STATE OF CALIFORNIA EDMUND G. BROWN JR., *Governor*
PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

October 23, 2014 GA2013-24

Mr. Sumeet Singh, Vice President
Pacific Gas and Electric Company
Gas Asset and Risk Management
6111 Bollinger Canyon Road, Room # 4590-D
San Ramon, CA 94583

Subject: General Order (GO) 112-E Audit of Yosemite Division

Dear Mr. Singh:

On behalf of the Safety and Enforcement Division (SED) of the California Public Utilities Commission (Commission), Aimee Cauguiran, Alula Gebremedhin, Alin Podoreanu, and Banu Acimis conducted a GO 112-E audit of Pacific Gas and Electric Company's (PG&E) Yosemite Division (Division) from October 21 through 25, 2013 and on October 29 and 30, 2013.

SED staff reviewed Division's gas distribution and transmission system operations and maintenance records for the period of 2010-2012 and some maintenance records that were completed in 2013. SED also conducted field inspections in the cities located in the Division such as Modesto, Madera, Ceres, Patterson, Turlock, Delhi, and Chowchilla etc.

A Summary of Audit Findings (Summary), which contains PG&E's internal review findings, probable violations, observations, areas of concerns, and recommendations identified by SED staff, is included as an attachment to this letter.

Please provide a written response indicating the corrective actions and preventive and mitigative measures taken by PG&E to address the probable violations, areas of concerns, and recommendations within 30 days from the date of this letter. Pursuant to Commission Resolution ALJ-274, SED will notify PG&E of the enforcement actions it plans to take in regard to each of the violations found during the audit after it has an opportunity to review PG&E's response to the findings included in the Summary.

For any questions related to this matter, please contact Banu Acimis at (916) 928-3826 or by email at banu.acimis@cpuc.ca.gov.

Sincerely,

Kenneth Bruno
Program Manager
Gas Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission

Enclosure: Summary of Audit Findings
cc: Mary Muse, PG&E
Larry Berg, PG&E
Sonal Patni, PG&E
Steve Frankiewich, PG&E
John Tom Norman, PG&E

Summary of Audit Findings

PG&E Internal Audit Findings

Prior to SED's audit of PG&E's Division records and field inspection, PG&E provided SED the results of its internal review audit. During the audit, SED discussed the details of PG&E's internal findings and reviewed related records. Table 1 shows the deficiencies PG&E identified in its internal review.

Table 1. Results of Yosemite Division Internal Review Summary

Item	Title 49, CFR, Part 192 Code Section	Topic-Finding	Number of Violations Identified	Number of Violations Corrected	Pending Corrective Actions	Pending Preventive Actions
1	**192.605 (a)**	Transmission leak survey was completed when wind speed above 15 mph	4	4	None	System will be completed in 2nd quarter of 2014
2	**192.723 (b) (2)**	5-year distribution leak surveys of services missed compliance dates	23	23	None	None
3	**192.723 (b) (1)**	Annual leak surveys were conducted late	2	2	None	None
4	**192.619 (a)**	Inlet MAOP of regulator station does not equal downstream MAOP of regulator and monitor	3	0 -Under rated valves are a result of evolving PG&E Standards with respect to MAOP boundary in regulator stations constructed pre 1971.	Under rated valves are scheduled to be replaced 6/30/2014.	Approximately 10 stations in Yosemite Division have completed reconfiguration since the program was initiated in 2011.
5	**192.605 (a)**	Regulator station charts were not properly completed	14	14	None	None
6	**192.605 (a)**	Regulator stations records were not reviewed by supervisor within 30 days	54	54	None	None
7	**192.605 (a)**	Abandonment procedure was not followed for regulator station.	1	1	Three of five remaining valves are scheduled for removal on 6/30/2014.	None

Table 1 Continued: Results of Yosemite Division Internal Review Summary

Item	Title 49, CFR, Part 192 Code Section, GO 112E	Topic-Finding	Number of Violations Identified	Number of Violations Corrected	Pending Corrective Actions	Pending Preventive Actions
8	**192.605 (a)**	Regulator station corrective work was identified by no action was taken.	6	0	Corrective work scheduled on 6/30/2014.	None
9	**192.605 (a)**	Valves were not lubricated outside of stations	203	N/A	None	None
10	**192.745**	Valve maintenance records were not reviewed by supervisor	112	112	None	None
11	**192.605 (a)**	Valve corrective work was not identified on maintenance record	1	1	None	None
12	**192.605 (a)**	Valves were not lubricated inside of stations	N/A	N/A	None	None
13	**192.745**	Inoperable valves were not restored within 12 months	9	7	2 valves have been scheduled to be removed from service in Q4 2014	None
14	**192.13 (c)**	Missing USA when one was required	23	N/A	None	None
15	**192.605 (a)**	Leaks with late action	6	6	None	None
16	**192.605 (a)**	Odor intensity tests were not conducted	22	22	None	None
17	**192.705 (b)**	Patrols were not conducted when scheduled	2	2	None	None
18	**192.481**	Atmospheric corrosion inspections of exposed main pipelines were late	25	25	None	None
19	**192.605 (a)**	Atmospheric corrosion corrective actions were not noted on record	9	9	None	None
20	**192.605 (a)**	Missing restoration rectifier reads	3	3	None	None

Table 1 Continued: Results of Yosemite Division Internal Review Summary

Item	Title 49, CFR, Part 192 Code Section, GO 112E	Topic-Finding	Number of Violations Identified	Number of Violations Corrected	Pending Corrective Actions	Pending Preventive Actions
21	**192.13 (c)**	CPAs were not resurveyed within a 6-yr interval	25	25	None	None
22	**192.605 (a)**	Rectifier output not within tolerance	1	1	None	None
23	**192.605 (a)**	Rectifier test and evaluation forms are missing check boxes	9	9	None	None
24	**192.13 (c)**	Missing record of calibration for various instruments	49	49	None	None
25	**192.13 (c)**	Missing record of calibration of leak survey instruments for Gas Distribution Leak Survey	229	229	None	None
26	**192.13 (c)**	Missing record of calibration of leak survey instrument for Gas Transmission Leak Survey	59	59	None	None
27	**192.605 (a)**	Emergency zone binders do not contain a record of review for 2011	1	1	None	None
28	**192.605 (a)**	The gas stub process was not followed prior to 2012	1	1	None	None

N/A: Not applicable

Please provide a status update on the items presented in Table 1 that are still pending corrective and/or preventive actions.

Probable Violations

I- Title 49, Code of Federal Regulations (CFR), §192.605 Procedural manual for operations, maintenance, and emergencies.

§192.605 (a) states in part:

"(a) General. Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response…"

I-1 PG&E's document, M-53.3, Verifying the Calibration of Portable Combustible Gas Indicators, Hydrogen Flame Ionization Units, Optical Methane Detectors, and Remote Methane Leak Detectors which was effective from 11/20/2006 until PG&E published a new procedure, TD-4110P-21 on 5/15/2013 states:

"Calibrating Portable HFI Units, Optical Methane Detectors, and Remote Methane Leak Detectors
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, (Attachment B)…"

"…Also check a detector's calibration after the unit is repaired or unit parts are replaced, or if the calibration is suspected to have changed. Record the weekly calibration checks on the "Weekly Calibration Check of Flame Ionization Unit" form…"[Emphasis added]

"…Record all out-of-service or not-in-use units on the "Weekly Calibration Check of Flame Ionization Unit" form. Calibrate out-of-service or not-in-use units before returning them to service…"[Emphasis added]

"Verifying Calibration of CGIs
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. Also check a detector's calibration after the unit is repaired or unit parts are replaced, or if the calibration is suspected to have changed…" [Emphasis added]

"…Use the 'Monthly Verification of the Calibration of Combustible Gas Indicators (CGIs)' form, (Attachment A), to record all required calibration checks. All units considered not in service must be adequately tagged as "Out of Service." Note all out-of-service units on the "Monthly Verification of the Calibration of Combustible Gas Indicators (CGIs)" form. The instruments' calibration verification records must include the out-of-service dates. Calibrate out-of-service units before returning them to service…" [Emphasis added]

SED reviewed Division's instrument calibration records and noted that Division did not perform a total of 118 instrument calibrations of gas leak survey and detection instruments. Table 2 shows the missing instrument calibrations records for gas leak detection equipments that Division personnel used during the gas leak surveys in 2012. According to PG&E's document, M-53.3, Verifying the Calibration of Portable Combustible Gas Indicators, Hydrogen Flame Ionization Units, Optical Methane Detectors, and Remote Methane Leak Detectors which was effective in 2012, hydrogen flame ionization units (HFI) are required to be calibrated at least once a week and combustible gas indicators (CGI) are required to be calibrated once a month.

As part of PG&E internal review audit, Division identified some of the missing calibration records for gas detection equipment that were used in gas leak surveys in 2010, 2011, and 2012. However, the list PG&E provided did not capture the missing calibration records for the leak detection equipment listed in Table 2. As a result of SED's review, SED noted the following additional missing calibration records for

the identified instruments in 2012. SED also noted that Division must tag the units as “out of service” when they are not in service.

Table 2. Missing Leak Detection Equipment Calibrations by Month in 2012

Instrument Type, Serial Number	Missing Calibration Months	Location	Number of Missing Calibration
Heath DP-4*, 1003	Jan. through Aug.	Merced	32
Heath DP-4*, 7008	Nov., Dec.	Modesto	8
Heath DP-4*, 7011	July through Dec.	Modesto	24
Heath DP-3*, 0258	Nov., Dec.	Modesto	8
Heath DP-3*, 9561	Sep., Dec.	Modesto	8
Heath DP-3*, 9567	Sep. through Dec.	Modesto	16
CGI**, 0318-054079	Apr. through Dec.	Merced	9
CGI**, 4108	Jan. through July, & Nov., Dec.	N/A	9
CGI**, 59186	Sep. through Dec.	Modesto	4
		Total:	**118**

*Heath DP-3 and DP-4 Flame Ionization equipments are required to be calibrated once a week.

** CGI equipment is required to be calibrated at least once a month.

Please inform SED of the preventive and mitigative (P&M) measures taken to address the deficiency.

I-2 As required by several of PG&E’s Utility Procedures and Standards such as DCS Standard D-S0456, Recording Pressures in Distribution Systems (effective date 4/1999), Utility Procedure: TD-4125P-05, Recording Pressures in Distribution Gas Systems (publication date 3/31/2010), UO Standard S5351, District Regulator Station Maintenance (effective date 8/2001), Utility Work Procedure WP4540-01, District Regulator Station Maintenance (effective date 8/2009), all permanent and portable mechanical and electronic recorders are required to be calibrated on an annual basis.

SED reviewed Division’s Test Instrument Calibration records for pressure recorders and identified the following missing calibration records for pressure recorders shown in Table 3.

Table 3. Missing Annual Calibrations for Pressure Recorders

Pressure Recorder Serial Number	Missing Annual Calibration
1909466	2007, 2008, 2010, 2011, 2012
2129206	2008
2129222	2008, 2010, 2011

During the audit, PG&E representatives explained that when Division plans not to use a pressure recorder, it tags it out of service so that employees will not use it. SED noted that Division must properly document out of service pressure recorders along with the justification for not using them in the calibration records.

Please inform SED of the P&M measures taken to address the deficiency.

I-3 PG&E's Utility Work Procedure WP4540-01, District Regulator Station Maintenance, issued in August 2009 describes work activities for PG&E's district regulator stations, including inspecting, testing, maintenance, and recordkeeping states in part:

"II. Instructions for Conducting Inspections, Testing, and Maintenance

A. Class A Inspection – Diagnostic
Operational and diagnostic testing for a Class A Inspection must follow the instructions below.

As Found Information
1. Before disassembling any equipment components, document all "as found" information, including filter differential pressure, regulator and monitor set points, and the ability of the monitor and regulator to lock-up. [Emphasis added]

Filters
2. Check the filter drip for dirt, liquids, or other debris. Inspect the filter element for cause…
3. 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 inspected1 and immediately changed2 out if necessary. If a specific filter element is not available, contact the senior gas distribution engineer for assistance…"[Emphasis added]

SED reviewed Division's District Regulator Station Maintenance record for Regulator Station RA-37 located on Highway 99 and Childs Avenue in Merced and noted that PG&E did not perform the filter differential pressure test for the years 2010, 2011, 2012, and 2013.

Please inform SED of the corrective actions and P&M measures taken to address the deficiency.

I-4 PG&E's Utility Work Procedure WP4540-01, District Regulator Station Maintenance also states in part:

"…Operating Tests for Regulator Runs
7. Test the regulator for lock-up using the long/short line technique…"

SED reviewed Division's District Regulator Station Maintenance record of Regulator Station RC-10 located on Shain Avenue and Brannon Avenue in Merced and noted that the Division did not test the regulator for lock-up during the regulator maintenance performed in 2010 and 2011. SED also noted that the Division identified by-pass valve #4 inoperable and could not turn it during the maintenance performed in 2010, 2011, and 2012.

Please inform SED of the corrective actions and P&M measures taken to address the deficiencies.

I-5 PG&E's Standard O-16, Corrosion Control of Gas Facilities, 4. Impressed Current (Rectified) Cathodic Protection Systems states in part:

"Maintain impressed current (rectified) cathodic protection systems according to the following procedures:

G. Casing Monitoring and Maintenance Local transmission, backbone transmission pipelines, and gas gathering pipeline cased crossings must be monitored annually (once each calendar year with intervals not to exceed 15 months) and recorded in PLM. Adequate annual monitoring at cased crossings includes a measurement of the P/S potential of the pipeline and the casing-to-soil potential of the casing. The casing is considered to be in electrical contact with the pipeline when the casing-to-soil potential is −800 mV or more negative and/or the difference between the P/S potential and the casing-to-soil potential is less than 100 mV. If one or both of these two conditions are found, further testing as described in Utility Standard D-S0354/S4126 is required." [Emphasis added]

"Cased pipeline crossings that are found to be contacted (the casing is in electrical contact with the pipeline) shall be reported to corrosion engineering personnel within 30 days of discovery of the contact. Contacted casing reported to corrosion engineering personnel will be remediated as part of the contacted casing remediation program administered by corrosion engineering personnel." [Emphasis added]

SED reviewed Division's casing monitoring and maintenance records and noted that Division identified the following locations shown in Table 4 where casing-to-soil (C/S) potential readings were not in compliance with PG&E's Standard, O-16, Corrosion Control of Gas Facilities.

SED also reviewed 2012 casing records recorded at location F-01 Brinks @2331 (Service /RR tracks), and noted that pipe-to-soil (P/S) reading was -943 mV and C/S reading was -877 mV in 2012 which were not included in Table 4.

SED determined that Division did not take required follow-up action such as conducting further testing and/or reporting to corrosion engineering within 30 days in order to take remedial actions to bring the system into compliance when it identified these contacted casings where C/S potential readings were equal to or more negative than -800mV and/or the difference between the P/S potential and the C/S potential is less than 100 mV.

SED also noted that at the locations where Division did not record P/S potential readings due to missing wires, PG&E should have taken P/S readings at other locations near casings to ensure that there are no contacted casings. Therefore, Division must take the P/S potential readings at or near all casings and take necessary corrective action if there are no wires to read the P/S potentials. The Division must follow its Standard O-16 by reporting locations to corrosion engineering within 30 days of discovery of the contacted casings and it must also take remedial actions in a timely manner. Table 4 shows some instances where Division did not take remedial actions in a timely manner; therefore, contacts existed for more than four years.

Please inform SED of the corrective actions and P&M measures taken to address these deficiencies.

Table 4- P/S and C/S Readings By Year

Test Location	Oct./2007		Oct./2008		Sep.-Oct./2009		Oct.-Nov./2010		Oct./2011	
	P/S (mV)	C/S (mV)	P/S (mV)	C/S (mV)	P/S (mV)	C/S (mV)	P/S (mV)	C/S (mV)	P/S (mV)	C/S (mV)o
MTR027030 3295-J6, 7217-01 MP 0.13, CA Aqueduct @ Sperry Rd., W side	-852	-881	-1105	-874	-1052	-974	-1004	-935	-1075	-937
MTR027020 3295-J6, 7217-01 MP 0.17, CA Aqueduct @ Sperry Rd., E side	-1046	-1045	-916*	-770*	-835	-806	-855	-814	-928	-892
MTR117010 3370-F4, GCUST-5797, MP 0.01, Wilson Rd, xing to Plant	No Wires	-1032	No Wires	-613	No Wires	-533	No Wires	-834	No Wires	-770
MTR097100 3300-B2, 7223-01, MP 6.01, Hwy 99 overpass 2000' S/O Taylor Rd.	No Wires	-1007	No Wires	-939	No Wires	-909	No Wires	-830	-	-
F-01 Brinks @2331 (Service /RR tracks)	-922	-855	-899	-847	-887*	-698*	-920*	-355*	-1048	-840
MRR03706034 36-I3, 7206-01, MP 1.56, E Hwy 140 and Santa Fe	N/A	-793	-1254	-1254	-1240	-1240	-1220	-1220	Abnd	Abnd

*Within compliance, it is given to show the trend.
N/A: reading is not available or recorded on the maintenance sheet
Abnd: Abandoned

I-6 SED reviewed Division's Cathodic Protection (CP) records and noted that Division failed to take either P/S or C/S potential readings due to lack of test points at the following nine casing locations shown in Table 5.

Records showed “No Vent, No ETS” for these locations. For example, at location Bar ID: MRR037230, there were no vents or Electrolysis Test Station (ETS) to take potential readings from 2007 through 2011. Therefore, PG&E could not take any C/S potential reading at this location to determine if there was any electric contact between the pipe and casing for more than four years. In addition, SED did not find any records to verify that Division has taken necessary remedial actions for the deficiencies identified at these locations.

Table 5- Locations With No Vents and No ETS

Bar ID	Line No/ CPA	MP	Location Description
MRR037230	118-T400	0.01	Hwy 99 S/O Lingard xing 99 (3/4”)
MRR037030	118-T400	0.09	Hwy 99 and Childs southbound on ramp
MRR087110	186	6.85	N/E of V-6.66
MRR087100	186	8.2	MP 8.2
MRR087090	186	8.61	7th St. S/O Santa Fe Grade @ RR xing
MRR057040	134A-T100	11.14	Between Rd 24 and Rd 23 N/O San Joaquin River @ Canal
MRR067060	134A-T200	26.82	Arbios Reg. Sta. @ Hwy 33 xing
MRR047440	118-T500	59.69	V St. bet. W 15th & V. 16th St. @ RR xing
MRR047070	118A	62.57	Hwy 99 N/O Franklin

Please inform SED of the corrective actions and P&M measures taken to address the deficiencies identified at these locations.

I-7 SED reviewed Division’s corrosion records and found that for Cathodic Protection Area (CPA) 3177-04, there were two yearly monitored locations: 1411 G Street and 717 16th Street in Modesto, with no CP maintenance records. The 2009 CPA resurvey map dated 9/24/09 shows that the pipelines installed at these locations existed since 2009. However, the Division did not have any CP maintenance records other than 2012 records.

Please inform SED of the corrective actions and P&M measures taken to address these deficiencies.

I-8 PG&E’s Utility Procedure, TD 4110P-09, Leak Grading and Response, which was published on 1/6/2012, Section 5.1 “Grade 1 Leak Criteria” states in part:

“…Any gas reading on subsurface facilities in, at, or under a building; within 5ft of a building; or in a tunnel…”

Division identified Leak No. 91-07-30001-1 and classified as a Grade 3 leak on 1/10/2007 and 3/1/2012 even though it recorded the location as “5 feet from the riser”. According to PG&E’s effective procedure TD 4110P-09 , PG&E should have graded and remediated this leak as a Grade 1 on 3/1/2012. On 3/8/2012, PG&E re-checked this leak, graded it as Grade 1, and repaired it on the same day.

Please inform SED of the P&M measures taken to address this deficiency.

II- Title 49, CFR, §192.481 Atmospheric corrosion control: Monitoring.

§192.481 states in part:

“(a) Each operator must inspect each pipeline or portion of pipeline that is exposed to the atmosphere for evidence of atmospheric corrosion, as follows:

If the pipeline is located onshore, then the frequency of inspection is at least once every 3 calendar years, but with intervals not exceeding 39 months…”

II-1 SED reviewed Division’s Stanislaus 2011 atmospheric corrosion (AC) records and found that Division failed to conduct AC monitoring of three areas listed below in 2011. Division conducted the previous AC monitoring in 2008 and did not monitor AC for more than five years; therefore, it exceeded the 39-month interval for inspecting these three locations for AC.

- Division did not inspect exposed piping for evidence of AC in the area located on the lower right hand corner on Plat 3120A6 in 2011,
- Similarly, SED found services on Black Pine Way on Plat 3122G5 that Division did not check for AC in 2011,
- SED also found two “Cannot Get In” locations on Plat 3120D6 that Division did not monitor for AC in 2011.

After the audit, Division informed SED that it inspected all three locations for AC on 1/17/14.

Please inform SED of the P&M measures taken to address this deficiency.

II-2 On 10/23/13, SED and PG&E visited Regulator Station, N-HP 24 located on Prune Avenue and Elm Street in Patterson and observed AC problem on the secondary cut, and there was a pipeline marker with outdated information. SED also noted that Regulator Station folder for district regulator N-HP 24 does not have the District Regulator Data Sheet for the primary cut regulator.

On 10/24/13, Division informed SED that it took remedial actions to correct AC and replaced the pipeline marker.

II-3 On 10/23/13, SED and PG&E visited Regulator Station TUR HP-11 located Linwood Avenue and Walnut Road in Turlock and observed AC problem on the downstream piping of the secondary cut. Division took remedial actions for the AC on 10/25/13.

SED also noted that Regulator Station folder for TUR HP-11 did not have the data sheet for the primary cut regulator.

III- Title 49, CFR, §192.707 Line markers for mains and transmission lines.

§192.707 states in part:

"(c) Pipelines above ground. Line markers must be placed and maintained along each section of a main and transmission line that is located above ground in an area accessible to the public.

(d) Marker warning. The following must be written legibly on a background of sharply contrasting color on each line marker:

(1) The word "Warning," "Caution," or "Danger" followed by the words "Gas (or name of gas transported) Pipeline" all of which, except for markers in heavily developed urban areas, must be in letters at least 1 inch (25 millimeters) high with ¼ inch (6.4 millimeters) stroke.

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

SED reviewed Division patrolling records for gas distribution mains and services that are normally exposed to the atmosphere. SED noted that on 9/17/13, Division identified locations E36 and E41 that require pipeline stickers; however, Division did not take the necessary corrective actions.

On 10/29/13, SED and PG&E visited exposed distribution pipelines and identified that the aboveground spans E36 and E38, shown in Table 6, did not have pipeline markers as required by CFR § 192.707 (c).

SED also noted that the pipeline marker for the exposed span E41 did not have a complete pipeline sticker that shows the necessary information required by CFR § 192.707 (d).

Table 6- Missing or Incomplete Pipeline Markers For Exposed Spans

Gas FM No.	Location	Pipe Diameter	Plat #
E36	Gold/Harding, Turlock	3"	3301-J2
E38	Sperry/Taylor, Denair	2"	3301-B6
E41	Service/Moore, Ceres	2"	3236-G5

Please inform SED of the corrective actions and P&M measures taken to address these deficiencies.

IV- Title 49, CFR, §192.743 Pressure limiting and regulating stations: Capacity of relief devices.

§192.743 states in part:

"(b) If review and calculations are used to determine if a device has sufficient capacity, the calculated capacity must be compared with the rated or experimentally determined relieving capacity of the device for the conditions under which it operates. After the initial calculations, subsequent calculations need not be made if the annual review documents that parameters have not changed to cause the rated or experimentally determined relieving capacity to be insufficient."

SED reviewed PG&E's District Regulator Station Maintenance record of Regulator Station RA-47, located on Pioneer Road and Highway 99 and noted that even though Division replaced the regulator during station inspection on 7/10/06, it did not review the relief valve capacity until 7/10/2008. Additionally, Division did not show any changes made in 2006 in the relief valve capacity review record, GS&S H-70 form, for relief device A-47 for in Regulator Station RA-47.

Please inform SED of the corrective actions and P&M measures taken to address these deficiencies.

V- Title 49, CFR, §192.745 Valve maintenance: Transmission lines.

(a) 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.

SED reviewed Division's District Regulator Data Sheet for District Station No. TUR HP 08 located on Faith Home Road and Kaiser Road in Ceres, and noted that Division did not maintain the station fire valve, V-3.37 in 2010, 2011, and 2012.

Please inform SED of the corrective actions and P&M measures taken to address this deficiency.

VI- Title 49, CFR, §192.615 Emergency Plans

(b)(2) Train the appropriate operating personnel to assure that they are knowledgeable of the emergency procedures and verify that the training is effective.

(b)(3) Review employee activities to determine whether the procedures were effectively followed in each emergency.

SED reviewed PG&E's training emergency response training records and they appear to be complete based on PG&E's standard EMER-6010S, published on 12/19/11, Rev:1. However, PG&E did not provide SED with any records to verify that the following training was effective.

- *GAS-9006, GAS-9007, GAS-9008, and TECH-0038*

Please provide SED with these records for 2011, 2012, 2013 related to verification that training was effective.

In addition, the EMER-6010S, section 5.2, number 2 & 4, states the following:

> 2. Each of PG&E's 18 divisions that provide gas service to customers must conduct an annual exercise involving PG&E first responders, gas control or gas dispatch, and relevant agency first responders.
>
> 4. For each exercise, an after action report (AAR) must be completed. The AAR must evaluate if the exercise objectives were met, what worked well, what needs improvement, and assign follow-up actions where appropriate.

Based on records provided to SED related to these annual exercises no records to date have been located for 2010 & 2011. Please provide copies to SED as soon as records are located. Based on records provided for 2012 and 2013, SED is satisfied that PG&E has successfully taken the appropriate corrective actions based on centralizing emergency response records in 2012, revision of Emergency Response Standards in 2011, and revisions included in Version 3.0 of the Gas Emergency Response Plan dated

August 30, 2013 (i.e. Training and Exercises Evaluation Program) to ensure records are provided to SED more timely.

SED understands that PG&E writes after action reports for each annual emergency response training exercise to satisfy this section of the code. SED is satisfied with these records for 2012 & 2013. However, SED encourages PG&E to include external first responders in every annual emergency response exercise per the PG&E Standard EMER-6010S, section 5.2, number 2 as stated above. The 2012 exercise included internal PG&E field crews only.

Field Observations, Concerns, and Recommendations

1. SED reviewed Emergency Isolation Zone Review Log for Division North, Zone 91-NWM1-A and noted that distribution zone Valve Z-03 was one of the emergency isolation valves listed for Zone 91 in 2012 and 2013. However, Division valve maintenance record form for Valve Z-03 was removed from service on 11/13/12. SED found that Division did not update this valve in the Emergency Isolation Zone's Sequence of Operations in 2012 and 2013 after it was removed in 2012.

   During the audit, Division removed Valve Z-03 from its Sequence of Operations and revised the list. Division also ran the flow model to make sure that no additional isolation zone valve was needed. SED also noted that it is important to have good communication between the field personnel and the planning engineer to ensure that the emergency isolation zones are reviewed and revised based on the changes identified or performed in the field.

2. SED reviewed Division's Idle Stub list and did not find the idle stubs located on Plat # 3120I3 in the North idle stub list. Division personnel explained that Division mapping department and local engineers populate and update the list as they become aware of the unlisted stubs.

   Please explain how the mapping department and the local engineers populate and maintain the idle stub list? Please provide reference or copy of the applicable PG&E standard, if any.

   SED would like to point out that the maintenance records are readily available for local Division engineers to use in order to identify idle stubs in the distribution system. SED recommends that PG&E use readily available records to identify additional measures needed as a result of field personnel observations while performing maintenance on the system.

3. SED reviewed Plat # 3178G1 and noted that even though one location on Morene St. was recorded as "overbuild", Division did not list it in the overbuilt list. Later, Division informed SED that it added the location to the overbuilt list.

   Please explain how PG&E identifies and populates its overbuilt list? How is PG&E currently addressing identified overbuild locations for both transmission and distribution systems?

   Similarly, SED recommends that Division utilize readily available records, such as the maintenance records, to identify areas where additional monitoring or action may be needed.

4. On 10/30/13, SED and PG&E visited Regulator Station, RA-24, located on Asby Road and Fern Street in Merced. SED noted the following deficiencies at this regulator station:

   - Division personnel could achieve lock up of neither the worker regulator (set point 40 psig) nor the stand-by regulator (set point 35).
   - SED also observed that one of the vaults cover was damaged; therefore, Division crew could not fully open the vault but opened the other lid to get into the vault to perform maintenance. Division later informed SED that the Division repaired the vault cover and installed protection around the regulator site.

- Station inlet fire valve located in the ditch beside the road was graded over; therefore, it was not accessible and the crews could not turn the valve.

After the field visit, Division took the following corrective actions and P&M measures for the deficiencies SED identified:

- Rebuilt the left and right regulators and maintained the station to achieve lock up on 10/30/13,
- Installed three 4-in barrier posts and straightened the vault lid on 11/22/13.
- Re-installed the grader marker and bollards, cleared the debris from valve, and turned the valve on 10/30/13. Additionally, Division engineer had a meeting with the County of Merced on 12/3/13 to inform the County and prevent similar occurrences in the future.

5. On 10/29/13, SED and PG&E visited rectifier #16-281 located on Alley N/O Durant Street in Modesto and observed 1 amp and 48 volts for current and voltage readings, respectively. Standard Cathodic Protection Maintenance Report (CP report) for CPA System 3177-09 shows that the last rectifier readings taken at this location on 7/27/13 were 3 amps and 18.4 volts with a base data of 1.3 amps and 9.6 volts for current and voltage readings, respectively.

   On 10/29/13, Division also took P/S reading of -639 mV at a test point located at 1013 Hawtorne at Elmhurst in Modesto which is part of the same CPA. The CP report shows low P/S readings recorded in January, July, and September 2013, with -360 mV, -383 mV, and -565 mV, respectively. Corrosion records show that the Division requested a deep well anode bed replacement on 11/26/12 but no action has been taken since then. Division also created a CPA follow-up action plan on 10/3/13 and submitted for new deep well anode.

   Division informed SED that it installed a new deep well anode on 3/28/14 for rectifier #16-281 which serves the CPA 3177-09. Division set the rectifier at 2.0 amps and 4.7 volts and also took P/S readings on 4/1/14 and recorded -1035 mV at 1013 Hawthorne Avenue in Modesto.

6. On 10/29/13, SED and PG&E took P/S read of -443 mV at test location 1113 Saint Frances Ave., in Modesto in CP System # 3177-01A. The CP report shows that this CP System has been down since November 2012. The CPA follow up action plan which was created on 12/3/12 shows that Division waited for a crew to tie in wires to remedy the problem for about six months; however, it did not resolve the problem. Then Division decided to install a deep well anode in June 2013.

   Division informed SED that it restored and brought up the system into compliance on 1/14/14 by installing a deep well anode at this location.

7. On 10/29/13, SED and PG&E took P/S read of -843 mV at test location 381 W. Hawkeye Ave., Building N, in Turlock. Upon discovery of the P/S reading below adequate level of -850 mV, Division created a work ticket with notification # 107210122, to correct the CP deficiency in CP System # 3300-01.

   Division informed SED that it created a repair tag to bond the galvanic annual into the adjoining rectifier CPA 3300-03 and completed the job on 10/30/13. Division was also in the process of updating its records to change this asset from a Galvanic Annual to a rectifier yearly read.

8. On 10/29/13, SED and PG&E took P/S read of -325 mV at test location 5730 Chenault Dr., Modesto, and -841mV at 3101 Geer Rd., Turlock that are 10%er test locations which are separately protected short section of main or services not in excess of 100 ft. Upon discovery of the inadequate P/S readings, Division created work ticket to take remedial action to bring up the system into compliance.

   Division informed SED that it reattached the drivable anode to the isolated steel riser on 4/21/14 to bring up the CP protection levels back up. Division also took P/S readings on the same day and recorded -1100 mV.

9. SED reviewed Division's CP report for CPA 3435-10 and noted that Division recorded the following bi-monthly P/S reads:

Table 7- P/S Readings By Date

Address	P/S Reading (mV) By Date			
	6/4/13	**8/2/13**	**8/13/13**	**10/4/13**
288 S. P Street, Merced	-650	-620	-620	-622
488 E. Childs, Merced	-777	-766	-766	-759

   Division created a CPA follow-up action plan on 6/4/13 to replace the depleted anode. Division's action plan shows that Division is currently waiting for the new anode and there is no funding until 2014. Division stated that it had scheduled to install anode bed in the first quarter of 2014.

   Division informed SED that it installed a new deep well anode on 1/23/14 for rectifier #185 which serves the CPA 3435-10. Division took P/S readings on the same day and recorded -991 mV and -949 mV for the locations listed in Table 7 respectively.

10. SED reviewed District Regulator Station Operating Diagrams and noted that Division did not have most up-to-date data sheets, station diagrams, or complete maintenance folders to show the changes made for the following regulator stations:

    A. RA-25 located on 16th Street and Asby Road in Merced: The regulator station diagram showed a regulator with relief valve configuration, but the station was changed to a regulator with monitor configuration on 02/29/2012. Division updated the map during the audit.

    B. RA-08 located on Frontage Road and Grove Avenue in Atwater: District Regulator Station Data Sheet did not show the regulator and relief valve pressure set points.

       Division typed the missing information on the data sheet and updated the regulator station maintenance folder during the audit.

    C. RA-27 located on Cooper Avenue and Highway 59: There was no station diagram in the maintenance folder.

       Division updated the map and folder during the audit.

D. SED reviewed District Regulator Data Sheet for District Station No. HP 25 located on Howard Road and Stark Road in Westley and noted that Division did not show the inlet MAOP data on the data sheet.

   Division needs to update the data sheet with the MAOP data.

E. On 10/30/13, SED and PG&E conducted a site visit to District Regulator Station, RB-36, located on Pecan and Highway 145, in Madera. Division crews performed regulator maintenance of the regulator station. SED observed that regulator and monitor setting were 35 psig and 40.6 psig, respectively, in the field with an MAOP of 42 psig. Even though Division changed the regulator and monitor set points to 37 psig and 40 psig, respectively, it did not update the District Regulator Data Sheet for RB-36 because the data sheet still shows the previous regulator and monitor settings of 39 psig and 44 psig, respectively.

   Division needs to update the data sheet for RB-36 to reflect the changes made to the pressure settings.

11. SED reviewed Transmission Leak Survey records for Pipeline Group 1908, and noted that Division leak surveyor marked the following leak surveys incomplete on 5/12/12 indicating that the plats below were not fully completed.

- Plat # 3498-D08, Sequence # 65
- Plat # 3499-E01, Sequence # 67

Even though Division personnel explained that these maps were leak surveyed, again SED did not find any other follow up leak survey records indicating the date of leak survey, surveyor name, and type of instrument used to demonstrate that Division completed the leak surveys of these plats on a later date.

SED recommends that Division add another line item to the leak survey and field inspection stamp to indicate surveyor's name, date of leak survey, equipment used etc., if Division completes the leak survey of the remaining portions of pipeline map on a later date.

SED also recommends PG&E modify its Leak Survey Program and related procedures in order to provide clear instructions to its personnel on how to document leak surveys on different dates since neither Utility Procedure: TD-4110P-01, Leak Survey Process, publication Date: 5/22/13 Rev: 0 nor Utility Standard: TD-4110S Gas Leak Survey and Detection Program, publication date: 58/2013 Rev: 0 clearly specifies the described deficiency.

Please inform SED of the corrective actions and P&M measures taken to address this deficiency.