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February 13, 2014

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 San Jose Division

Dear Mr. Robertson:

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 San Jose Division, from September 16-20, 2013. On January 13, 2014, the SED submitted their audit report, identifying violations and findings. Attached is PG&E's response to the CPUC audit report.

Please contact Larry Berg at (925) 328-5758 or <u>LMB5@pge.com</u> for any questions you may have regarding this response.

Sincerely,

/S/ ChristiAne Mason

Attachments

cc: Aimee Cauguiran, CPUC Willard Lam, CPUC Dennis Lee, CPUC Liza Malashenko, CPUC Larry Berg, PG&E Larry Deniston, PG&E Bill Gibson, PG&E Sumeet Singh, PG&E

INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 16- 20, 2013	Internal Review	Willard Lam	(415) 703-1327

INSPECTION FINDING

CPUC Finding

A. PG&E's Internal Audit Findings

PG&E provided a summary of the internal review it conducted of the San Jose Division (Division) prior to the CPUC audit. Some findings from PG&E's Internal Review are violations of PG&E's operations and maintenance standards, and therefore are violations of Title 49 Code of Federal Regulations (CFR) §192.13(c). The findings identified in PG&E's internal review are summarized in Table 1.

Table 1: San Jose Division Internal Findings Summary

Item	Code Violation	Topic	Finding	Instances	Corrective Status
1	192.723(b)		Annual public assembly maps out of compliance in 2011	2	Completed
2	192.723(b)	Leak Survey Distribution	5-year, 3-year, and Annual Maps out of compliance in 2010	55	Completed
3	192.723(b)		Maps out of compliance due to restricted access "can't get in" (CGI) locations	17	Completed
4	192.13(c)		Missing USA notification to one- call for excavation	22	Completed
5	192.13(c)	Leak Repair	Leaks with late action in 2011	1	Completed
6	192.13(c)		Leaks with late action in 2012	3	Completed
7	192.739(a)(3)	Regulator Stations	Lock-up test not performed as required	1	Completed
8	192.203(b)(1)	Stations	Sense lines not rated for inlet MAOP	2	Pending
9	192.13(c)	Valves	Plug valves exercised but not lubed when required	5	Pending
10	192.13(c)	Corrosion	CPA Action plans late, not completed or updated	18	Completed
11	192.13(c)		CPA Action plans	3	Pending

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			missing		
12	192.13(c)		No follow up for 10%ers due to "Can't Get In" (CGI) locations	2	Completed
13	192.13(c)		Missed CPA reads	3	Completed
14	192.13(c)		Missing post rectifier read after restoration	1	Completed
15	192.13(c)		CPA not resurveyed with 6 year interval	1	Pending
16	192.13(c)		Missing casing potential reads	7	Completed
17	192.13(c)		Missing record of calibration of various instruments	18	Completed
18	192.13(c)	Instrument Calibrations	Distribution Leak Survey Maps missing calibration records	256	Completed
19	192.13(c)		Transmission Leak Survey instrument missing records	1	Completed
20	192.13(c)	Idle Stubs	Stubs reviewed late	89	Pending
21	192.603(b)	МАОР	Incomplete MAOP system documentation	5	Completed

SED is aware that some of the items may have been completed by the time of this letter. Please provide an update on the corrective status on the items that were pending as of September 20, 2013.

PG&E RESPONSE

As an initial clarification, the "Code" column in Table 1 references the incorrect code paragraph for Item # 7. Performing a regulator lock-up test is not specified in §192.739, but is specified in PG&E's Utility Procedure WP4540-01. Therefore, the appropriate code paragraph is §192.13c.

Going forward, PG&E will include the appropriate code paragraph and PG&E guidance document associated with findings in its internal reviews.

Updates of the pending items are as follows:

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Item 8) PG&E disagrees that this finding is a violation of §192.203(b)(1). There are two valves installed in the sensing lines of the station regulators that are not rated for the station upstream Maximum Allowable Operating Pressure (MAOP). These two valves are subjected to the downstream distribution pressure, and not the upstream transmission pressure. Because these valves are installed in the sensing lines, they were not identified for replacement when PG&E did a replacement of downstream station outlet valves (See Attachment A). PG&E is currently working on decommissioning this regulator station under PM 30826328. Work should be completed by the end of April 2014.

9) 5 plug valves were operated but not lubricated as required per PG&E's valve maintenance work procedure. They have now all been lubricated (See Attachment B):

1a: 13-I2A (not lubricated in 2010)

1b: 13-I2B (not lubricated in 2010-2013, grease fitting repaired in 2014)

1c: 13-I2Q (not lubricated in 2010)

1d: 13-I1G (not lubricated 2010)

1e: 52-J7C (not lubricated in 2012)

To prevent recurrence of this issue, the San Jose T&R Supervisor gave a tailboard to the T&R mechanics on WP4430-04 Gas Valve Maintenance Requirements and Procedures. (See Attachment C)

- 11) Cathodic Protection Areas (CPAs) 3413-40, 3284-01, 3352-15 have all been restored in 2013 and thus no longer require Action Plans. Please see Attachment D showing the pipe-to-soil reads indicate adequate levels of cathodic protection. To prevent recurrence, the SAP maintenance scheduling tool will be programmed to generate a task on the corrective notification and send an email three weeks prior to the action plan being due requiring an update to be made. One week prior to the 30-day deadline for the Action Plan update, SAP will include the notification on the Compliance Report. This programming revision is expected to be in place by May 30, 2014.
- 15) CPA 3352-15 was re-surveyed on December 20, 2013. The CPA was without adequate levels of cathodic protection for an extended period of time and was therefore unable to be properly resurveyed (See Attachment E). To prevent recurrence, PG&E has scheduled the resurvey of distribution Cathodic Protection Areas in SAP, and has allowed for ample time to correct inadequacies before the resurvey interval exceeds six years.
- 20) Per PG&E work procedure TD-9500P-16 stub services are to be reviewed every 5 years for safety, exposure to hazardous conditions, and the likelihood of future use. 89 idle stubs were not reviewed by their respective review dates. PG&E is currently performing reviews

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on these stubs and expects to have them all reviewed by the end of 2nd quarter 2014.

A long-term preventative measure to ensure gas service stubs are identified and reviewed per TD-9500P-16 will be the implementation of the Pathfinder Program. Pathfinder will use a Geographical Information System (GIS) to store gas asset data, and will interface with SAP for scheduling of certain maintenance activities such as the review of service stubs. The Pathfinder Program is expected to be fully functional by the end of 2015.

ATTACHMENTS

Attachment #	Title or Subject	
A	May 25, 2010 Letter on downstream block valves	
В	Valve Maintenance Service Histories	
С	San Jose T&R/Corrosion Tailboard Briefing	
D	2013 CP Maintenance Reports	
Е	CPA 3352-15 Resurvey 12-20-13	

ACTION REQUIRED

Action To Be Taken	Due Date	Responsible Dept.
8) Decommission Station H-87	April 30,2014	Gas Distribution Engineering &Design
11) Re-program SAP to ensure CP Action Plans are updated as required	May 30, 2014	Gas Maintenance Strategy
20) Review past due idle stubs	June 30, 2014	San Jose Division Mapping
20) 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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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 16- 20, 2013	NOV – 1	Willard Lam	(415) 703-1327

INSPECTION FINDING

CPUC Finding

B. Audit Findings and Violations

1. <u>Title 49 CFR §192.13(c) states:</u>

"Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part."

1.1. PG&E Utility Work Procedure WP4540-01 states:

Page 5; "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...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."

PG&E originally installed Regulator Station F-01 (Reg F-01) as a drip location without long/short sense lines. The lack of sense lines prohibits the operational lock-up test using the long/short line technique described in WP4540-01. Since Reg F-01 has no downstream customers, the Division did not consider or use it as a district regulating station. Consequently, the Division thought that Reg F-01 was exempt from the regulator station maintenance as prescribed in WP4540-01 and did not perform lock-up tests. However, after review, PG&E's Engineering Department determined that the Division must maintain Reg F-01 per WP4540-01 and therefore, was required to perform lock up tests. Additionally, if a regulator station configuration is found to prevent the operational lock-up check, the responsible supervisor must be notified and a Systems Applications and Products database (SAP) Corrective Notification number must be created to reconfigure the regulator station to allow for operational lock-up tests. The Division did not create a SAP Corrective Notification to reconfigure Reg F-01 until it was found missing during the SED audit despite being in operation since 1996.

1.2. PG&E Utility Work Procedure WP4540-01 states:

Page 6; "The monitor regulator must be the upstream device. If the monitor regulator is not the upstream device, the station must be reconfigured during the current maintenance. If, for operating reasons, reconfiguration is not possible, obtain written documentation allowing an exception for a downstream monitor and ensure that it is filed in the regulator station's maintenance folder. The exception must be granted by the senior gas distribution engineer."

During review of the Regulator Station F-77 (Reg F-77) maintenance folder, SED found that the Division configured Reg F-77 with the monitor as the downstream device. PG&E's Utility Work Procedure WP4540-01 requires written documentation allowing an exemption to be filed in the maintenance folder for a downstream monitor. However,

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the Division did not have a written exemption on file for Reg F-77.

1.3. PG&E Utility Work Procedure WP4540-01 Attachment 4 states:

Page 2; "If a spring-loaded type regulator is used, the maximum regulator setting is MAOP minus 4.0 psig."

Regulator Station F-01 consists of a spring-loaded Fisher 627 regulator and monitor with a Maximum Allowable Operating Pressure (MAOP) of 60 psig. Per PG&E's WP4540, Regulator Station F-01 must have a regulator set point of 56 psig or less. Regulator maintenance records dating back to 2009 show the regulator set point to be 57 psig, which is greater than the 56 psig that PG&E Work Procedure WP4540 Attachment 4, allows.

1.4. PG&E Utility Work Procedure WP4133-02 states:

Page 1; "Review CPAs, as defined in this work procedure, at least once every 6 nominal years"

SED found two instances of Cathodic Protection Areas (CPAs) exceeding the 6-year interval allowed by Utility Work Procedure WP4133-02.

Table 2: CPAs exceeding 6-year resurvey interval

СРА	Previous Resurvey	Current Resurvey	Elapsed Time
	Date	Date	
3606-01A	7/30/2004	12/27/2011	7 Years
3683-01	9/21/2001	12/21/2009	8 Years

1.5. PG&E Standard O-16 states:

Page 11; "If the CPA restoration work is (or is expected to be) over 30 days, the "CPA Follow-Up Action Plan" form must be used and developed within 30 calendar days from the date the CPA is found below adequate levels of protection"

SED discovered two instances where the Division failed to create a CPA Action Plan within the 30 days required by Standard O-16:

Table 3: Late CPA Action plans

CPA Location	Date Found Below Adequate Levels of Protection	Date Restored	Days Elapsed
3415-04/05	8/13/2013	9/17/2013	35
3412-09	8/10/2011	11/11/2011	93

1.6. PG&E Standard O-16 states:

Page 10; "After the CPA has been restored and re-polarized, record final P/S on-potential

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and rectifier measurements on the "Standard Cathodic Protection Maintenance Report"

SED found the following Standard Cathodic Protection Maintenance Reports missing post restoration rectifier reads:

- CPA 3412-20 maintenance report was missing the rectifier measurements after the Division restored the CPA in May of 2011.
- CPA 3412-13 maintenance record was missing the rectifier measurements after the Division restored the CPA in July of 2011.

PG&E RESPONSE

PG&E agrees with these findings.

1.1 PG&E has initiated a project to configure this station to test for regulator lockup as specified in the work procedure. The expected completion date for this project is October 31, 2014.

To prevent recurrence, the San Jose Division T&R Supervisor reviewed Utility Work Procedure WP4540-01, District Regulator Station Maintenance, and the need to create a corrective notification for any regulator station that cannot be tested for regulator lock-up with San Jose Division Gas T&R Department. See Attachment C. In addition, PG&E will be deploying mobile devices throughout division operations by the summer of 2014 to capture maintenance activities electronically. The entering of maintenance activities into SAP using the mobile device will have validations that will not allow for preventative maintenance to be prematurely or inadvertently closed when corrective actions are required.

- 1.2 District Regulator Station F-77 is configured with the monitor as the downstream device. PG&E's Utility Work Procedure WP4540-01, Section II.A.8.d., requires written documentation allowing an exemption to be filed in the maintenance folder for a downstream monitor and this letter was not filed in the folder. Upon discovery of this, PG&E immediately provided a letter of exemption and attached it in the folder on September 20, 2013 (See Attachment F).
- 1.3 Per PG&E's Work Procedure WP4540-01 Attachment 4, District Regulator Station F-01 is required to have a regulator set point of 56 psig or less (MAOP 4 psig). The set point was found during the audit to be 57 psig. This was immediately addressed after discovery and the set point was lowered to 56 psig by the Gas T&R Department on September 20, 2013 (See Attachment G).

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To prevent recurrence, PG&E has published TD-4540P-01, Maintenance of Regulator Stations on October 16, 2013 (See Attachment H). This procedure replaces WP-4540-01. Attachment 4 of WP-4540-01 has been eliminated. Section 2.1 and 3.1 of the new procedure requires that any regulator setpoint changes from the previous as-left values must be approved by gas engineering personnel. The new procedure was informally reviewed by the San Jose Gas T&R Department shortly after publication. A formal review of the procedure will be completed and documented by March 15, 2014.

- 1.4 PG&E's review of Cathodic Protection Areas (CPAs) 3606-01A and 3683-01 was conducted as noted, but exceeded the 6-year interval as required in Work Procedure WP-4133-02. See system-wide preventative action below.
- 1.5 CPA Action Plans for CPA 3415-04/05 and 3412-09 were created beyond the 30-day time period per Gas Standard O-16. To prevent further recurrence, the San Jose Division Corrosion Supervisor conducted a briefing on the frequency requirements for creating the CPA Action Plans at 30 days of inadequate cathodic protection and update every 30 days until the CPA has been restored (See Attachment C).
- 1.6 CPAs 3412-20 & 3412-13 were both missing post-restoration rectifier reads after the areas had been restored. Subsequent rectifier reads demonstrate that cathodic protection was restored without significantly increasing rectifier output (See Attachment I).

PG&E has made the following system-wide changes to prevent recurrence:

- 1) Created a separate position of Division Corrosion Supervisor which started in 2012. This position has responsibility for all corrosion control topics, and has resulted in significant improvements in administrative controls and documentation.
- 2) Added corrosion control maintenance tasks in SAP to provide management visibility in scheduling and completion of corrosion control work.

In addition, PG&E will be deploying mobile devices to capture corrosion control maintenance activities electronically, throughout division operations by the summer of 2014. Programming the entry of maintenance activities into SAP will have validations that will not allow for preventative maintenance to be prematurely or inadvertently closed when corrective actions are required.

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ATTACHMENTS

Attachment #	Title or Subject	
С	8-28-13 San Jose T&R/Corrosion Tailboard	
F	Exception Letter Reg Station F-77	
G	F-01 Reg Station Maintenance Record	
Н	TD-4540P-01 Reg Station Procedure	
I	Rectifier Reads for CPA 3412-20 & 3412-13	

ACTION REQUIRED

Action To Be Taken	Due Date	Responsible Dept.
Roll out mobile devices throughout division operations for the entry of regulator station and corrosion control maintenance	July 31, 2014	Mobile Solutions
Complete project to reconfigure District Regulator Station F-01 Tully & King	September 30, 2014	San Jose GDE&D
Conduct and document review of TD- 4540P-01	March 15, 2014	San Jose Gas T&R

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 16- 20, 2013	NOV - 2	Willard Lam	(415) 703-1327

INSPECTION FINDING

CPUC Finding

2. <u>Title 49 CFR § 192.465(d) states:</u>

"Each operator shall take prompt remedial action to correct any deficiencies indicated by the [external corrosion control] monitoring"

The May 19, 1989, Federal Pipeline and Hazardous Materials Safety Administration's (PHMSA) Inspection Guideline and Interpretation #PI-89-006 for 192.465(d) states that, as a rule of thumb, PHMSA interprets "prompt" as having the "correction completed by the time of the next scheduled monitoring". SED found the following CPA locations with inadequate pipe-to-soil reads in 2011 that continued through 2013:

Table 4. Locations with CP remediation longer than 15 months

CPA Location	Date low potential found	Corrective Status as of September 2013	Reasoning
3414-02	8/17/2011	Pending	Awaiting deep well anode bed replacement
3474-14	8/12/2011	Pending	Awaiting deep well anode bed replacement
3476-06	3/9/2011	Pending	Awaiting deep well anode bed replacement

PG&E RESPONSE

PG&E agrees with this finding.

Adequate levels of cathodic protection have been restored for the three Cathodic Protection Areas (CPAs) as noted in the table below. Please see Attachment J for documentation.

CPA Location	Date low potential found	Corrective Status	Comments
3414-02	8/17/2011	Restored 9/25/2013	Installed Deep Well
3474-14	8/12/2011	Restored 8/16/2013	Installed Deep Well
3476-06	3/9/2011	Restored 11/2013	Installed Deep Well

PG&E had not established in Gas Standard O-16 what is prompt remedial action to correct

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any deficiencies indicated by the cathodic protection monitoring. Throughout 2014, the Integrity Management/Corrosion Engineering Department will be implementing significant changes in corrosion control processes and procedures. Included in these significant changes will be a specific timeframe defining prompt remedial action to be within 15 months, a process to monitor the performance and life expectancy of sacrificial anodes, an accelerated anode replacement program, and a process to streamline the engineering, permit application, and construction scheduling of deepwell anodes.

ATTACHMENTS

Attachment #	Title or Subject	
J	2013 CP Maintenance Reports	

ACTION REQUIRED

Action To Be Taken	Due Date	Responsible Dept.
Rollout Process and Procedure changes to Corrosion Control	December 2014	Corrosion Engineering

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 16- 20, 2013	AOC – 1	Willard Lam	(415) 703-1327

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CPUC	
Finding	

C. Observations and Concerns

During a field visit to the Milpitas Regulating Station, SED observed that the monitor on the standby regulating run failed to control while checking the set point. An internal "B" inspection discovered that the Mooney regulator diaphragm had an alleged material defect, preventing the monitor from operating correctly. Based on maintenance records, on May 1, 2013, the Division performed a successful "B" inspection, including a successful lock-up test. The Division placed the monitor back into service upon completion of the inspection, until the failed diaphragm was discovered during the field visit. Please provide the results of the root cause analysis that PG&E performed regarding this matter and the corrective actions it plans to implement to prevent recurrence of this.

PG&E RESPONSE

This failed regulator diaphragm issue is still under investigation. PG&E will report its findings and any corrective actions as they become available. The station continues to operate properly and does not pose a safety concern.

ATTACHMENTS

Attachment #	Title or Subject	
None		

ACTION REQUIRED

Action To Be Taken	Due Date	Responsible Dept.
Provide results of investigation to SED	June 1, 2014	Codes and Standards

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 16- 20, 2013	AOC – 2	Willard Lam	(415) 703-1327

INSPECTION FINDING

CPUC Finding	During a field visit to CPA 3413-13, SED observed the Division measure a pipe-to-soil read of -836 mV that did not meet the -850 criteria at 876 N 18 th Street, San Jose. Please provide SED a status report on the cathodic protection at this location.

PG&E RESPONSE

This cathodic protection area was restored on December 27, 2013. See Attachment K for the restored reads and the work description to restore adequate cathodic protection to the CPA.

ATTACHMENTS

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	Attachment #	Title or Subject		
K		CPA 3413-13 Maintenance Report		

ACTION REQUIRED

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

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