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

August 13, 2015

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

GI-2015-05-PGE18-02A

SUBJECT: General Order 112 Gas Inspection of PG&E's Yosemite Division

Dear Mr. Singh:

The Safety and Enforcement Division (SED) of the California Public Utilities Commission conducted a General Order 112 inspection of Pacific Gas & Electric Company's (PG&E) Yosemite Division (Division) from May 4 -8, 2015.[1] The inspection included a review of the Division's Corrosion Control records for the years 2013 and 2014, as well as a representative field sample of the Division's facilities in the cities of Modesto, Merced, Salida, Turlock, Denair, Dos Palos, and Los Banos. SED staff reviewed the Division's operator qualification records, which included field observation of randomly selected individuals performing covered tasks.

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 inspection.

Within 30 days of your receipt of this letter, please provide a written response indicating the corrective actions and preventive 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 inspection.

If you have any questions, 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

Enclosure: Summary of Inspection Findings

cc: Larry Berg, PG&E Gas Regulatory Support
Larry Deniston, PG&E Gas Regulatory Support

[1] General Order 112-F was adopted by the Commission on June 25, 2015 via Decision 15-06-044.

SUMMARY OF INSPECTION FINDINGS

I. Probable Violations

A. PG&E's Internal Audit Findings

Prior to the start of the inspection, PG&E provided SED its findings from the internal review it conducted for Yosemite Division (Division). Some of PG&E's internal review findings are violations of PG&E's standards, and are therefore violations of Title 49 Code of Federal Regulations (CFR), §192.605(a). Table 1 lists all of the violations from PG&E's internal review.

Please provide an update to the pending preventive actions including the items listed as N/A for gas leaks repaired or rechecked late which were not complete at the time of the audit along with supporting documents.

Table 1. Results of Yosemite Division Internal Review Summary for 2013 & 2014

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	**192.465 (a)**	Corrosion Control (CC)- 2014 Yearly read locations were not identified	7	7	None	None
2	**192.605 (a)**	CC, Rectifier- 2014 Missed Rectifier maintenance	3	3	None	IT is working on fixing the SAP- 12/31/15
3	**192.605 (a)**	CC- 2014 CPA action plan was not initiated	3	3	None	None
4	**192.605 (a)**	CC- 2014 Rectifier output was not within Interference Test Results	1	1	None	None
5	**192.481 (a)**	CC-Missed span Inspection or notifications of actions in 2014	5	5	None	Exposed spans will be in SAP by 12/31/15
6	**192.465 (a)**	CC- (2014-10%ers)- Late action plan start date for low P/S reads 1. # 42820707 3828 Amigo Dr. Low read on 4/14/14 2. # 42820862 3217 Broadmore Ln. Low read on 4/8/14	2	2	None	None

Table 1. Continued- Results of Yosemite Division Internal Review Summary

7	**192.605 (a)**	2014 Leak Repair: Welded by or inspection by data was not recorded Welder Lan ID was not identified in SAP	4	4	None	SAP program control update will be done by 12/31/15
8	**192.605 (a)**	*2014 Leak Repair & Monitor: 20 leaks repaired or rechecked late. i) Grade 1 ((4) ii) Grade 2 (5) iii) Grade 3 (11)	20	20	None	N/A
9	**192.605 (a)**	*2013 Leak Repair & Monitor: 7 leaks repaired or rechecked late. iv) Grade 1 ((1) v) Grade 2+ (1) vi) Grade 3 (5)	7	7	None	N/A
10	**192.605 (a)**	2014 Odorization: Odor intensity Test Reports Old Form, or not properly filled out. Odor Intensity report missing supervisor review and date	1	1	None	None
11	**192.739 (a)**	Regulator Station Maintenance- Missed Maintenance of 2 HPR District Reg. Stations in 2014	2	2	None	None
12	**192.605 (a)**	Inlet and outlet MAOPs & Station Valves position not shown in 2013 1. Inlet pressure MAOP not clearly identified on diagram of 5 Station Valves 2. MAOP not identified on diagram of 2 Stations	7	7	None	None
13	**192.605 (a)**	In 2013 Recorder Accuracy Verification- Calibrations were not done or not properly documented. 1. Calibration date of test gauge not recorded on 2 pressure chart 2. 1 missing pressure recorder gauge/recorder serial 3 and Cal date	3	3	None	None

B. SED Findings

1. Title 49 Code of Federal Regulations (CFR) 192.465 External corrosion control: Monitoring

   §192.465 (e) states in part:

   "(e) After the initial evaluation required by §§ 192.455(b) and (c) and 192.457(b), each operator must, not less than every 3 years at intervals not exceeding 39 months, reevaluate its unprotected pipelines and cathodically protect them in accordance with this subpart in areas in which active corrosion is found. The operator must determine the areas of active corrosion by electrical survey. However, on distribution lines and where an electrical survey is impractical on transmission lines, areas of active corrosion may be determined by other means that include review and analysis of leak repair and inspection records, corrosion monitoring records, exposed pipe inspection records, and the pipeline environment…"

   Division records show that Division has a total of 6.58 miles of bare unprotected distribution pipeline and it conducts leak surveys as per §192.465 (e) in order to determine the areas of active corrosion for this pipeline. In a review of Division's 3-year leak survey records of the bare unprotected pipelines, SED found two plat maps, 3301E1 & 3301F1, where Division did not conduct leak surveys in 2009.

   Specifically, area shown on plat map 3301E1, that consisted of 158 ft. of main pipeline, was last leak surveyed on 9/18/2012; however, the same facilities existed in 2009, were not leak surveyed in 2009. Similarly, area shown on plat map 3301F1, that consists of 3420 ft. of main pipeline, was last leak surveyed on 9/24/2012; however, only a portion of that pipeline that consists of 900 ft. of main pipeline, was leak surveyed on 9/9/2009. The remaining approximately 2400 ft. main pipeline was not leak surveyed in 2009.

   Please inform SED of the measures that Division has taken to prevent similar deficiencies in the future.

2. 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 inspections is at least once every 3 calendar years, but within intervals not exceeding 39 months."

   SED reviewed Division's Exposed Piping & Span inspection records and noted that Division exceeded the 39-month inspection timeline for atmospheric corrosion (AC) inspections of the spans and mains shown in Table 2; therefore, Division failed to comply with §192.481 (a) requirements.

   SED noted that for Spans # 3 & 13, Division exceeded eight years, and for Span # 4, Division exceeded seven years between inspections. Additionally, SED noted that most of the findings from previous inspections were not corrected; therefore, they were identified again during the following inspections.

Table 2- Span inspections exceeded 39-month inspection cycle

Span ID/ Location/ Town/ Plat No/ Pipe Diameter	Previous inspection date		2013		2015	
	Date	Finding	Date	Finding	Date	Finding
1- Line 186/Shain Ave.-Silaxo Drain/ Dos Palos/ 3698-F4/ 6-in	5/10/09	–	9/8/13	Wrap cracking and some bare metal	4/24/15	Needs recoating & shallow cover at transition E/W end
2- Line 186/Shain Ave-Holland Drain/ Dos Palos/ 3696-F7/ 6-in	5/20/09	–	9/8/13	Wraping in bad condition, bare metal showing, tree stump around the pipe	4/24/15	Surface rust, coating issue, recommend recoat
3- Los Banos DFM-Ca Aqueduct w/o Canyon Road/ Los Banos /3692-A7/ 6-in	**5/28/05**	–	**9/8/13**	–	–	–
4-Winton Wy. DFM/Winton Wy.-Livingston Canal/ Atwater/3433-A5/ 6-in	**10/27/06**		**9/10/13**	Needs to be repainted	4/24/15	Light surface rust and paint peel
5- Line 186/ Outside Canal-Oxford Ave./S. Dos Palos/3720-E3/4-in	5/20/09	–	9/9/13	Pipe underwater, no visual	4/24/15	Span under water
6- Line 186/ 1.4 mi.s/w/o Aqua Vista/S. Dos Palos/3696-H6/6-in	5/20/09	Pipeline under water	9/9/13	Pipe not visible	–	–
7- Line 118A/ W. 16th-Bear Creek/Merced/3435-H3/ 8-in	10/22/09	–	9/9/13	–	–	–
8- Line 118B/ Avenue 8-Road 33/Madera/3772-G1/ 12-in	10/22/09	Paint chipping, pipe was repainted	9/9/13	Scraped peeling paint off and repainted	–	–
9- Line 118B/ San Joaquin river-Hwy 99/Madera/3772-I4/ 8-in	5/4/09	–	9/9/13	Bridge construction going on, pipe all good.	–	–
10- Line 186/ Delta Mendota Canal n/o Althea/S. Dos Palos/ 3763-C5/6-in	5/20/09	–	9/9/13	–	–	–
11- Line 134/ Aliso Canal e/o V-17.67/ Gill Ranch/ 3832-E5/ 8-in	3/31/09	–	9/10/13	–	–	–
12- Nees Avenue DFM/CA Aqueduct-Nees Ave./S.Dos Palos/3763-I3/4-in	2/19/09	–	9/8/13	–	–	–
13- Los Banos DFM/ CA Aqueduct w/o Canyon Rd./ Los Banos/3692-A7/ 6-in	**5/28/05**	–	**9/8/13**	2 bullet like dents	–	–
14- Second Lift Canal-Shaw Ave./ Firebaugh/ 3797-H3/2-in	3/30/10	–	9/7/13	Coating & paint issues	4/24/15	Surface rust, non-issue
15- Main Canal-Hwy 33/ Firebaugh/3797-D4/3-in	3/30/10	Rust	9/8/13	Surface rust prior to casing - scuffed up	–	–

				and painted		
16- Main Canal-Nees Ave./Firebaugh/ 3797-C3/ 3-in	3/30/10	_	9/8/13	_	_	_

3- Last two inspections for this span were conducted in 2005 and 2013, time between inspections was about 8 years.

4- Last two inspections for this span were conducted in 2006 and 2013, time between inspections was about 7 years.

13- Last two inspections for this span were conducted in 2005 and 2013, time between inspections was about 8 years

3. During the inspection, Division was unable to provide AC maps showing the last two AC inspections conducted in the Division. After the inspection, PG&E provided several files that showed the list of services where Division conducted AC inspections in the years 2011, 2012, and 2014. Additionally, in some of areas, Division scheduled some AC inspections to be performed in 2015.
   However, Division was not able to demonstrate that it completed inspections of its exposed pipeline for evidence of AC within 39 months from the previous inspections and Division did not provide records demonstrating that the AC indications discovered during the inspections have been corrected.

   SED analyzed the excel spreadsheets and compiled the following data shown in Table 3 below:

   Table 3- AC meter-set inspections conducted in the Division by years

Inspection Year	**Total # of Plats inspected**	**Total # of services requiring AC inspections**	**# of services inspected for AC**	**# of services with AC indications**	**# of corrected AC indications**	**# of CGI locations**	**# of CGI locations inspected**
2011	**1637**	N/A	**271,434**	**660**	N/A	**1,012**	N/A
2012	**661**	N/A	**57,118**	N/A	N/A	N/A	N/A
2014	N/A	N/A	**101,621***	N/A	N/A	**6,108**	N/A
2015	N/A	N/A	**170,647****	N/A	N/A	N/A	N/A
Total							

*Number of AC inspections with No AC findings

** Number of AC inspections scheduled to be done in 2015

CGI: Cannot Get In

   Based on the data Division provided, SED could not verify that Division complied with the requirements of §192.481(a) and (c).

   Please provide SED with documents to show compliance with §192.481 (a) and (c) and update the numbers in Table 3. Please also specify the total number of services that required AC inspections in the Division in 2011 and the total number of services that were inspected by the end of 2014 along with the remaining services to be inspected after 2014.

4. Title 49 CFR §192.481 Atmospheric corrosion control: Monitoring.

   Title 49 CFR §192.481 states in part:

   (c) If atmospheric corrosion is found during an inspection, the operator must provide protection against the corrosion as required by §192.479.

   Title 49 CFR §192.605 Procedural manual for operations, maintenance, and emergencies.

§192.605 states in part:

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

SED reviewed Division's Exposed Piping and Span inspection records and noted that Division conducted inspections in 2010 and identified some deficiencies. SED also noted that since most of the findings from the 2010 inspections were not corrected by the next inspection, the same issues were found again during the 2013 inspections.

SED also found that majority of these deficiencies were still pending corrective actions as of May 2015. Division has conducted latest inspections at most of these spans in April 2015 and recorded the same deficiencies as the previous ones documented in 2010 and 2013.

PG&E's Utility Procedure: TD-4412P-07 Effective: September 2009 states:
Patrolling Pipelines and Mains

"Corrective Actions:

1) Be prepared to correct minor conditions found during the patrol, if possible (e.g., missing stickers, ensure markers are upright).

2) Contact the responsible supervisor or superintendent as soon as possible concerning conditions that require immediate attention but cannot be corrected during the patrol itself.

3) Enter conditions which require follow-up attention and priority work scheduling (but which can be deferred) into a work management database as a Systems Applications and Products [SAP] Notification or Pipeline Maintenance [PLM] Work Request…"

Additionally, Gas Information Bulletin, Bulletin Number: 171 FOR IMMEDIATE RELEASE Date: 11/26/03 for Atmospheric Corrosion Program for Exposed Mains and Services
Table titled "Patrolling Gas Distribution Mains and Service Lines Normally Exposed to the Atmosphere" specifies the Recommended Corrective Time Period based Conditions for two categories:

- Identified Atmospherically Corrosive Location and
- Non-Atmospherically Corrosive Location.

According to Table titled "Patrolling Gas Distribution Mains and Service Lines Normally Exposed to the Atmosphere" the longest allowed corrective time period is 12 months for both categories.

TD-4412P-07 Effective: September 2009 was effective until PG&E published another version, Rev. 5, with Publication Date: 12/18/2013. According to the latest version of TD-4412P-07-F02, "Exposed Piping and Spans" form, employees are instructed to do the following:

"Describe abnormal conditions below (boxes other than "OK" checked above).

- If corrosion pitting or mechanical damage is observed, contact the local supervisor and corrosion engineering as soon as possible.
- Record corrective actions taken, including contacting other parties."

Table 4 shows the findings of the last 3 span inspections conducted in 2010, 2013, and 2015.

SED determined that after about five years after the initial discovery of the conditions requiring remedial actions, Division has not taken necessary corrective actions. This is beyond the allowed mitigation interval stated in PG&E's procedures and forms. Division failed to follow PG&E's internal procedure TD-4412P-07; therefore, PG&E is in violation of 192.605 (a).

Please provide SED of the corrective actions taken to address these findings and the measures taken to prevent similar situations in the future.

Table 4- Span Inspections and findings that were not corrected

Span Location/ Town/ Plat No/ Pipe Diameter	2010		2013		2015	
	Date	Finding	Date	Finding	Date	Finding
1- Tuolumne River-Turlock Canal/ Hickman/ 3239-C4/ 4-in	11/22/10	Paint/Wrap	9/6/13	Paint /Wrap	4/24/15	Needs line markers & complete recoating
2- Fifth-Armstrong/ Crows Landing/ 3365-G5/ 2-in	9/28/10	Wrap missing	9/6/13	Corrosion/ Paint	4/30/15	Needs new line markers and new coatings
3- Gold-Harding/ Turklock /3301-J2/ 3-in	1/17/10	Need wrap at ends	9/17/13	Wrap is splitting, no stickers	4/24/15	Needs recoat
4- T.I.D.#4-Verduga/Turlock/3301-F5/ 3-in	11/22/10	½ of the wrap is gone-pipe rusty	9/17/13	Bare metal (generalized rust or scaling)	4/24/15	Needs line markers & recoat
5- Tully-Lateral #2 1/2/ Keyes/3237-I5?2-in	12/2/10	Poor wrap	9/7/13	Wrap missing-Surface rust	4/28/15	Needs UV Rated coating, pipe has been sprayed with concrete due to canal resurfacing, & needs new line markers and stickers
6- Sperry/Taylor/ Denair/ 3301-B6/ 2-in	11/22/10	Exposed rusty pipe	9/7/13	Bare metal (generalized rust or scaling)	4/24/15	Needs recoat paint
7- Service-Moore/Ceres/3236-G5/ 2-in	12/6/10	Bare pipe at end of span	9/7/13	Needs a sticker	4/28/15	Pipe has no cover before span & new stickers needed
8- Yosemite-Eucalyptus/Waterfront/3181-J1/ 6-in	12/2/10	Poor wrap	9/6/13	Spots of bare metal	4/2/15	Need line markers & recoat all of pipe
9- Main Canal-Center St./ Los Banos/ 3617-F7/ 4-in	1/28/11	Surface rust, wrap peeling	9/8/13	Surface rust, wrap peeling. Need to be painted and fix wrap	4/24/15	Paint, light rust visible along main span

1- 9/6/08 inspection recorded wrap repair, after the inspection in 2015, line markers have been installed
2- 9/20/08 & 8/18/09 inspections also recorded light rust and needed new wrap
3- 9/20/08 & 9/28/09 inspections also recorded some wrap needed

4- 10/21/09 inspection also required wrap repair and after the inspection in 2015, line markers have been installed
5- 9/20/08 inspection also required new wrap

II. Areas of Concern/ Observations/ Recommendations

1. Title 49 CFR §192.465 External corrosion control: Monitoring.

   §192.465 (d) states in part:

   "Each operator shall take prompt remedial action to correct any deficiencies indicated by the monitoring."

   On 11/4/2014, Division found two bi-monthly P/S locations less negative than -.85 volts (13737 and 13236 Yosemite Blvd (Hwy 132)), CPA-3181-01, Waterford. When staff checked the rectifier, 16-377, located at N/S La Gallina Ave. @ "D" St., Waterford, they discovered that the rectifier was not functioning. Action plan record dated 12/8/14 stated *"submitted paper work for new deep well anode*". During the field visit on 5/4/15 Division recorded -.771 V at the test locations and the anode has not been installed yet.

   Please inform SED of the corrective actions when they are completed.

2. CPA-3178-04, at two locations noted below, Division recorded the following P/S reads which did not meet the minimum -.85 V criteria.

P/S read locations	Date	Read (V)	Date	Read (V)	Date	Read (V)	Date	Read (V)
3416 WYCLIFF DR	10/19/14	-.393	12/6/14	.493	2/5/15	-.526	4/7/15	-.522
2825 SCENIC BEND	10/19/14	-.426	12/6/14	.551	2/5/15	-.731	4/7/15	-.783

   On 12/17/14, staff checked the Rectifier located at W/S Lakewood Ave. 12' N/O Freeport Way, Modesto and recorded 0.0 amperage.

   Division corrosion records showed that the action plan was created on 11/5/14 and stated that the anode bed depleted. Follow up action plan dated 12/8/14 stated the following: *"Possibly tie to another system. Replace deep well anode"*. 12/17/14 action plan comments are as follows: *"Install new deep well anode at rectifier 16-200 to replace failed anode bed on Lakewood Dr., Modesto. Single rectifier system CPA is currently unprotected with no way of bonding to another CPA."*

   Division has other updates after this date; however, the job has not been completed. Therefore, the pipeline in this CPA has not been cathodically protected since October 2014.

   Please inform SED of the corrective actions when they are completed.

3. On 11/1/2013, Division recorded -.835 V annual P/S read at 322 W. Sierra Dr., Modesto in CPA-3235-01. Follow action comments dated 1/15/2014 stated "install anodes".

   Division installed four 32 lb. anodes on 1/31/14 and recorded -.855 V on 2/25/14. However, the next annual read at this location recorded -570 mV on 11/20/14. Comments on 12/17/14 stated *"to have meter insulated".*

   SED did not find any other P/S reads and noted that the system has been down since 11/20/14.

Please inform us with the corrective action taken to address the deficiency.

4. SED reviewed Division's 10%er P/S reads and noted that Division recorded -.91 V on 9/22/14. According PG&E's Utility Standard: TD-4181S Publication Date: 03/26/2014 Rev: 0

   "…6.4 10 Percent (10%er) Monitoring
   Separately protected short sections of mains less than 100 feet, or separately protected service lines may be monitored on a sampling basis per 49 CFR 192.465 (a).

   1.4.3. To ensure facilities are protected until the next monitoring cycle, a driveable anode must be installed if the P/S potentials are less negative than -950 mV with reference to a copper-copper sulfate electrode, with cathodic protection current applied…"

   On 5/7/15, SED and Division visited a 10%er P/S location at 3411 Ellie Ct., Denair and recorded -0.94 V. Division informed SED that this location had been identified as low P/S in September, 2014 and was scheduled to be corrected by installing a driveable anode. SED also noted that Division had already called USA to excavate in order to install the anode.

   Please inform SED when Division completes the corrective action along with the latest P/S read taken at this location.

4. On 5/8/15, during the field visit, SED and Division took the following P/S reads which did not meet the minimum -.850 V criteria:

   - -.833 V at 4573 Hope Ln., N/O Salida Blvd, Salida (bi-monthly), that's been down since 3/3/15
   - -.831 at 5025 Curtis St., Salida
   - -.834 2020 Briggsmore Food Max, Modesto, (bi-monthly)

   Please inform SED when Division completes the corrective actions along with the latest P/S reads taken at this location.

5. On 5/8/15, during the field visit SED inspected the exposed span GasFM No: E19, Claribel/Claus DFM, Riverbank, Plat # 3178-B5, pipe diameter 8-in and noted that pipe needed to be recoated. Division also noted the same deficiency during the last inspection on 4/24/15. Inspection record also indicated that both air-to-soil transitions and main piping showed light surface rust and require recoating.

   Please inform SED when Division completes the corrective action along with photos taken at the exposed span.

6. Upon request from SED, Division provided a list of gas leaks caused by corrosion along with the repair forms.

   SED reviewed Division's Leak Repair, Inspection and Gas Quarterly Incident Reports (A-Form) and determined the following:

Table 5 – Number of leaks discovered in 2013 and 2014 by cause

Grade	Number of Leaks by Cause 2013			Number of Leaks by Cause 2014			Total number 2013 & 2014
	AC	EC	IC	AC	EC	IC	
1	37	29	**2**	32	24	-	124
2+	4	5	-	4	3	-	16
2	12	12	**1**	6	7	-	38
3	5	17	-	3	4	-	29
Total	**58**	63	3	**45**	38	-	**207**

AC: Atmospheric Corrosion, EC: External Corrosion, IC: Internal Corrosion

Atmospheric Corrosion:

As can be seen from Table 5, there were a total of 103 leaks caused by AC in 2013 & 2014.

SED reviewed A-Forms for the AC leaks and determined the following:

- Division discovered a total of 69 Grade 1 leaks caused by AC in 2013 and 2014,
- Most of Division's AC inspections were conducted in 2011, 2012, and 2014,
- Some of the personnel who repaired the leaks caused by AC did not have operator qualification (OQ) for OQ- 03.04 Atmospheric Corrosion covered tasks.

SED's analysis found that Division should verify the quality of the AC inspections conducted and AC inspectors' (company or contractor) qualifications and training to ensure that they correctly identify abnormal operating conditions (AOCs) and AOCs discovered as a result of inspections are corrected timely as required by Title 49, CFR, §192.481 (c).

SED also reviewed OQ records of personnel who repaired the leaks and found that following personnel did not have the required qualifications for some OQ tasks:

- Tommy Victor has not been qualified for covered task OQ- 03.04 Atmospheric Corrosion, but he determined the leak cause was AC for the leaks that he repaired.

- Paul Fisicaro was not qualified for OQ- 03.04 before 8/19/13, and was not qualified for OQ-03.05 Pipe Inspection, before 8/19/13 even though the repaired the following Grade 1 leaks, and determined the leak cause was AC on the form:

Leak Number	Repair Date
91-13-50036-1	2/2/13
91-13-50164-1	6/17/13

- Similarly, David Woodman, repairman, was not qualified for covered task OQ- 03.04 before 08/19/2013 even though he determined that AC was the cause of the following leaks that he repaired on A-Forms:

Leak Number	Repair Date
91-13-50028-1	1/29/13
91-13-50051-1	2/20/113
91-13-50069-1	3/1/13
91-13-50081-1	3/12/13

SED noted that in the instances listed above, leak repair personnel should have the basic understanding of EC, IC, and AC since they are responsible for identifying the leak cause.

Therefore, SED recommends that PG&E should provide necessary Corrosion related training for its leak repair personnel.

Internal Corrosion:

In 2013, there were three leaks caused by Internal Corrosion: 91-13-50001, 91-13-50045, and 91-13-50063

In a review Division's A-Forms, SED noted that the leak cause for all of them appeared to be incorrectly categorized as Internal Corrosion since two of them involve PE pipe and the other repair was done by a clamp. SED identified and documented the similar findings in PG&E's other divisions (eg., 2013 Stockton and 2014 Sierra Division audits) and expressed its concerns about incorrectly identifying leak causes and the issue may be related to training of the personnel.

SED recommends that Division should provide sufficient training for its employees for them to correctly identify the leak cause and recording the indications on the forms accurately.

SED noted that correct categorization is essential for the Division not only to further investigate the problem, identify locations by reviewing failure analysis and annual statistics, as described in PG&E's Utility Procedure: TD-4186P-500, Internal Corrosion Control: Annual Program Review Publication Date: 07/16/14, Rev: 0, but also investigate the extent of the corrosion as described and take necessary mitigative measures in order to minimize risk as described in PG&E's Utility Procedure, TD-4186P-400, Internal Corrosion Control: Publication Date: 07/16/14 , Rev: 0.

Please inform SED of the P&M measures to address these deficiencies and provide SED with a copy of most recent refresher training records for its personnel who responsible for identifying leak causes.

7. Division informed SED that PG&E no longer requires supervisors to review corrosion records and forms filled out in the field by using mobile technology. PG&E's Utility Bulletin: TD-4001B-003 Publication Date: 07/17/2013 Rev: 0 Permitted Use of Electronic Record Keeping for Gas M&O Activities states:

   "What does this mean?
   For work processes using mobile technology, this bulletin allows the following deviations from existing standards and work processes:

   5. Electronic validation of data entry replaces supervisor review and signature." (Emphasis added)

   SED reviewed several Corrosion Control records and found that even though certain electronic field validations satisfy the need to have supervisor approval, Division records showed that some

data fields on the forms were left blank and the system allowed the field personnel to finalize and close the inspection forms.

For example, rectifier site evaluation records showed that about one third of the questions appear on the forms do not have electronic validations for data entry, i.e., they can be left blank or out of range data can be entered. The system does not generate any warning; therefore, the rectifier maintenance can be closed with no or invalid data.

Elimination of the supervisor review of inspection forms that are incorrectly filled out or left blank may result in data verification issues. Even though data validation requires certain fields being entered in the field and does not allow the field personnel record anything out of range for some fields; SED is concerned this new electronic validation process should not completely replace the supervisor review process. SED recommends that PG&E require supervisors to verify data accuracy and completeness of a sample of Corrosion Control records that will help the Division take necessary actions if some record keeping deficiencies are identified.