

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



October 07, 2011

EA2011-22

Michael Sharp
Assistant Manager
Kirkwood Meadows PUD
P.O. Box 247
Kirkwood, CA 95646

Subject: Kirkwood Meadows Public Utility District Electric Audit

Dear Mr. Sharp:

On behalf of the Utilities Safety and Reliability Branch (USRB) of the California Public Utilities Commission (CPUC), Ryan Yamamoto and I conducted an audit of Kirkwood Meadows Public Utility District's (KMPUD's) electric distribution system from September 13-14, 2011. The audit included a review of KMPUD's records for the 2011 period.

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 November 7, 2011, KMPUD must send me a response to this letter detailing its plans to address those violations and when KMPUD expects to complete them. You may email an electronic copy of the response to kh2@cpuc.ca.gov or send a hard copy to:

Attn: Kenneth How
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

Should you have any questions concerning this letter I can be reached at by phone at (415) 703-2875 or by email at kh2@cpuc.ca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Kenneth K. How".

Kenneth K. How
Utilities Safety and Reliability Branch
Consumer Protection and Safety Division
California Public Utilities Commission

Enclosures: Audit Summary

CC: Ryan Yamamoto, Utilities Engineer, USRB, CPUC
Alok Kumar, Senior Utilities Engineer, USRB, CPUC
Raymond Fugere, Program and Project Supervisor, USRB, CPUC

AUDIT SUMMARY

I. Record Violations

This section summarizes the General Order (GO) violations that we found during our review of Kirkwood Meadows Public Utility District (KMPUD) maintenance records.

A. GO 165 Inspection Plan Does Not Include Switching/Protective Devices

GO 165, in part, requires utilities to complete detailed inspections of padmounted switching/protective facilities every 5 years. At the time of our audit, KMPUD did not have a plan to perform detailed inspections of its padmounted switching/protective devices. KMPUD must inspect these devices on a 5 year cycle in order to be compliant with GO 165.

B. No GO 165 Patrol Program

GO 165, in part, outlines how often utilities must complete visual patrols of select electrical facilities. At the time of our audit, KMPUD did not have a formal program to patrol its facilities and document those patrols. KMPUD must complete and document patrols of its facilities in order to be compliant with GO 165.

C. Corrective Action Documentation Issues

GO 165 Part IV states in part:

For all inspections, within a reasonable period, company records shall specify the circuit, area, or equipment inspected, the name of the inspector, the date of the inspection, and any problems identified during each inspection, as well as the scheduled date of corrective action. For detailed and intrusive inspections, companies shall also rate the condition of inspected equipment. Upon completion of corrective action, company records will show the nature of the work, the date, and the identity of persons performing the work.

GO 165 outlines how utilities must keep records for problems identified during GO 165 inspections. It also outlines how utilities must keep records for corrective actions on those problems. At the time of our audit, KMPUD's problem/corrective action records were missing many of the items required by GO 165, including: the names the inspectors that identified the problems, the dates the problems were discovered, and the scheduled dates (due dates) of the corrective actions. KMPUD must include all items required by GO 165 on its identified problem/corrective action records.

D. Facilities Not Marked with Ownership

GO 128 Rule 17.8, Identification of Manholes, Handholes, Subsurface and Self-contained Surface-mounted Equipment Enclosures, states in part:

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.

During our audit, KMPUD indicated that it did not mark ownership on all its enclosures. We verified this in the field. KMPUD must mark ownership on all its enclosures in order to be compliant with GO 128.

II. Field Violations

This section lists the GO 95 and 128 violations that we identified during our field inspections of KMPUD facilities. For the field work, we primarily chose locations that KMPUD inspected p recent to our audit date.

A.	Location:	Padmount Transformer TCREC, Kirkwood, CA
	Facility ID.:	Padmounted Transformer TCREC
	Previous Visit by Utility:	2011 Detailed Inspection*
	Date Visited by CPUC:	9/13/11
Explanation of Violation(s):		
<p><u>Equipment Case Not Secured to Pad</u></p> <p>GO 128 Rule 34.3:</p> <p style="text-align: center;"><i>The equipment case or enclosure shall be secured in place and be of sufficient strength to resist entrance or damage to the equipment by unauthorized persons.</i></p> <p>The padmounted transformer case was not secured onto the pad.</p>		

* As of October 7, 2011, KMPUD had not yet received the results of its 2011 detailed transformer inspections performed by contractor Transformer Test & Repairs, Inc (TTR). Some audit findings may have already been noted by TTR during their inspections.

B.	Location:	Generators near KPMUD Powerhouse, Kirkwood, CA
	Facility ID.:	N/A
	Previous Visit by Utility:	N/A
	Date Visited by CPUC:	9/13/11
Explanation of Violation(s):		
<p><u>Insufficient Conductor Burial Depth/Clearance</u></p> <p>GO 128 33.4C1 Requires supply cables 750V or less to be installed at a minimum of 18 inches below the ground.</p> <p>GO 95 Table 1 Case 5D Requires a 12 foot clearance from ground for supply conductors 0-750 Volts</p> <p>At this location, there were live, 480V conductors lying on the ground connected to the generator installations.</p>		

C.	Location:	Altacera Area, Kirkwood, CA
	Facility ID.:	Padmounted Transformer TCAS2
	Previous Visit by Utility:	2011 Detailed Inspection*
	Date Visited by CPUC:	9/13/11
Explanation of Violation(s):		
<p><u>Equipment Case Not Secured to Pad</u></p> <p>GO 128 Rule 34.3:</p> <p><i>The equipment case or enclosure shall be secured in place and be of sufficient strength to resist entrance or damage to the equipment by unauthorized persons.</i></p> <p>The padmounted transformer case was not secured onto the pad.</p>		

* As of October 7, 2011, KMPUD had not yet received the results of its 2011 detailed transformer inspections performed by contractor Transformer Test & Repairs, Inc (TTR). Some audit findings may have already been noted by TTR during their inspections.

D.	Location:	Altacera Area, Kirkwood, CA
	Facility ID.:	TCAS1
	Previous Visit by Utility:	2011 Detailed Inspection*
	Date Visited by CPUC:	9/13/11
Explanation of Violation(s):		
<p><u>Equipment Case Not Secured to Pad</u></p> <p>GO 128 Rule 34.3:</p> <p><i>The equipment case or enclosure shall be secured in place and be of sufficient strength to resist entrance or damage to the equipment by unauthorized persons.</i></p> <p>The padmounted transformer case was not secured onto the pad.</p>		

E.	Location:	Pallisades Dr Area, Kirkwood, CA
	Facility ID.:	Padmounted Transformer TCP5
	Previous Visit by Utility:	2011 Detailed Inspection*
	Date Visited by CPUC:	9/13/11
Explanation of Violation(s):		
<p><u>Equipment Case Not Secured to Pad</u></p> <p>GO 128 Rule 34.3:</p> <p><i>The equipment case or enclosure shall be secured in place and be of sufficient strength to resist entrance or damage to the equipment by unauthorized persons.</i></p> <p>The padmounted transformer case was not secured onto the pad.</p>		

* As of October 7, 2011, KMPUD had not yet received the results of its 2011 detailed transformer inspections performed by contractor Transformer Test & Repairs, Inc (TTR). Some audit findings may have already been noted by TTR during their inspections.

F.	Location:	Ski lift area, Kirkwood, CA
	Facility ID.:	Padmounted Switch OSLD
	Previous Visit by Utility:	N/A
	Date Visited by CPUC:	9/14/11
Explanation of Violation(s):		
<p><u>Broken Pad</u></p> <p>GO 128 Rule 34.3 B:</p> <p><i>Pad-mounted equipment that contains exposed live parts shall be installed to resist the passing of a wire the equivalent of a bare number 18 AWG from the outside between the pad and the housing of the equipment, into the compartment which contains live parts when it is closed.</i></p> <p>The concrete pad at this location was broken and eroded, creating a large gap between the pad and the padmounted switch case.</p>		

G.	Location:	Ski lift area, Kirkwood, CA
	Facility ID.:	Padmounted Transformer TCC6
	Previous Visit by Utility:	2011 Detailed Inspection*
	Date Visited by CPUC:	9/14/11
Explanation of Violation(s):		
<p><u>Broken Lock</u></p> <p>GO 128 Rule 34.3 C:</p> <p><i>Compartments and enclosures shall be made secure against entry by unauthorized persons by means of locks or other suitable means.</i></p> <p>The lock on the padmounted transformer case was broken</p>		

* As of October 7, 2011, KMPUD had not yet received the results of its 2011 detailed transformer inspections performed by contractor Transformer Test & Repairs, Inc (TTR). Some audit findings may have already been noted by TTR during their inspections.

H.	Location:	Ski lift area, Kirkwood, CA
	Facility ID.:	Padmounted Transformer TCC11
	Previous Visit by Utility:	2011 Detailed Inspection*
	Date Visited by CPUC:	9/14/11
Explanation of Violation(s):		
<p><u>Equipment Case Not Secured to Pad</u></p> <p>GO 128 Rule 34.3:</p> <p><i>The equipment case or enclosure shall be secured in place and be of sufficient strength to resist entrance or damage to the equipment by unauthorized persons.</i></p> <p>The padmounted transformer case was displaced and not secured onto the pad.</p>		

I.	Location:	Ski lift area, Kirkwood, CA
	Facility ID.:	Padmounted Transformer TCC1
	Previous Visit by Utility:	2011 Detailed Inspection*
	Date Visited by CPUC:	9/14/11
Explanation of Violation(s):		
<p><u>Broken Lock</u></p> <p>GO 128 Rule 34.3 C:</p> <p><i>Compartments and enclosures shall be made secure against entry by unauthorized persons by means of locks or other suitable means.</i></p> <p>The lock on the padmounted transformer case was broken</p>		

* As of October 7, 2011, KMPUD had not yet received the results of its 2011 detailed transformer inspections performed by contractor Transformer Test & Repairs, Inc (TTR). Some audit findings may have already been noted by TTR during their inspections.

III. Concerns and Recommendations

This section discusses any additional items found during the audit that we have concerns about. These items are not necessarily rule violations.

A. Damage to Control Side of Transformer TCMC

During our field audit, we found that padmounted transformer TCMC had some crushing damage on the control side of its casing. Our visual inspection did not find any damage to the tank side of the transformer. The doors to the transformer controls could additionally be operated and secured. Despite what appears to be superficial damage to the transformer, we recommend that KMPUD verify the integrity of the transformer to ensure safe and reliable operation.

B. Inspection of Splice Boxes/Junction Boxes

We recommend that KMPUD perform regular inspections of the splices and connections in its splice and junction boxes.

C. Protection of TCAS1 from Traffic

Transformer TCAS1 in the Altacera Area (also noted in section II.D.) is located next to a thoroughfare. We recommend that KPMUD install barrier posts around TCAS1 to protect it from vehicular traffic.