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

October 23, 2014

Mr. Sumeet Singh, Vice President GA2014-03
Pacific Gas and Electric Company
Gas Asset and Risk Management
6111 Bollinger Canyon Road, Office #4590-D
San Ramon, CA 94583

SUBJECT: General Order 112-E audit of PG&E's Sonoma Division

Dear Mr. Singh:

On behalf of the Safety and Enforcement Division (SED) of the California Public Utilities Commission, Wai-Yin Chan, Alula Gebremedhin, Paul Penney, Alin Podoreanu, Nathan Sarina, Maria Solis, and Kan Wai Tong conducted a General Order 112-E audit of Pacific Gas and Electric Company's (PG&E) Sonoma Division (Division) from April 14 through 18.

A Summary of Audit Findings (Summary), which contains probable violations and areas of concerns and recommendations identified by SED staff, is included as an attachment to this letter.

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

If you have any questions, please contact Alin Podoreanu at (916) 928-2552 or by email at alin.podoreanu@cpuc.ca.gov.

Sincerely,

Kenneth A. Bruno

Kenneth Bruno
Program Manager
Gas Safety and Reliability Branch
Safety and Enforcement Division

Enclosure: Summary of Inspection Findings

cc: Larry Deniston, PG&E
Larry Berg, PG&E
Dennis Lee, SED
Terence Eng, SED

SUMMARY OF INSPECTION FINDINGS

A. PG&E's Internal Audit Findings

Prior to the start of the audit, PG&E provided SED its findings from the internal review it conducted of the Division. Some of PG&E's internal review findings are violations of PG&E's operations and maintenance standards, and are therefore violations of Title 49 Code of Federal Regulations (CFR), §192.13(c). Table 1 lists all of the violations that PG&E noted.

Table 1: Sonoma Division Internal Findings Summary

Topic	Code	Finding	Instances	Corrected?
Corrosion Control	192.467	Casings not monitored in 2012	105	Yes
Leak Repair	192.605(a)	Leaks with late action in 2012	1	Yes
	192.605(a)	Leaks with late action in 2013	14	Yes
Regulator Stations	192.13(c)	Maintenance records not reviewed by supervisor within required 30 days	2	Yes
Valves	192.745/ 192.746	Missed valve maintenance	1	Yes
	192.13(c)	Corrective work noted on maintenance record not completed	1	Pending
Odorization	192.805	Odor intensity tests conducted by a non-qualified operator	1	Yes

SED is aware that PG&E corrected some of its findings prior to SED's audit. Please provide SED an update on the items that were still pending corrective actions as of April 18, 2014.

B. Audit Findings and Probable Violations

1. Title 49 CFR §192.13(c) states:

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

   1.1 PG&E's Standard O-16, Corrosion Control of Facilities dated March 2009 states in part:

   p.10, 6.A.3 CPA Restoration

   "If the CPA restoration work is (or is expected to be) over 30 days, the "CPA Follow-Up Action Plan" form (Attachment B) must be used and developed within 30 calendar days from the date the CPA is found below adequate levels of protection, as defined by the current 49 CFR 192, Subpart I."

   SED reviewed cathodic protection area (CPA) records and found that the Division did not develop a "CPA Follow-Up Action Plan" within 30 calendar days from the date the CPA

was found to have below adequate levels of protection at the following locations listed in Table 2.

Table 2: Late CPA Follow-Up Action Plans

Item	CPA	Date Low CP discovered	Date of Action Plan	Interval (days) between dates
1	635-02A	1/7/2013	4/10/2014	458
2	636-01	1/7/2012	4/1/2014	815

1.2 PG&E's Standard O-16, Corrosion Control of Facilities dated March 2009 states in part:

p.9, 5.A.(1) Annual:

"Any P/S potential that is found to be less negative than −850 mV must be restored within 30 calendar days from the day it was discovered. If the CPA restoration work is expected to require more than 30 days to complete, a written action plan must be created and maintained current using the "CPA Follow-Up Action Plan" form (Attachment B)."

SED reviewed cathodic protection records and found that the Division did not develop a "CPA Follow-Up Action Plan" when work was expected to require more than 30 days to complete at the following annual location listed in Table 3.

Table 3: Late CPA Follow-Up Action Plans

CPA	Location	Date of Low CP	Date of Action Plan
633-04	4008 Jobe Ln, Annual ETS	6/10/2013	8/16/2013

1.3 PG&E's Standard O-16, Corrosion Control of Facilities dated March 2009 states in part:

p.10, 5.A. (3) 10%er Monitoring:

"Any "10%er" read that is found to be less negative than −850 mV must be restored within 30 calendar days from the day it is discovered. If the CPA restoration work is expected to require more than 30 days to complete, a written action plan must be created and maintained current using the "CPA Follow-Up Action Plan" form (Attachment B) until adequate P/S potentials are restored."

The Division provided SED with one CPA Follow-Up Action Plan dated January 2, 2013 for all 10%ers listed in Table 4; however most 10%ers were determined to be out of compliance *after* the date the action plan was developed. SED believes that preemptive development of CPA Follow-Up Action Plans does not adequately address the requirements of PG&E's standard.

Table 4: Missing CPA Follow-Up Action Plans

Item	Location	P/S Reading Date (mV)	Restored P/S Reading Date (mV)
1	7180 HWY 116, Forestville	-580 (1/4/2012)	-1306 (2/29/2012)
2	7164 HWY 116, Forestville	-580 (1/4/2012)	-1360 (2/29/2012)
3	453 Healdsburg Ave., Healdsburg	-452 (8/15/2012)	-1004 (12/21/2012)
4	5165 Aldo Ct., Sebastopol	-612 (5/24/2013)	-1232 (9/26/2013)
5	915 Santa Dorotea Cir., Rohnert Park	-848 (5/21/2013)	-1548 (1/3/2014)
6	236 Carleton Dr., Ukiah	-733 (5/17/2013)	-1646 (8/6/2013)
7	1920 North State Str., Ukiah	-356 (5/17/2013)	-1622 (10/5/2013)
8	245 Carleton Dr., Ukiah	-846 (5/17/2013)	-1409 (8/23/2013)
9	1798 Elm Dr., Ukiah	-550 (5/17/2013)	-990 (8/6/2013)
10	1112 Elm Str., Ukiah	-789 (5/17/2013)	-1376 (8/6/2013)
11	1150 Elm Str., Ukiah	-820 (5/17/2013)	-1520 (10/22/2013)
12	289 Freitas Ave., Ukiah	-846 (5/16/2013)	-1515 (10/5/2013)
13	1351 Lily Str., Healdsburg	-849 (3/5/2013)	-853 (12/3/2013)
14	916 Baird Rd., Santa Rosa	-390 (11/13/2013)	-1443 (1/14/2014)
15	9672 Sonoma Hwy., Kenwood	-81 (6/5/2013)	-1645 (1/3/2014)
16	3289 Old Gravenstein Hwy., Santa Rosa	-291 (6/5/2013)	-1648 (8/5/2013)
17	6039 Dolores Dr., Rohnert Park	-590 (6/5/2013)	-965 (1/3/2014)
18	1776 Las Pravadas Ct., Santa Rosa	-770 (6/6/2013)	-1680 (1/13/2014)
19	4045 Princeton Dr., Santa Rosa	-639 (6/6/2013)	-1600 (8/12/2013)
20	4352 Mayette Ave., Santa Rosa	-771 (6/6/2013)	-1790 (7/20/2013)
21	4925 Stonehedge Dr., Santa Rosa	-822 (6/6/2013)	-1543 (7/20/2013)
22	3460 Moore Rd., Santa Rosa	-360 (6/6/2013)	-1130 (1/9/2014)
23	1923 Marin Dr., Santa Rosa	-826 (6/6/2013)	-1018 (7/20/2013)
24	2900 St. Paul Dr., #13, Santa Rosa	-810 (6/6/2013)	-1548 (7/20/2013)
25	2972 Yulupa Ave., #45, Santa Rosa	-725 (6/6/2013)	-1343 (8/12/2013)
26	6510 Stonebridge Rd., Santa Rosa	-707 (6/10/2013)	-1427 (1/6/2014)
27	7416 Oak Leaf Dr., Santa Rosa	-838 (6/10/2013)	-1623 (9/20/2013)
28	980 Aston Ave., Santa Rosa	-785 (9/21/2013)	-1620 (11/14/2013)
29	2321 Hilltop Dr., Santa Rosa	-684 (9/28/2013)	-1540 (1/2/2014)
30	38 Westgate Cir., Santa Rosa	-795 (10/1/2013)	-1575 (12/30/2013)
31	70 Westgate Cir., Santa Rosa	-784 (10/1/2013)	-1570 (12/30/2013)
32	156-158 N. Main Str. Sebastopol	-831 (11/8/2013)	-1453 (1/2/2014)
33	201 Santa Alicia Bldg. 11, Rohnert Park	-729 (11/18/2013)	-1238 (12/31/2013)
34	1308 Lily Str., Healdsburg	-761 (9/6/2013)	-860 (12/5/2013)
35	435 Oak Manor Dr., Ukiah	-791 (6/27/2013)	-980 (8/14/2013)
36	2801 N State Str., Ukiah	-430 (6/2/2013)	-1104 (12/10/2013)
37	336 Center Str., Healdsburg	-492 (10/9/2013)	-1076 (1/6/2014)
38	117 Plaza Str., Healdsburg	-742 (10/9/2013)	-1098 (1/6/2014)
39	330 Healdsburg Ave., Healdsburg	-836 (10/9/2013)	-1201 (1/6/2014)
40	250 Healdsburg Ave., Healdsburg	-503 (10/12/2013)	-981 (1/6/2014)
41	208 Healdsburg Ave., Healdsburg	-542 (10/12/2013)	-1183 (1/6/2014)
42	334 Center Str., Healdsburg	-519 (10/9/2013)	-879 (1/21/2014)
43	247 Healdsburg Ave, Healdsburg	-407 (10/16/2013)	-1114 (1/21/2014)

1.4 PG&E's Utility Standard EMER-6010S dated December 19, 2011, p.6, states in part:

5.2.2 "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."

…

5.2.4 "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."

The Division could not provide SED the Division's 2012 after action report (AAR) as required by PG&E's Utility Standard EMER-6010S Section 5.2.4.

1.5 PG&E's Document O-11.1, Cathodic Protection Rectifiers, Installation and Purchasing Data, dated March 19, 2009 p.1 states in part:

"7. Use a continuous wire with no splices to connect the ground rod to the solid, neutral bus inside the disconnect switch box. Test the resistance of the grounding system. If the ground resistance of the ground rod is greater than 25 ohms, install a second ground rod (with a continuous wire from the ac disconnect switch) 6' apart from the first ground rod."

SED found rectifier maintenance documentation showing ground resistance greater than 25 ohms in the following instances:

Table 5: Rectifier ground resistance

Rectifier #	CPA	2012 (Ohms)	2013 (Ohms)
1005	129-02	28	26.7
1007	L21-N-01E	27	27.3
262	129-03	25	39
312	130-01	34	29

PG&E should install a second ground rod at these locations.

2. Title 49 CFR §192.227(a) states:

"Except as provided in paragraph (b) of this section, each welder must be qualified in accordance with section 6 of API 1104 (incorporated by reference, see §192.7) or section IX of the ASME Boiler and Pressure Vessel Code (incorporated by reference, see §192.7). However, a welder qualified under an earlier edition than listed in §192.7 of this part may weld but may not requalify under that earlier edition."

API 1104 "Welding of Pipelines and Related Facilities": (20th edition, October 2005, 6.7 Retesting) states:

"If, in the mutual opinion of the company and the contractor's representatives, a welder fails to pass the qualification test because of unavoidable conditions or conditions beyond his control, the welder may be given a second opportunity to qualify. No further retests shall be given until the welder has submitted proof of subsequent welder training that is acceptable to the company."

The Division could not provide SED proof of subsequent welder training required for the retests given on February 25, 2013 and August 26, 2013 listed in tables 6A and 6B, respectively.

Table 6A: Welder Qualification Tests

LAN ID	Date	Pipe Diameter	Weld Type	Pass/Fail
KAMH	2/7/2013	12"	Exx10/Butt	Failed
KAMH	2/25/2013	12"	Exx10/Butt	Passed

Table 6B: Welder Qualification Tests

LAN ID	Date	Pipe Diameter	Weld Type	Pass/Fail
KAMH	8/8/2013	12"	Exx10/Butt	Failed
KAMH	8/26/2013	12"	Exx10/Butt	Failed

3. Title 49 CFR §192.491(a) states:

"Each operator shall maintain records or maps to show the location of cathodically protected piping, cathodic protection facilities, galvanic anodes, and neighboring structures bonded to the cathodic protection system. Records or maps showing a stated number of anodes, installed in a stated manner or spacing, need not show specific distances to each buried anode."

SED reviewed cathodic protection records for CPA-634-20 and found that records failed to show the location of galvanic anodes for the following isolated sections of pipe:

a. Camellia Court, Santa Rosa, between Southwood Drive and Gloria Drive
b. Gloria Drive, Santa Rosa, between Camellia Court and Westwood Drive

4. Title 49 CFR §192.605(a) states in part:

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

PG&E's Standard O-16, Corrosion Control of Facilities dated March 2009 states in part:

p.7, D. Yearly Reads:

"Yearly P/S on-potential monitoring points shall be established on distribution piping CPAs in the following circumstances:

- *Establish yearly monitoring points at all locations where the failure of a locating wire will cause a section of steel main to become isolated and not be detected by bi-monthly monitoring.*
- *Where a regulator station is tied to a CPA via a wire, the regulator station shall be established as a yearly read.*

These yearly read locations do not have an "anniversary month," but shall be read at least once during each calendar year."

The division failed to read pipe-to-soil potentials at the following Yearly electrolysis test stations (ETS) in 2013:

a. 792 Liana Drive, Santa Rosa
b. 517 Southwood Drive, Santa Rosa
c. 1122 Valerie Way, Santa Rosa
d. 20523 Palmer Avenue, Sonoma
e. ETS on Leveroni Road west of Fryer Creek Drive, Sonoma
f. Harrington Drive at 5th Street, Sonoma

5. Title 49 CFR §192.615(b)(2) states:

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

SED could not locate documentation to verify that the following training conducted during 2012 and 2013 was effective:

a. GAS-9006
b. GAS-9007
c. GAS-9008
d. TECH-003

6. Title 49 CFR §192.707(c) states:

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

During the field inspection, SED found the following sections of aboveground mains or transmission lines with missing line markers:

a. Ukiah Exposed Span #2, East Commercial and Lenore, Willits, CA
b. Ukiah Exposed Span #3, Easthill Road, Willits, CA

C. Areas of Concern and Recommendations

1. PG&E's response to CPUC's June 4-8, 2012 Sonoma Division audit report, dated February 1, 2013 p.21 (Finding AOC-4) regarding Regulator Station R-212 states:

   "The annual maintenance on this station is due in February 2013. The station is due for an A-type inspection (external). However, PG&E will perform a B-type internal inspection to look for any signs of sulfur on the internal components of the regulators and pilots."

   SED reviewed maintenance records for Regulator Station R-212 and noted that PG&E performed an A-type inspection in February 2014. However, PG&E should consider performing a B-type inspection as stated in its previous audit response.

2. On April 17, 2014, SED observed the Division perform an A-type inspection at Regulator Station R-468, Stony Point Road & Jewitt Road in Petaluma. During the inspection, the Division found the right-run regulator unable to lock up due to sulfur on the diaphragm. Maintenance records indicated the left-run regulator at the same station was unable to lock up due to sulfur during an inspection performed on May 2, 2013. Please explain how the Division plans to address potential issues caused by sulfur at this regulator station.

3. On April 17, 2014, SED observed the Division inspect Regulator Station R-637 at 18715 Sonoma Highway in Sonoma. During the inspection, the single-run regulator was found unable to lock up. Although the regulator data sheet documented a ½-inch orifice, the Division discovered a 3/8-inch orifice with a defect. The Division replaced it with a ½-inch orifice as stated in the regulator data sheet. Maintenance records documented metal shavings in the pipeline on January 20, 2011 and indicated the regulator was unable to lock up on January 20, 2011 and January 6, 2014. Please advise if the Division will take any additional action to address the recurring issue of the regulator's inability to lock up.

4. The Division documented four valve pin-down tees as hard to operate on Corrective Work Form Order # 41840712-0010 for Regulator Station R-408 at Gravestein Hwy. and Occidental Rd. The Division informed SED that as a corrective action it scheduled the regulator station for a rebuild. Please provide SED the Division's schedule for completing corrective action work as documented on the corrective work form.

5. On April 16, 2014, SED observed a deflection in a service line span supported by tension cables at 15571 Tomki Road in Willits. The Division should evaluate whether the deflection is a safety concern and provide its results to SED.

6. During the field inspection, SED found sections of bare pipeline on the L-21B Sonoma Dumps Hill Area aboveground pipe span due to disbonded coating. Please provide SED the Division's plan for corrective action.