

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



June 9, 2010

Eleanor Pefferman, Manager  
Sustainable Electric Reliability  
Pacific Gas and Electric Company  
245 Market Street, Mail Code N14L  
San Francisco, CA 94105

CPUC File No. E201013

**SUBJECT:** Electric Audit of PG&E's DeAnza Division

On behalf of the Utilities Safety and Reliability Branch (USRB) of the California Public Utilities Commission, Aimee Dalusong, Terrence Eng and I conducted an Electric Audit of PG&E's DeAnza Division from April 26-30, 2010. The audit included a review of your records for the period of 2006-2009.

During the inspection, we identified violations of one or more General Orders. A copy of the audit summary itemizing the violations is enclosed. By September 9, 2010, please advise me of all the corrective measures planned or taken by PG&E regarding the violation(s), and the date on which they are to be corrected or were corrected.

If you have any questions, please contact me at (415) 703-2192.

Sincerely,

A handwritten signature in black ink, appearing to read "Jadwindar Singh".

Jadwindar Singh, P.E.  
Utilities Safety and Reliability Branch  
Consumer Protection and Safety Division

Enclosure: Audit Summary

CC: Mr. Todd Ryan, PG&E  
Mr. Robert Merrick, PG&E  
Ms. Aimee Cauguiran, CPUC  
Mr. Terrence Eng, CPUC

# Audit Summary

## Violations

**(1) General Order (GO) 165, Section IV, Standards for Inspection, Record-keeping, and Reporting**

Section IV, states in part:

"Each utility subject to this General Order shall conduct inspections of its distribution facilities, as necessary, to assure reliable, high-quality, and safe operation, but in no case may the period between inspections (measured in years) exceed the time specified in the attached table. "

Electric Company System Inspection Cycles (Maximum Intervals in Years), states in part:

"The period between inspections of overhead facilities shall not exceed five years."

### **PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

#### **When to Inspect**

"Overhead Facilities – Overhead facilities must be inspected once every 5 years."

Overhead Map G-13-11 was not inspected within the five-year inspection cycles outlined by GO 165 and PG&E's EDPM Manual. Overhead Map G-13-11 contained 122 poles which were inspected on 1/31/01 and then subsequently inspected on 2/27/07. Prior to the audit, the Division was asked for a listing of all maps that had not been inspected or patrolled within the requirements of GO 165. The response was that "all maps were inspected on time for the audit period."

**(2) PG&E UO Standard S2302 – Electric Distribution Maintenance Requirements for Overhead and Underground Equipment**

- A) Table 1, "Equipment Testing Intervals," of Standard S2302, Attachment 1, states in part:

"Regulators shall be tested yearly."

During our review of regulator inspections, we found that none of DeAnza Division's eight regulators had been inspected in 2009.

- B) Table 1, "Equipment Testing Intervals," of Standard S2302, Attachment 1, states in part:

"SCADA/PDAC shall be tested yearly."

During our review of SCADA/PDAC inspections, we found that none of DeAnza Division's SCADA/PDAC units had been inspected in 2009.

- C) Table 1, "Equipment Testing Intervals," of Standard S2302, Attachment 1, states in part:

"Reclosers shall be tested twice yearly."

During our review of recloser inspections, we found that the Division could not produce the following test records:

2006 1<sup>st</sup> Test: 3210, 13320, LV66 (3 units missed).  
2006 2<sup>nd</sup> Test: L60 (1 unit missed).  
2007 2<sup>nd</sup> Test: 51642, 60076, A46, LA64, LB40, LB50, LB86, LC30, LC32, LC34, LC36, LC70, LC84, LL08, LL10, LL12, LL16, LL20, LL24, LM06, LM30, LM34, LM80, LV12 (24 units missed).

- D) Table 1, "Equipment Testing Intervals," of Standard S2302, Attachment 1, states in part:

"Auto Transfer Switches shall be tested yearly."

During our review of auto transfer switch inspections, we found that the Division could not produce the 2006 test records for either the Apple or HP auto transfer switches.

- E) Table 1, "Equipment Testing Intervals," of Standard S2302, Attachment 1, states in part:

"Switch – Manhole shall be inspected yearly."

During our review of TGRAL switch inspections, we found that the Division could not produce the 2007 inspection record for either of the two TGRAL's that are in the same manhole.

**(3) General Order (GO) 165, Section IV, Standards for Inspection, Record-keeping, and Reporting**

Section IV, states in part:

"Each utility subject to this General Order shall conduct inspections of its distribution facilities, as necessary, to assure reliable, high-quality, and safe operation, but in no case may the period between inspections (measured in years) exceed the time specified in the attached table. "

Electric Company System Inspection Cycles (Maximum Intervals in Years), states in part:

"The period between inspections of underground facilities shall not exceed three years."

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

When to Inspect

"Underground facilities – Underground facilities must be inspected once every three years."

**PG&E EDPM Manual, Maintenance Inspector Tasks**

PG&E's EDPM Manual states in part:

"Maintenance Inspectors shall:

Document the completion of inspections by performing the following:

On a daily basis, highlight the inspected facilities (using a different highlight color for each day)"

"When a Maintenance Inspector:

Finds a map discrepancy, complete a Map Correction Form and submit the form along with the Inspection Log to the compliance supervisor or designee."

Underground Map H-13-02 was last inspected on 2/13/08 and previously inspected on 3/31/05. The 2/13/08 inspection map showed that the inspector failed to highlight subsurface transformer C-3653 to indicate, per PG&E EDPM Manual requirements, that the transformer had been inspected. Furthermore, the 2/13/08 version of the map indicates that transformer C-3653 is a padmount transformer, while our field visit on Wednesday, April 28 (location 2) proved it to be a subsurface transformer. We did not find a "Map Correction Form" with the 2/13/08 inspection record to show that the inspector had identified this mapping problem. The current version of map H-13-02 continues to show a padmounted transformer symbol. The missed transformer, C-3653, is a violation of GO 165. The failure to highlight transformer C-3653 and to complete a Map Correction Form during the 2/13/08 inspection are violations of PG&E's EDPM Manual.

**(4) GO 95, Rule 51.6, Marking and Guarding**

Rule 51.6 states in part:

"Poles which support line conductors of more than 750 volts shall be marked with high voltage signs. This marking shall consist of a single sign showing the words "HIGH VOLTAGE", or pair of signs showing the words "HIGH" and "VOLTAGE", not more than six (6) inches in height with letters not less than 3 inches in height. A pair of signs may be stacked to a height of no more than 12 inches. Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible."

**GO 95, Rule 56.6 Requirements for Sectionalizing With Insulators**

Rule 56.6-A, Guys in Proximity to Supply Conductors of Less than 35,500 Volts, states:

"All portions of guys within both a vertical distance of 8 feet from the level of supply conductors of less than 35,500 volts and a radial distance of 6 feet from the surface of wood poles or structures shall not be grounded, through anchors or otherwise. Where necessary to avoid the grounding of such portions, guys shall be sectionalized by means of insulators installed at locations as specified in Rule 56.7. (Emphasis added)"

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid

"Markings – H.V. Sign Missing/Illegible (Poles)"

"Guys/Anchors – Guy Grounded Above Guy Insulator"

At Location 3 on Wednesday, April 28, we visited the site of EC Notification 102527621 that had been created to replace a crossarm at the rear of 1081 St. Joseph Ave, Los Gatos. The EC Notification was field checked on 2/2/10 and subsequently cancelled. While verifying the cancellation, we observed missing high voltage signs on the pole as well as a tree branch in contact with the primary down guy above the insulator. The notification should not have been cancelled because of the GO 95, Rule 51.6 and Rule 56.6-A violations. Furthermore, PG&E's EDPM Manual requires that these violations be identified and scheduled for correction.

**(5) GO 95, Rule 91.3 Stepping**

Rule 91.3 states in part:

**A. Use Of Steps**

- (1) "Poles with Vertical Runs or Risers: All jointly used poles which support supply conductors shall be provided with pole steps if vertical runs or risers are attached to the surface of such poles, ..."

At Location 8 on Wednesday, April 28 (OH Map F-10-20), we observed a joint use pole that had a supply riser, but no pole steps. The pole was inspected on 2/10/10 and the violation of GO 95, Rule 91.3-A(1) should have been identified during the inspection.

**(6) GO 95, Rule 31.1 Design, Construction and Maintenance**

Rule 31.1 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 EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid  
"Insulators – Damaged Insulators"

At Location 9 on Wednesday, April 28 (OH Map F-10-20), we observed that the skirt on the primary, road side insulator was broken. The pole was inspected on 2/10/10 and the violation of GO 95, Rule 31.1 and should have been identified during the inspection. Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

**(7) GO 95, Rule 31.6, Abandoned Lines**

Rule 31.6 states:

"Lines or portions of lines permanently abandoned shall be removed by their owners so that such lines shall not become a public nuisance or a hazard to life or property. For the purposes of this rule, lines that are permanently abandoned shall be defined as those lines that are determined by their owner to have no foreseeable future use."

At Location 13 on Wednesday, April 28 (OH Map F-10-20), we observed an idle guy pole on the east side of the street. Only a single overhead guy from the joint use pole across the street attaches to this guy pole, with the overhead guy not backing up anything. The idle guy pole was inspected on 2/10/10 and the violation of GO 95, Rule 31.6 and should have been identified during the inspection.

**(8) GO 95, Rule 31.6, Abandoned Lines**

Rule 31.6 states:

"Lines or portions of lines permanently abandoned shall be removed by their owners so that such lines shall not become a public nuisance or a hazard to life or property. For the purposes of this rule, lines that are permanently abandoned shall be defined as those lines that are determined by their owner to have no foreseeable future use."

**GO 95, Rule 56.2, Use**

Rule 56.2 states in part:

"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."

At Location 16 on Wednesday, April 28 (OH Map F-10-20), we observed an abandoned secondary bracket and a loose primary down guy. The primary down guy does not appear to be backing up anything and can possibly be removed. The pole was inspected on 2/10/10 and the violations GO 95, Rule 31.6 and Rule 56.2 should have been identified during the inspection.

**(9) GO 95, Rule 49.5 Insulators**

Rule 49.5 states in part:

A. Line

"Insulators, supports, clamps and other miscellaneous attachments shall be designed to withstand, with at least the safety factors specified in Rule 44, the mechanical stress to which they are subjected by conductors, wires or structures, under the loading conditions as specified in Rule 43. Pin insulators shall effectively engage the thread of the pin for at least two and one-half turns."

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid

"Conductor – Broken or Unsecured Service Bob"

At Location 17 on Wednesday, April 28, we visited the site of EC Notification 102544817 that had been created to replace a crossarm at the rear of 1139 Shenandoah Dr., Sunnyvale. The EC Notification was field checked on 2/19/10 and subsequently cancelled. While verifying the cancellation, we observed that a 500 bob preform at the secondary crossarm was broken. The notification should not have been cancelled because of the GO 95, Rule 49.5A violation. Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

**(10) GO 95, Rule 35 Vegetation Management**

Rule 35 states in part:

“Communication and electric supply circuits, energized at 750 volts or less, including their service drops, should be kept clear of vegetation in new construction and when circuits are reconstructed or repaired, whenever practicable. When a utility has actual knowledge, obtained either through normal operating practices or notification to the utility, that any circuit energized at 750 volts or less shows strain or evidences abrasion from vegetation contact, the condition shall be corrected by reducing conductor tension rearranging or replacing the conductor, pruning the vegetation or placing mechanical protection on the conductor(s). For the purpose of this rule, abrasion is defined as damage to the insulation resulting from the friction between the tree and conductor. Scuffing or polishing of the insulating covering is not considered abrasion. Strain on a conductor is present when deflection causes additional tension beyond the allowable tension of the span. Contact between vegetation and conductors, in and of itself, does not constitute a violation of the rule.”

**PG&E EDPM Manual, Inspection**

PG&E’s EDPM Manual states in part:

Overhead Inspection Job Aid

“Trees – Trees Causing Strain or Abrasion to a Secondary/Service”

At Location 2 on Thursday, April 29, we visited the site of EC Notification 103116359 that had been created to replace a crossarm at the rear of 10766 Carver Dr., Cupertino. The EC Notification was field checked on 2/4/10 and subsequently cancelled. While verifying the cancellation, we observed that tree branches have caused a large strain on the overhead service to 10756 Carver Dr., and has deflected the service greatly. The notification should not have been cancelled because of the GO 95, Rule 35 violation. Furthermore, PG&E’s EDPM Manual requires that this violation be identified and scheduled for correction.

**(11) GO 95, Rule 51.6, Marking and Guarding**

Rule 51.6 states in part:

"Poles which support line conductors of more than 750 volts shall be marked with high voltage signs. This marking shall consist of a single sign showing the words "HIGH VOLTAGE", or pair of signs showing the words "HIGH" and "VOLTAGE", not more than six (6) inches in height with letters not less than 3 inches in height. A pair of signs may be stacked to a height of no more than 12 inches. Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible."

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid  
"Markings – H.V. Sign Missing/Illegible (Poles)"

At Location 6 on Thursday, April 29, we visited the site of EC Notification 103116778 that had been created to replace a crossarm at the rear of 10559 Sterling Blvd., Cupertino. The EC Notification was field checked on 2/2/10 and subsequently cancelled. While verifying the cancellation, we observed missing high voltage signs on the pole. The notification should not have been cancelled because of the GO 95, Rule 51.6 violation. Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

**(12) GO 95, Rule 56.6 Requirements for Sectionalizing With Insulators**

Rule 56.6-A, Guys in Proximity to Supply Conductors of Less than 35,500 Volts, states:

"All portions of guys within both a vertical distance of 8 feet from the level of supply conductors of less than 35,500 volts and a radial distance of 6 feet from the surface of wood poles or structures shall not be grounded, through anchors or otherwise. Where necessary to avoid the grounding of such portions, guys shall be sectionalized by means of insulators installed at locations as specified in Rule 56.7. (Emphasis added)"

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid  
"Guys/Anchors – Guy Grounded Above Guy Insulator"

At Location 7 on Thursday, April 29 (OH Map F-11-04), we observed a tree branch in contact with the primary down guy above the insulator. The pole was inspected on 2/16/10 and the violation of GO 95, Rule 56.6-A should have been identified during the inspection. Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

**(13) GO 95, Rule 35 Vegetation Management**

Rule 35 states in part:

“Communication and electric supply circuits, energized at 750 volts or less, including their service drops, should be kept clear of vegetation in new construction and when circuits are reconstructed or repaired, whenever practicable. When a utility has actual knowledge, obtained either through normal operating practices or notification to the utility, that any circuit energized at 750 volts or less shows strain or evidences abrasion from vegetation contact, the condition shall be corrected by reducing conductor tension rearranging or replacing the conductor, pruning the vegetation or placing mechanical protection on the conductor(s). For the purpose of this rule, abrasion is defined as damage to the insulation resulting from the friction between the tree and conductor. Scuffing or polishing of the insulating covering is not considered abrasion. Strain on a conductor is present when deflection causes additional tension beyond the allowable tension of the span. Contact between vegetation and conductors, in and of itself, does not constitute a violation of the rule.”

**GO 95, Rule 56.6 Requirements for Sectionalizing With Insulators**

Rule 56.6-A, Guys in Proximity to Supply Conductors of Less than 35,500 Volts, states:

“All portions of guys within both a vertical distance of 8 feet from the level of supply conductors of less than 35,500 volts and a radial distance of 6 feet from the surface of wood poles or structures shall not be grounded, through anchors or otherwise. Where necessary to avoid the grounding of such portions, guys shall be sectionalized by means of insulators installed at locations as specified in Rule 56.7. (Emphasis added)”

**PG&E EDPM Manual, Inspection**

PG&E’s EDPM Manual states in part:

Overhead Inspection Job Aid

“Guys/Anchors – Guy Grounded Above Guy Insulator”

“Guys/Anchors – Buried-Down Guy Preform”

“Trees – Trees Causing Strain or Abrasion to a Secondary/Service”

At Location 8 on Thursday, April 29 (OH Map F-11-04), we observed a tree branch in contact with the primary down guy above the insulator, that tree branches have caused a large strain on the overhead service to 838 Carmel Dr., and that the primary down guy preform is buried. The pole was inspected on 2/16/10 and the violations of GO 95, Rule 35 and Rule 56.6-A should have been identified during the inspection. Furthermore, PG&E’s EDPM Manual requires that these violations be identified and scheduled for correction.

**(14) GO 95, Rule 56.6 Requirements for Sectionalizing With Insulators**

Rule 56.6-A, Guys in Proximity to Supply Conductors of Less than 35,500 Volts, states:

"All portions of guys within both a vertical distance of 8 feet from the level of supply conductors of less than 35,500 volts and a radial distance of 6 feet from the surface of wood poles or structures shall not be grounded, through anchors or otherwise. Where necessary to avoid the grounding of such portions, guys shall be sectionalized by means of insulators installed at locations as specified in Rule 56.7. (Emphasis added)"

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid  
"Guys/Anchors – Guy Grounded Above Guy Insulator"

At Location 10 on Thursday, April 29 (OH Map F-11-04), we observed a tree branch in contact with the primary down guy above the insulator. The pole was inspected on 2/16/10 and the violation of GO 95, Rule 56.6-A should have been identified during the inspection. Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

**(15) GO 95, Rule 38, Minimum Clearances of Wires from Other Wires**

Table 2, Case 4, Column D of Rule 38 states in part:

"Supply conductors, service drops and trolley feeders, 0-750 volts must have at least 24 inches of separation between other supply conductors, service drops and trolley feeders, 0-750 volts."

**GO 95, Rule 56.6 Requirements for Sectionalizing With Insulators**

Rule 56.6-A, Guys in Proximity to Supply Conductors of Less than 35,500 Volts, states:

"All portions of guys within both a vertical distance of 8 feet from the level of supply conductors of less than 35,500 volts and a radial distance of 6 feet from the surface of wood poles or structures shall not be grounded, through anchors or otherwise. Where necessary to avoid the grounding of such portions, guys shall be sectionalized by means of insulators installed at locations as specified in Rule 56.7. (Emphasis added)"

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid  
"Guys/Anchors – Guy Grounded Above Guy Insulator"

At Location 12 on Thursday, April 29 (OH Map F-11-04), we observed a tree branch in contact with the primary down guy above the insulator. Also, at midspan between locations 12 and 13, we observed that the separation of the secondary conductors was less than 3 inches because of deflection caused by a tree. The pole and conductors were inspected on 2/16/10 and the violations of GO 95, Rule 38 and Rule 56.6-A should have been identified during the inspection. Furthermore, PG&E's EDPM Manual requires that these violations be identified and scheduled for correction.

**(16) GO 95, Rule 51.6, Marking and Guarding**

Rule 51.6 states in part:

"Poles which support line conductors of more than 750 volts shall be marked with high voltage signs. This marking shall consist of a single sign showing the words "HIGH VOLTAGE", or pair of signs showing the words "HIGH" and "VOLTAGE", not more than six (6) inches in height with letters not less than 3 inches in height. A pair of signs may be stacked to a height of no more than 12 inches. Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible."

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid  
"Markings – H.V. Sign Missing/Illegible (Poles)"

At Location 31 on Thursday, April 29 (OH Map E-12-23), we observed missing high voltage signs on the pole. The pole was inspected on 1/26/10 and the violation of GO 95, Rule 51.6 should have been identified during the inspection. Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

**(17) GO 95, Rule 56.2, Use**

Rule 56.2 states in part:

"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."

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid  
"Guys/Anchors – Slack-Down Guy"

At Location 35 on Thursday, April 29 (OH Map E-13-21), we observed loose primary and secondary down guys that are causing the pole to lean. The pole was inspected on

1/28/10 and the violation of GO 95, Rule 56.2 should have been identified during the inspection. Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

**(18) GO 95, Rule 56.6 Requirements for Sectionalizing With Insulators**

Rule 56.6-A, Guys in Proximity to Supply Conductors of Less than 35,500 Volts, states:

"All portions of guys within both a vertical distance of 8 feet from the level of supply conductors of less than 35,500 volts and a radial distance of 6 feet from the surface of wood poles or structures shall not be grounded, through anchors or otherwise. Where necessary to avoid the grounding of such portions, guys shall be sectionalized by means of insulators installed at locations as specified in Rule 56.7. (Emphasis added)"

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid  
"Guys/Anchors – Guy Grounded Above Guy Insulator"

At Location 38 on Thursday, April 29 (OH Map E-13-21), we observed a tree branch in contact with the primary down guy above the insulator. The pole was inspected on 1/28/10 and the violation of GO 95, Rule 56.6-A should have been identified during the inspection. Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

**(19) GO 95, Rule 31.1 Design, Construction and Maintenance**

Rule 31.1 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 EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid  
"Conductor – Broken or Unsecured Service Bob"

At Location 41 on Thursday, April 29 (OH Map E-13-21), we observed that the secondary service drop bob to 46, 52, 58, 64, and 70 Evandale had been removed from the buildings by the owner. A resident at the complex stated that roof work had been done at this location about 3 years ago. The service drops were inspected on 1/28/10 and the violation of GO 95, Rule 31.1 should have been identified during the inspection.

Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

**(20) GO 95, Rule 56.6 Requirements for Sectionalizing With Insulators**

Rule 56.6-A, Guys in Proximity to Supply Conductors of Less than 35,500 Volts, states:

"All portions of guys within both a vertical distance of 8 feet from the level of supply conductors of less than 35,500 volts and a radial distance of 6 feet from the surface of wood poles or structures shall not be grounded, through anchors or otherwise. Where necessary to avoid the grounding of such portions, guys shall be sectionalized by means of insulators installed at locations as specified in Rule 56.7. (Emphasis added)"

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid  
"Guys/Anchors – Guy Grounded Above Guy Insulator"

At Location 42 on Thursday, April 29 (OH Map E-13-21), we observed a tree branch in contact with the primary down guy above the insulator. The pole was inspected on 1/28/10 and the violation of GO 95, Rule 56.6-A should have been identified during the inspection. Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

**(21) GO 95, Rule 56.6 Requirements for Sectionalizing With Insulators**

Rule 56.6-A, Guys in Proximity to Supply Conductors of Less than 35,500 Volts, states:

"All portions of guys within both a vertical distance of 8 feet from the level of supply conductors of less than 35,500 volts and a radial distance of 6 feet from the surface of wood poles or structures shall not be grounded, through anchors or otherwise. Where necessary to avoid the grounding of such portions, guys shall be sectionalized by means of insulators installed at locations as specified in Rule 56.7. (Emphasis added)"

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid  
"Guys/Anchors – Guy Grounded Above Guy Insulator"

At Location 44 on Thursday, April 29 (OH Map E-13-21), we observed a tree branch in contact with the primary down guy above the insulator. The pole was inspected on 1/28/10 and the violation of GO 95, Rule 56.6-A should have been identified during the inspection. Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

**(22) GO 95, Rule 56.6 Requirements for Sectionalizing With Insulators**

Rule 56.6-A, Guys in Proximity to Supply Conductors of Less than 35,500 Volts, states:

"All portions of guys within both a vertical distance of 8 feet from the level of supply conductors of less than 35,500 volts and a radial distance of 6 feet from the surface of wood poles or structures shall not be grounded, through anchors or otherwise. Where necessary to avoid the grounding of such portions, guys shall be sectionalized by means of insulators installed at locations as specified in Rule 56.7. (Emphasis added)"

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Overhead Inspection Job Aid

"Guys/Anchors – Guy Grounded Above Guy Insulator"

At Location 45 on Thursday, April 29 (OH Map E-13-21), we observed a tree branch in contact with the primary down guy above the insulator. The pole was inspected on 1/28/10 and the violation of GO 95, Rule 56.6-A should have been identified during the inspection. Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

**(23) GO 128, Rule 17.1 Design, Construction and Maintenance**

Rule 17.1 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 Bulletin 2010-08 "Electric Distribution Maintenance Program Requirements," Attachment 1 - PCB Spill/Leak Category Matrix, 2010**

Bulletin 2010-08, Attachment 1 states in part:

**Spill (Category 1B) - Priority "A"**

Insulating fluid has:

- run off the surface of the equipment onto or into a supporting structure;
- is in contact with the soil or vegetation
- is less than or equal to 1 gallon of fluid.

**Spill (Category 2) - Priority "E"**

Insulating fluid is about to run off the surface of the equipment but has not made contact with the soil, vegetation or structure.

At Location 10 on Friday, April 30 (UG Map F-14-17), we observed that Transformer C-4970 had insulating fluid that had run down one of the primary conductors and was possibly in contact with the soil below the transformer. According to PG&E Bulletin 2010-08, Attachment 1, the transformer meets either Category 1B or 2 (based on whether or not the insulating fluid has reached the soil), and requires the appropriate priority and duration. However, no EC Notification was issued by the inspector for this location. This transformer was inspected on 3/4/10 and the violations of GO 128, Rule 17.1 and PG&E Bulletin 2010-08, Attachment 1 should have been identified during the inspection.

**(24) GO 128, Rule 31.6 Sealing Service Laterals**

Rule 31.6 states:

“Service conduits, by which water may enter buildings, shall be suitably plugged or sealed at the source of supply such as utilities’ transformer or secondary handhole, and at the supply end of the conduit that enters the bottom of customer’s terminating enclosure.”

**PG&E EDPM Manual, Inspection**

PG&E’s EDPM Manual states in part:

Underground Inspection Job Aid  
“Enclosures – Conduit Sealing”

At Location 13 on Friday, April 30 (UG Map F-14-12), we observed that a secondary duct was not sealed. The location was inspected between 2/23/10 and 3/10/10 and the violation of GO 128, Rule 31.6 should have been identified during the inspection. Furthermore, PG&E’s EDPM Manual requires that this violation be identified and scheduled for correction.

**(25) GO 128, Rule 17.8 Identification of Manholes, Handholes, Subsurface and Self-contained Surface-mounted Equipment Enclosures**

Rule 17.8 states:

“Manholes, handholes , subsurface and self-contained surface-mounted equipment enclosures shall be marked as to ownership to facilitate identification by persons authorized to work therein and by other persons performing work in their vicinity.”

**PG&E EDPM Manual, Inspection**

PG&E’s EDPM Manual states in part:

Underground Inspection Job Aid  
“Marking – Equipment Number Missing”  
“Marking – Ownership not Identified”

At Location 16 on Friday, April 30 (UG Map F-14-12), we observed that SW-11818/SW-11820 was neither marked on the lid with ownership nor its equipment number. The location was inspected between 2/23/10 and 3/10/10 and the violation of GO 128, Rule 17.8 should have been identified during the inspection. Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

**(26) GO 128, Rule 31.6 Sealing Service Laterals**

Rule 31.6 states:

"Service conduits, by which water may enter buildings, shall be suitably plugged or sealed at the source of supply such as utilities' transformer or secondary handhole, and at the supply end of the conduit that enters the bottom of customer's terminating enclosure."

**PG&E EDPM Manual, Inspection**

PG&E's EDPM Manual states in part:

Underground Inspection Job Aid  
"Enclosures – Conduit Sealing"

At Location 17 on Friday, April 30 (UG Map F-14-12), we observed that a secondary duct was not sealed. The location was inspected between 2/23/10 and 3/10/10 and the violation of GO 128, Rule 31.6 should have been identified during the inspection. Furthermore, PG&E's EDPM Manual requires that this violation be identified and scheduled for correction.

## **Concerns and Recommendations**

### **(1) Capacitor Test Reports**

During our review of the Division's capacitor test reports, we found many instances of tests conducted that had current readings that were out of range for the specific type of capacitor bank under test. Both GO 165 and PG&E procedure require that follow up action occur when a deviation is encountered. It appears that Compliance and Engineering is not clear as to whose responsibility it is to initiate remedial action.

USRB understands that PG&E is working to overhaul the equipment testing procedures and will remedy this issue as part of that process.

### **(2) Wood Enclosure Inspection Report**

During the review of underground inspections records, which include the Wood Enclosure Inspection Reports, we asked about the point-system used in the form. The local division personnel stated that they are required to complete the form but they were unaware of how the point-system works. After further inquiries, we were later informed that the point-system used in the Wood Enclosure Inspection Report is not a prioritization tool, but instead it was formerly used for fiscal tracking purposes.

The Wood Enclosure Inspection Report form is currently included in PG&E's 2009 EDPM Manual and PG&E inspectors are still completing the form as a part of their underground inspections. However, the EDPM Manual does not provide any instructions or description of the point-system and thus can be misconstrued as a prioritization tool. It is our understanding that wood enclosure issues and the scheduling of their repairs are currently addressed within the EC Notification system. We recommend that PG&E evaluate the use of the Wood Enclosure Inspection Report, and determine if there is a duplication of work that can be eliminated.

### **(3) Systemwide Issues**

On 5/7/10, the USRB met with PG&E Management to discuss systemwide issues found during the DeAnza audit. The meeting resulted in both a simple discussion of some issues, as well as the creation of deliverables and timetables for others. Those deliverables will be followed up on outside of this DeAnza Division Audit Letter.

### **(4) Down Guy Evaluation**

At Location 7 on Wednesday, April 28 (OH Map F-10-20), it appears that a down guy may be required due to additional phone and cable conductors added after the initial engineering and construction, resulting in additional stress on the pole. Please perform an evaluation, and if necessary, per GO 95, Rule 18B, please notify the appropriate communication companies if a safety hazard exists.

**(5) Tree Trimming Issues**

The majority of violations found during the field portion of the audit were instances of vegetation in contact with primary down guys above the insulator. USRB suggests that the Compliance Department remind its inspectors of all vegetation trimming requirements.