	CPA follow-up action missed 30-day review deadline	4	4	None	None
15	192.605(a)	Missing written action plan	3	3	None	None

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		developed within 30 days when area is read down				
16	192.605(a)	CPA not resurveyed within a 6-yr interval	5	5	None	None
17	192.605(a)	Annual rectifier read was read early by 1 month resulting in 1 read not within the calendar year.	1	1	None	None
18	192.605(a)	Yearly reads not established as required	3	3	None	None
19	192.605(a)	population of the total 10%er population monitored in 2010	6	6	None	None
20	192.481	Atmospheric Corrosion corrective action was not completed on exposed main which was noted as requiring paint.	1	0	The exposed span at bridge crossing is scheduled to be completed by 3/31/14. Update: 1/10/14	None
21	192.605(a)	The gas stub review process did not track necessary information to ensure compliance.	1	0	Complete review of the process enlisting mapping, engineering, and estimating. In process by local engineering.	Develop new tracking spreadsheet and process with mapping. Engineering, and estimating.
22	192.619(a)	Incomplete supporting documentation	1	0	MAOP to be re-established based on a system-wide review	None

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	23	192.745 & 192.747	Emergency zone valves used to separate zones were not maintained as emergency valves	14	14	None	None

PG&E RESPONSE

Please see below an update of the pending items noted in Table 2:

Item #6 Farm Tap Regulator Set converted to District Regulator Station without being maintained: Maintenance on this set was performed on May 15, 2013. The deactivation of this station is currently scheduled for September 2014 by transferring the services to distribution main. The PG&E project, number PM 30768613, has been significantly impacted by the lengthy process of obtaining a Central Valley Flood Protection Board permit.

Item #7 Recognizing the need to convert Farm Tap regulator sets to District Regulator Stations: A tailboard briefing covering PG&E Utility Bulletin:" TD 0470B-001 Recognizing High Pressure Regulator Type Customer Stations, was presented to the Sacramento Gas Engineering-Estimators on September 17, 2013. See Attachment A for a copy of the attendance roster for this tailboard briefing. One of these two regulator stations is scheduled to be re-built by September 30, 2014, and is being maintained annually. The remaining station has been maintained and the relief valve calculations for this two-stage regulator station were completed on January 6, 2014. See Attachment B.

Item 10# Inoperable valve not repaired/replaced within 12 months: The inoperable valve (V-C) located at the Roseville Rd Transmission Station was deactivated and removed from service in August 2013. See Attachment C for the deactivation as-built.

Item #12 Relief Valve calculations for gas supply racks: The relief valve calculations were completed in May 2013. (See Attachment D) Future responsibility for performing this work will be performed by PG&E's Pipeline Services organization.

Item #20: Remediate Exposed Span: The exposed bridge span at Redacted Redacted has been primed and painted as of June 30, 2014. See Attachment E.

Item #21 Idle Stubs Review: Sacramento Division has developed and reviewed a listing of its idle stub facilities as of October 3, 2013 (See Attachment F). However, as this is a

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manual process, and consistent with PG&E's continuous improvement effort, PG&E is scheduled to implement a technology solution to assist with the management of its gas service stubs. PG&E is currently transitioning to a Geographical Information System (GIS) program, PathFinder, which will interface with SAP and provide a consistent means of identifying and scheduling these facilities for review. The Pathfinder program is currently scheduled to be implemented in Sacramento Division by December 31, 2015.

Item #22 Distribution Systems Incomplete MAOP Documentation: Sacramento Division identified 13 distribution systems as having incomplete MAOP documentation to establish MAOP per Utility Procedure TD-4125P-01. Please note that there were 13 identified versus the 14 included in the summary communicated to the CPUC. Due to a formatting issue one system was listed on two pages and double counted.

All of the installation jobs within one system have been reviewed and determined to have proper pressure test records to support the system's MAOP. Eight other systems were verified and validating documents, as specified in TD-4125P-01, were placed in the MAOP Binders. An action plan has been developed for the remaining five remaining systems to bring them into compliance with TD-4125P-01. Attachment F is a copy showing the disposition of each system and the associated action plan for the deficient systems.

ATTACHMENTS

Attachment #	Title or Subject
A	TD-0471B-1 Tailboard Briefing
B	R-50 Relief Valve Calculations
C	Valve Deactivation As-built
D	Supply Rack Relief Valve Calculations
E	Picture of Painted bridge span
F	Stub Service Review Listing
G	Sacramento Div MAOP Action Plan

ACTION REQUIRED

Action To Be Taken	Due Date	Responsible Dept.
Item #6 – Deactivate high-pressure regulator set	September 30, 2014	Sacramento Division Gas I&R
Item #7 – Rebuild Old Davis Road regulator station	September 30, 2014	Sacramento Division Gas I&R
Item #21 - Implement Pathfinder Program including tracking and review of idle gas service stubs.	December 31, 2015	Gas Operations – Technology and R&D

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Item #22 - Finalize MAOP documentation for 5 distribution systems	December 30, 2014	Sacramento Division Local Engineering

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May 20- 24, 2013	NOV – 1	Banu Acimis	(916) 928-3826

INSPECTION FINDING

CPUC I-Finding	**Title 49, Code of Federal Regulations (CFR), §192.605 Procedural manual for operations, maintenance, and emergencies.** §192.605 (a) states in part: "(a) General. Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response…" **I-1** PG&E's Utility Procedure: TD-4412P-07, Patrolling Pipelines and Mains, publication date: 08/03/2012 Rev: 4, which describes the patrolling procedure states in part the following: "Section 4- Conducting Patrols, Section 4.3- Ground Patrol Section 4.3.1. Documentation, c. Sub-Form Documentation for Post-Patrol Follow-up Actions states: (4) Personnel conducting ground patrol must complete all applicable sub-forms, along with the "Ground Patrol Report" and must submit them to the appropriate M&C supervisor as soon as practicable. (5) Detail the following: "…Corrective work using form JA_096H, "Corrective Work Form- Gas Transmission," form JA_096G, "Corrective Work Form - Gas Distribution," or other corrective forms as appropriate. (7) As described in Section 4.3.3. below, M&C personnel submit all patrol-related documentation to the appropriate M&C supervisor, who reviews the documentation and directs the appropriate action(s). Section 4.3.3. Field Performance Duties states: a. Ground Patrol Process Overview M&C personnel and operator-qualified contractors performing patrol-related duties (together "ground patrol personnel") follow the steps listed below when conducting both routine ("production") ground patrols and investigations of aerial observations: (1) Conditions permitting, the M&C supervisor assigns ground patrol personnel to conduct patrol of the designated facility[ies] according to the established schedule. (2) Prior to conducting patrol, ground patrol personnel review the previous quarter's patrol forms for the respective pipelines that they will be patrolling to assess previous observations and follow up with the M&C supervisor concerning the status of any corrective

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	actions previously prescribed. (3) Ground patrol personnel patrol the designated facilities by the appropriate ground patrol method(s) as directed by the M&C supervisor. (4) Ground patrol personnel document the observed reportable conditions described in Table 2 and complete any supplementary forms based on these observations. (See Section 4.3.1. above and Section 4.3.3.c. below for further details.) (5) Ground patrol personnel perform any corrective work during patrol within their capabilities (which include, for example, applying missing stickers, reinstalling downed or misaligned markers, repairing Company signs, etc.), which are defined by and limited to both the appropriate operator qualifications that they hold and any additional limiting directives from the M&C supervisor. • Before setting out on any patrol or investigation, ground patrolpersonnel stock the necessary equipment and prepare to perform the corrective work that they are qualified to and capable of performing. • Contact the responsible supervisor or available authority as soon as possible concerning conditions that require attention but cannot be corrected during the patrol. • As described in Section 4.3.1.c.(7) above, all documentation applicable to the work performed should be completed and submitted together with the "Ground Patrol Report" to the appropriate M&C supervisor. (6) Ground patrol personnel provide the completed "Ground Patrol Report(s)" and sub-forms to the responsible M&C supervisor as soon as practicable after the completion of the patrol. (7) The M&C supervisor reviews and completes the documentation provided from the ground patrol personnel, signs all forms upon approval, and provides the signed forms to the M&C clerk as soon as practicable after the forms are received from the ground patrol personnel." Additionally, Section 4.3.3.c. Procedure for Responding to Patrol Observations (1) and (2) describe the steps that PG&E needs to take when any of the reportable conditions described in Table 2 of TD4412P-07 is observed during patrols and the forms need to be filled out. Section 4.3.4 describes Pipeline Patrol Process Owner (PPPO) performance duties including submitting necessary notifications and documentation to the appropriate departments for post-patrol follow-up actions. SED reviewed the Division's pipeline patrol records (Pipeline Patrol Reports, TD-4412P-07-F01) and noted that it identified several missing and damaged pipeline markers and signage as a result of the Division's patrols conducted in 2011 and 2012. Even though Division personnel checked the box "Pipeline markers and signage, includingthose inside Company-owned stations" on the Pipeline Patrol Reports as a condition found, the

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Division did not generate a follow-up action plan by creating a "Pipeline Marker As-Built Work Form Gas Transmission" for deficiencies identified at six locations. SED also noted that the Division generated follow-up action plans for deficiencies identified at 23 locations; however, it did not take the necessary corrective actions.

Table 3 shows the pipeline segment, mile points (MP), patrol dates, and the numberof missing or damaged pipeline markers and/or signage that the Division identified during its patrols. As can be seen from Table 3, the Division documented reportable conditions related to missing or damaged markers; however, it did not follow PG&E's Utility Procedure: TD-4412P-07 to take remedial actions.

Table 3. Damaged or Missing Pipeline Markers and/or Signage by Pipeline Segment and Date

Pipeline Segment	From MP to MP	Number of Missing/Damaged Pipeline Markers	Date of Patrol	City	Follow up & Corrective Action
DFM Campbell Soup Primary	Redacted	1	7/11/2011 1/20/2012	Sacramento	NFNC NFNC
DFM Hunts		2	7/15/2011 1/31/2012	Davis	NFNC YFNC
DFM Goosehaven Rd (Cal Pine)		4	7/6/2011	Fairfield	YFNC
DFM Truxel		1	7/18/2011 1/21/2012	Sacramento	NFNC
DFM West Woodland		3	7/19/2011	Woodland	YFNC
DFM Yolo County Rd 17		1	4/18/2011 2/1/2012	Woodland	YFNC YFNC
DFM 12" 250# N Sac		2	4/25/2011	Sacramento	YFNC

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Floater,	Sac UG Holder MP 5.29	1	1/21/2012		YFNC
DFM Galt	Redacted	2 1 1	4/27/2011 1/30/2012 4/25/2012	Galt	YFNC YFNC YFNC
Line 0604 Redacted		4	4/27/2011 1/30/2012	Vacaville	NFNC NFNC
L-210A Vacaville Pipeline		1	7/20/2011 1/30/2012	Fairfield	YFNC YFNC
DFM Redacted		4	1/23/2012	Sacramento	YFNC

NFNC: No follow-up action report was generated and no corrective action was taken
YFNC: Follow-up action report was generated but no corrective action was taken

SED determined that the Division should have initiated the following steps:

- According to PG&E's Section 4.3 - Ground Patrol section of Utility Procedure: TD-4412P-07, Patrolling Pipelines and Mains, when PG&E personnel observe a reportable condition such as "*Damage to Company-owned facilities, including, but not limited to, damaged and/or missing pipeline markers and signage, including those inside Company-owned stations*", it is required to document it on the form and complete any supplementary forms based on these observations.

- Prior to conducting patrols, PG&E ground patrol personnel must review the previous quarter's patrol forms for the respective pipelines that they will be patrolling to assess previous observations and follow up with the maintenance and construction (M&C) supervisor concerning the status of any corrective actions previously prescribed.

- Before setting out on any patrol or investigation, PG&E ground patrol personnel should have the necessary equipment and be prepared to perform the corrective work that they are qualified to and capable of performing.

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	➢ PG&E ground patrol personnel must perform any corrective work during patrolling, within their abilities (which include, for example, applying missing stickers, reinstalling downed or misaligned markers, repairing Company signs, etc.), which are defined by and limited to both the appropriate operator qualifications. ➢ If necessary corrective action is not taken during patrolling, then PG&E ground patrol personnel are required to contact the responsible supervisor or available authority as soon as possible concerning conditions that require attention but cannot be corrected during the patrol. ➢ All documentation applicable to the work performed should be completed and submitted together with the "Ground Patrol Report" to the appropriate M&Csupervisor who is responsible for reviewing and completing the documentation. ➢ PG&E ground patrol personnel must complete all applicable sub-forms such as *"Corrective work using form JA-096H, Corrective Work Form-Gas Transmission"* and submit them to the appropriate M&C supervisor as soon as practicable as required under Sections 4.3.1.c.(4) and (5) of PG&E's Utility Procedure: TD-4412P-07. ➢ As required by Sections 4.3.3.c. and 4.3.4 of PG&E's Utility Procedure: TD-4412P-07, PG&E is required to start post-patrol follow-up actions when reportable conditions are identified but not corrected in the field. SED identified the following deficiencies in the Division's process of initiating and taking corrective actions regarding the missing or damaged pipeline markers and/or signage identified during its patrols: 1. The Division did not report the condition and/or fill out necessary forms to inform responsible personnel about reportable issues and deficiencies such as missing or damaged pipeline markers and/or signage identified during patrols and it did not create follow-up action forms to initiate necessary remedial actions. 2. Division personnel did not review previous patrol records for any outstanding remedial actions that it can complete during its follow up patrols. 3. Division M&C supervisors did not review patrol reports with reportable conditions and did not generate work orders to complete necessary corrective actions. 4. The Division did not generate follow-up action reports and/or complete corrective actions to maintain the safe operation of its pipeline system in a timely manner.

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Since the Division did not follow PG&E's Utility Procedure: TD-4412P-07, Patrolling Pipelines and Mains to initiate and complete corrective actions to replace or repair the missing and damaged pipeline markers and signage identified during patrols it conducted in 2011 and 2012, the Division is in violation of CFR, §192.605 (a).

SED also noted that PG&E must also revise its patrolling procedure to allow for time necessary to complete remedial actions for specific conditions identified during patrols such as replacement or repair of pipeline markers and/or signage.

I-2 PG&E Utility Work Procedure WP4430-04, Gas Valve Maintenance Requirements and Procedures for Gas Distribution and Transmission Maintenance and Operation, issued in March 2009, describes valve maintenance requirements and procedures necessary for the safe or emergency operation of PG&E's gas systems and facilities.

WP4430-04, Section 4. Inspection Procedures states in part:

"C. Inspect the valve for the following problems:
1) Missing valve number tag,

6) Identify any issues on the "Valve Maintenance Record" (Attachment 1) and schedule for repair, if appropriate…"

On 5/23/13, SED inspected District Station, R-R-21, Vaca-Dixon Primary Regulator Station located at Redacted and observed that two inlet fire valves V-1 and V-2, located at the regulator station, did not have any identification tags. On 1/22/13, the Division performed valve maintenance of V1 and V2 and did not indicate that the valves were missing valve tags on the Valve Maintenance Record Form. SED also noted that fire valve V-3 neither had a valve tag nor was it illustrated on the station operating diagram.

The Division determined that the Regulator Station Operating Diagram required major changes. On 1/10/13, the Division submitted the changes to PG&E's mapping department to make revisions to the diagram. During the audit, SED noted that PG&E did not revise the operating diagram to show the correct regulator and valve numbers.

PG&E must identify the valves with number tags for the fire valves V1, V2, and V3 and also revise the operating diagram of Vaca-Dixon Primary Regulator Station.

Please inform SED of the actions taken to correct the identified deficiencies.

I-3 PG&E's Corrosion Control of Gas Facilities, O-16 (effective date: 03-27-09), Section 6. CPA Restoration states in part:

"A. Cathodic Protection Restoration for Distribution and Local Transmission

(1) Schedule CPAs for restoration on distribution and local transmission lines when the areas show P/S on-potentials to be below adequate levels of protection. Check and record rectifier readings on the "Standard Cathodic Protection Maintenance Report," Attachment D, or in PLM

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	before restoring a CPA. Restore areas within 30 calendar days from the date they are found to be inadequately protected (barring extenuating circumstances). Document the reason(s) for any delays in the restoration work. Once restored, an area shall have approximately the same P/S on-potentials and rectifier output as existed before the level dropped, unless re-evaluation of the system indicates that different values are more appropriate. After the CPA has been restored and re-polarized, record final P/S on-potential and rectifier measurements on the "Standard Cathodic Protection Maintenance Report," Attachment D, or in PLM. *(3) If the CPA restoration work is (or is expected to be) over 30 days, the* ***"CPA Follow-Up Action Plan"*** *form (Attachment B)* ***must be used and developed within 30 calendar days from the date the CPA is found below adequate levels of protection****, as defined by the current 49 CFR 192, Subpart I. Please note that action plans shall also be established and maintained for short-term remedial actions that are in place for over 30 days. The action plan shall list and document the extenuating circumstance(s) to the extent known, the cause of the CPA problem (to the extent the cause is known), the desired solution(s), the actions needed to implement the solution, the estimated time to take those actions, and the employees who will perform those actions. The action plan shall be updated in intervals not exceeding 30 calendar days by an employee knowledgeable of the restoration work and reviewed by the operating supervisor, until the CPA restoration work is completed and the CPA shows adequate levels of protection. 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. Updates to the action plan shall document the incremental work that has been completed to date, detailed status updates of needed actions that have not had any significant progress from previous updates, and the work that needs to be completed to achieve adequate protection."* (Emphasis added) PG&E's Standard Cathodic Protection Maintenance Report (CP report) for CPA System No: S041 in Folsom/El Dorado (DFM), Route: 0617-04, showed that the test location Redacted Redacted had a base data of -524 mV. When SED reviewed the historical data for this test point, it found that the pipe-to-soil (P/S) reads did not meet the -850 mV minimum criteria for more than two years. The Division's CP reports showed the following information regarding this CP deficiency: ➢ Historical records did not indicate when the Division originally discovered the problem. However, the base data indicated that the Division recorded -524 mV on 12/3/08. ➢ Records did not show any P/S readings taken at this location between 12/3/08 and 8/5/09. ➢ The back side of the CP maintenance report indicates that the Division found the CPA below adequate levels of CP on 7/16/09. ➢ On 8/5/09, the Division conducted a follow-up P/S reading and recorded -550 mV.

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	➢ The Division performed P/S readings every other month and found the CPA continuously did not meet the -850 mV criteria from July 2009 until February 2011. ➢ On 12/16/10, the Division created a CPA follow-up action plan. ➢ The CPA follow-up action plan stated the following for the suspected cause of CPA problem "Low reads due to the environment causing conventional measurements inaccurate and not representative." ➢ The Division's short term remedial and long term corrective action plan stated "Install a coupon test station at casing Redacted SED noted that the Division discovered the CP deficiency at this location on 12/3/08 and again on 7/16/09 but did not create the CPA follow-up action plan until 12/16/10. The Division resolved the issue and brought up the CPA to the adequate protection level on 2/4/11. SED also noted that the Division generated a Corrosion Action Plan which tracked some actions on 7/16/09, 3/31/10, and 12/15/10. According to PG&E Corrosion Control of Gas Facilities, O-16, the Division is required to develop a CPA follow-up action plan within 30 days from the date it determines a CPA is below adequate levels of cathodic protection and it needs to update the action plan in intervals not exceeding 30 calendar days. SED determined that the Division's actions to restore CP system S-041 were not satisfactory because it created the CPA follow-up action on 12/16/10, approximately 17 months later and did not update its records to show the remedial actions it engaged in. In addition, the Division took more than two years to correct the CP deficiency since the discovery of the problem back in 12/3/08.

PG&E RESPONSE

PG&E agrees with these findings. Please see responses below.

1-1: PG&E has made significant improvements to both its pipeline patrol and pipeline marking programs since this audit. Although it agrees with this finding, some of the items noted warrant clarification:

- Ground patrol personnel will not always be able to take appropriate corrective actions during patrolling. The conditions observed, the corresponding corrective actions, and the time required to implement these actions vary widely. As such, it is not practical to require that all corrective actions be addressed during the course of the patrol itself. The procedure does require that personnel complete applicable sub-forms to ensure additional corrective work is identified and scheduled. Revising the work procedure to allow for time necessary to complete remedial actions during patrols, as noted by SED, is not always feasible. Therefore, PG&E will not be

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revising its procedure to add this requirement.

- SED noted that "Division personnel did not review previous patrol records for any outstanding remedial actions that it can complete during its follow up patrols." While the procedure requires a review of the prior patrol forms, pipeline patrol and corrective actions resulting therefrom are separate activities, only to be performed in conjunction where practicable.

- The recently-completed Pipeline Centerline Survey identified the condition of existing pipeline markers in our transmission system. Following the Centerline Survey, over 13,000 pipeline markers were installed system-wide, including those in Sacramento Division.

To prevent recurrence of inadequate or missing corrective action documentation, PG&E rolled out a revision to the patrol procedure, TD-4412P-07 Rev. 5 in December of 2013. This rollout included a mandatory training course for all ground patrollers. The course outlines ground patrollers' duties in Utility Procedure TD-4412P-07, Rev. 5.0, "Patrolling Gas Pipelines," and includes a detailed discussion of the reportable conditions to be observed, and the documentation of these conditions. Following the completion of the course, patrollers must pass a knowledge assessment in order to advance to the required Operator Qualification evaluation for the patrolling sub-task. To be eligible for patrol on and after July 1, 2014, all ground patrollers must complete this training course, pass the 08-01 exam, and hold the co-requisite OQ-qualifications for Pipeline Markers, Atmospheric Corrosion/Monitoring, and Pipe Inspection. The Sacramento Division personnel responsible for ground patrolling have successfully completed the training as of June 19, 2014, and hold the requisite OQ-qualifications.

1-2: PG&E has tagged the valves in the field and have placed an accurate redlined sketch in the appropriate maintenance folder. The supervisor has also submitted a new request to the Mapping Department to provide an updated operating diagram. It is anticipated that the updated operating diagram will be completed by August 1, 2014.

1-3 Please see Attachment H this CP Area's Maintenance Reports for the years 2008 through 2011. There is an incorrect entry showing a December 3, 2008 -524 mV read on the 2009 maintenance report. The actual discovery date of the low pipe-to-soil potential read was July 16, 2009. PG&E agrees that the restoration effort after the July 16, 2009 read was not documented in a formal CPA Follow-Up Action Plan. Adequate levels of cathodic protection were restored on April 13, 2011. With the March 23, 2014 enhancements to the SAP maintenance scheduling tool, PG&E has automated the corrective notification creation of CPA Follow-Up Action Plans and work tickets to monitor open plans. This will ensure

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CPA Follow-Up Actions Plans are created and updated timely and in accordance with PG&E's procedures.

ATTACHMENTS

Attachment #	Title or Subject
H	CP Maintenance Reports S-041

ACTION REQUIRED

Action To Be Taken	Due Date	Responsible Dept.
Revise Operating Diagram –Vaca Dixon Primary Regulator Station	August 1, 2014	Mapping Dept.

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Sacramento Division

INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
May 20 -24, 2013	NOV – 2	Banu Acimis	(916) 928-3826

INSPECTION FINDING

CPUC Finding	**II- Title 49, CFR, §192.615 Emergency plans.** §192.615 states in part: "(b) Each operator shall: … (2) Train the appropriate operating personnel to assure that they are knowledgeable of the emergency procedures and verify that the training is effective. …" PG&E's Gas Emergency Response Plan, Version 2.0 states in part: "1.6 Training, Assessment, and Exercise PG&E trains internal emergency responders to know and understand the Gas Emergency Response Plan. Internal training is implemented through specialized training classes and practical exercises. The detailed training requirements for PG&E employees may be found in the Utility Standards EMER-1001S (Business Continuity and Emergency Operations Plan, Training, Exercise and Critique Standard) and EMER-6010S (Training and Exercising Gas Emergency Response Plans). The PG&E internal training program addresses the ICS, specific procedure training (example: Gas Control specific control room procedures and operating protocols), and training associated with this Plan. PG&E also conducts assessment activities to measure the effectiveness of the training sessions. Each Officer and Director responsible for emergency planning and response ensures that personnel identified in emergency plans are trained annually. Training should include a review of the Plan with all employees, with emphasis on those designated with primary or backup emergency management responsibilities described in the Plan. Training should include discussion of hypothetical emergencies to ensure that the Plan is up to date and workable. Annual emergency plan training of department personnel is required to be documented in MyLearning using the appropriate course code: • GAS-9006 - GERP Training-Awareness • GAS-9007 - GERP Training–Command Center (Emergency Center) • GAS-9008 - GERP Training-First Responder An essential component of the Gas Emergency Response Plan is the exercise program that allows for realistic testing and assessment of capabilities so emergency processes outlined in the Plan can be strengthened and lessons learned

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	can be shared. The exercise program applies to both internal exercises and joint exercises conducted with external public safety agencies such as local office of emergency services, police, fire departments, and state and federal agencies." (Emphasis added) As outlined in PG&E's Gas Emergency Response Plan, Section 1.6 Training, Assessment, and Exercise, PG&E requires its personnel to participate in such internal training which includes discussion of hypothetical emergencies that allows for realistic testing and assessment of capabilities so PG&E can strengthen the emergency processes outlined in the Plan and lessons learned can be shared. SED reviewed the Division's annual Emergency Exercises and Drills conducted in the last five years and determined that it did not conduct emergency exercises for the years 2009, 2010, and 2013. SED noted that participation of the Division's internal emergency responders in such annual exercises and drills is essential in order to ensure that its employees are properly trained to respond to emergencies in an effective and timely manner. PG&E needs to conduct and critique Emergency Exercise drills as frequently as necessary but at least once every year; therefore, PG&E is in violation CFR, §192.615 (b)(2). Please inform SED with the corrective and preventive actions taken for deficiencies identified in PG&E's Emergency Exercises and Drills and provide a copy of the most recent Emergency Exercise/Drill conducted with the Sacramento Division personnel along with sign in sheets.

PG&E RESPONSE

PG&E respectfully disagrees with this finding.

During the years 2009 and 2010, Sacramento Division used actual emergencies to meet this exercise requirement by reviewing the actions taken during the actual emergency. See Attachments I and J. The Sacramento Division emergency exercise training for 2013 was held on September 28, 2013. Please see Attachment K.

ATTACHMENTS

Attachment #	Title or Subject
I	2009 Emergency Exercise Documentation
J	2010 Emergency Exercise Documentation
K	2013 Emergency Exercise Documentation

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ACTION REQUIRED

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

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
May 20 - 24, 2013	AOC – 1	Banu Acimis	(916) 928-3826

INSPECTION FINDING

CPUC Finding	I- PG&E's Utility Work Procedure, WP4540-01, District Regulator Station Maintenance, issued in August 2009 describes work activities for conducting Class A and B type of inspections, testing, and maintenance for PG&E's district regulator stations. PG&E's Utility Work Procedure, WP4540-01 states in part: "II. Instructions for Conducting Inspections, Testing, and Maintenance, 8. Class A Inspection – Diagnostic Operational and diagnostic testing for a Class A Inspection must follow the instructions below. As Found Information: 8. Before disassembling any equipment components, document all 'as found' information, including filter differential pressure, regulator and monitor set points, and the ability of the monitor and regulator to lock-up. Operating Tests for Regulator Runs: 6. Check the regulator for proper set point and control. 7. Test the regulator for lock-up using the long/short line technique. Note: Backing off the pilot is not an acceptable method of testing for lock-up. If the station configuration is such that it prohibits performing the lock-up check, note that fact on the back of the regulator station maintenance record (Form 62-6321 or Form 62-6321A). Ensure that the documented problem is discussed with the responsible supervisor. Create an SAP Corrective Notification to reconfigure the station to allow for a lock-up test. Note the Corrective Notification number on the back of the district regulator maintenance record. 8. Check the overpressure protection system. Note: See Attachment 4, 'Set Point Limits for District Regulator Stations', for pressure setting requirements. a. Using the long/short line technique shown in Attachment 5, check monitor regulators for proper set point and control by causing the monitor regulators to operate and take over pressure control at the set point under flowing conditions. The pressure at which a monitor regulator operates and takes over pressure control must not exceed the MAOP plus the allowable limit. Test the monitor for

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	lock-up as described in Step II.A.7 above."(Emphasis added) On 5/23/13, SED inspected District Regulator Station, R A39, located at Watt and Roseville Road in Sacramento with an inlet and outlet maximum allowable operating pressure (MAOP) of 500 psig and 100 psig, respectively. SED observed the following at this regulator station on 5/23/13: ➢ Division personnel took a (P/S) reading and recorded 731 millivolts (mV) which did not meet the 850 mV criteria as defined in Appendix D of CFR Part 192. Later that day, SED and Division personnel checked the rectifier and noted that Division personnel turned it off due to construction clearance project SA-1307 located in Roseville. ➢ Division personnel discovered a minor leak on the filter at the upstream side of the monitor and repaired it before starting the inspection of the regulator and monitor. ➢ The District Regulator Data Sheet (data sheet) and the station diagram show a dual run regulator station with an outlet MAOP of 100 psig. The R A39 data sheet indicates that the regulator and monitor set points are recorded as 95 psig and 105 psig respectively. Division personnel checked the regulator and monitor set points and recorded 90.9 psig and 104.3 psig, respectively. ➢ Division personnel performed a lock-up test on the pressure regulator but the regulator did not lock-up. SED noted that the pressure reached up to 161 psig which was higher than the MAOP plus 10%. Then PG&E crews stopped the gas flow; therefore, the regulator failed the lock-up test. Division personnel took corrective actions and achieved lock-up before leaving the regulator station. ➢ The Division achieved monitor lock-up at 110.3 psig which is higher than the MAOP plus 10%. ➢ District Regulator Station Maintenance Record for R A39 showed that PG&E performed the previous diagnostic inspection of R A39 on 2/12/13 and experienced the same problem with regulator, R-4, that failed the lock-up test. The Division's record of corrective maintenance notes on 2/12/13 stated: *"..No lock up at R4. Rebuilt pilot cartridge due to sulfur. Good lock up after..."* SED noted that failed lock-up test is an indication of the failure of the regulator components which may adversely affect the integrity of the pipeline system and lead to exceeding the MAOP. If the cause of the failure is sulfur as indicated on the data sheet

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	from the previous maintenance notes, the Division must consider installing effective sulfur filters or take other actions to prevent similar problems from occurring in the future. SED also recommends that PG&E consider conducting more frequent Class B type of inspections at its regulator stations where it experiences similar problems in achieving lock-up at the designed pressure level. Please inform SED of PG&E's preventive and mitigative (P&M) actions taken for the deficiencies identified at District Regulator Station, R A39.

PG&E RESPONSE

PG&E agrees with this concern, and addresses SED's bullet items above as follows:

- Please see the 2013 Cathodic Protection Maintenance Report indicating that subsequent pipe-to-soil readings in the Cathodic Protection Area after the May 23, 2013 -731 mV reading demonstrate that the CP Area does not have an ongoing deficiency (Attachment L).
- As noted, the minor non-hazardous leak was repaired during the audit field visit on May 23, 2013.
- Actual regulator and monitor as-found set points will vary several psi from the established set points noted on the Regulator Data Sheet for a variety of reasons. As-found set points somewhat higher than the established set points would be a cause for further corrective work.
- The lock-up test of the regulator during the May 23, 2013 visit failed, which caused the shut-in station piping to rise to 161 psig. The station piping, including the closed downstream block valve, is rated for the 500 psig inlet MAOP. Therefore, no gas facilities were subjected to a pressure in excess of its MAOP.
- See bullet item above. As noted in the 2013 Station Maintenance Record (See Attachment L), a successful lock-up test of the monitor was achieved after the May 23, 2013 corrective work was completed.
- An internal inspection was performed at this station during the audit, and as-left conditions, including regulator lock-up, was satisfactory. See Attachment M. Additionally, a project request has been submitted to replace the regulators at this station by December 31, 2014. This work will include the installation of sulfur filters in the pilot systems.

PG&E's work procedure, TD-4540P-01 Maintenance of Regulator Stations, calls for internal (Class B) inspections whenever external diagnostic inspections (Class A) indicate a concern with proper operation and/or control set points. If proper operation and control set points are observed during the external inspections, the specified interval for Class B inspections is satisfactory.

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ATTACHMENTS

Attachment #	Title or Subject
L	2013 CP Maintenance Report
M	R-A39 2013 Station Maintenance Record

ACTION REQUIRED

Action To Be Taken	Due Date	Responsible Dept.
Rebuild Regulator Station R-A39	December 31, 2014	Sacramento Division I&R

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INSPECTION INFORMATION

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May 20 - 24, 2013	AOC – 2	Banu Acimis	(916) 928-3826

INSPECTION FINDING

CPUC Finding

II- Title 49, CFR, §192.463 External corrosion control: Cathodic protection.

Section192.463(a) states that "Each cathodic protection system required by this subpart must provide a level of cathodic protection that complies with one or more of the applicable criteria contained in appendix D of this part. If none of these criteria is applicable, the cathodic protection system must provide a level of cathodic protection at least equal to that provided by compliance with one or more of the criteria."

PG&E's Corrosion Control of Gas Facilities, O-16, Section 2.Designing and Installing Cathodic Protection Areas (CPAs) states *"Cathodic protection systems will be considered adequately protected when the lowest P/S on-potential is a minimum of −850 mV with reference to copper-copper sulfate electrode with protective current applied with IR drop considered…"*

PG&E's Corrosion Control of Gas Facilities, O-16 (effective date: 03-27-09), Section 3 Cathodic Protection Maintenance and Operation, A. Cathodic Protection Criteria states: *"Cathodic protection systems will be considered adequately protected when the lowest P/S potential is −850 mV or more negative, with reference to a copper-copper sulfate electrode, with cathodic protection current applied…"*

On 5/23/13, SED and PG&E conducted field inspections and PG&E took P/S readings which did not meet the minimum -850 mV criteria. Table 4 shows the inadequate P/S readings by location and date.

Table 4. Inadequate P/S readings observed in the field

Address	P/S Reading (mV)
Redacted	-817
	-815
	-534

PG&E needs to take necessary remedial actions to bring the Cathodic Protection levels into compliance.

Please inform SED of the P&M measures taken for this deficiency.

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PG&E RESPONSE

PG&E performed troubleshooting and corrective actions to restore adequate levels of cathodic protection to these cathodic protection areas. Please refer to the Attachment N which shows that the areas have been restored at the levels listed below. Also please note the address change from Redacted to the correct read location located at Redact Redacted Preventive measures to ensure adequate levels of cathodic protection to PG&E's gas facilities, subjected to ever-changing environmental factors, is to continue to monitor and promptly remediate any deficiencies as required per CFR 192.465.

Address	P/S Reading (mV)	PS Reading/ Date
Redacted	-817	-1300mv 5/28/13
	-815	-855mv 5/28/13
	-534	-931mv 6/19/13

ATTACHMENTS

Attachment #	Title or Subject
N	2013 CP Maintenance Reports

ACTION REQUIRED

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

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Inspection Dates	Finding	CPUC Contact	CPUC Phone #
May 20- 24, 2013	AOC – 3	Banu Acimis	(916) 928-3826

INSPECTION FINDING

CPUC Finding	**III- Title 49, CFR, §192.465 External corrosion control: Monitoring.** §192.465 states in part: "(a) Each pipeline that is under cathodic protection must be tested at least once each calendar year, but with intervals not exceeding 15 months, to determine whether the cathodic protection meets the requirements of §192.463. However, if tests at those intervals are impractical for separately protected short sections of mains or transmission lines, not in excess of 100 feet (30 meters), or separately protected service lines, these pipelines may be surveyed on a sampling basis. At least 10 percent of these protected structures, distributed over the entire system must be surveyed each calendar year, with a different 10 percent checked each subsequent year, so that the entire system is tested in each 10-year period…" SED reviewed the Division's 2010, 2011, and 2012 cathodic protection records for isolated short sections of pipeline (10%ers). SED found that the Division replaced some of these pipeline segments with Polyethylene (PE) pipe; however, it did not update the 10%er list to reflect the changes. On 5/23/13, SED and the Division inspected several locations in downtown Sacramento that SED selected from the Division's latest 10%ers list and observed that the Division replaced several short segments of pipe with PE; however, it failed to update its records accordingly. The Division needs to remove these pipeline segments from its 10%ers list. Please inform SED of the P&M measures taken to address this deficiency.

PG&E RESPONSE

PG&E agrees with this concern.

The 10%er locations visited on May 23, 2013 that were observed to have been previously replaced with non-corrodible risers have been removed from the 10%er database in SAP.

PG&E is currently transitioning to a Geographical Information System (GIS) program, PathFinder, which will interface with SAP and provide a means of updating the 10%er database when service work results in an isolated steel riser replacement. The Pathfinder program is currently scheduled to be implemented in Sacramento Division by December 31,

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2015.

ATTACHMENTS

Attachment #	Title or Subject
None	

ACTION REQUIRED

Action To Be Taken	Due Date	Responsible Dept.
Implement Pathfinder Program including an interface with SAP to update 10%er database when service replacement work is completed	December 31, 2015	Gas Operations – Technology and R&D

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