STATE OF CALIFORNIA EDMUND G. BROWN JR., *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

August 19, 2013

Ms. Jane Yura, Vice President
Pacific Gas and Electric Company
Gas Operations – Standards and Policies
6121 Bollinger Canyon Road, Office #4460A
San Ramon, CA 94583

GA2012-13

Subject: General Order 112-E Audit, East Bay Division

Dear Ms. Yura:

The staff of the Safety and Enforcement Division (SED), formerly the Consumer Protection and Safety Division, of the California Public Utilities Commission (Commission) conducted a General Order 112-E audit of Pacific Gas and Electric Company's (PG&E) East Bay Division – Oakland and Richmond from September 17-21, 2012. The audit consisted of a review of PG&E's gas distribution and transmission system operations and maintenance records for the period of 2009-2011. SED also reviewed 2012 records where the maintenance has already been completed (i.e. Valve maintenance records, Cathodic protection records). SED conducted field inspections in the cities of Oakland, Berkeley, Richmond and Hercules.

Attached is a Summary of Inspection Findings which contains PG&E internal review findings, and violations and areas of concerns identified by SED during the audit. Please provide a written response within 30 days from the date of the letter indicating the measures taken by PG&E to address the pending items found during its internal review, as well as those violations and areas of concern identified during the audit.

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 it reviews PG&E's audit response. If you have any questions, please contact Aimee Cauguiran at (415) 703-2055 or by email at aimee.cauguiran@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
Larry Berg, PG&E

Summary of Inspection Findings

A. PG&E Internal Audit Findings

Prior to start of the audit, PG&E provided the results of their internal audit of the East Bay Division's (Division) records for both Oakland and Richmond. On 10/17/2012, PG&E provided additional findings from its internal review of corrosion records. Many of PG&E's internal audit findings are violations of PG&E's own standards, and therefore a violation of Title 49 CFR §192.13(c). Other issues found are violations of Title 49 CFR 192 as shown in Table 1.

We note that the Division already corrected several findings, while some were addressed during their subsequent scheduled maintenance.

	GO-112E Section or 49 CFR Part 192	Topic	# of Violations	# of Violations Corrected	# of Pending Corrections (as of 9/21/12)
1	192.723(b)(1) and 192.723(b)(2)	Distribution Leak Survey – Surveyed Late	1	1	0
2	192.13(c)	Distribution Leak Survey – Supervisor sign off, wind speed info missing, late recheck for existing leaks	4	4	0
3	192.706	Transmission Leak Survey- Semi-annual (Late survey)	22	22	0
4	192.13(c)	Distribution Leak Repairs – Late recheck, missing USA info, missing P/S reads, use of white out on records, missing sketch	7	7	0
5	192.703(c)	Distribution Leak Repairs - Repaired late	3	3	0
6	192.465(a) and 192.465(b)	Corrosion Control – Late monitoring (10%ers, Annuals)	147	147	0
7	192.13(c)	Corrosion Control – Corrective Action Plans missing or created late, Late CPA resurveys, Incomplete or incorrect documentation of CPA resurvey,	22	22	0
8	192.747(a) and 192.747(b)	Emergency valves – Late maintenance and repair	26	26	0
9	192.13(c)	Instrument Calibrations – Pressure chart recorders, Leak survey equipment, Mark and Locate equipment, Electrodes	18	18	0

Table 1: PG&E Internal Audit Findings of the Division

B. Areas of Violations

1. Title 49 CFR §192.13(c) states in part:

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

a) Corrosion Records

i. PG&E Gas Standard and Specifications (GS&S) O-16 requires that after a Cathodic Protection Area (CPA) has been restored and repolarized, the final pipe-to-soil (P/S) on-potential and rectifier measurements must be recorded on the appropriate form.

SED found that CPA C7-229, bimonthly location at 2345 Thackeray Drive, Oakland had a P/S reading that did not meet the -850 mV criteria on 4/11/2011. On 6/5/2011, the Division restored this location; however, there was no record of a post-restoration rectifier measurement. On 10/4/2011, this same location had a P/S reading that did not meet the -850 mV criteria and again there was no post-restoration rectifier measurement recorded when the Division restored the location on 10/24/2011. Therefore, the Division is in violation of 192.13(c) for failing to comply with PG&E GS&S O-16.

ii. PG&E WP4133-02 requires a CPA resurvey to be conducted once every six years. Part of the CPA assessment requires gathering historical CPA P/S reads and other records to complete the "Initial CPA Assessment Worksheet" which is used to determine whether to conduct a short (no field) or long (requires field work) resurvey. Also, the CPA Resurvey File Review Form requires that the final maps used be color-coded and must contain a legend and the corrosion mechanic's initials and date.

The CPA Resurvey File Review Form asks if "[t]he lowest pipe-to-soil on-potential in the CPA is at least as negative as -850 millivolts with reference to a saturated copper-copper-sulfate electrode". SED found that the CPA resurvey record for CPA C7-10A in September of 2010 showed the Division filled this question out with an "OK". However, SED's review of the historical records showed the P/S reads for this CPA did not meet the -850 mV criteria since 2009. In which case, the Division should have answered this question with a "No". Furthermore, although the CPA map noted P/S reads, there was no legend or notes indicating a date when the Division had taken the P/S reads. Therefore, the Division is in violation of 192.13(c) for failing to comply with PG&E WP4133-02.

iii. PG&E GS&S O-16 requires yearly monitoring on distribution piping at all locations where the failure of a locating wire will cause a section of steel main to become isolated and not be detected during bi-monthly monitoring of cathodic protection.

The record of annual P/S monitoring for CPA C9-10B2 at 2231 Lincoln – West building indicated that the Division monitored the CPA on 2/12/2010. However, there was no P/S read recorded for the East building; instead the Division noted this location as a "Duplicate". SED reviewed the map of CPA C9-10B2 and found two separate services for 2231 Lincoln in Alameda. One service was for the West building and the other was for the East building. The service leading to the East building is protected using a locating wire, which requires separate

yearly monitoring per PG&E's GS&S O-16 Procedure. The Division did not monitor this service in 2010; therefore, the Division is in violation of 192.13(c) for failing to comply with PG&E GS&S O-16.

b) Emergency Zones

PG&E UO Standard S5000 requires the Division to review the Emergency Zone Curtailment binder annually, not to exceed 15 months. The review procedure shall include key map(s) of all zones; valve area maps and/or a table summary for each zone listing valve numbers, sizes, and locations; lists of zones that affect the shutdown of adjacent zones, key customers in each zone, and the total number of services in each zone; and a review/change log. SED reviewed the Division's Emergency Zone Curtailment binder and found that it did not have a review/change log indicating compliance with the annual review requirement. Therefore, the Division is in violation of 192.13(c) for failing to comply with PG&E UO Standard S5000.

2. 49 CFR §192.747 Valve maintenance: Distribution systems.

"(a) Each valve, the use of which may be necessary for the safe operation of a distribution system, must be checked and serviced at intervals not exceeding 15 months, but at least once each calendar year.

(b) Each operator must take prompt remedial action to correct any valve found inoperable, unless the operator designates an alternative valve."

a) Corrective Work and Alternative Valve Designation

On 11/02/2011, the Division completed a Priority A (immediate) corrective work form for valve K-35. SED reviewed the form and found that there was no record of action taken or an alternative valve designated for the inoperable valve, which is a violation of 192.747(b).

b) Inoperable Alternative Valve Designations

SED found that the inoperable emergency valves listed in Table 2 were designated alternate valves by the Division which were also inoperable. Thus, the Alternate Means of Control (AMC) established by the Division were ineffective. Additionally, the Division found Valve B-33 inoperable on 5/27/2011 and did not create an AMC until 6/27/2012. Therefore, the Division is in violation of 192.747(b).

Valve	Date Division Found Inoperable	Date Division created AMC	Designated Inoperable Valves
B-31	6/25/2012	6/27/2012	B-33, B-37, B-38 and M-37
B-33	5/27/2011	6/27/2012	B-37, B-38 and M-37
B-37	6/25/2012	6/27/2012	B-31, B-33, B-38, and M-37
B-38	6/25/2012	6/27/2012	B-31, B-33, B-37, and M-37

Table 2: Inoperable Emergency Valves

3. 49 CFR §192.743 Pressure limiting and regulating stations: Capacity of relief devices.

"(a) Pressure relief devices at pressure limiting stations and pressure regulating stations must have sufficient capacity to protect the facilities to which they are connected...

...(c) If a relief device is of insufficient capacity, a new or additional device must be installed to provide the capacity required by paragraph (a) of this section."

SED found in its review of the relief capacity calculation for regulating station R-E09 that the Division found the relief valve at the station to be of insufficient capacity in 2005. According to the Division representative, there is a plan in place to convert the regulating station to a regulator-monitor set-up which would eliminate the need for the relief valve and that the reconstruction of the station is pending a permit from the City of Berkeley. However, there was no record showing any corrective work or interim measure taken by the Division to ensure overpressure protection of the pipe pending replacement of the regulating station. Therefore, the Division is in violation of 192.743(c).

C. Field Observations

1. 3033 Kingsland Place, Oakland

SED observed that the service regulator vent at this location was too close to a house air vent and utility enclosure. SED recommended putting an extension stem to relocate the vent to avoid natural gas accumulation should the regulator vent release gas.

During the close out meeting, Division personnel stated that this work was completed. Please provide records to show that the work was completed.

2. Casing Monitoring

SED found a casing Electrolysis Test Station (ETS) with no labels on the wires. When SED asked the Corrosion Mechanic performing the P/S and casing-to-soil (C/S) measurements how to determine which wire is connected to the pipe or the casing, the Mechanic explained that a reading of -850 mV or less negative is an indication that the wire is connected to the gas carrying pipe, while a reading more positive than -850 mV indicates a connection to the casing. Although this may be true for casings which have effective electrical isolation, this may not be apparent for casings with electrolytic or metallic contact.

For instance, during SED's field inspection of L-105A casing at Hollis Street located south of 40th Street in Emeryville, SED identified two ETSs which contained 2 lead wires each. The first ETS measured -366 mV and -350 mV, while the second ETS measured -920 mV and -945 mV. Without the labels, a Division Corrosion Mechanic could incorrectly assume that the two lead wires in the first ETS were connected to the casing, while the two lead wires in the second ETS were connected to the gas carrying pipe.

Similarly, field inspection of L-105A casing at Hollis and 53rd Streets in Emeryville had one ETS with two unlabeled lead wires and there was no visible casing vent close to the ETS. One lead wire measured

-875 mV and the other was -950 mV. Since both were less negative than -850 mV, it was not apparent which lead wire was connected to the gas carrying pipe and/or the casing. Thus, this can be construed as either a possible electrolytic contact at this casing location, or that both lead wires are connected to the gas carrying pipe, and that the Corrosion Mechanic should look for a second ETS to take a casing-to-soil reading.

The Division needs to clearly indicate, either by putting labels on the lead wires or providing accurate ETS diagrams, which lead wire is connected to the pipe or casing to provide better guidance to the Division Corrosion Mechanics performing the P/S and C/S measurements.

D. Areas of Concern/Recommendations

1. Establishing Alternate Means of Control (AMC) for Inoperable Valves

On 8/26/2010, PG&E issued Gas Information Bulletin Number TD-4430B-001 to provide clarity on the administrative expectations concerning the restoration of inoperable emergency valves including the procedure to complete an AMC. The bulletin currently requires that "upon discovery of an inoperable valve" the AMC procedure must be followed. The bulletin further states, "Complete AMC procedure for inoperable valves which are not promptly repaired... All emergency valves found inoperable must be restored to service within 12 months of the finding..." [Underlined for emphasis]. SED believes that these statements can cause confusion as to when an AMC is expected to be created. "Upon discovery" can be interpreted as creating an AMC immediately after an emergency valve is found inoperable. In contrast, requiring an AMC to be completed for inoperable valves which are not promptly repaired can be interpreted as creating an AMC if the inoperable valve was not repaired within 12 months. For example, the Division created an AMC for Valve B-33 13 months after the Division initially found the valve inoperable. Thus, SED recommends that PG&E specify a timeframe to designate an AMC to eliminate possible confusion and misinterpretation. We recommend that an AMC should be designated if not immediately after it is found inoperable, sooner than 12 months.

2. Records of Inoperable Emergency Valves

SED found that the emergency valve maintenance records for the following inoperable emergency valves in which the Division designated AMCs, had no records available during the audit indicating when the Division initially found the valves inoperable. Thus, SED was not able to assess the promptness of the actions taken after the Division discovered the valves inoperable, including the designation of the AMCs.

a. The emergency zone map for Zone S23-C (Oakland) shows Valve D-96 as "not operable".
b. The AMC created for Valve K-42 on 12/22/2011 noted that Valves J-22, K-42, and ZV-5 are inoperable and that emergency zones EB-N01-C-a and EB-N01-C-b (Richmond) are to be combined and shut down together. However, there were no records showing when the Division found the three valves inoperable.

3. Distribution Patrols

During the audit, SED staff asked whether the Division had some distribution pipelines (operating at or below 60 psig) that are patrolled under the requirements of 49 CFR §192.721(b). According to the Division representative, outside of the landslide patrols which frequency is dictated by a separate PG&E department, there are no regular distribution pipeline patrols conducted.

Has PG&E identified any distribution pipeline throughout its system that are subject to the distribution patrolling requirements under 49 CFR §192.721(b)? If so, please provide a list of PG&E divisions where these pipelines are located, and a description of the process used for identifying these areas.