STATE OF CALIFORNIA EDMUND G. BROWN JR, *Governor*

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

May 11, 2011 FILE NO. EA 2011-003

Melvin Stark, Manager
Maintenance and Inspection
Power Delivery
Southern California Edison
2885 W. Foothill Blvd.
Rialto, CA 92376

SUBJECT: Electric Audit of Southern California Edison Company's (SCE) Huntington Beach District

Dear Mr. Stark:

On behalf of the Utilities Safety and Reliability Branch of the California Public Utilities Commission, I conducted an electric audit of SCE's facilities in Huntington Beach District on March 21 through March 25, 2011.

As part of the audit, I conducted inspections in areas where SCE recently performed detailed inspections of overhead and underground facilities. I found that SCE's personnel did not document all General Orders (GOs) 95 and 128 violations at the time of inspections as required by GO 165. Attached to this letter is a list of the violations I observed during the audit.

Within 30 days from the date of this letter, provide us with a written response indicating the corrective measures taken by SCE regarding the violations noted, and the dates they were or will be corrected.

If you have any questions, you may contact me at (213) 576-7016.

Sincerely,

Mahmoud (Steve) Intably, P.E.
Utilities Engineer
Utilities Safety and Reliability Branch
Consumer Protection and Safety Division

Enclosure: Violations List

Violations List

List of General Orders (GOs) 95 and 128 violations that were observed during the audit and were not documented in SCE's inspection records.

GO 95, Rule 18B Notification of Safety Hazards

Rule 18B states:

> *"If a company, while inspecting its facilities, discovers a safety hazard on or near a communications facility, electric transmission or distribution facility involving another company, the inspecting company shall notify the other company and/or facility owner of such safety hazard no later than 10 business days after the discovery..."*

SCE inspected the following poles but failed to discover and report to Communication Infrastructure Providers (CIPs) climbing space obstructions caused by CIPs facilities that may pose a safety hazard to workers:

- 678206E
- 1016475E
- 868589E
- C1985Y
- 3001260E
- C1988Y
- 1563401E
- 6178211E
- 1016452E
- 1704379E
- 993348E
- 993350E
- 120337E
- GT94205
- C142309Y
- 1537243E
- 835840E
- 822218E
- 2249186E
- 412405E
- 312408E
- 1039707E
- 1016474Y
- 1704377E
- 1644655E
- 4000323E

- Pole number 1369328E was inspected in August 2010 and SCE did not discover and notify the facility's owner of the safety hazard associated with the broken lashing wire.

GO 95, Rule 31.1 Design, Construction and Maintenance

Rule 31.1 states:

> *"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."*

Each of the following poles had a loose riser's casing support:

- C5704
- C1984Y
- 4151834E
- 2334051E

Each of the following poles had a service drop with loose connection at the house they served:

- C143191Y
- 1562986E

Each of the following poles had a bent or a turned step:

- 1016452E
- 260283E
- C5706Y

- Each of poles numbered 1644656E and 1141629E had a broken insulator.
- Pole number 822215E had a riser's casing with a damaged coupling.
- Poles number 835840E supported a crossarm that had loose conduit's strap.
- Pole number 1547634E had a guy wire tail that was not trimmed and secured to the guy wire.
- Pole number 1547631E supported a service drop that had a broken neutral wire at the weatherhead.

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..."*

Each of the following poles had an abandoned insulator:

- 1016454E
- 1016451E
- 2192075E
- 1369329E
- 1644656E
- 3001387E
- 120166E
- 2021103E

Each of the following poles had an abandoned service drop:

- 3001387E
- C5704
- 1039709E

Pole number 4076746E had an abandoned hardware (spreader) at mid span.
An abandoned pole adjacent to pole number 4151834E needs to be removed.

GO 95, Rule 35 Tree Trimming

Rule 35 states:

> *"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."*

Each of the following poles had a service drop or an overhead conductor in contact with trees and showing signs of abrasion:

- 993199E
- C1988Y
- 1016452E
- 260283E
- C143192Y
- C5702Y

GO 95, Rule 51.6A High Voltage Marking

Rule 51.6A states:

> *"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. Such signs shall be of weather and corrosion–resisting material, solid or with letters cut out therefrom and clearly legible."*

Each of poles numbered 1039711E and C143187 supported line conductors of more than 750 volts and were not marked with high voltage signs.

GO 95, Rule 54.6B Ground Wires

Rule 54.6B states:

> *"That portion of the ground wire attached on the face or back of wood crossarms or on the surface of wood poles and structures shall be covered by a suitable protective covering (see Rule 22.8)."*

Pole number C1987Y had a broken ground molding.

GO 95, Rule 54.8C4 Clearances between Supply Service Drops, 0 – 750 Volt and Communication Service Drops

Rule 54.8C4 states:

> *"The radial clearance between supply service drop conductors and communication service drop conductors may be less than 48 inches as specified in Table2, Column C, Cases 4 and 9; Column D, Cases 3 and 8, but shall be not less than 24 inches. Where within 15 feet of the point of attachment of either service drop on a building, this clearance may be further reduced but shall be not less than 12 inches."*

Each of the following poles supported a service drop with less than 12 inches of radial clearance form communication service drops within 15 ft from the point of attachment:

- C142307Y
- C142309Y
- 2192900E
- C5705Y

GO 95, Rule 54.9C1 Conductor Material, Urban Districts

Rule 54.9C1 states:

> *"Conductors in rack construction in urban districts shall have a covering not less than the equivalent of weather–resistant covering."*

Pole number 835839E had conductors in rack construction with damaged weather-resistant covering.

GO 95, Rule 56.2 Overhead Guys, Anchor Guys and Span Wires

Rule 56.2 states:

> *"Where mechanical loads imposed on poles, towers, or structures are greater than can be supported with safety factors as specified in Rule 44, additional strength shall be provided by the use of guys or other suitable construction.*

Where guys are used with poles or similar structures capable of considerable deflection before failure, the guys shall be able to support the entire load, the pole below the point of guy attachment acting merely as a strut.

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."

- Each of poles numbered 1347524E, and 1537243E had a loose guy wire.
- Each of poles numbered 2021120E, 412405E, and 1521278E had a broken guy wire.

GO 95, Rule 37 Minimum Clearances of Wires above Railroads, Thoroughfares, Buildings, Etc.

Rule 37 states:

"Clearance between overhead conductors, guys, messengers or trolley span wires and tops of rails, surfaces of thoroughfares or other generally accessible areas across, along or above which any of the former pass; also clearances between conductors, guys, structures, or other objects, shall not be less than those set forth in Table 1, at a Temperature of 60°F and no wind.

The clearance specified in Table 1, Case 1, Column A, B, D, E and F, shall in no case be reduced more than 5% below the tabular values because of temperature and loading as specified in Rule 43 or other conditions. The clearances specified in Table 1, Cases 2 to 6 inclusive, shall in no case be reduced more than 10% below the tabular values because of temperature and loading as specified in Rule 43 or other conditions."

Pole number 678206E supported a service drop that had a clearance less than 16 feet at the edge of thoroughfare.

GO 95, Rule 38 Minimum Clearances of Wires from Other Wires

Rule 38 states:

"The minimum vertical, horizontal or radial clearances of wires from other wires shall not be less than the values given in Table 2 and are based on a temperature of 60° F. and no wind. Conductors may be deadended at the crossarm or have reduced clearances at points of transposition, and shall not be held in violation of Table 2, Cases 8–15 , inclusive.

The clearances in Table 2 shall in no case be reduced more than 10 percent because of temperature and loading as specified in Rule 43 or because of a difference in size or design of the supporting pins, hardware or insulators. All

clearances of less than 5 inches shall be applied between surfaces, and clearances of 5 inches or more shall be applied to the center lines of such items."

Each of the following poles had a guy wire passing a communication cable with less than three-inch radial separation:

- 1369337E
- 4000323E
- 4280695E

GO 95, Rule 91.3A(1) Stepping poles with vertical runs or risers

Rule 91.3A(1) states:

"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,.."

The following jointly used poles with a riser attached were not provided with pole steps:

- 120337E
- GT94205
- 2192075E
- C143197Y
- 1704375E
- C143192Y
- 2334051E
- 4516712E

GO 128, Rule 12.2 Maintenance

Rule 12.2 states:

"Systems shall be maintained in such condition as to secure safety to workmen and the public in general."

Structure number 5131156 had debris and tree roots inside.

GO 128, Rule 32.7 Covers

Rule 32.7 states:

"*Manholes, handholes, and subsurface equipment enclosures while not being worked in, shall be securely closed by covers of sufficient strength to sustain such loads as may reasonably be imposed upon them and arrangements shall be such that a tool or appliance shall be required for their opening and cover removal."*

Handholes near poles numbered 4076769E and 4578485E had unsecured cover (missing bolts).

General Order 128, Rule 34.2C Transformers

Rule 34.2C states:

> *"Transformers operating at more than 600 volts, other than current and potential transformers and transformers which constitute a component part of other apparatus and which conform to the requirements of such apparatus, shall be readily accessible for operation, inspection, maintenance, and replacement.*
>
> *Transformers shall be installed in such a manner as to permit safe operation, maintenance, or replacement of other equipment.*
>
> *Transformers installations shall be provided with means of ventilation adequate to prevent temperatures in excess of those at which the transformer may be safely operated."*

Aboveground structures numbered 5161004 and 5191246 had transformers operating at more than 600 volts that were installed without adequate ventilation to prevent temperatures in excess of those at which the transformer may be safely operated.

GO 165, Section IV, Paragraph 5: Standards for Inspection, Record-keeping, and Reporting

Paragraph 5 states:

> *"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"*

SCE audit summary report from 2008-2011 showed that 1,303 work orders priority 2 were completed late. In addition, SCE failed to document all GOs 95 and 128 violations at the time of inspections as requires by General Order 165, Section IV.