

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



February 8, 2012

EA2011-014

Mr. Jadwindar Singh
Manager, Distribution Compliance
Pacific Gas and Electric Company
245 Market St, #926
San Francisco, CA 94105

Subject: PG&E Sacramento Division Electric Audit

Dear Mr. Singh:


On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission, Kenneth How and I conducted an electric audit of PG&E's Sacramento Division from August 1-5, 2011. The audit included a review of the division's records for the period January 2008 through August 2011. Field portions of the audit were centered in the division's Yolo and Colusa Districts.

During the audit, we identified violations of one or more General Orders. I have enclosed a copy of our audit summary itemizing those violations. By March 9, 2011 PG&E must send me a response to this letter detailing its plans to address those violations and when PG&E expects to complete them. You may email an electronic copy of the response to iag@cpuc.ca.gov or send a hard copy to:

Attn: Ivan Garcia
California Public Utilities Commission
180 Promenade Circle Suite 115
Sacramento, CA 95834-2939

Should you have any questions concerning this letter I can be reached at by phone at (916) 928-5875 or by email at iag@cpuc.ca.gov.

Sincerely,


Ivan Garcia
Electric Safety and Reliability Branch
Consumer Protection and Safety Division
California Public Utilities Commission

Enclosures: Audit Summary

CC: Kenneth How, Utilities Engineer, CPUC ESRB
Alok Kumar, Senior Utilities Engineer, CPUC ESRB
Raymond Fugere, Program and Project Supervisor, CPUC ESRB
Curtis Todd Ryan, Supervisor, PG&E Gas & Electric System Support

AUDIT SUMMARY

I. Violations Identified During Records Review

This section summarizes the General Order (GO) violations that we found during our review of PG&E Sacramento Division maintenance records.

A. Patrol and Inspection Issues

1. Late Inspections

GO 165 Section IV: Standards for Inspection, Record-keeping, and Reporting outlines the frequency in which utilities must inspect certain facilities.

GO 95 Rule 31.2 Inspection of [Overhead] Lines states in part:

Lines shall be inspected frequently and thoroughly for the purpose of insuring that they are in good condition so as to conform with these rules. Lines temporarily out of service shall be inspected and maintained in such condition as not to create a hazard.

GO 128 Rule 17.2 Inspection [of Underground Systems] states in part:

Systems shall be inspected by the operator frequently and thoroughly for the purpose of insuring that they are in good condition and in conformance with all applicable requirements these rules.

PG&E's inspection program is based upon GO 165 inspection cycles. PG&E also has an Electrical Distribution and Preventative Maintenance (EDPM) manual which includes additional inspection procedures. The Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC) considers the additional procedures in PG&E's EDPM manual part of PG&E's program to comply with the frequent and thorough inspections required by GOs 95 Rule 31.2 and GO 128 Rule 17.2. As a result, PG&E must inspect its facilities and keep records those inspections per both its EDPM manual and per GO 165 in order to be compliant with CPUC regulations.

Table A.1 lists late inspections found during CPUC review of PG&E Sacramento Division records.

Table A.1: Late Inspections Found During Records Review	
Record	Explanation of Violation
Underground Inspection Map J1701 Completed Late 6/21/2011	This map was not inspected in 2008. The map was patrolled in 2008, with its previous inspection in 2005.
Underground Inspection Map J1702 Not Completed	This map was not inspected in 2008. The map was patrolled in 2008, with its previous inspection in 2005.
Underground Inspection Map J1703 Not Completed	This map was not inspected in 2008. The map was patrolled in 2008, with its previous inspection in 2005.
Underground Inspection Map H0812 Not Completed	This map has not been inspected since 2007. An inspection should have been completed in 2010.
Underground Inspection Map H0811 Not Completed	This map has not been inspected since 2007. An inspection should have been completed in 2010.
Underground Inspection Map Q1223 Completed Late 2011	An enclosure on Marshall Rd. near Aberdeen Way was not highlighted in 2010 and therefore not inspected.
Overhead Inspection Map O1622 Completed Late 2009	This map was late on its 2008 inspection. The map was inspected with map O16 in 2003. In 2008, the map was split from O16 and was patrolled in 2008 when an inspection should have been completed.

2. Inspection Map Discrepancies

GO 95 Rule 31.1 Design, Construction and Maintenance [of overhead systems] states in part:

For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice

PG&E's EDPM manual requires inspectors to complete a Map Correction Form when they find discrepancies on their inspection maps. ESRB considers noting map errors in accordance with the EDPM manual part of PG&E's "accepted good practice" per GO 95 Rule 31.1. Map discrepancies that are not noted by inspectors are not compliant with PG&E's EDPM manual and are therefore violations of GO 95 Rule 31.1.

Table I.A.2 lists the unaddressed map discrepancies we found during our audit.

Table I.A.2: Inspection Map Discrepancies	
Record	Explanation of Violation
Overhead Inspection Map CO09 Not Completed	The CO09 2004 map shows poles on Meyers Rd between Cortina Vineyard and Evans Rd were identified as "gone". The map change was not made to reflect the poles as "gone" by 2009 inspection.
Underground Inspection Map M1708 Not Completed	A splice box was listed on the 2007 inspection map as being in the field. PG&E identified in the field that the splice box did not exist at Location #1 in 2007. The map change was not made to delete the splice box by the 2010 inspection.
Underground Inspection Map P1219 Not Completed	A map change was written for Location #3 in the 2007 inspection. The map change was not made by the 2010 inspection
Underground Inspection Map P1311 Not Completed	A map change was written for Location #4 in the 2007 inspection. The map change was not made by the 2010 inspection.
Underground Inspection Map P1312 Not Completed	A map change was written for Location #5 in the 2007 inspection. The map change was not made by the 2010 inspection.
Overhead Inspection Map G18 Not Completed	A pole on this map was identified as unmapped in the 2003 inspection. The map change was not made by the 2009 inspection.

B. Equipment Test and Inspection Record Violations

1. Incorrect Information Entered on Capacitor Bank Test Reports

GO 95 Rule 31.1 Design, Construction and Maintenance [of overhead systems] states in part:

For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice

During capacitor tests, PG&E requires its test personnel to fill out a capacitor test report form. ESRB considers the correct completion of that test form part of PG&E's "accepted good practice" per GO 95 Rule 31.1. If PG&E personnel complete the test form incorrectly, PG&E is in violation of GO 95.

During our audit, we found that PG&E equipment test personnel checked the "Control center confirms SCADA screen changes when controls are opened" box on the test forms for capacitors C191, C325, C712, C330, C3022, C194, C189, and C113. According to PG&E personnel at the audit, these capacitor banks do not have the capability of communicating with the control center. If this is the case, PG&E completed the test form incorrectly and is in violation of PG&E's "accepted good practice" per GO 95 Rule 31.1.

2. Insufficient Remedial Action on Potential Problems

GO 95 Rule 31.1 Design, Construction and Maintenance [of overhead systems] states in part:

Electrical supply and communication systems shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service.

PG&E must correct identified problems in order to keep its system maintained to enable safe service per GO 95 Rule 31.1. Any identified potential problems without corrective action or planned corrective action is a violation of GO 95.

Table I.B.4 lists capacitor test reports with potential problems that were not sufficiently addressed by PG&E.

Table I.B.4 Insufficient Remedial Action on Potential Problems	
Record	Explanation of Violation
Capacitor Test Report Operating #: C110 Year 2011	The inspector commented that the bank has no secondary voltage and that the test was not done. No corrective action shown on record.
SCADA Test Report 40272 Year 2011	Tester checked “no” to the item “Appropriate push button lamp is lit”. No remedial action on the form.
SCADA Test Report 40270 Year 2011	Tester checked “no” to the item “Appropriate push button lamp is lit”. No remedial action on the form.

3. Incorrectly Marked Test Forms for Equipment Requiring Repair

GO 95 Rule 31.1 Design, Construction and Maintenance [of overhead systems] states in part:

For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice

PG&E standard TD-2302P-05 states that if equipment test staff find equipment in need of repair and the condition was not previously identified, they must write down on the test report form: the assigned ERR pin number, the assigned EC notification number and “Deferred: on ERR, awaiting repair” in the comments section. ESRB considers Standard TD-2302P-05 part of PG&E’s “accepted good practice” per GO 95 Rule 31.1. If PG&E does not comply with standard TD-2302P-05, PG&E is in violation of GO 95

The test forms for equipment requiring repair in Table I.B.6 were not marked correctly. This is not compliant with standard TD-2302P-05

Table I.B.5 Incorrectly Marked Test Forms for Equipment Requiring Repair	
Record	Explanation of Violation
Capacitor Test Report Operating #: C178 Year 2011	Tester marked that an EC tag was needed. No EC number was written.
Capacitor Test Report Operation #: C1121 Year 2011	Tester marked that an EC tag was needed. No EC number was written.

C. Late Corrective Actions

GO 95 Rule 31.1 Design, Construction and Maintenance [of overhead lines] and GO 128 Rule 17.1 Design, Construction and Maintenance [of underground systems] state in part:

Electrical supply and communication systems shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service.

PG&E's EDPM manual outlines PG&E's methodology for prioritizing (with end dates) corrective actions for abnormal issues that it finds on its electric system. ESRB considers the completion of corrective actions by their priority end dates PG&E's method of ensuring that its system is maintained to "enable the furnishing of safe, proper, and adequate service" per GO 95 Rule 31.1 and GO 128 Rule 17.1. Any corrective action not completed by its prioritization end date is a violation of GOs 95 and/or 128.

Between January 1, 2008 and August 1, 2011, PG&E's Sacramento Division completed 7360 late corrective actions. 4805 corrective actions were still open past their due dates and 2555 were closed or completed late.

II. Violations Identified During Field Audit

This section lists the GO 95 and 128 violations that we identified during our field inspections of PG&E facilities. For the field work, we primarily chose locations that PG&E inspected for GO violations per its maintenance program recent to our audit date.

A.	Location:	Primary Conductor Span between locations #6 and #7, 16586 County Road 87
	Pole No.:	N/A
	Previous Visit by Utility:	Overhead Inspection Map I1124 Completed 9/21/10
	Date Visited by CPUC:	8/4/11
Explanation of Violation(s):		
<p><u>Low Vertical Clearance of 12kV primary conductor</u></p> <p>GO 95 Rule 37, Table 1, Case 3E:</p> <p style="text-align: center;"><i>Crossing or along thoroughfares in urban districts or crossing thoroughfares in rural districts for supply conductors and supply cables, 750-22,500 volts shall have a minimum allowable vertical clearance above ground of 25 feet.</i></p> <p>The primary conductor vertical clearance to the ground was measured at 22 feet.</p>		

B.	Location:	Pole at location #7, 16550 County Road 87
	Pole No:	N/A
	Previous Visit by Utility:	Overhead Inspection Map I1124 Completed 9/21/10
	Date Visited by CPUC:	8/4/11
Explanation of Violation(s):		
<p data-bbox="228 573 464 606"><u>Slack Anchor Guy</u></p> <p data-bbox="228 648 444 682">GO 95 Rule 56.2</p> <p data-bbox="305 724 1284 835"><i>Guys shall be attached to structures, as nearly as practicable, at the center of load. They shall be maintained taut and of such strength as to meet the safety factors of Rule 44.</i></p> <p data-bbox="228 877 784 911">The down guy at pole location #7 was slack.</p>		

C.	Location:	Pole at location #14, 16450 County Road 87
	Pole No.:	N/A
	Previous Visit by Utility:	Overhead Inspection Map I1124 Completed 9/21/10
	Date Visited by CPUC:	8/4/11
Explanation of Violation(s):		
<p><u>Service Drop Touching Roof</u></p> <p>GO 95 Rule 56.2:</p> <p><i>The service drop cannot touch the building over building being served.</i></p> <p>The service drop from this pole to the home at 16450 County Road 87 was touching the roof of the home.</p>		
<p><u>Insufficient Clearance Between Primary and Communication Conductors</u></p> <p>GO 95 Rule 38, Table 2, Case 8F:</p> <p><i>Vertical separation between conductors and/or cables, on separate cross arms or other supports at different levels (excepting on related line and buck arms) on the same pole and in adjoining midspans is 72 inches</i></p> <p>The vertical separation clearance between the communication and primary cables was measured at 48 inches.</p>		

D.	Location:	Pole between location #9 and #10
	Pole No.:	N/A
	Previous Visit by Utility:	Overhead Inspection Map I1124 Completed 9/21/10
	Date Visited by CPUC:	8/4/11
Explanation of Violation(s):		
<p><u>Map Discrepancy</u></p> <p>PG&E's EDPM Manual requires inspectors to file map correction paperwork if they find a discrepancy in the field.</p> <p>The pole between location #9 and #10 on this map was missing in the field. The map change was not made by the 2010 inspection.</p>		

E.	Location:	Pole location #19, 16546 County Road 87
	Pole No.:	N/A
	Previous Visit by Utility:	Overhead Inspection Map I1124 Completed 9/21/10
	Date Visited by CPUC:	8/4/11
Explanation of Violation(s):		
<p><u>Primary Conductor Guy Grounded By Tree Branches.</u></p> <p>GO 95 Rule 86.6 B2</p> <p><i>Every overhead or anchor guy, any portion of which is in proximity to a wood pole and supply conductors of 0 - 35,500 volts shall be sectionalized by means of insulators as specified in Rule 86.7-A2 or Rule 86.7-B, and no portion in proximity to such supply conductors shall be grounded.</i></p> <p>The tree branches at this pole location were in contact above the guy insulator on the primary conductor guy. The tree branches were grounding the primary conductor.</p>		

F.	Location:	Transformer at location #2
	Transformer No.:	T-20517
	Previous Visit by Utility:	Underground Inspection Map J15 Completed 1/27/11
	Date Visited by CPUC:	8/5/11
	Explanation of Violation(s):	
	<p>GO 128, Rule 34.2, Equipment in Manholes, Vaults, Rooms and Other Enclosures states:</p> <p><i>Equipment shall be so arranged as to provide reasonable accessibility to personnel and working space for the safe operation, maintenance, and replacement of said equipment.</i></p> <p>A trailer in front of the operable side of the pad mount was interfering with PG&E's 8 foot clearance.</p>	

G.	Location:	Junction box at location #3
	Equipment No.:	J-2096
	Previous Visit by Utility:	Underground Inspection Map J15 Completed 1/27/11
	Date Visited by CPUC:	8/5/11
	Explanation of Violation(s):	
	<p>GO 128 Rule 17.1 Design, Construction and Maintenance states:</p> <p><i>For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice...</i></p> <p>PG&E's Location, Clearances, and Mechanical Protection Details For Pad-Mounted and Subsurface Equipment Standards outlines use of removable post when posts are installed less than 8 feet in front of equipment doors. USRB interprets "accepted good practice" in part to mean following all established internal company procedures.</p> <p>A non-removable post interferes the 8 foot of clearance in front of operable side of equipment.</p>	

H.	Location:	Transformer at location #4, cul-de-sac on Tara Dr., Davis
	Transformer No.:	T-30196
	Previous Visit by Utility:	Underground Inspection Map N1220 Completed 6/21/11
	Date Visited by CPUC:	8/5/11
Explanation of Violation(s):		
<p>GO 128 Rule 17.1 Design, Construction and Maintenance states:</p> <p><i>For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice...</i></p> <p>PG&E's Location, Clearances, and Mechanical Protection Details For Pad-Mounted and Subsurface Equipment Standards outlines a 3 foot clearance from the non-operable sides of the transformer. USRB interprets "accepted good practice" in part to mean following all established internal company procedures.</p> <p>There were bushes growing on the side of the transformer.</p>		

I.	Location:	Transformer at 1410 Escolar Court., Davis
	Transformer No.:	T-20466
	Previous Visit by Utility:	Electric Underground Tag #000102619343 Not Identified By PG&E
	Date Visited by CPUC:	8/5/11
Explanation of Violation(s):		
<p>GO 128 Rule 17.1 Design, Construction and Maintenance states:</p> <p><i>For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice...</i></p> <p>PG&E's Location, Clearances, and Mechanical Protection Details For Pad-Mounted and Subsurface Equipment Standards outlines an 8 foot clearance from operable side of the transformer. USRB interprets "accepted good practice" in part to mean following all established internal company procedures.</p> <p>There were bushes growing in front of the operable side of the transformer.</p>		

J.	Location:	1552 Jefferson Blvd., West Sacramento
	Pole No.:	N/A
	Previous Visit by Utility:	Pole Loading Calculation 3031433 Completed on 2/10/11
	Date Visited by CPUC:	8/5/11
Explanation of Violation(s):		
<p><u>Inaccurate Safety Factor Calculation</u></p> <p>GO 95 Rule 44.1 Outlines the minimum safety factor requirements for poles. To ensure that those safety factors are met, PG&E must perform accurate safety factor calculations on its poles and take into account all attachments.</p> <p>PG&E did not include the secondary equipment on the pole in the pole's safety factor calculations.</p>		
<p><u>Primary Guy Contacting Communication Line</u></p> <p>GO 95 Rule 56.4C4, Table 2, Case 1C</p> <p><i>Guys and span wires passing conductors supported on the same poles shall have a minimum allowable clearance of 3 inches from communication conductors.</i></p> <p>The primary guy at this pole was in contact with the communication line.</p>		
<p><u>Guy Marker Missing</u></p> <p>GO 95 Rule 56.9, Guy Marker</p> <p><i>A substantial marker of suitable material, including but not limited to metal or plastic, not less than 8 feet in length, shall be securely attached to all anchor guys. Where more than one guy is attached to an anchor rod, only the outermost guy is required to have a marker.</i></p> <p>A guy marker on the primary down guy was missing at this pole.</p>		