

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
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August 2, 2013

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

GA2013-06

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

Dear Ms. Yura:

On behalf of the Safety and Enforcement Division (SED) of the California Public Utilities Commission, Terence Eng, Alula Gebremedhin, and Franky Chan conducted a General Order 112-E audit of Pacific Gas & Electric Company's (PG&E) Meridian District (District) from May 7-10, 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.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael Robertson".

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

Enclosure: Summary of Inspection Findings
A. PG&E's Internal Audit Findings
B. Audit Findings and Violations
C. Observations and Concerns

cc:

[REDACTED] PG&E Gas Engineering and Operations

[REDACTED] PG&E Gas Regulatory Support

[REDACTED] PG&E Gas Regulatory Support

Dennis Lee, SED

Aimee Cauquira, SED

Terence Eng, SED

SUMMARY OF INSPECTION FINDINGS

A. PG&E's Internal Audit Findings

Prior to the start of the May 7-10, 2013 audit, PG&E provided SED its findings from the internal review it conducted of Meridian District (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 Dated 4/30/2013

Item	Title 49 CFR	Topic	Findings
1	192.13(c)	Emergency Valves	1) During the 3/23/11 quarterly records review, it was identified that L-302, riser valve at Mobil 33-34-2 was unable to operate. Subsequent repair and operation was beyond 15 months.
2	192.13(c)		2) During a records review of 12/18/2012, it was identified that valve card for V-6 at Wild Goose Meter Station indicated manual valve, and Operating Diagram indicated automated valve. In addition, required semi-annual maintenance was not documented for Sept 2010 or Sept 2012.
3	192.13(c)		3) During a records review of 5/16/2012, it was identified that valve card for L-318, Reimers 2-3 MM block valve was missing supervisor review signature.
4	192.13(c)	Station Maintenance	4) During a records review of 4/26/2012, it was identified that the Station Maintenance Form for Fell Station was missing Supervisor review and signature.
5	192.13(c)		5) During a records review of 9/11/2012, it was identified that the Station Maintenance Form for Marysville Buttes Station did not have "A or B" inspection circled and was also missing Supervisor review and signature.
6	192.13(c)		6) During a records review of April 2013, it was identified that relief valve PRV-1 at Fell Station has been set above MAOP for the last 5 years.
7	192.13(c)		7) During a records review of April 2013, it was identified that the District was using outdated forms for Capacity Review of Relief Devices at Gas Gathering Points. (FH-70-C) A revised form was issued in 4/2010. District is still using previous version.
8	192.13(c)	Patrols	8) During a records review of 10/5/2011, it was identified for L-167 Span at canal crossing west of V-9.31, that follow up action was not recorded for paint and minor pitting issues. Span length is recorded inconsistently between years.

Table 1: Findings from PG&E's Internal Review Dated 4/30/2013, Continued

Item	Title 49 CFR	Topic	Findings
9	192.13(c)	Patrolling	9) During a records review of 10/5/2011, it was identified for L-169 Span at ditch north of West Beehive, that span indicates completely submerged; could not inspect. No subsequent 2011 inspection noted. Same span in 2012 shows line markers needed with no work request or follow up action recorded.
10	192.13(c)	Leak Survey	10) During a 2010 2nd quarter records review, it was identified on L-172A, multiple sequences that the "frequency" on the log was not checked.

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's Standard S4350-TD-4350D Odorization of Natural Gas, section 4.6 states in part:

"Gas odor must be readily detectable at a concentration of 0.6% gas-in-air or less."

PG&E's Form 62-3480 reiterates the requirement, stating:

"If the odor intensity reading is over 0.6% gas in air (too weak) or below 0.1% gas in air (too strong), a confirmation test with a different operator will be performed and the System Gas Control supervisor, or GT&D district supervisor, shall be notified immediately."

The District documented odor intensity readings of greater than 0.6% at the following locations listed in Table 2, but provided no documentation of a confirmation test or supervisor notification.

Table 2: Odorization Test Locations requiring remedial action

Date	Location	Reading
4/5/2011	[REDACTED], Mtr#805419G	0.70%
4/5/2011	[REDACTED] Mtr#60215461	0.70%
4/5/2011	[REDACTED] Mtr 925013B	0.70%
4/5/2011	[REDACTED]	0.70%
4/6/2011	Mtr 287836	0.70%
4/7/2011	S/O Pass Rd W/O West Butte	0.70%
4/18/2011	[REDACTED] Mtr#4034332	0.70%
2/8/2013	[REDACTED]	0.70%
2/9/2013	[REDACTED] Mtr#52903939	0.70%
2/9/2013	South of Rd S on Rd W. Mtr#39627192	3.00%
2/9/2013	N/O [REDACTED] Mtr#4817427X	6.00%

1.2 PG&E's Work Procedure WP4110-05 Leak Survey Procedures for Gas Transmission, Section D.1. states in part:

"The leak surveyor is responsible for documenting each leak survey on the sign-off sheet."

The purpose of the sign-off sheet is to provide evidence of the following items for every segment of pipe within a pipeline group:

The model and serial number of the instrument used to survey each pipe segment within the pipeline group."

The District performed leak surveys at Sutter Calpine Station on 2/5/13, 2/15/12, and 2/25/11 using a Remote Methane Leak Detector (RMLD). The District did not document the serial number of the survey instrument on the leak survey records.

1.3 PG&E’s Work Procedure WP4110-05 Leak Survey Procedures for Gas Transmission, Section D.2.h. states:

“Leak survey supervisors must review leak surveys assigned to their headquarters and conducted by their direct reports, contractors, or temporary employees. After completing the survey and document review, record the reviewer LAN ID and initial the entry.”

The District did not document the reviewer LAN ID or supervisor signature on page 2 of 2 of the Sutter Calpine Station Gas Transmission Station Leak Survey Report dated 2/5/13.

1.4 PG&E’s Work Procedure WP4540-01 District Regulator Station Maintenance, Section II.A.3. states in part:

“Using an approved analog or digital differential pressure gauge, perform a filter differential pressure test and record the pressure reading. If the differential pressure is 2 pounds per square inch (psi) or greater, the filter element must be inspected and immediately changed out if necessary.”

The District recorded the Filter Differential at Fell Station L-136, Location C-05 River Rd. Ord Bend/Chico as being significantly over 2 psi in 2012 and 2013 as indicated in Table 3. The District provided no documentation of remedial action.

Table 3: Filter Differential Readings at Fell Station

Date	Reg 22		Reg 21	
	As Found (psi)	As Left (psi)	As Found (psi)	As Left (psi)
4/26/2012	560	559.5	560	559.4
4/24/2013	771.4	771.3	764	763.8

1.5 PG&E’s Standard S4131, Selection of Steel Gas Pipeline Repair Methods – Attachment 1, page 9, states that a mechanical clamp *“May be used without welding for a pinhole corrosion leak only and shall be welded under other conditions.”*

The District documented a leak (leak number 96-13-22001-B) caused by a weld failure on 3/8/13. The leak was not a pinhole corrosion leak, yet documentation indicates that the District did not weld the clamp onto the pipe as required.

1.6 PG&E’s Standard O-16, Corrosion Control of Gas Facilities, page 14, states in part:

9. Internal Corrosion

“All electrical resistance probe readings should be taken and logged at monthly intervals, but not to exceed an interval of 90 days, for the life of the system or until the probe is retired from service.”

1.6.1 The District exceeded both the monthly interval and 90 day interval requirement for taking electrical resistance probe readings at three locations, as listed below in Table 4.

Table 4: Locations Where Readings Exceeded the 90 Day Interval

Location	Reading Gap	Interval (days)
██████████ @ MU 2-1	2/1/12 - 4/5/13	429
N/of ██████████ @ Line Marker	1/21/10 - 3/1/13	1135
██████████	2/9/10 - 4/11/13	1157

1.6.2 The District routinely exceeded the monthly interval requirement for taking electrical resistance probe readings. The District routinely took readings once every two months rather than once every month. For example, the District performed readings at W/O rd. 8 120' S/TSM1-1 in July, September, and November of 2011.

1.7 PG&E's Gas Information Bulletin TD-4430B-001, page 2, states in part:

"All emergency valves found inoperable must be restored to service within 12 months of the finding, or obtain written documentation that the valve is no longer needed."

The District restored two valves to service, shown in Table 5, on L-167 MP13 over 12 months after the District found the valves to be inoperable. The District provided no written documentation indicating that the valves were no longer needed.

Table 5: Valves Inoperable for over 12 months

Valve	Date Found Inoperable	Repaired Date	Interval (months)
V-A	3/16/2010	1/10/2012	> 21
V-B	3/16/2010	3/13/2013	> 35

1.8 PG&E's Standard H-70, Pressure Relief Devices, page 3, states in part:

"In addition to annual capacity testing, the capacity of relief devices shall be verified immediately when changes are made which could affect the ability of the relief valve to protect the system."

The District reduced downstream MAOP from 975 psig to 800 psig at the following locations listed in Table 6. The District did not verify immediately the capacity of the relief devices when changes (reduction in MAOP) could affect the ability of the relief valves to protect the system.

Table 6: Relief Valve Locations and Date of Downstream MAOP Reduction

Location	Line	Year
██████████	L-302	2013
Station 33-34-2		
██████████ #11		

2 Title 49 CFR §192.201 states in part:

“(a) Each pressure relief station or pressure limiting station or group of those stations installed to protect a pipeline must have enough capacity, and must be set to operate, to insure the following:

(2) In pipelines other than a low pressure distribution system:

(i) If the maximum allowable operating pressure is 60 p.s.i. (414 kPa) gage or more, the pressure may not exceed the maximum allowable operating pressure plus 10 percent or the pressure that produces a hoop stress of 75 percent of SMYS, whichever is lower,”

2.1 The District’s Self-Contained Relief Valve Maintenance Record, TD-4430-02-F06, for Durham Field, L-136, states an MAOP of 550 psig. The District set its relief valve protecting the system at 800 psig for two weeks from 10/15/12 to 11/1/12. The District did not set to operate its relief valve within the allowable limit established by Title 49, CFR §192.201.

2.2 On PG&E’s *Capacity Review of Relief Device at Gas Gathering Receipt Point* Form, PG&E compares the maximum production delivery to the maximum calculated relief capacity. PG&E defines adequate capacity as when the maximum production delivery does not exceed the maximum calculated relief capacity. The District did not have adequate capacity, (i.e. the maximum production delivery did exceed the maximum calculated relief capacity at the following locations shown in Table 7). The District did not provide documentation of any corrective measures.

Table 7: Locations with Relief Valves of Inadequate Capacity

Location	Date	Max Production Delivery (MMcfd*)	Max Relief Valve Capacity (MMcfd*)
█ 1-4	March 2012	1.089	1
	April 2012	1.087	
█ #70-5	Feb 2012	4.531	4.1
█ #1	Jan 2011	10.311	4.1
	Feb 2011	10.839	
	March 2011	7.047	
	April 2011	4.81	
	May 2011	4.686	

*MMcfd: Million Cubic Feet Per Day

C. Observations and Concerns

1 Title 49 CFR §192.201(a)(2)(ii) states:

"If the maximum allowable operating pressure is 12 p.s.i. (83 kPa) gage or more, but less than 60 p.s.i. (414 kPa) gage, the pressure may not exceed the maximum allowable operating pressure plus 6 p.s.i. (41 kPa) gage"

PG&E's most recent TD-4430P-02-F07 Package Regulator/Relief Valve Maintenance Record for Fell Station, System V-20 Supply, with supervisor approval dated 5/1/13, lists the MAOP as 50 psig and the maximum permissible relief set pressure as 60 psig. According to Title 49 CFR §192.201(a)(2)(ii), the relief should be set at no greater than MAOP plus 6 psi, i.e. 56 psi, and documentation should reflect as such.

- 2 The "Gas Transmission Meridian District Station Routine" form, TD-4430P-02, leaves a blank spot to record the odorometer reading. An odorometer reading is not necessary since these forms are to document data at injection points. Regardless, employees have been listing odorometer readings, though not always accurately. For example, the form for Sutter Calpine, dated 1/8/13, lists the odor intensity reading as "4".
- 3 [REDACTED] Station's Gas Transmission Station Leak Survey Report requires a check mark for conditions found to be satisfactory. Years 2011 and 2012 are consistent with the use of check marks. In 2/5/13, for tabs (A) Landslides or threatened slides and (B) Erosion by streams, wave action, rain, or other natural causes, PG&E indicated X-marks. Even though check-marks indicate a satisfactory condition, one may conclude that X-marks indicate an unsatisfactory condition. Only after conferring with a District representative was it indicated that X-marks did not signal an issue.
- 4 Relief Valve Maintenance records and capacity reviews for [REDACTED] #1 were incorrectly labeled as being a part of L-400 instead of L-318.
- 5 The District listed three different line numbers for the same facility. Self-Contained Relief Valve Maintenance Record for February, states "[REDACTED] #28-1 System L-169". The Capacity Review of Relief Devices at Gathering Receipt Points Form states "[REDACTED] 28-1 Pipe Line Number 193". The Capacity Review of Relief Device at Gas Gathering Receipt Point Form states "Pipe Line Number supplied by facility: 199".
- 6 Dehydrator Station Inspection Form footnotes explains that "inlet minus outlet equals removed", referring to the water content. The numbers do not add up on the form for the Sprague 2012 L-169 Glycol Dehydrator. For example, on January 2012, the District recorded inlet as 8, the outlet as 3, but the water removed as zero.
- 7 During the field inspection at Henshaw Regulator Station, SED observed that a section of pipe (approximately 8 feet in length) consisted of unpainted aboveground pipe. The District should clean and coat the pipe before atmospheric corrosion has a chance to develop.
- 8 As a District employee was venting gas during a regulator maintenance A-inspection, SED noticed that the nearest fire extinguisher was located somewhere in the vehicle's compartment nearly 30 feet away from the venting. After questioning several employees, it became clear that not everyone knew where the fire extinguisher was located on the truck. SED recommends that the District keep a fire extinguisher nearby, fully exposed, and readily accessible when venting hazardous amounts of gas to the atmosphere.