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

September 24, 2013

Ms. Jane Yura GA2013-09
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 Tracy and McDonald Island Districts

Dear Ms. Yura:

On behalf of the Safety and Enforcement Division (SED) of the California Public Utilities Commission, Terence Eng, Alula Gebremedhin, Michelle Wong, and Carolina Contreras conducted a General Order 112-E audit of Pacific Gas & Electric Company's (PG&E) Tracy and McDonald Island Districts from June 3 through 7, 2013. The audit included a review of both Districts' operation and maintenance records for the years 2009 through 2012, as well as a representative field sample of both Districts' 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,

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 (Tracy District)
- C. Observations and Concerns (Tracy District)
- D. Audit Findings and Violations (McDonald Island District)
- E. Observations and Concerns (McDonald Island District)

cc: Frances Yee, PG&E Gas Engineering and Operations
Larry Berg, PG&E Gas Regulatory Support
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SUMMARY OF INSPECTION FINDINGS

A. PG&E's Internal Audit Findings

Prior to the start of the June 3-7, 2013 audit, PG&E provided SED its findings from the internal review it conducted of both Tracy and McDonald Island Districts. 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). Tables 1 and 2 list violations found within Tracy and McDonald Island Districts, respectively.

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 June 7, 2013.

Table 1 Findings from PG&E's Tracy District Internal Review dated June 2013

Topic	Code Violation	Finding	Instances	Completion Date
Emergency Valves	192.13(c)	Outdated valve cards were used	Not Specified	1/1/2013
	192.13(c)	Missing data in the description section on valve maintenance cards	Not Specified	12/12/2012
	192.13(c)	Actuator maintenance forms are not being utilized for all valve actuators	Not Specified	1/1/2013
	192.13(c)	V-1 L-114 MP 12.53 was identified as hard to operate. However, the valve card had comments indicating that the valve will not operate. In addition, work request 185307 also indicates that the valve will not operate.	1	5/20/2013
Station Maintenance	192.13(c)	On 3 occasions, responses to issues found by contactor were written in pencil on the Aerial Patrol reports.	3	5/21/2012
	192.13(c)	Incomplete data on the leak survey reports.	Not Specified	5/21/2012
	192.13(c)	Incomplete form for a leak repair. The check box for soap test was not checked off.	1	1/28/2012
Cathodic Protection	192.465(b)	In 2011, the district did not complete the annual rectifier site evaluations at 39 locations in accordance with PG&E Work Procedure O-11.1.	39	11/30/2012
Odorization	192.13(c)	Martin Severin odorization report was missing the employee LAN ID and didn't identify percent & gallons.	1	2/27/2013
Patrols	192.13(c)	L-304, Span at MP 4.67 was identified to have corrosion, bad transitions, and sagging	1	Line shut in, scheduled to be retired

Table 2 Findings from PG&E's McDonald Island District Internal Review dated June 2013

Topic	Code Violation	Finding	Instances	Completion Date
Emergency Valves	192.13(c)	Incomplete data in the description section of the valve cards	Not Specified	Ongoing
Station Maintenance	192.13(c)	Outdated forms used for capacity reviews of relief valves.	Not Specified	2010
	192.13(c)	Outdated valves cards being used	Not Specified	1/1/2013
	192.13(c)	Actuator maintenance forms not being used for all actuators	Not Specified	1/1/2013
	192.13(c)	When PRV-53 was put in service it was not entered into the PLM program.	1	5/31/2013
	192.739(a)	PRV-1M12 and PRV-3M10 have no annual maintenance documented for 2011.	2	2/12/2012
	192.13(c)	OM&I Review Change Logs were not completed for the annual OM&I reviews	Not Specified	2/22/2013
	192.13(c)	V-40 2009 maintenance records and V-47 2009 and 2010 records were recorded in PLM, not the valve maintenance cards.	3	5/8/2013
	192.13(c)	McDonald Island valve lot V-80 and V-81 2012 maintenance records were recorded in PLM, not the valve maintenance cards.	2	5/8/2013
	192.13(c)	Exterran owns, operates, and maintains several compressors at PG&E's McDonald Island storage facility. PG&E has conducted reviews of Exterran's records, revealing potentially missing or inaccurate Operator Qualification and maintenance data required under the terms of PG&E's contract with Exterran.	Not Specified	Investigation Ongoing
Odorization	192.13(c)	Odorization volumes were being calculated incorrectly and the current odorization form was not being used.	Not Specified	11/15/2012
Patrols	192.13(c)	L-57C to Palm Tract survey was completed in pencil	1	5/3/2012
Cathodic Protection	192.13(c)	For L-057 Rectifier for #9 Well the action plan was missing some 2012 review dates.	1	2/26/2013

B. Audit Findings and Violations (Tracy District)

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 Work Procedure WP4430-04, Gas Valve Maintenance Requirements and Procedures dated March 2009, p.18 states in part:

"Record valve maintenance on the appropriate "Valve Maintenance Record."

1.1.1 The Tracy District documented its 6/29/10 and 10/31/11 operations of L-401 Bixler Cross Tie Valve 308.31 on its valve maintenance card, appearing to exceed the 15 month interval established by 49 CFR §192.745. According to PG&E's Pipeline Management System (PLM), the Tracy District operated the valve on 5/2/11, but did not document the results on the valve maintenance card.

1.1.2 The Tracy District documented its 1/6/10 and 7/10/12 operations of Old River Pressure Limiting Station Valve No. 5R Reg/Trimmer on its valve maintenance card, appearing to exceed the 15 month interval established by 49 CFR §192.745. According to PG&E's PLM, the Tracy District operated the valve on 7/12/10, 1/3/2011 and 7/15/11, but did not document the results on the valve maintenance card.

1.2 PG&E's Standard O-71, Copper-Copper Sulfate Reference Electrodes dated May 2006, Calibration for Crystal and Gel Electrodes tab states in part:

P.2, item 7: *"Usually, the difference between the standard electrode and tested electrode is less than 10 millivolts when both electrodes are at the same temperature. If this difference equals or exceeds 10 millivolts, discard the reference cell solutions, rinse out the tube with distilled water, and refill it with a fresh solution and new copper sulfate crystals. Clean the copper rod with a non-conductive abrasive until the surface is bright and shiny, as detailed in the "Maintenance" section, Item 5."*

P.3 item 8: *"If the cell will not calibrate correctly after performing the seven steps above, discard the cell and its contents. Consider all material used in this clean-up process as hazardous waste and dispose of it properly. Contact a local hazardous waste coordinator for information about disposal containers and disposal procedures."*

The Tracy District recorded an electrode reading difference of 11.5mV on test electrode serial number #69, PG&E ID number 1-6-11, on 4/4/11. The Tracy District provided no indication of proper handling to address the unacceptable calibration result.

1.3 PG&E's Standard O-16, Corrosion Control of Gas Facilities dated March 2009, Rectifier Monitoring and Maintenance tab, p.7 states in part:

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

1.3.1 On 1/25/11, the Tracy District performed rectifier testing of rectifier 122, L-131 at Dagnino MP 28 in the city of Livermore. The Tracy District did not include the required supervisor signature on the Rectifier Test and Site Evaluation Form.

1.3.2 In 2009, the Tracy District performed rectifier testing of Rectifier 26 SP at Armstrong Rd in the city of Byron. The Tracy District did not include the required supervisor signature, mechanic signature, or dates on the Rectifier Test and Site Evaluation Form.

1.4 PG&E's Utility Procedure TD-4110P-09, Leak Grading and Response dated September 2010, Grade 2+ (Priority Grade 2) Gas Leaks tab on p.7 states in part:

"A Grade 2+ leak is non-hazardous to persons or property at the time of detection, but still requires a scheduled priority repair within 90 days or less."

The Tracy District discovered a Grade 2+ leak (Leak Number 98-09-05704-1) on 4/20/09. The Tracy District repaired the leak in December of 2010, outside of the required 90 day interval.

2. 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."

2.1 The Tracy District did not operate Vernalis Meter Station Valve No. 15 in 2009 or 2010.

2.2 The Tracy District did not operate Livermore Junction Station L-114 Valve No. 40 in 2010 or 2011.

2.3 The Tracy District did not operate Bethany Compressor Station valve V-203 in 2010.

2.4 The Tracy District did not operate Brentwood Terminal valve V-127 in 2012.

2.5 The Tracy District did not operate Brentwood Terminal valve V-126A in 2012.

2.6 The Tracy District operated Bethany Compressor Station valve V-203 on 1/21/11 and subsequently on 10/22/12, outside of the required 15 month interval.

3. Title 49 CFR, §192.745(b) states:

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

The Tracy District found valve V-1 on Line L-57A MP9.45 inoperable in May of 2010 and still inoperable in May of 2011, until finally installing a new replacement valve in 2012. The Tracy District did not take prompt remedial action to correct the valve between May of 2010 and 2012, nor did they designate an alternative valve at first discovery of its inoperability.

C. Observations and Concerns (Tracy District)

1. Tracy District did not lubricate Brentwood Terminal plug valves V-2, V-8, or V-10 in 2009. Tracy District confirmed that all plug valves require lubrication annually per WP 4430-04.

   PG&E's WP 4430-04 Gas Valve Maintenance Requirements and Procedures dated March 2009, p.4 states in part:

   "Gas transmission valves classified as "emergency," gas distribution "critical" main valves, and district regulator station valves, including upstream and downstream fire valves, must be inspected, serviced/lubricated (where required, see the paragraph above), and operated (see Paragraph 3.A., "New Valves") at intervals not exceeding 15 months to the date, but at least once each calendar year. ***If a valve requiring lubrication (all plug valves and ball valves if a positive shutoff cannot otherwise be obtained*** *[emphasis added]. Gate valves do not require lubrication.) is not lubricated regularly, it may become inoperable, not shut off adequately when necessary, or develop external valve stem leakage."*

   The sentence in bold can have the following two different interpretations:

   A) If a valve requiring lubrication ([**all plug valves**] and [**ball valves if a positive shutoff cannot otherwise be obtained**].

   or

   B) If a valve requiring lubrication ([**all plug valves and ball valves**] if a positive shutoff cannot otherwise be obtained.

   Sentence A means that all plug valves require lubrication and ball valves require lubrication only when shutoff cannot otherwise be obtained. Sentence B means that neither type of valve requires lubrication unless shutoff cannot otherwise be obtained. The language in the procedure may be responsible for the lack of lubrication of plug valves. Please confirm the intent of the procedure and ensure consistency throughout PG&E's system.

2. The valve maintenance form for Tracy Station Valve V-111 indicates that it is an emergency valve, yet there is no documentation that the Tracy District maintained the valve after 3/7/11. The Tracy District discovered that PLM describes the valve as non-jurisdictional, therefore annual maintenance is not required. Please explain the discrepancy between PLM and the valve maintenance form.

D. Audit Findings and Violations (McDonald Island District)

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 Work Procedure WP4430-04, Gas Valve Maintenance Requirements and Procedures dated March 2009, p.18 states in part:

"Record valve maintenance on the appropriate "Valve Maintenance Record."

According to PG&E's PLM, the McDonald Island District operated M-3 Valve Lot valves V-80 and V-81 in 2009, but did not document the results on the valve maintenance record.

1.2 PG&E's Utility Procedure TD-4412P-07, Patrolling Pipelines and Mains dated August 2012, section 4.2.1.b on p.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."

The McDonald Island District performed an aerial patrol of lines L-57, L-57B, and L-57C on Sept 24, 2010. The pilot recorded two observations of heavy mechanical equipment on the pipeline right-of-way and indicated that further ground review was necessary. The McDonald Island District did not provide a copy of documentation illustrating that the aerial observation did not require additional follow-up, nor did it dispatch a targeted ground patrol as soon as practicable to investigate the area observed by the aerial patrol pilot.

2. Title 49 CFR, §192.739(a) states:

"Each pressure limiting station, relief device (except rupture discs), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is–
(1) In good mechanical condition;
(2) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed;
(3) Except as provided in paragraph (b) of this section, set to control or relieve at the correct pressure consistent with the pressure limits of §192.201(a); and
(4) Properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation."

2.1 The McDonald Island District did not operate Turner Cut valve PRV-11 in 2011.

2.2 The McDonald Island District operated Turner Cut valve PRV-G16 on 4/16/09 and subsequently on 8/14/10, outside of the required 15 month interval.

2.3 The McDonald Island District operated Turner Cut valve PRV-G17 on 4/16/09 and subsequently on 8/13/10, outside of the required 15 month interval.

2.4 The McDonald Island District operated Turner Cut valve PRV-G21 on 8/18/10 and subsequently on 2/16/12, outside of the required 15 month interval.

E. Observations and Concerns (McDonald Island District)

1. On the Capacity Review of Relief Devices at Pressure Limiting Stations Form GS&S H-70 for Line "Gas Supply – Well Roberts #1", the listed regulator, TESCOM #44-2323-2081 was incorrectly crossed out and replaced with the model number of relief valve 83CM68-8.

2. Documentation of the capacity review for valves PRV-6R2, PRV-4 Z3, and PRV-6Z3 listed values for the regulator wide open capacity (e.g. 25.2 MSCFH). The source of the values is referenced under the "Indicate Catalog Reference or Gas Standard for Capacity" field, which claims "See Calculation Sheet". No Calculation Sheet was included for these 3 valves.

3. The capacity review sheets for PRV-4Z3 do not show a comparison of the wide open capacity of the regulator with the capacity of the relief device to demonstrate sufficient capacity.

4. The capacity review sheets for PRV-4T1 are missing page 2 of Part II of the Capacity Review of Relief Devices form GS&S H-70. The missing page includes vital information such as relief capacity required and adequacy of relief capacity.

5. The capacity review sheets for PRV-3Z3 do not list the regulator model number, calling into the question the correct relief capacity required. In addition, the regulator wide open capacity calculation is missing.

6. The McDonald Island District replaced relief valve 7LM1 in kind (i.e. with one of the same specifications) in March of 2011, did not provide a replacement relief valve calculation or documentation that the valve was replaced in kind.

7. The McDonald Island District recorded cathodic protection readings at Coupon test locations ETS MD57C0060 and ETS MD570040 on 10/25/11. The McDonald Island District recorded an on-value of -1015 mV and an instant-off value of -1071 mV at ETS MD57C0060 and an on-value of -1519 mV and an instant off value of -3506 mV at ETS MD570040. In most circumstances, the instant-off value is less negative than the on-value. Please explain why the McDonald Island District did not conduct further investigation at the time of the discovery.

8. The McDonald Island District found relief valves PRV-3 M10 and PRV-1 M12 "bad" and was unable to verify the relief set pressures of the valves in June of 2011. Please explain why the McDonald Island District did not replace the valves until February of 2012, approximately 8 months later.

9. The McDonald Island District performs atmospheric corrosion checks at well process pipes 9N, 1N, 2N, 4N at Turner Cut Station. For the past four years, the McDonald Island District indicated that the condition of the paint was "not OK" for both the casing and the tubing at these locations. SED observed in the field that the paint on Well Pad McDonald 9, McDonald 14/15, and process pipes at Roberts 1 and 2 showed signs of deterioration. Please explain why the McDonald Island District has not addressed the conditions of poor/lack of paint at these locations.

10. The McDonald Island District keeps track of §192.745-required Emergency Shut-Down (ESD) valve maintenance on valve maintenance forms. The McDonald Island District

cannot always operate these valves when scheduled by PLM due to interference from clearances and withdrawals; therefore, the McDonald Island District then documents on the forms that operation did not take place as required. Furthermore, the McDonald Island District successfully operates each ESD valve annually as part of their annual ESD emergency exercise. SED recommends the McDonald Island District consider consolidating the annual emergency exercise valve maintenance with the §192.745 required maintenance, and keep records in one central location.

11. The McDonald Island District recorded Normal Reset Pressure on some Relief Valve Records but not others. Please describe PG&E's procedure for recording this information.

12. The Pressure Relief Valve Record for Pressure relief valve PRV-4M14 indicates a Normal Reset Pressure of 1875. On 4/21/11, the McDonald Island District recorded an as left Normal Reset Pressure of 1650, yet no follow up action was documented.

    In addition, the Pressure Relief Valve Record for Pressure relief valve PRV-1R1 indicates a Normal Reset Pressure of 99. On 5/3/12, the McDonald Island District recorded an as left Normal Reset Pressure of 88, yet no follow up action was documented.

    Please explain PG&E's procedure for addressing reset pressures found lower than the documented normal reset pressure.

13. Although the McDonald Island Compressor station has an adequate amount of ESD switches, the McDonald Island District may consider placing ESD switches by the two exit doors inside the compressor station building for easy access during escape.