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

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE

SAN FRANCISCO, CA 94102-3298

December 23, 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

GA2013-19

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

Dear Ms. Yura:

On behalf of the Safety and Enforcement Division (SED) of the California Public Utilities Commission, Terence Eng, Alula Gebremedhin, Quang Pham, Balraj Sandhu, and Nathan Sarina conducted a General Order 112-E audit of Pacific Gas & Electric Company's (PG&E) Hinkley District (District) from September 9-13, 2013. The audit included a review of the District's operation and maintenance records for the years 2009 through 2012, as well as a representative field sample of the District's facilities. SED's findings are 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
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Dennis Lee, SED
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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). Table 1 lists all of the violations that PG&E noted.

SED is aware that PG&E corrected some of its findings prior to SED's audit. Please provide SED an update on the items that were still pending corrective actions as of October 9, 2013.

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

Topic	Code	Finding	Instances	Corrected?
	192.13(c)	Outdated valve cards were used.	Not specified	Yes
	192.13(c)	Actuator maintenance forms were not being utilized for all valve actuators.	Not specified	Yes
Emergency Valves	192.13(c)	Valve cards were missing supervisors' reviews.	11	Yes
	192.13(c)	Additions & corrections were made with no initials.	36	Yes
	192.605(a)	Valves did not get lubed during the annual or semi-annual maintenance.	10	Yes
	192.745	Valves were not operated during annual or semi-annual maintenance, maintenance completely missed, and/or maintenance was completed outside the 15 month window.	67	Yes
	192.13(c)	Valves were listed as hard to operate with no work requests associated with them.	6	Yes
	192.13(c)	Valve cards were missing pressure rating.	2	To be completed by 11/29/13
Station Maintenance	192.605(a)	O&MI Log for Pisgah missing 2011 & 2012 OM&I review documentation.	2	Yes
	192.605(a)	O&MI Log for Mojave Filter Separator has no 2009-2012 O&MI review documentation.	4	Yes
	192.605(a)	O&MI Log for the Hinkley Compressor Station has no 2009-2012 O&MI review documentation.	4	Yes
	192.13(c)	K-10 RV-260J and K-12 RV-260L are missing 2011 normal reset pressure maintenance documentation on the relief valve maintenance forms.	2	Yes
	192.13(c)	K-10 RV-260J and K-12 RV-202L: The 2011 & 2012 maintenance is documented on outdated forms.	4	Yes
	192.13(c)	Victorville B tap 2012 maintenance documents are missing supervisor's review.	1	To be completed by 9/30/13

Table 1 (continued)

Topic	Code	Finding	Instances	Corrected?
Odorization	192.603(b)	Incomplete and/or inaccurate odorization was documented.	40	To be completed by 11/29/13
Patrols	192.13(c)	Aerial Patrol Report indicates pilot observations with no follow-up actions documented.	1	Yes
Cathodic Protection	192.603(b)	Annual site evaluation forms for rectifiers HNCPA0480 (carpenter shop) and HNCPA0490 (B-Tower large rectifier) for 2009-2012 are missing.	8	Yes
	192.13(c)	Action Plans for L-300A M.P. 180.64A, L-300B M.P. 175.17B, L-314 M.P. 35.55 and L-300A M.P. 186.09A are out of compliance due to >30 day review periods.	4	Yes
	192.13(c)	Action Plan for M.P. 197.13A BDV is missing the action plan update, review Lan IDs, and initials.	1	To be completed by 10/31/13
Spans	192.13(c)	L-300A M.P. 120.95 - 146.41 span inspection record has corrections that are not initialed.	1	Yes
	192.13(c)	2011 L-300A M.P. 108.39 - 226.67 & 2012 L-300A M.P. 120.95 - 148.60 span inspection records are missing supervisor's reviews.	2	Yes
	192.603(b)	2009 L-300A span inspections were not documented on the span inspection forms.	9	Yes
	192.603(b)	2011 L-300B span inspection records are missing five inspection forms and the 2012 L-300B span inspection records are missing six inspection forms.	11	Yes
Leak Survey	192.13(c)	During 2009 through 2012, leaks were rechecked late.	106	Yes
	192.13(c)	Three leak repairs were missing repair information and/or had incomplete form.	3	To be completed by 11/29/13

Table 1 (continued)

Topic	Code	Finding	Instances	Corrected?
Equipment Calibrations	192.13(c)	Weekly calibration check of flame ionization unit 1500832004 was missing readings in 2009 for Oct, Nov, & Dec with no notes indicating why.	3	To be completed by 11/29/13
	192.13(c)	Unit 1500832005 was missing data in several months in 2009 and 2010 with no notes indicating that it was not in use.	Not specified	To be completed by 11/29/13
	192.13(c)	Unit 9866 has no May-Dec 2012 data and no notes indicating why. Also missing data for Dec 2011, [Sept, Oct & Dec 2010] & [Oct & Dec 2009].	14	To be completed by 11/29/13
	192.13(c)	Unit 9918 has no May-Dec 2012 data and no notes indicating why. Also missing Dec 2009 data & weekly dates for Jan, Feb and March.	12	To be completed by 11/29/13
	192.13(c)	Unit 8000639001 has no Oct-Dec 2010 data. Unit appears to have been taken out of service but there are no notes indicating that.	3	To be completed by 11/29/13
	192.13(c)	No Multi-meter Manufacturer / Model or Serial Numbers on the Calibration Check of Copper-Copper Sulfate Reference Electrodes forms.	8	To be completed by 11/29/13

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 M-50.3 Verifying the Calibration of Portable Combustible Gas Indicators, Hydrogen Flame Ionization Units, Optical Methane Detectors, and Remote Methane Leak Detectors states in part:

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

The District recorded a reading of 106 parts per million (ppm) on Detecto-Pak 4 (DP4) Serial number 1500832004 on 04/08/2012, outside of the calibration limit (95-105 ppm). The District failed to send the instrument to an approved service provider for adjustment or repair.

1.1.2 Page 1: *"Check the calibration of regularly used 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."*

The District failed to calibrate the following RGI-201 Combustible Gas Indicators (CGI) during the indicated months, as listed in Table 2.

Table 2: CGIs with Missed Calibration

Serial Number	Month(s)
1115-060841	Aug, Oct, Nov, Dec of 2011
1120-060996	Aug 2011, Apr 2012
1120-060999	Aug 2011

1.1.3 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 failed to calibrate Remote Methane Leak Detector (RMLD) Serial number 8000639001 weekly during the indicated months, as listed in Table 3.

Table 3: RMLD with Missed Calibration

Year	Months
2009	Jan, Feb, Mar, May, Jun, Sep, Oct, Dec
2010	Each month except for Oct
2011	Jan, Feb, Mar, Apr, Jul, Sep

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

1.2.1 Page 1 (Verification Procedure): *"Perform this procedure and document it on Attachment A:*
A. Once each calendar month"

The District failed to calibrate the following Metrotech 9890 XT line locators during the indicated months listed in Table 4.

Table 4: Line Locators with Missed Calibration

Serial Number	Months
17464	2011: Jun; 2012: Nov, Dec
22128	2011: Jun; 2012: Jun, Oct, Nov
22191	2012: Jun, Nov
22753	2011: Jan, Aug, Sep, Oct, Nov; 2012: Feb, Jun, Nov
23072	2012: Jun, Oct, Nov
23746	2012: Jun, Sep, Nov
50972	2011: Dec; 2012: Jun, Jul, Aug, Sep, Nov
50973	2011: Dec; 2012: Feb, Mar, Jun, Jul, Aug, Sep, Oct, Nov, Dec

1.2.2 Page 2: *"17. Conduct a three-part test to verify the calibration.*

A. Evaluate the signal strength....

(3) Record the signal strength on Attachment A."

The District failed to record the baseline signal strength for the following Metrotech 9890 XTs on the line locator forms for the following years listed in Table 5.

Table 5: Line Locators with Missed Baseline Strength

Serial Number	Year(s)
17464	2012
22128	2012
22191	2009, 2012
22753	2009, 2010, 2011, 2012
23072	2012
23746	2009, 2010, 2011, 2012
50972	2012
50973	2012

1.3 PG&E's Standard O-16, Corrosion Control of Gas Facilities states in part:

1.3.1 Page 7: *"A "Rectifier Test and Site Evaluation" form (Attachment A of Numbered Document O-11.1, Form FO-11.1-A) shall be completed to ensure that rectifiers are functioning correctly and that there are no safety violations."*

Form FO-11.1-A implies that if PG&E finds the ground resistance to be above 25 ohms, it is required to verify the integrity of all grounding connections.

The District annually documented ground resistance readings of greater than 25 ohms at the following rectifier locations listed below, but failed to verify the integrity of all grounding connections.

a. Serial # 85J1173 on L-300 @ Milepoint (MP) 214.52 since 03/2009
b. Serial # 941263 on L-314 @ MP 35.5 since 06/2009
c. Serial # 941265 on L-300B @ MP 150.01 from 07/2010 to 10/2012.
d. Serial # 101618 on L-314 @ MP 10.69 since 01/2011
e. Serial # 962134 on L-314 @ MP 28.00 since 08/2011
f. Serial # 091292 on L-313 @ MP 21.5 since 08/2011

1.3.2 Page 7 (Rectifier Monitoring and Maintenance): *"If corrective work is expected to take more than 30 days to complete, a written action plan must be created and kept current using the "CPA Follow-Up Action Plan" form (Attachment B). Active action plans shall be kept with the "Rectifier Test and Site Evaluation" form."*

a. The District found that the following 2 rectifiers listed in Table 6 required corrective work expected to take more than 30 days to complete, but failed to create a written action plan for either rectifier.

Table 6: Rectifiers with no Written Action Plan

Facility ID	Milepoint	Inadequate Date	Restore Date
HNCPS0470	130	7/8/2011	3/4/2012
HNCPS0370	160.86	11/2/2011	3/4/2012

b. The District found Rectifier L-313 MP 21.67 unable to output amperage beginning January 2013. During SED's field visit, the District confirmed that the rectifier was still down – it recorded the output amperage at 0.001A. The District failed to create an action plan within 30 days of discovery.

1.3.3 Page 11-12 (Cathodic Protection Restoration for Backbone Transmission and Gathering Lines): *"If the CPA restoration work is (or is expected to be) over 60 days, the "CPA Follow-Up Action Plan" form (Attachment B or equivalent) must be used and developed within 60 calendar days from the date the CPA is found below adequate levels of protection, as defined by the current 49 CFR 192, Subpart I.*

a. The District found Hinkley Comp Station, MP 160.1 (A-intake), to have inadequate levels of cathodic protection in November 2012. The District created an action plan June 2013, failing to meet the 60 day requirement. SED confirmed the area was still down during its field visit – when it observed the District record a pipe-to-reading of -.422V.

b. The District found that the nine test points listed in Table 7 required remediation, but failed to create an action plan for each Cathodic Protection Area (CPA).

Table 7: Test Points in CPA Areas with no Action Plan

Facility ID	Milepoint	Inadequate Date	Restore Date	Interval (days)
HNCPS3350	112.97	11/23/2010	2/15/2011	84
HNCPS4040	170.62	11/26/2011	11/26/2012	366
HNCPS4230	192.31	11/17/2010	1/7/2012	416
HNCPS5730	202.98	11/17/2010	3/28/2011	131
HNCPS5730	202.98	11/28/2011	4/23/2012	147
HNCPS5740	203.06	11/17/2010	3/28/2011	131
HNCPS6000	203.06	11/28/2011	7/23/2012	238
HNCPS5750	203.07	11/17/2010	3/28/2011	131
HNCPS5800	210.64	11/17/2010	3/28/2011	131

c. The District failed to create action plans within 60 days for CPAs with inadequate levels of cathodic protection as shown in Table 8.

Table 8: Late Creation of Action Plans

Line Number	Milepoint	Inadequate Date	Date of Action Plan	Interval (days)
L-300B	175.17	11/26/2011[1]	2/1/2012	67
L-300A	180.64	11/9/2008	2/25/2009	108
L-300A&B	180.9	11/9/2008	2/24/2010	472
L-300A	186.09	11/18/2010[2]	2/1/2012	440
L-300A	197.13	11/27/2011	10/4/2012	312

1.3.4 Page 12: *"The action plan shall be updated in intervals not exceeding 60 calendar days by an employee knowledgeable of the restoration work and reviewed by the operating supervisor, until the CPA restoration work is completed and the CPA shows adequate levels of protection. If the action plan exceeds 120 days, the action plan needs to be reviewed and approved by corrosion engineering personnel, area superintendent, and manager of technical services within 150 days."*

a. The District created an action plan for a CPA with inadequate levels of cathodic protection. The District failed to review the action plan within 60 calendar days as indicated in Table 9.

Table 9: Late Action Plan Review

Line Number	Milepoint	Date of Action Plan	Dates Between Updates	Interval (days)
L-300B	175.17	2/1/2012	8/4/12-11/26/12	114

1.3.5 Page 15: *"Aboveground pipeline facilities shall be inspected for atmospheric corrosion annually. The inspection and action taken shall be documented according to the appropriate numbered documents."*

The District failed to inspect the following L- 300A pipeline spans for atmospheric corrosion in 2012.

a. MP 222.16
b. MP 223.79
c. MP 229.36
d. MP 226.55

1.4 PG&E's Standard O-71 Copper-Copper Sulfate Reference Electrodes states in part:

[1] Actual date the test point was down was on 11/26/11, not 1/29/12 as shown on the action plan
[2] Actual date the test point was down was on 11/18/10, not 1/21/12 as shown on the action plan

Page 2: *"Check each reference electrode for calibration four times each calendar year, not to exceed 4-1/2 months."*

The District failed to calibrate the following MCM RE-5C copper-copper sulfate reference electrodes at least four times a year during the years listed in Table 10.

Table 10: Copper-Copper Sulfate Reference Electrodes with Missed Calibration

Identifier	Year
Cruz	2012
Goff	2011, 2012
Schmitt	2012
Segesman	2011, 2012

1.5 PG&E's Utility Procedure TD-4110P-09, Leak Grading and Response, page 11, states in part:

"Recheck Grade 3 leaks during the next scheduled survey."

Furthermore,

Title 49 CFR §192.706 states in part:

"Leakage surveys of a transmission line must be conducted at intervals not exceeding 15 months, but at least once each calendar year."

a. The District checked Grade 3 leak number 10-30035-1 on 4/27/11 and subsequently on 8/10/12, spanning an interval of over 15 months. The District failed to recheck this leak during the leak survey that took place between the two dates.

b. The District checked Grade 3 leak number 10-88373-4 on 11/7/10 and subsequently on 8/9/13, spanning an interval of over 15 months. The District failed to recheck this leak during the leak survey that took place between the two dates.

1.6 PG&E's Utility Procedure TD-4412P-07, Patrolling Pipelines and Mains dated August 2012, section 4.2.1.b on Page 11 states in part:

"Follow-up actions to aerial observations may require additional documentation. See Section 4.2.4.b. for details."

4.2.4.b states in part:

"Investigations of Aerial Observations

When an aerial observation is reported to the M&C supervisor, the M&C supervisor must respond in one of two ways:

EITHER

- *The M&C supervisor provides a copy of documentation illustrating that the aerial observation does not require additional follow-up, attaches this documentation to the completed "Aerial Patrol Report," and provides this documentation to the PPPO as soon as practicable,*

OR

- *The M&C supervisor dispatches a targeted ground patrol as soon as practicable (given the urgency of the response required) to investigate the area observed by the aerial patrol pilot.*
- *When targeted ground patrols are conducted, they should be sufficient enough in scope to account for the aerial approximation of the observation's location on the ground.*
- *Follow the standard procedure for routine ground patrol within the area determined necessary for patrol."*

While performing an aerial patrol on Nov. 14, 2012, the District noted indications of excavation on its Line 300B right-of-way. The District failed to respond to the observation in accordance with PG&E's procedure.

1.7 PG&E's Utility Work Procedure WP4540-01 District Regulator Station Maintenance states in part:

Page 13: "*B. Supervisors must review and approve all records for work performed at each district regulator station within 30 days of completion of maintenance.*"

The District failed to review the following records of maintenance performed at regulator station Barstow "D" 154.70A within 30 days of completion, as shown in Table 11.

Table 11: Late Supervisor Review of a District Regulator

Maintenance Date	Supervisor Review Date	Interval (Days)
11/5/2009	8/21/2013	1385
11/6/2009	11/20/2010	379

1.8 PG&E's Utility Work Procedure TD4540-04 Pilot-Operated Regulator Station Maintenance (Outlet Pressure > 60 psig) states in part:

1.8.1 Page 12: "*E. On the back of Form TD-4540P-04-F02, show any corrective work that was done. This corrective work may include the following:*
Any regulator, monitor, or relief valve set point changes. Specify the reasons for the changes.

According to PG&E's Form TD-4540P-04-F02 for regulator station Barstow A (Barstow MP 151.06A), the District found the regulator set to operate at 205 psig

on 1/13/11. The District subsequently left the regulator to operate at a set-point of 115 psig on the same day, while failing to specify a reason for the change on the form.

1.8.2 Page 12: *"F. On the back of Form TD-4540P-04-F02, note the reasons for any maintenance record items whose results are "no," "poor," or "fail" on the front of the form."*

According to PG&E's Form TD-4540P-04-F02 for regulator station Barstow A (Barstow MP 151.06A), the District noted that the regulator was unable to lockup on 1/13/11, yet failed to note the reason.

1.8.3 Page 13: "*B. Supervisors must review and approve all records for work performed at each district regulator station within 30 days of completion of maintenance."*

The District failed to review pilot-operated regulator maintenance records listed within 30 days of completion. Examples are as listed below in Table 12.

Table 12: Late Supervisor Review of Pilot-Operated Regulators

Location	Maintenance Date	Supervisor Review Date	Interval (Days)
Trona Tap MP 180.64A	8/19/2011	8/21/2013	733
Lucerne Tap	11/8/2011	2/6/2013	456
Mojave Meter 218.73A	2/6/2012	8/21/2013	562
Harper Lake	2/12/2012	3/22/2013	404
Victorville 'G'	4/27/2012	8/25/2013	485
N-74 Big Bear "B"	5/4/2012	8/21/2013	474
Mojave Meter 218.73A	2/4/2013	6/13/2013	495
Rabbit Spring V.V."E"	2/8/2013	8/21/2013	194

2 Title 49 CFR §192.731(a) states in part:

"Except for rupture discs, each pressure relieving device in a compressor station must be inspected and tested in accordance with 192.739 and 192.743"

The District failed to evaluate the following regulators listed in Table 13 within the required 15 month interval.

Table 13: Late Inspections of Compressor Station Regulators for the Fuel Gas System

Tag	Dates between Inspections	Interval (months)
PCV-201L	7/9/2010 - 12/7/2011	16+
PCV-202	7/9/2010 - 12/7/2011	16+
PCV-204	7/9/2010 - 12/7/2011	16+
PCV-206	7/9/2010 - 12/7/2011	16+

3 Title 49 CFR §192.743(a) states:

"Pressure relief devices at pressure limiting stations and pressure regulating stations must have sufficient capacity to protect the facilities to which they are connected. Except as provided in §192.739(b), the capacity must be consistent with the pressure limits of §192.201(a). This capacity must be determined at intervals not exceeding 15 months, but at least once each calendar year, by testing the devices in place or by review and calculations."

During the Conditional Reduction in Operating Pressure (CROP) at the Hinkley Regulator Station discharge in 2011, the District reduced downstream Maximum Operating Pressure (MOP) from 900 psig to 741 psig. The reliefs for K-1 through K-12 were set to operate at 746 psig during the CROP in 2011. The District failed to perform capacity calculations in 2011 to ensure adequate relief valve capacity at 746 psig.

During the audit, the District performed the calculation to show that the relief valves at K-1 through K-10 had adequate capacity to ensure 746 psig downstream during the CROP. However, the District calculated that the relief valves at K-11 and K-12 did not have adequate capacity during the CROP.

4 Title 49 CFR §192.745(a) states:

"Each transmission line valve that might be required during any emergency must be inspected and partially operated at intervals not exceeding 15 months, but at least once each calendar year."

a. The District failed to operate Valve 1 at Barstow D tap in 2011.

b. The District failed to operate Valve 222.32A in 2012.

c. The District last operated Valves at PLS 2AX and 2BX on 5/23/2012. The District failed to operate the valves within 15 months in 2013.

d. The District last operated Valve 192.36A on 2/10/2012. The District failed to operate the valves within 15 months in 2013.

C. Observations and Concerns

1. Although PG&E's procedures do not explicitly state a timeframe for when supervisors are required to conduct reviews for rectifiers, it is logical to assume that the review should be conducted prior to the next inspection. The District performed annual inspections of the six rectifiers listed above in 1.3.1 as far back as 2009, but failed to perform supervisor reviews until 2013. Please provide an explanation.

2. During SED's field visit to L-300A MP 197.13, the District recorded a pipe-to-soil of -.719V. Please advise SED on the status of the cathodic protection at this location.

3. During SED's field visit to pipeline span L-300B MP 222.25, SED discovered what appeared to be a longitudinal weld approximately four inches in length that was missing a cover bead; the weld was approximately flush with the pipe. Please provide an explanation.

4. During SED's field visit to L-314 MP 35.55, the District recorded a pipe-to-soil potential of -2.417V (more negative than -1.600V due to interference from a SoCal Gas rectifier) and an Instant off of -1.783V (more negative than -1.200V). Please provide an explanation.

5. During SED's field visit to the Hinkley Compressor Station control room, access into the control room required no identification or security check. Please provide an explanation.

6. During SED's field visit to the Hinkley Compressor Station control room, the control room was unmanned during normal working hours. Please provide an explanation.