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September 27, 2013

Mr. Mike Robertson
Gas Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission
320 West 4th Street, Suite 500
Los Angeles, CA. 90013

Re: State of California – Public Utilities Commission

General Order 112-E Audit – PG&E's East Bay Division

Dear Mr. Robertson:

The Safety and Enforcement Division (SED) Gas Safety and Reliability Branch (GSRB) of the CPUC conducted a General Order 112-E audit of PG&E's East Bay Division from September 17 to 21, 2012. On August 19, 2013, the SED submitted their audit report, identifying violations and findings. Attached is PG&E's response to the CPUC audit report.

Please contact Larry Berg at (925) 328-5758 or <u>LMB5@pge.com</u> for any questions you may have regarding this response.

Sincerely,

/S/

Frances Yee

Attachments

cc: Aimee Cauguiran, CPUC Dennis Lee, CPUC Liza Malashenko, CPUC Larry Berg, PG&E Larry Deniston, PG&E Bill Gibson, PG&E Jane Yura, PG&E

INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 17-21, 2012	Internal Audit	Aimee Cauguiran	(415) 703-2055

PG&E INTERNAL AUDIT FINDINGS

A. PG&E Internal Audit Findings

Prior to start of the audit, PG&E provided the results of their internal audit of the East Bay Division's (Division) records for both Oakland and Richmond. On 10/17/2012, PG&E provided additional findings from its internal review of corrosion records. Many of PG&E's internal audit findings are violations of PG&E's own standards, and therefore a violation of Title 49 CFR §192.13(c). Other issues found are violations of Title 49 CFR 192 as shown in Table 1.

We note that the Division already corrected several findings, while some were addressed during their subsequent scheduled maintenance.

Table 1: PG&E Internal Audit Findings of the Division

	GO-112E Section or 49 CFR Part 192	Topic	# of Violations	# of Violations Corrected	# of Pending Corrections (as of 8/30/13)
	192.723(b)(1) and	Distribution Leak	1	1	0
1	192.723(b)(2)	Survey – Surveyed Late	1	1	U
2	192.13(c)	Distribution Leak Survey – Supervisor sign off, wind speed info missing, late recheck for existing leaks	4	4	0
3	192.706	Transmission Leak Survey- Semi-annual (Late survey)	22	22	0

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4	192.13(c)	Distribution Leak Repairs – Late recheck, missing USA info, missing P/S reads, use of white out on records, missing sketch	7	7	0
5	192.703(c)	Distribution Leak Repairs - Repaired late	3	3	0
6	192.465(a) and 192.465(b)	Corrosion Control – Late monitoring (10%ers, Annuals)	147	147	0
7	192.13(c)	Corrosion Control – Corrective Action Plans missing or created late, Late CPA resurveys, Incomplete or incorrect documentation of CPA resurvey,	22	22	0
8	192.747(a) and 192.747(b)	Emergency valves – Late maintenance and repair	26	20*	6
9	192.13(c)	Instrument Calibrations – Pressure chart recorders, Leak survey equipment, Mark and Locate equipment, Electrodes	18	18	0

^{*}At the time of the East Bay Division Audit, PG&E had indicated that the 6 inoperable valves would be mitigated. The SED audit report showed all 26 violations were corrected. This number has been updated to reflect the outstanding work.

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PG&E RESPONSE

All internal review findings in Table 1 have been corrected as of August 30, 2013, with the exception of 6 Emergency valves noted on line item #8 of the table.

The 6 emergency valves on line item #8 are deemed inoperable and have not yet been remediated, with repair or replacement scheduled for the 2nd quarter of 2014. PG&E will continue to have an alternate means of control in place for these 6 inoperable valves. PG&E acknowledges that the scheduled replacement or repair of these valves was not adequately tracked, and has implemented a Company-wide Corrective Action Program (CAP). CAP provides a process to identify corrective actions, and ensure that they are tracked to completion.

ATTACHMENTS

None

ACTION REQUIRED

Action to be Taken	Due Date	Completion Date	Responsible Dept.
Remediate the 6 remaining inoperable valves	2nd Quarter of 2014		Gas Dist. Eng. & Design – East Bay Division

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 17-21, 2012	NOV-1	Aimee Cauguiran	(415) 703-2055

INSPECTION FINDING

1.

CPUC Finding

Title 49 CFR §192.13(c) states in part:

"Each operator shall maintain, and modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part."

- a. Corrosion Records
- i. PG&E Gas Standard and Specifications (GS&S) O-16 requires that after a Cathodic Protection Area (CPA) has been restored and repolarized, the final pipe-to-soil (P/S) on-potential and rectifier measurements must be recorded on the appropriate form.

SED found that CPA C7-229, bimonthly location at 2345 Thackeray Drive, Oakland had a P/S reading that did not meet the -850 mV criteria on 4/11/2011. On 6/5/2011, the Division restored this location; however, there was no record of a post-restoration rectifier measurement. On 10/4/2011, this same location had a P/S reading that did not meet the -850 mV criteria and again there was no post-restoration rectifier measurement recorded when the Division restored the location on 10/24/2011. Therefore, the Division is in violation of 192.13(c) for failing to comply with PG&E GS&S O-16.

ii. PG&E WP4133-02 requires a CPA resurvey to be conducted once every six years. Part of the CPA assessment requires gathering historical CPA P/S reads and other records to complete the "Initial CPA Assessment Worksheet" which is used to determine whether to conduct a short (no field) or long (requires field work) resurvey. Also, the CPA Resurvey File Review Form requires that the final maps used be color-coded and must contain a legend and the corrosion mechanic's initials and date. The CPA Resurvey File Review Form asks if "[t]he lowest pipe-to-soil on-potential in the CPA is at least as negative as -850 millivolts with reference to a saturated copper-copper-sulfate electrode". SED found that the CPA resurvey record for CPA C7-10A in September of 2010 showed the Division filled this question out with

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an "OK". However, SED's review of the historical records showed the P/S reads for this CPA did not meet the -850 mV criteria since 2009. In which case, the Division should have answered this question with a "No". Furthermore, although the CPA map noted P/S reads, there was no legend or notes indicating a date when the Division had taken the P/S reads. Therefore, the Division is in violation of 192.13(c) for failing to comply with PG&E WP4133-02.

iii. PG&E GS&S O-16 requires yearly monitoring on distribution piping at all locations where the failure of a locating wire will cause a section of steel main to become isolated and not be detected during bimonthly monitoring of cathodic protection.

The record of annual P/S monitoring for CPA C9-10B2 at 2231 Lincoln – West building indicated that the Division monitored the CPA on 2/12/2010. However, there was no P/S read recorded for the East building; instead the Division noted this location as a "Duplicate". SED reviewed the map of CPA C9-10B2 and found two separate services for 2231 Lincoln in Alameda. One service was for the West building and the other was for the East building. The service leading to the East building is protected using a locating wire, which requires separate yearly monitoring per PG&E's GS&S O-16 Procedure. The Division did not monitor this service in 2010; therefore, the Division is in violation of 192.13(c) for failing to comply with PG&E GS&S O-16.

b. Emergency Zones

PG&E UO Standard S5000 requires the Division to review the Emergency Zone Curtailment binder annually, not to exceed 15 months. The review procedure shall include key map(s) of all zones; valve area maps and/or a table summary for each zone listing valve numbers, sizes, and locations; lists of zones that affect the shutdown of adjacent zones, key customers in each zone, and the total number of services in each zone; and a review/change log. SED reviewed the Division's Emergency Zone Curtailment binder and found that it did not have a review/change log indicating compliance with the annual review requirement. Therefore, the Division is in violation of 192.13(c) for failing to comply with PG&E UO Standard S5000.

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PG&E RESPONSE

1(a)(i)

PG&E agrees with the finding, and failed to adhere to PG&E's Gas Standard & Specification O-16, "Corrosion Control of Gas Facilities," Section 6.A.1: CPA Restoration – Cathodic Protection Restoration for Distribution and Local Transmission.

PG&E has since visited 2345 Thackery Drive, Oakland and has verified adequate cathodic protection (see Attachment 1).

To prevent recurrence, PG&E conducted a tailboard with the Local Corrosion Group on CPA Restoration requirements on August 23, 2013(Attachment 2). The Corrosion Supervisor will conduct monthly record reviews to ensure requirements are met, including obtaining post-restoration rectifier output readings. PG&E will also continue to generate action plans for all low reads that are not remediated within 30 days. PG&E has also implemented an electronic notification process to ensure these action plans are updated monthly.

1(a)(ii)

PG&E agrees with the finding. PG&E corrected the Initial CPA Assessment Worksheet (see Attachment 3) by revising the "OK" with a "No", including the date of the change and the division personnel's Lan ID. PG&E updated the Final CPA Map (see Attachment 4) to include color coding, a legend, the division personnel's Lan ID, and resurvey date according to requirements in PG&E WP4133-02, Attachment 3: CPA Resurvey File Review Form. The Final CPA Map also shows all reads are in compliance and meet the -850mV requirement.

PG&E will also continue to generate action plans for all low reads that are not remediated within 30 days. PG&E has also implemented an electronic notification process to ensure these action plans are updated monthly.

PG&E conducted a tailboard with the Local Corrosion Group on CPA Assessment and Resurvey requirements on August 23, 2013 to prevent recurrence (see Attachment 2). The Corrosion Supervisor will conduct monthly record reviews to ensure requirements are met including Initial CPA Assessment and CPA Map documentation.

1(a)(iii)

PG&E agrees with this finding. PG&E corrected the records by establishing the West Building service as an annual monitoring point and the East Building service as a yearly monitoring point (see Attachment 5).

PG&E conducted a tailboard to Corrosion Dept. personnel on yearly monitoring point

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AOC - Area of Concern

requirements to prevent recurrence. The Corrosion Supervisor will conduct monthly record reviews to ensure requirements are met including monitoring point requirements and their schedule.

1(b)

PG&E respectfully disagrees with the finding, and has continued to maintain a change log form in the Emergency Zone Curtailment Binders. PG&E acknowledges that there should be more detail and clarification when documenting the annual review and will be conducting a tailboard for adequately documenting the annual review of emergency zone curtailment binders.

ATTACHMENTS

Attachment #	Title or Subject
1	Standard Cathodic Protection Maintenance Report for 2345 Thackery in Oakland
2	Tailboard for CPA Restoration Requirements, CPA Assessment, Resurvey Requirements, and Monitoring Point Requirements
3	Initial CPA Assessment Worksheet
4	Final CPA Map
5	Standard Cathodic Protection Maintenance Report for 2231 – East and West Building in Alameda

ACTION REQUIRED

Action to be Taken	Due Date	Completion Date	Responsible Dept.
Conduct a tailboard for adequately documenting the annual review of emergency zone curtailment binders.	11/30/2013		Gas Dist. Eng. & Design – East Bay Division

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 17-21, 2012	NOV-2	Aimee Cauguiran	(415) 703-2055

INSPECTION FINDING

CPUC Finding 2. 49 CFR §192.747 Valve maintenance: Distribution systems.

- "(a) Each valve, the use of which may be necessary for the safe operation of a distribution system, must be checked and serviced at intervals not exceeding 15 months, but at least once each calendar year.
- (b) Each operator must take prompt remedial action to correct any valve found inoperable, unless the operator designates an alternative valve."
- a. Corrective Work and Alternative Valve Designation On 11/02/2011, the Division completed a Priority A (immediate) corrective work form for valve K-35. SED reviewed the form and found that there was no record of action taken or an alternative valve designated for the inoperable valve, which is a violation of 192.747(b).
- b. Inoperable Alternative Valve Designations SED found that the inoperable emergency valves listed in Table 2 were designated alternate valves by the Division which were also inoperable. Thus, the Alternate Means of Control (AMC) established by the Division were ineffective. Additionally, the Division found Valve B-33 inoperable on 5/27/2011 and did not create an AMC until 6/27/2012. Therefore, the Division is in violation of 192.747(b).

Table 2: Inoperable Emergency Valves

Valve	Date Division Found Inoperable	Date Division created AMC	Designated Inoperable Valves
B-31	6/25/2012	6/27/2012	B-33, B-37, B-38 and

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			M-37
B-33	5/27/2011	6/27/2012	B-37, B-38
			and M-37
B-37	6/25/2012	6/27/2012	B-31, B-33,
			B-38, and
			M-37
B-38	6/25/2012	6/27/2012	B-31, B-33,
			B-37, and
			M-37

PG&E RESPONSE

2(a)

PG&E respectfully disagrees that this finding is a violation of 192.747(b). Valve K-35 was placed on an expedited repair schedule and per the maintenance records, was operational during this entire time. Valve K-35 was replaced with straight pipe on October 8, 2012 (see Attachments 6, 7, and 8).

2(b)

PG&E agrees with the finding. Valves B-31 and B-33 are now operable (see Attachments 9 and 10), and PG&E has updated the AMC's for B-37 and B-38 (see Attachments 11 and 12). Additionally, PG&E will conduct a tailboard meeting between planning and engineering to ensure all AMC valves are operable prior to designating.

The time duration concern for writing the AMC for Valve B-33 is addressed in the response to Item AOC-1 regarding Establishing Alternate Means of Control (AMC) for Inoperable Valves.

ATTACHMENTS

Attachment #	Title or Subject
6,7,8	Valve card for K-35, and as built for straight pipe.
9	Valve Maintenance Card for B-31

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10	Valve Maintenance Card for B-33
11	AMC for B-37
12	AMC for B-38

ACTION REQUIRED

Action to be Taken	Due Date	Completion Date	Responsible Dept.
Conduct a tailboard meeting to ensure all AMC's are operable prior to designating.	11/30/2013		Gas System Planning – East Bay Division

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 17-21, 2012	NOV-3	Aimee Cauguiran	(415) 703-2055

INSPECTION FINDING

CPUC Finding

- 3. 49 CFR §192.743 Pressure limiting and regulating stations: Capacity of relief devices.
- "(a) Pressure relief devices at pressure limiting stations and pressure regulating stations must have sufficient capacity to protect the facilities to which they are connected...
- ...(c) If a relief device is of insufficient capacity, a new or additional device must be installed to provide the capacity required by paragraph (a) of this section."

SED found in its review of the relief capacity calculation for regulating station R-E09 that the Division found the relief valve at the station to be of insufficient capacity in 2005. According to the Division representative, there is a plan in place to convert the regulating station to a regulator-monitor set-up which would eliminate the need for the relief valve and that the reconstruction of the station is pending a permit from the City of Berkeley. However, there was no record showing any corrective work or interim measure taken by the Division to ensure overpressure protection of the pipe pending replacement of the regulating station. Therefore, the Division is in violation of 192.743(c).

PG&E RESPONSE

PG&E agrees with the finding. The regulator station is scheduled for replacement and will be constructed by the second quarter of 2014. As an interim measure to have adequate relief valve capacity, PG&E is planning to install a limiting capacity component to the working regulator so that its capacity will be less than the capacity of the relief valve. PG&E will ensure the relief valve is of adequate capacity by November 30, 2013.

To prevent recurrence, East Bay Division Gas T&R and local engineering personnel will initiate corrective orders for prompt remedial actions whenever inadequate relief valve capacity has been determined.

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ATTACHMENTS

	N 1	
	None	
	110110	

ACTION REQUIRED

Action to be Taken	Due Date	Completion Date	Responsible Dept.
Install capacity limiting component in working regulator	November 30, 2013		Gas Dist. Eng. & Design – East Bay Division
Replace Regulator Station	June 30, 2014		Gas Dist. Eng. & Design – East Bay Division

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 17-21, 2012	FO-1	Aimee Cauguiran	(415) 703-2055

INSPECTION FINDING

CPUC Finding	1. 3033 Kingsland Place, Oakland		
	SED observed that the service regulator vent at this location was too close to a house air vent and utility enclosure. SED recommended putting an extension stem to relocate the vent to avoid natural gas accumulation should the regulator vent release gas.		
	During the close out meeting, Division personnel stated that this work was completed. Please provide records to show that the work was completed.		

PG&E RESPONSE

PG&E has remediated this condition, and installed a regulator vent extension to avoid natural gas accumulation into the building opening. The work was completed on September 26, 2012 (see Attachments 13 and 14).

ATTACHMENTS

Attachment #	Title or Subject	
13	PG&E Multipurpose Customer Service Order	
14 Picture of Regulator Vent Extension		

ACTION REQUIRED

No Further Action Required	
No Further Action Required	

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 17-21, 2012	FO-2	Aimee Cauguiran	(415) 703-2055

INSPECTION FINDING

CPUC Finding

2. Casing Monitoring

SED found a casing Electrolysis Test Station (ETS) with no labels on the wires. When SED asked the Corrosion Mechanic performing the P/S and casing-to-soil (C/S) measurements how to determine which wire is connected to the pipe or the casing, the Mechanic explained that a reading of -850 mV or less negative is an indication that the wire is connected to the gas carrying pipe, while a reading more positive than -850 mV indicates a connection to the casing. Although this may be true for casings which have effective electrical isolation, this may not be apparent for casings with electrolytic or metallic contact.

For instance, during SED's field inspection of L-105A casing at Hollis Street located south of 40th Street in Emeryville, SED identified two ETSs which contained 2 lead wires each. The first ETS measured -366 mV and -350 mV, while the second ETS measured -920 mV and -945 mV. Without the labels, a Division Corrosion Mechanic could incorrectly assume that the two lead wires in the first ETS were connected to the casing, while the two lead wires in the second ETS were connected to the gas carrying pipe.

Similarly, field inspection of L-105A casing at Hollis and 53rd Streets in Emeryville had one ETS with two unlabeled lead wires and there was no visible casing vent close to the ETS. One lead wire measured -875 mV and the other was -950 mV. Since both were less negative than -850 mV, it was not apparent which lead wire was connected to the gas carrying pipe and/or the casing. Thus, this can be construed as either a possible electrolytic contact at this casing location, or that both lead wires are connected to the gas carrying pipe, and that the Corrosion Mechanic should look for a second ETS to take a casing-to-soil reading.

The Division needs to clearly indicate, either by putting labels on the lead wires or providing accurate ETS diagrams, which lead wire is connected to the pipe or casing to provide better guidance to the Division Corrosion Mechanics performing the P/S and C/S measurements.

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PG&E RESPONSE

PG&E agrees with this observation, and will be installing labels at the two locations by September 30, 2013. PG&E is also creating a new standard, O-10, "Electrolysis Test Station Connection to Main," which will require permanent tags to be installed on wires for new installations and added to the existing casing and pipe leads.

ATTACHMENTS

Г	News
	None

ACTION REQUIRED

Action to be Taken	Due Date	Completion Date	Responsible Dept.
Install labels at two locations	9/30/2013		East Bay Corrosion Department
Create Gas Standard O-10	9/30/2013		Corrosion Engineering Department

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 17-21, 2012	AOC-1	Aimee Cauguiran	(415) 703-2055

INSPECTION FINDING

CPUC Finding

1. Establishing Alternate Means of Control (AMC) for Inoperable Valves

On 8/26/2010, PG&E issued Gas Information Bulletin Number TD-4430B-001 to provide clarity on the administrative expectations concerning the restoration of inoperable emergency valves including the procedure to complete an AMC. The bulletin currently requires that "upon discovery of an inoperable valve" the AMC procedure must be followed. The bulletin further states, "Complete AMC procedure for inoperable valves which are not promptly repaired... All emergency valves found inoperable must be restored to service within 12 months of the finding..." [Underlined for emphasis]. SED believes that these statements can cause confusion as to when an AMC is expected to be created. "Upon discovery" can be interpreted as creating an AMC immediately after an emergency valve is found inoperable. In contrast, requiring an AMC to be completed for inoperable valves which are not promptly repaired can be interpreted as creating an AMC if the inoperable valve was not repaired within 12 months. For example, the Division created an AMC for Valve B-33 13 months after the Division initially found the valve inoperable. Thus, SED recommends that PG&E specify a timeframe to designate an AMC to eliminate possible confusion and misinterpretation. We recommend that an AMC should be designated if not immediately after it is found inoperable, sooner than 12 months.

PG&E RESPONSE

PG&E agrees with this observation and is specifying the timeframe to create an AMC in the upcoming revision to Work Procedure TD-4430P-04.

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ATTACHMENTS

None	

ACTION REQUIRED

Action to be Taken	Due Date	Completion Date	Responsible Dept.
Publish revisions to work procedure TD-4430P-04.	10/31/2013		Codes and Standards

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 17-21, 2012	AOC-2	Aimee Cauguiran	(415) 703-2055

INSPECTION FINDING

CPUC Finding

2. Records of Inoperable Emergency Valves

SED found that the emergency valve maintenance records for the following inoperable emergency valves in which the Division designated AMCs, had no records available during the audit indicating when the Division initially found the valves inoperable. Thus, SED was not able to assess the promptness of the actions taken after the Division discovered the valves inoperable, including the designation of the AMCs.

- a. The emergency zone map for Zone S23-C (Oakland) shows Valve D-96 as "not operable".
- b. The AMC created for Valve K-42 on 12/22/2011 noted that Valves J-22, K-42, and ZV-5 are inoperable and that emergency zones EB-N01-C-a and EB-N01-C-b (Richmond) are to be combined and shut down together. However, there were no records showing when the Division found the three valves inoperable.

PG&E RESPONSE

2(a)

PG&E agrees with this area of concern, and D-96 should have been removed from the emergency zone map since it was deactivated. The emergency zone map is currently redline and is being updated. PG&E will be conducting a tailboard to address this concern with Engineering and Mapping.

2(b)

PG&E agrees with the area of concern for Item b. The AMC for K-42 was created but there were no Valve Maintenance Cards written for Valves J-22, K-42, and ZV-5. Therefore, no records were available to determine when all three valves were inoperable. These 3 valves are operable and valve maintenance cards have been created (Attachment 15).

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ATTACHMENTS

Attachment #	Title or Subject
15	Valve maintenance cards for J-22, K-42, ZV-5

ACTION REQUIRED

Action to be Taken	Due Date	Completion Date	Responsible Dept.
Finalize changes to Emergency Zone Map	11/30/2013		East Bay Division Engr and Design, and Mapping
Conduct a tailboard meeting to ensure all AMC's are operable prior to designating.	11/30/2013		Gas System Planning – East Bay Division

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INSPECTION INFORMATION

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
September 17-21, 2012	AOC-3	Aimee Cauguiran	(415) 703-2055

INSPECTION FINDING

CPUC Finding	3. Distribution Patrols
	During the audit, SED staff asked whether the Division had some distribution pipelines (operating at or below 60 psig) that are patrolled under the requirements of 49 CFR §192.721(b). According to the
	Division representative, outside of the landslide patrols which
	frequency is dictated by a separate PG&E department, there are no
	regular distribution pipeline patrols conducted.
	Has PG&E identified any distribution pipeline throughout its system
	that are subject to the distribution patrolling requirements under 49
	CFR §192.721(b)? If so, please provide a list of PG&E divisions where
	these pipelines are located, and a description of the process used for
	identifying these areas.

PG&E RESPONSE

PG&E agrees with this area of concern and is working to develop a new GIS which will incorporate geohazard shapefiles to identify areas of ground movement that would require additional patrolling. This shapefile will include ground movement data from USGS as well as areas identified through historic patrol records as being susceptible to ground movement such as landslides and erosion.

PG&E also utilizes the DASH reporting tool, which incorporates pipeline locations and their proximity to seismic activity and identifies areas for additional monitoring. Additionally, PG&E monitors heavy rainfall and incorporates soil conditions to determine areas of elevated risk that require additional monitoring, such as patrols. PG&E patrols 960 miles of distribution feeder main system-wide, monthly, on a voluntary basis.

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ATTACHMENTS
None
ACTION REQUIRED
No Additional Action Required

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