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

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

December 2, 2013

GA2013-17

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

SUBJECT: General Order 112-E Gas Audit of PG&E's Burney District

Dear Ms. Yura:

On behalf of the Safety and Enforcement Division (SED) of the California Public Utilities Commission, Terence Eng, Quang Pham, Franky Chan, and Molla Mohammad Ali conducted a General Order 112-E audit of Pacific Gas & Electric Company's (PG&E) Burney District (District) from August 26-30, 2013. The audit included a review of the District's operation and maintenance records for the years 2010 through 2012, as well as a representative field sample of the District's facilities. SED's findings are noted in the Summary of Inspection Findings (Summary) which is enclosed with this letter. The Summary reflects only those particular records and pipeline facilities that SED inspected during the audit.

Within 30 days of your receipt of this letter, please provide a written response indicating the measures taken by PG&E to address the violations and observations noted in the Summary. 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 Terence Eng at (415) 703-5326 or by email at terence.eng@cpuc.ca.gov.

Sincerely,

Michael Robertson
Program Manager
Gas Safety and Reliability Branch
Safety and Enforcement Division

Enclosure: Summary of Inspection Findings

cc: Frances Yee, PG&E Gas Engineering and Operations
Larry Berg, PG&E Gas Regulatory Support
Larry Deniston, PG&E Gas Regulatory Support
Dennis Lee, SED
Aimee Cauguiran, SED
Terence Eng, SED

SUMMARY OF INSPECTION FINDINGS

A. PG&E's Internal Audit Findings

Prior to the start of the audit, PG&E provided SED its findings from the internal review it conducted of the District. Some of PG&E's internal review findings are violations of PG&E's operations and maintenance standards, and are therefore violations of Title 49 Code of Federal Regulations (CFR), §192.13(c). SED is aware that PG&E corrected all of its findings prior to SED's audit. Table 1 lists all of the violations that PG&E noted.

Table 1: Findings from PG&E's Internal Review

Topic	Code	Finding	Instances
Emergency Valves	192.13(c)	Valve maintenance record was missing GMS review signature	1
	192.13(c)	Valve maintenance records for several valves were missing employee's LAN ID	4
	192.745(a)	Valve missing December 2009 and 2010 maintenance documentation	2
	192.13(c)	Power actuated blowdown valves missed the 2nd semi-annual inspection and service.	5
Station Maintenance	192.13(c)	Relief valve maintenance record was missing employee's signature	1
	192.739(a)	Missed February 2010 relief valve maintenance. The valve is also missing maintenance documentation for 3/2/2011	2
	192.13(c)	Actuator maintenance for valves missing April 2010 documentation	2
	192.13(c)	Sections of the Station Maintenance Forms for pressure limiting stations had several blank spaces in 2009 and 2010	2
	192.739(a)	Missing Pressure control valve maintenance documentation for Sept 2010	1
	192.13(c)	Power actuated valve missed the 2nd semi-annual service and operate for 2010, 2011, and 2012	3
Leak Survey	192.13(c)	GMS signature was missing on Leak Survey record for 2009	1
	192.13(c)	Patrolling & leak survey on 5/14/2010 and other dates had forms with white-out used	Not specified
	192.13(c)	Pencil used on patrolling & leak survey forms dated 1/22/2010	Not specified

B. Audit Findings and Violations

1 Title 49 CFR §192.13(c) states:

"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 Procedure TD-4430P-02, Gas Transmission Stations Inspection, Testing, and Maintenance, page 7 states in part:

"Use Attachment 8, Form TD-4430P-02-F03, "Valve Actuator Maintenance Record," to document inspection and maintenance work on power actuators."

Though recorded in PG&E's Pipeline Maintenance System, the District did not record the actuator maintenance for Valves V-21 (GOV-21) and V-22 (GOV-22) at Locations K-2, BCS/MP82 Process Gas on the valve actuator maintenance forms in 2013. The last documented maintenance on the form was 4/10/12 for both valves.

1.2 PG&E Utility Work Procedure WP4430-04, Gas Valve Maintenance Requirements and Procedures, page 4 states in part:

"Power-actuated isolation and block valves must be inspected, serviced, lubricated, and operated twice each calendar year (at approximate 6-month intervals)."

The District did not inspect, service, lubricate, or operate twice a year during the indicated years the following nine actuated valves:

a. BCS/MP82 Process Gas SOV-120, V-6: Years 2009 through 2013
b. BCS/MP82 Process Gas FV-10, V-8: Years 2009 through 2013
c. BCS/MP82 Process Gas SOV-120B, V-32: Years 2009 through 2013
d. BCS/MP82 Process Gas GOV-125-2, V-43: Years 2009 through 2013
e. TCS/MP24 Process Gas SOV-2, V-4: Years 2009 through 2013
f. TCS/MP24 Process Gas SOV-51, V-8: Years 2010 through 2013
g. TCS/MP24 Process Gas SOV-51B, V-40: Years 2010 through 2013
h. TCS/MP24 ESD GOV-16, V-N: Years 2010 through 2013
i. TCS/MP24 ESD GOV-16B, V-R: Years 2010 through 2013

1.3 PG&E's WP4430-04 Attachment 1, Gas Valve Maintenance Requirements and Procedures, page 1 states in part:

"Ensure that all natural gas block valves (2" and greater for gas transmission district-maintained facilities) requiring maintenance per this work procedure and ball or plug valve regulators have a completed 'Valve Maintenance Equipment Card.'"

The Valve Maintenance Record Forms for the nine valves specified in 1.2 of this report inaccurately list the lube/inspection frequency as annual. These valves must be inspected twice a year per PG&E Utility Work Procedure WP4430-04, and the Valve Maintenance Record Forms should reflect as such.

1.4 PG&E Standard M-53.3, Verifying the Calibration of Portable Combustible Gas Indicators, Hydrogen Flame Ionization Units, Optical Methane Detectors, and Remote Methane Leak Detectors, states in part:

1.4.1 Page 1: *"If the calibration is not within the allowable limits, send the instrument to an approved service provider for adjustment or repair."*

While performing calibration tests of Combustible Gas Indicators (CGIs), the District recorded instances where the percent of the Lower Explosive Limit (% LEL) readings were outside the allowable calibration limits, but the District did not send the instruments to an approved service provider for adjustment or repair. Table 2 lists these instances.

Table 2. CGI Calibration Reads Outside of Allowable Limits

Serial Number	Date	Allowable Limits	% LEL Reading
10189	3/2/2009	46% - 60%	42
	4/16/2009		42
	11/3/2009		45
13342	4/16/2009	46% - 60%	44
	5/4/2009		44
6881	12/6/2010	42% - 58%	41
6881	3/3/2009	46% - 60%	42
	4/15/2009		40
	5/5/2009		41
	6/15/2009		40
	7/9/2009		40
	8/3/2009		40
	9/9/2009		40
	10/5/2009		42
	11/5/2009		42
	12/10/2009		42
QG0519	3/3/2009	46% - 60%	40
	4/15/2009		40
	5/5/2009		40
	6/15/2009		40
	7/9/2009		40
	8/3/2009		40
060044	2/2/2010	34% - 46%	48

1.4.2 Page 3: *"Check the calibration of HFI 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..."*

The District performed monthly instead of weekly calibrations of the following Hydrogen Flame Ionization Units (HFIs) during the indicated time periods:

a. Detecto-Pak 4 (DP4) Serial# 1500906006: Years 2012, 2011, and the month of September in 2010.

b. Detecto-Pak 3 (DP3) Serial# 9065.5: Years 2012 and 2011.

1.4.3 Page 3: *"Record the weekly calibration checks on the "Weekly Calibration Check of Flame Ionization Unit" form, for OMDs on the "Weekly Calibration Check of Optical Methane Detector" form, or for RMLDs on the "Monthly Remote Methane Leak Detector Daily Self-Test and Calibration Log" form.*

The District did not perform weekly calibrations of Remote Methane Leak Detector (RMLD) Serial# 8001010006 during the months of 11/2012 and 10/2012.

1.5 PG&E's Standard M-60.2 Mark-And-Locate Instrument Calibration and Repair (Instruments Used for USA Purposes), states in part:

1.5.1 Page 2: *"The instrument must be sent to an approved repair facility if the signal-strength readings differ by more than 25% of the baseline reading."*

The baseline strength reading for mark-and-locate instrument Metrotech 9890, Serial# 48626 is 905. During calibration, the equipment must be within 25% of the baseline strength; (i.e. between 679 and 1131) or otherwise sent for repair. In 10/2011, the District recorded a reading of 554. In 11/2011, the District recorded a reading of 541. Although these values fall outside of the acceptable calibration limits, the District did not send the instrument to an approved repair facility as required by PG&E Standard M-60.2.

1.5.2 Page 3: *"The instrument must be sent to an approved repair facility if the measured depth reading varies by ± 5%, + 2" from the actual facility depth, or if the depth reading is erratic."*

The baseline depth of both mark-and-locate equipment Metrotech 850 and Metrotech 9890 is 20". During calibration, the equipment must be within 5% of the baseline strength + 2" (i.e. between 17" and 23") or otherwise sent for repair. The District measured depths outside of the acceptable limit during the following months in Table 3 without sending the instruments to an approved repair facility.

Table 3. Mark and Locate Calibration Reads Outside of Allowable Limits

Model	Serial #	Date of Reading	Reading
Metrotech 850	012304	02/2009	16"
Metrotech 850	004800	03/2010	16"
Metrotech 9890	48626	04/2011	16"
Metrotech 9890	49682	04/2011	16"
		08/2011	16"

2 Title 49 CFR §192.145(c) states:

"Each valve must be able to meet the anticipated operating conditions."

The District did not indicate a value for the pressure rating of Valve No. Gov-130 located at Burney Compressor Station, BCS KS Fuel Gas Building on its Valve Maintenance Card.

3 Title 49 CFR §192.707 states in part:

(d) "Marker warning

The following must be written legibly on a background of sharply contrasting color on each line marker

> *(2) The name of the operator and the telephone number (including area code) where the operator can be reached at all times."*

Pipeline markers at Thermo Electric Mile Points (MP) 42.08, 69.4, 67.10, and 114.85 indicate to call 510-757-1607 in case of emergency. The phone number, when called, does not lead to contact with PG&E. SED called the number and was greeted with a recorded message that asks the caller to try again later.

C. Observations and Concerns

1 PG&E's Capacity Review of Relief Devices at Compressor Stations Form for Tionesta Compressor Station relief valves V-L, V-M, and V-S state that the Maximum Capacity of Compressor K-1 is 2020 Million Standard Cubic Feet per day (MMSCFD) based on computer simulation. The District did not include documentation on the results of the computer simulation along with its records. SED recommends keeping documentation of the results of the computer simulation to verify the value of 2020 MMSCFD.

2 The District did not service Pressure selectors PY1 and PY2 at Indian Springs Pipeline Limiting Station Rack 2 in 2012 as indicated on the Gas Station Facilities Maintenance Report. The District claims that they service the pressure selectors once a month. PG&E should confirm if servicing the pressure selectors is a required maintenance task, and if so, consider adopting a procedure outlining how to service it, how often to service it, who is to service it, and how to recognize any abnormal operating conditions.

3 Valve maintenance record form F4430-04-1 revised 5/13/09 has field "lube/inspection freq" with one blank line for input. In some cases, the District filled in the blank with "annual", though verbally indicating that even though the District is required to inspect these valves annually, the valves may not necessarily require annual lubrication. PG&E may consider revising the forms to distinguish lube frequency from inspection frequency, providing one blank line for each.

4 PG&E's Contract Management team does not retain certification records of certain contractors. During the audit, SED asked for the certifications of two radiographer contractors who performed work on the Ruby Intertie. PG&E had to subsequently request the certification from the contractor. SED recommends that PG&E keep the certifications on file after reviewing them. This will ensure that PG&E retains the certifications in its own historical records should the contractor lose its records or cease to operate.

5 During SED's field inspection at Burney Compressor Station BNCC131600 K-2, the mechanic took a pipe-to-soil reading of -805 mV with the electrode one foot from the pipe. The mechanic then moved the electrode back to four feet from the pipe and recorded a pipe-to-soil reading of -842 mV. The mechanic finally moved the electrode back to six feet from the pipe and recorded a pipe-to-soil reading of -871 mV. The mechanic was satisfied with the result and required no further investigation.

PG&E's Corrosion Standard O-16 does not allow nor disallow mechanics from moving the electrode until he/she obtains a reading more negative than -850 mV. SED would like to know if and when this practice is allowed, and what the limit is (could the electrode be moved back 10 feet? 50 feet?).

6 PG&E's Corrosion Standard O-16, p. 6 states in part:

"Potentials more negative than −1,600 mV with protective current applied should not be present anywhere on the protected, gas-carrying structure, with the exception of annual systems and 10%ers. If a pipe potential more negative than −1,600 mV is found with rectifier current applied ("on"), additional testing is required to ensure the polarized "instant off" potential does not exceed −1,200 mV. Contact corrosion engineering personnel for information on this test and approval."

During SED's field inspection, the District recorded pipe-to-soil potentials of -11 V on L-401 at MP 42.08 and -15 V on L-400 at MP 42.08. Please advise SED on the status of the cathodic protection at these pipeline locations.

7 In 1997, the District based relief valve capacity calculations for Tionesta Compressor Station relief valves V-L, V-M, and V-S on a setpoint of 944 psig. Every year after 1997, the reliefs were set to operate at no greater than 935 psig, the maximum allowable operating pressure (MAOP) of the downstream line. The District did not recalculate the capacity of the relief devices based on the setpoint of 935 psig for each year from 1998-2012. Although the reliefs are still technically set to operate in accordance with §192.201(a), the District may want to review and recalculate the capacity of the relief devices based on the setpoint of 935 psig.

8 In 1997, the District based relief valve capacity calculations for Burney Compressor Station relief valves V-J, V-K, and V-U on a setpoint of 940 psig. Every year after 1997, the reliefs were set to operate at no greater than 935 psig, the MAOP of the downstream line. The District did not recalculate the capacity of the relief devices based on the setpoint of 935 psig for each year from 1998-2012. Although the reliefs are still technically set to operate in accordance with §192.201(a), the District may want to review and recalculate the capacity of the relief devices based on the setpoint of 935 psig.

9 SED asked for documentation to demonstrate clearance from substructures as required by §192.325 for the installation at the Ruby Pipeline Intertie, but the information could not be provided by the end of the audit. Please provide SED with this documentation.