

PUBLIC UTILITIES COMMISSION

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March 20, 2014

Mr. Sumeet Singh, Vice President
Pacific Gas and Electric Company
Gas Asset and Risk Management
6111 Bollinger Canyon Road, Office #4590-D
San Ramon, CA 94583

GA2013-23

SUBJECT: General Order 112-E Gas Audit of PG&E's Kern Division

Dear Mr. Singh:

On behalf of the Safety and Enforcement Division (SED) of the California Public Utilities Commission (CPUC), Willard Lam, Terence Eng, Quang Pham, Nathan Sarina, and Balraj Sandhu conducted a General Order 112-E audit of Pacific Gas and Electric Company's (PG&E's) Kern Division (Division) from October 14 - 18, 2013. The audit consisted of a review of the Division's operation and maintenance records from 2010 to 2012. In addition to the records review, SED performed a field verification of a representative sample of the Division's pipeline facilities. SED's findings are noted in the Summary of Inspection Findings, which is enclosed with this letter. The Summary reflects only the respective records and pipeline facilities that SED inspected during the audit.

Within 30 days of receipt of this letter, please provide a written response identifying measures taken by PG&E to address the violations noted in the Summary of Inspection Findings. Pursuant to Commission Resolution ALJ-274, SED staff has the authority to issue citations for each violation found during the audit. SED will notify PG&E of the enforcement action it plans to take after review of PG&E's audit response. If you have any questions, please contact Willard Lam at (415) 703-1327 or willard.lam@cpuc.ca.gov.

Sincerely,

Michael Robertson
Program Manager
Gas Safety and Reliability Branch
SED/CPUC

Enclosure: Summary of Inspection Findings

cc: Frances Yee, PG&E Gas Engineering and Operations
Mary Muse, PG&E Senior Gas Engineer
Cheryl Dizon, PG&E Gas Regulatory Support
Dennis Lee, SED
Aimee Cauquiran, SED

SUMMARY OF INSPECTION FINDINGS

A. PG&E's Internal Audit Findings

PG&E provided SED a summary of findings from its internal audit conducted prior to the Kern Division Audit. Some of PG&E's internal audit findings are violations of PG&E's own operations and maintenance standards, and are therefore violations of Title 49 Code of Federal Regulations (CFR), §192.605(a). All violations identified in PG&E's internal findings summary are listed in Table 1.

Table 1. Kern Division Internal Finding Summary

Item	Code Violation	Topic	Finding	Instances	Corrective Status
1	192.723(b)(1) 192.723(b)(2)	Leak Survey Distribution	Maps out of compliance	10	Completed
2	192.706	Leak Survey Transmission	Maps out of compliance	36	Completed
3	192.605(a)	Leak Repair	Leaks with late action	60	Completed
4	192.605(a)	Corrosion Control	CPA action plans created late or not updated within 30 days	56	Completed
5	192.605(a)		CPA forms missing supervisor review	3	Completed
6	192.605(a)		Rectifier output not within the interference results	6	Completed
7	192.605(a)		Missing pre/post rectifier reads	1	N/A
8	192.605(a)		Rectifier forms missing information	5	Completed
9	192.465(d)		CPA areas down for greater than 15 months	8	Pending
10	192.605(a)		Missing Transmission Leak Survey instrument calibration records	183	Completed
11	192.605(a)	Missing Distribution Leak Survey instrument calibration records	244	Completed	
12	192.605(a)	Idle Stubs	Gas stub cut-off process timelines not followed	-	Completed

SED is aware that the Division completed some of the item(s) by the time of this letter. Please provide an update on the corrective status on the item(s) that were pending as of October 18, 2013.

B. Audit Findings and Violations

1. General Order 112-E § 143.1 states:

“A gas detector survey must be conducted in business districts and in the vicinity of schools, hospitals and churches, including tests of the atmosphere in gas, electric, telephone, sewer and water system manholes, at cracks in pavement, and sidewalks, and at other locations providing an opportunity for finding gas leaks, at intervals not exceeding 15 months, but at least once each calendar year.”

SED discovered that the Division was missing the following 2009 Distribution Leak Survey maps containing business districts and public assembly areas to demonstrate compliance with the leak survey requirement under General Order 112-E §143.1:

Table 2. Missing Distribution Leak Survey Maps

Plat Map	2008 Leak Survey	2009 Leak Survey	2010 Leak Survey
5127-B7	8/18/08	Missing	1/29/10
5027-C8	9/9/08	Missing	4/8/10

2. Title 49 CFR §192.465(d) states:

“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’s) 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”. The Division discovered that Cathodic Protection Area (CPA) No. 157414 had inadequate cathodic protection in June 2010. The Division did not restore the cathodic protection to the CPA as required by Appendix D of Title 49 CFR Part 192 until December 2011, 18 months after it discovered the cathodic protection was inadequate.

3. Title 49 CFR §192.605(a) states:

“Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response.”

3.1. PG&E Standard O-16 states:

“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.”

SED discovered five instances listed in Table 3, where the Division failed to create CPA Follow-Up Action Plans within 30 days as required by PG&E’s standard.

Table 3. Missing CPA Follow-up Action Plans

CPA Location	Date Found	Date Restored	Days until Restoration
1571-15-B	10/10/11	12/13/13	64
1573-02	5/20/11	7/27/11	68
1574-20	12/20/10	2/17/11	59
L-312	3/16/12	5/4/12	49
4760-03	11/29/10	1/3/11	35

3.2. PG&E Work Procedure WP4430-04 Attachment 1 states:

“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 Record] form.”

SED discovered that the Division failed to list a pressure rating on several Valve Maintenance Record forms. Some of the valves with no pressure rating on the Valve Maintenance Record form are provided in Table 4.

Table 4. Valves Missing Pressure Rating

Valve Number	Valve Location	Station Name
11	Bowman & China Lake	Bowman Regulating Station
T-62.98A	L-300A @ T-62.98A	Chambliss Station
T-62.36A	L-300A @ T-62.36A	SunWorld Trailer Park

3.3. PG&E Pole Mount/Pedestal Mount Rectifier Test and Site Evaluation Form states:

“Check box for all items inspected and Record AC/DC Voltage and DC amperage measurements leave blank if not applicable. Note corrections or changes in Log on back of form“

SED discovered that the Division failed to properly document rectifier direct current (DC) amperes, DC voltage rating, and fusible alternating current (AC) breaker disconnect switch rating changes on the back of the Pole Mount/Pedestal Mount Rectifier Test and Site Evaluation Form for the three rectifiers listed below in Table 5.

Table 5. Missing Documentation for Rectifier Form Changes

Rectifier Number	CPA Number	Changes
KC87	157426	The rectifier DC amperes rating and DC voltage rating changed in 2012 with no record of rectifier replacement.
168	156201	The rectifier DC amperes rating, DC voltage rating, and fusible AC disconnect switch rating changed in 2011 with no record of rectifier replacement.
KC-13	157102-A	The rectifier DC amperes and DC voltage ratings changed in 2012. The fusible AC disconnect switch rating changed in 2011. Both changed occurred with no record of rectifier replacement.

3.4. PG&E Standard O-71 Copper-Copper Sulfate Reference Electrodes states:

“Check each reference electrode for calibration four times each calendar year, not to exceed 4-1/2 months.”

SED discovered that the Division failed to calibrate six Miller RE5 reference electrodes, shown below in Table 6, at least 4 times a year as required by PG&E Standard O-71.

Table 6. Reference Electrode with Improper Calibration

Serial Number	Period Missing Calibration
03 / B17791	2011
FM#IC30 / B16119	2011
FM#IC28	2011, 2012
FM#IC26 / B25878	2012
027	Greater than 4.5 months between 6/30/11 and 12/21/11
026	2011

3.5. PG&E Form TD-4412P-02-F01 states:

- a. *“If the Metrotech 9890/850 signal strength differs by (+/-) 25% of the baseline signal strength OR the Vivax vLocML differs by (+/-) 15% decibel (dB) of the baseline, then remove instrument from service and send to approved repair facility.”*

SED discovered the following instances, listed below in Table 7, where the Division failed to remove Metrotech Vivax instruments from service and send to an approved repair facility when calibration readings were outside of the acceptable range.

Table 7. Metrotech Vivax Out of Calibration

Serial Number	Acceptable Range	Readings	Date
17107081179 / 20601070312	57.8-78.2	54.9	7/2/2012
		54.5	11/27/2012
		56.6	7/9/2012
171070400486 / 20601070321	58.65-79.35	45	10/26/2012
		45	11/4/2012
		48	11/27/2012

- b. *“If indicated depth differs from actual measured depth by more than (+/-) 5% plus 2 inches, then remove instrument from service and send to approved repair facility.”*

SED discovered the following instances listed below in Table 8 where the Division failed to remove the Metrotech Vivax instruments from service and send to an approved repair facility when the depth readings were outside of the acceptable range.

Table 8. Metrotech Vivax Out of Calibration

Serial#	Depth of Facility	Acceptable Range	Readings	Date
171070801179 / 20601070336	35"	31.25 - 38.75	31"	12/3/2012
171070801179 / 20601070312	24"	20.8 - 27.2	18"	8/6/2012
			18"	9/28/2012
			18"	10/25/2012
			18"	8/13/2012
			18"	10/8/2012
			18"	10/12/2012
			18"	6/1/2012
			18"	6/18/2012
			18"	6/25/2012
			17"	7/2/2012
			17"	11/27/2012
			18"	7/16/2012
171070801196 / 20601070282	24"	20.8 - 27.2	19"	10/23/2012
			20"	11/23/2012

PG&E Leak Survey Instrument Calibration Standard M-53.3 states:

- *“Check the calibration of regularly used Combustible Gas Indicator (CGI) gas detectors at least once a month while the units are in service. All units not in use for the respective month shall be noted as out of service.”*
- *“If the calibration is not within the allowable limits, send the instrument to an approved service provider for adjustment or repair.”*
- *“Also test the units with 100% natural gas”*
- *“Use the [Monthly Verification of the Calibration of Combustible Gas Indicators (CGIs)] form to record all required calibration checks.”*

SED discovered the following instances, listed below in Table 9, when the Division failed to follow PG&E Leak Survey Calibration Standard M53.3.

Table 9. CGI Instrument Calibration Issues

CGI Serial Number	Date	Issue
1108-060740	8/24/2011	Missing meter sample gas percentage
1127-061137	7/22/2011	Missing reading for percent lower explosive limit (LEL)
923059551	8/24/2011	Missing meter sample gas percentage
916059401	1/31/2011	Missing reading for percent LEL

Table 9 continued

CGI Serial Number	Date	Issue
717058158	3/21/2011	Instrument not sent out for service/repair when LEL reading was outside acceptable limit
	8/28/2012	
	9/18/2012	
	8/24/2011	
24808	2011	Missing meter sample gas percentage for 2011
24913	2011	Missing meter sample gas percentage for 2011
	7/25/2011	Instrument not sent out for service/repair when LEL reading was outside acceptable limit
2212	1/25/2011	Missing reading for percent LEL
	2/28/2011	
	3/21/2011	
	4/18/2011	
932059654	5/2011	Missing calibration or indication of not in service for May 2011
850059181	4/29/2011	Missing reading for percent LEL
	8/2011	Missing calibration or indication of not in service for August 2011
4207	9/2012	Missing test with 100% natural gas

3.6. PG&E Leak Survey Instrument Calibration Standard M-53.3 additionally states:

“Check the calibration of [Hydrogen Flame Ionization] gas detectors before the first field use in any given week. If the unit is not used and its calibration not checked for any given week, record that the particular unit was out of service for that week. Record this on the “Weekly Calibration Check of Flame Ionization Unit” form, for [Optical Methane Detectors] on the “Weekly Calibration Check of Optical Methane Detector” form, or for [Remove Methane Leak Detectors] on the “Monthly Remote Methane Leak Detector Daily Self-Test and Calibration Log” form.”

SED discovered the following instances shown below in Table 10 when the Division failed to perform weekly instrument calibration or indicate the unit was out of service.

Table 10. Leak Survey Instrument Missing Weekly Calibration

Instrument Type	Serial #	Months with weeks missing calibration or “out of service” note
Remote Methane	8000550011	2010:Oct
		2011:Jan, Apr, Jul, Aug
Flame Ionization	1500818003 #1	2010:Oct, Nov, Dec
		2011:Jan, Feb, Jun, Jul, Sep, Oct, Dec
		2012:Mar, Jul, Aug
Flame Ionization	1500818004 #2	2010:Oct, Nov, Dec
		2011:Most of the year except for Apr and May
		2012:Mar, Apr, Nov

Table 10 continued		
Instrument Type	Serial #	Months with weeks missing calibration or "out of service" note
Flame Ionization	1500818005 #3	2011:Feb, Mar, Jul, Sep, Oct, Nov, Dec 2012:Feb, Mar, Apr
Flame Ionization	1500537001 #4	2010:Oct, Nov, Dec 2011:Most of the year except for Mar, Apr, May, Jun
Flame Ionization	7002	2011:Most of the year except for Jul

Please verify if the instruments listed in Table 10 were used for gas leak surveys, gas leak rechecks, gas leak investigations, or any other use during each respective period identified as missing calibration. Please provide record(s) showing when the instruments were used without proper calibration documents, and follow up actions the Division has taken to ensure gas leak surveys were performed with calibrated instruments.

C. Field Audit

SED found no violations or concerns during the random field audit it conducted of the Division's pipeline facilities.

D. Observations and Concerns

1. During a review of the Division's valve records, SED observed the following instances of conflicting or incongruous data in Table 11:

Table 11: Valve Records

Valve	Location	Observation
B	Fry & Kern Canal	Valve pressure rating listed as 7403 psig
Z-110	Allen N/O Stockdale	Valve location drawing lists 2" but the Valve Maintenance Record Form lists 3"
Z-154	So. Laurelglan, W/O Gosford Road	Valve location drawing lists 2" but the Valve Maintenance Record Form lists 4"
Z-102	Midoil Road	Valve location drawing lists 4" but the Valve Maintenance Record Form lists 2"
Z-098	Gosford Road	Valve location drawing lists 3" but the Valve Maintenance Record Form lists 2"

Please provide SED with an update on the follow up actions the Division will take to clarify the conflicting or incongruous data.