

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



September 8, 2013

TA2013-003

Michael Palusso
Manager, T&S ISO/FERC Compliance RPPM/TDBU
Southern California Edison
3 Innovation Way, PIV 3, 3rd Floor
Pomona, California 91768

SUBJECT: Audit of SCE's Metro East and Metro West Electric Transmission Facilities

Dear Mr. Palusso:

On behalf of the Safety and Enforcement Division (SED) of the California Public Utilities Commission, Ben Brinkman, Derek Fong, Richard Kyo, and Zelalem Ewnetu conducted an audit of Southern California Edison's (SCE's) electric transmission facilities in the Metro East and Metro West districts from August 5, 2013 to August 8, 2013. The audit included a review of SCE's maintenance records and inspections of SCE's facilities.

During the audit, we identified violations of one or more General Orders. A copy of the audit summary itemizing the violations is enclosed. Please advise me no later than October 18, 2013, by electronic or hard copy, of all corrective measures taken by SCE to remedy and prevent such violations.

If you have any questions concerning this audit you can contact Ben Brinkman of my staff at (213) 576-7093 or Benjamin.Brinkman@cpuc.ca.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Raymond G. Fugere".

Raymond G. Fugere, P.E.
Program and Project Supervisor
Electric Safety and Reliability Branch
Safety and Enforcement Division

Enclosure: Audit Summary

CC: Elizaveta Malashenko, Deputy Director, Safety and Enforcement Division
Ben Brinkman, Senior Utilities Engineer, CPUC

Audit Summary

Programmatic Violatons

GO 95, Rule 61.6B, Guarding, states,

Where a tower of a design which can be easily climbed supports supply conductors and is located in urban districts, or in rural areas adjacent to schools, dwellings, permanent or seasonal camps, or in orchards, or near roads or trails which are frequently traveled, a suitable barrier shall be installed on or around such towers, or other provisions shall be made to prevent easy climbing.

SCE failed to guard multiple towers and lacks a consistent standard for evaluating the need for tower guards. During the audit SED inspected 67 tower structures and found the vast majority of these towers, even in urban districts, lacked guarding. SED understands that SCE does not consider these towers easily climbable. However SCE does guard some tower structures, but the rationale for which structures require guards and which structures do not is unclear. SCE should develop a consistent and auditable standard for guarding towers based on their construction.

Field Violations

1.	Structure ID / Location:	Vista-Highgrove Circuit, Structure #M121213
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 6, 2013
Explanation of Violation(s):		
<p><u>Broken Insulator</u> GO 95, Rule 31.1, Design, Construction and Maintenance, states in part:</p> <p style="text-align: center;"><i>Electrical supply and communication systems shall be of suitable design and construction for their intended use, regard being given to the conditions under which they are to be supported, and shall be maintained in a condition which will enable the furnishing of safe, proper and adequate service.</i></p> <p>Insulator chipped in two places, not reported on notification list.</p>		

2.	Structure ID / Location:	Vista-Highgrove Circuit, Pole #1551730E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 6, 2013
Explanation of Violation(s):		
<p><u>Damaged High Voltage Signs</u> GO 95, Rule 51.6A, High Voltage Marking, states in part:</p> <p style="text-align: center;"><i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i></p> <p style="text-align: center;"><i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i></p> <p>Damaged high voltage sign on pole not noted on notification list.</p>		

3.	Structure ID / Location:	Vista-Highgrove Circuit, Pole #1551727E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 6, 2013
Explanation of Violation(s):		
<u>Damaged High Voltage Signs</u>		
GO 95, Rule 51.6A, High Voltage Marking, states in part:		
<i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i>		
<i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i>		
Damaged high voltage sign on pole not noted on notification list.		

4.	Structure ID / Location:	Vista-Highgrove Circuit, H-structure, Poles #1551772E and 1551733E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 6, 2013
Explanation of Violation(s):		
<u>Damaged High Voltage Signs</u>		
GO 95, Rule 51.6A, High Voltage Marking, states in part:		
<i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i>		
<i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i>		
Damaged high voltage sign on pole not noted on notification list.		

5.	Structure ID / Location:	Vista-Highgrove Circuit, H-Structure, Poles #1551745E and 4161766E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 6, 2013
Explanation of Violation(s):		
<p><u>Damaged High Voltage Signs</u> GO 95, Rule 51.6A, High Voltage Marking, states in part:</p> <p><i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i></p> <p><i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i></p> <p>Damaged high voltage sign on pole not noted on notification list.</p>		

6.	Structure ID / Location:	Vista-Highgrove Circuit, H-Structure, Poles #1551747E and 4161746E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 6, 2013
Explanation of Violation(s):		
<p><u>Damaged High Voltage Signs</u> GO 95, Rule 51.6A, High Voltage Marking, states in part:</p> <p><i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i></p> <p><i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i></p> <p>Damaged high voltage sign on pole not noted on notification list.</p>		

7.	Structure ID / Location:	Lago-Mira Loma Circuit, Tower M13T4
	Previous SCE Visit Details:	October 7, 20913
	Date of CPUC Inspection:	August 7, 2013
Explanation of Violation(s):		
<p><u>Missing Tower Marking</u> GO 95, Rule 61.6, Marking, states in part,</p> <p style="text-align: center;"><i>All towers shall be equipped with signs designed to warn the public of the danger of climbing same. Additionally, such signs shall include a graphic depiction of the dangers of falling or electrocution associated with climbing the towers. Such signs shall be placed and arranged so that they may be read from the four corners of the tower.</i></p> <p>Missing warning sign on tower not listed on notification list.</p>		

8.	Structure ID / Location:	Vista-Highgrove Circuit, H-Structure, Pole #12687E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 6, 2013
Explanation of Violation(s):		
<p><u>Damaged High Voltage Signs</u> GO 95, Rule 51.6A, High Voltage Marking, states in part:</p> <p style="text-align: center;"><i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i></p> <p style="text-align: center;"><i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i></p> <p>Damaged high voltage sign on pole not noted on notification list.</p>		

9.	Structure ID / Location:	Vista-Highgrove Circuit, H-Structure, Pole #12698E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 6, 2013
Explanation of Violation(s):		
<u>Damaged High Voltage Signs</u>		
GO 95, Rule 51.6A, High Voltage Marking, states in part:		
<i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i>		
<i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i>		
Damaged high voltage sign on pole not noted on notification list.		

10.	Structure ID / Location:	Vista-Highgrove Circuit, H-Structure, Pole #126989
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 6, 2013
Explanation of Violation(s):		
<u>Damaged High Voltage Signs</u>		
GO 95, Rule 51.6A, High Voltage Marking, states in part:		
<i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i>		
<i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i>		
Damaged high voltage sign on pole not noted on notification list.		

11.	Structure ID / Location:	Vista-Highgrove Circuit, H-Structure, Pole #Z267449E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 6, 2013
Explanation of Violation(s):		
<u>Damaged High Voltage Signs</u>		
GO 95, Rule 51.6A, High Voltage Marking, states in part:		
<i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i>		
<i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i>		
Damaged high voltage sign on pole not noted on notification list..		

12.	Structure ID / Location:	Azusa-Kirkwall Circuit, H-Structure, Pole #1541132E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 5, 2013
Explanation of Violation(s):		
<u>Damaged High Voltage Signs</u>		
GO 95, Rule 51.6A, High Voltage Marking, states in part:		
<i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i>		
<i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i>		
Damaged high voltage sign on pole not noted on notification list.		

13.	Structure ID / Location:	Azusa-Kirkwall Circuit, H-Structure, Pole #1541173E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 5, 2013
Explanation of Violation(s):		
<p><u>Damaged High Voltage Signs</u> GO 95, Rule 51.6A, High Voltage Marking, states in part:</p> <p><i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i></p> <p><i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i></p> <p>Damaged high voltage sign on pole not noted on notification list.</p>		

14.	Structure ID / Location:	Azusa-Kirkwall Circuit, H-Structure, Pole #1541169E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 5, 2013
Explanation of Violation(s):		
<p><u>Damaged High Voltage Signs</u> GO 95, Rule 51.6A, High Voltage Marking, states in part:</p> <p><i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i></p> <p><i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i></p> <p>Damaged high voltage sign on pole not noted on notification list.</p>		

15.	Structure ID / Location:	Azusa-Kirkwall Circuit, H-Structure, Pole #1541167E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 5, 2013
Explanation of Violation(s):		
<u>Damaged High Voltage Signs</u>		
GO 95, Rule 51.6A, High Voltage Marking, states in part:		
<i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i>		
<i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i>		
Damaged high voltage sign on pole not noted on notification list.		

16.	Structure ID / Location:	Azusa-Kirkwall Circuit, H-Structure, Pole #1541165E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 5, 2013
Explanation of Violation(s):		
<u>Damaged High Voltage Signs</u>		
GO 95, Rule 51.6A, High Voltage Marking, states in part:		
<i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i>		
<i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i>		
Damaged high voltage sign on pole not noted on notification list.		

17.	Structure ID / Location:	Azusa-Kirkwall Circuit, H-Structure, Pole #1541163E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 5, 2013
Explanation of Violation(s):		
<u>Damaged High Voltage Signs</u>		
GO 95, Rule 51.6A, High Voltage Marking, states in part:		
<i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i>		
<i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i>		
Damaged high voltage sign on pole not noted on notification list.		

18.	Structure ID / Location:	Azusa-Kirkwall Circuit, H-Structure, Pole #1541162E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 5, 2013
Explanation of Violation(s):		
<u>Damaged High Voltage Signs</u>		
GO 95, Rule 51.6A, High Voltage Marking, states in part:		
<i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i>		
<i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i>		
Damaged high voltage sign on pole not noted on notification list.		

18.	Structure ID / Location:	Azusa-Kirkwall Circuit, H-Structure, Pole #1541161E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 5, 2013
	Explanation of Violation(s):	
<u>Damaged High Voltage Signs</u>		GO 95, Rule 51.6A, High Voltage Marking, states in part: <i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i> <i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i> Damaged high voltage sign on pole not noted on notification list.

19.	Structure ID / Location:	Azusa-Kirkwall Circuit, H-Structure, Pole #1541160E
	Previous SCE Visit Details:	March 1, 2013
	Date of CPUC Inspection:	August 5, 2013
	Explanation of Violation(s):	
<u>Damaged High Voltage Signs</u>		GO 95, Rule 51.6A, High Voltage Marking, states in part: <i>Poles which support line conductors of more than 750 volts shall be marked with high voltage signs.</i> <i>Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.</i> Damaged high voltage sign on pole not noted on notification list.

20.	Structure ID / Location:	Center-Mesa Circuit, Tower M1T3C
	Previous SCE Visit Details:	March 17, 2013
	Date of CPUC Inspection:	August 8, 2013
Explanation of Violation(s):		
<p data-bbox="191 556 467 588"><u>Bent Steel on Tower</u></p> <p data-bbox="191 592 1112 623">GO 95, Rule 31.1, Design, Construction and Maintenance, states in part:</p> <p data-bbox="300 667 1344 814"><i>Electrical supply and communication systems shall be of suitable design and construction for their intended use, regard being given to the conditions under which they are to be supported, and shall be maintained in a condition which will enable the furnishing of safe, proper and adequate service.</i></p> <p data-bbox="191 856 1464 924">The tower contains a broken steel cross member. As of the time of the audit, SCE had not noted the discrepancy in its notification list.</p>		

21.	Structure ID / Location:	Center-Mesa Circuit, Tower M2T2
	Previous SCE Visit Details:	March 17, 2013
	Date of CPUC Inspection:	August 8, 2013
Explanation of Violation(s):		
<p data-bbox="191 1260 467 1291"><u>Bent Steel on Tower</u></p> <p data-bbox="191 1295 1112 1327">GO 95, Rule 31.1, Design, Construction and Maintenance, states in part:</p> <p data-bbox="300 1371 1344 1518"><i>Electrical supply and communication systems shall be of suitable design and construction for their intended use, regard being given to the conditions under which they are to be supported, and shall be maintained in a condition which will enable the furnishing of safe, proper and adequate service.</i></p> <p data-bbox="191 1560 1464 1627">The tower contains a broken steel cross member. As of the time of the audit, SCE had not noted the discrepancy in its notification list.</p>		