

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



December 28, 2021

TA2021-928

Melvin Stark  
Principal Manager, T&D Compliance Integration  
Southern California Edison  
1 Innovation Way  
Pomona, CA 91786

Subject: Audit of SCE Metro East Transmission District

Mr. Stark:

On behalf of the Electric Safety and Reliability Branch of the California Public Utilities Commission (CPUC), Calvin Choi and Stacey Ocampo of my staff conducted a transmission audit of Southern California Edison's (SCE) Metro East District from October 18, 2021 to October 22, 2021. The audit included a review of SCE's records and field inspections of SCE's transmission facilities.

During the audit, my staff identified violations of one or more General Orders (GOs). A copy of the audit findings itemizing the violations is enclosed. Please advise me no later than January 28, 2022, 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 Calvin Choi at (213) 266-4730 or [Calvin.Choi@cpuc.ca.gov](mailto:Calvin.Choi@cpuc.ca.gov).

Sincerely,

A handwritten signature in cursive script that reads "Fadi Daye".

Fadi Daye, P.E.  
Program and Project Supervisor  
Electric Safety and Reliability Branch  
Safety and Enforcement Division  
California Public Utilities Commission

Enclosures: Audit Findings

Cc: Lee Palmer, Director, Safety and Enforcement Division, CPUC  
Nika Kjensli, Program Manager, ESRB, SED, CPUC  
Calvin Choi, Utilities Engineer, ESRB, SED, CPUC

## AUDIT FINDINGS

### I. Records Review

During the audit, my staff reviewed the following records:

- Circuit facility inspection records.
- Completed and pending corrective action work orders.
- Pole loading calculations.
- Tower Structure Analysis Records
- Safety hazard notifications.
- Intrusive test records
- SCE's documented inspection program.

### II. Records Review – Violations List

My staff observed the following violations during the records review portion of the audit:

**GO 165, Section IV, Transmission Facilities**, states in part:

*Each utility shall prepare and follow procedures for conducting inspections and maintenance activities for transmission lines.*

**GO 95, Rule 31.2, Inspection of 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.*

SCE's inspection records indicated that from 2019 to 2021, SCE performed 4 patrol and detailed inspections past SCE's assigned inspection due dates.

**GO 95, Rule 18, Rule 18-B1, Maintenance Programs**, states in part:

*Companies shall undertake corrective actions within the time periods stated for each of the priority levels set forth below. Scheduling of corrective actions within the time periods below may be based on additional factors, including the following factors, as appropriate*

...

SCE's records indicated that for the 5-year period ending on June 4, 2021, SCE did not complete 188 work orders by SCE's own scheduled due date for corrective action.

### III. Field Inspections

My staff inspected the following facilities during the field inspection:

| No. | Structure ID                         | Structure Type |
|-----|--------------------------------------|----------------|
| 1   | 7009583                              | H-frame        |
| 2   | 1890684E                             | Steel Pole     |
| 3   | 1890082E                             | Steel Pole     |
| 4   | Padua/MWD San Dimas – Mile 0/Tower 5 | H-frame        |
| 5   | 1890681E                             | Steel Pole     |
| 6   | 1890680E                             | Steel Pole     |
| 7   | Padua/Rancho Vista – Mile 14/Tower 4 | H-frame        |
| 8   | Padua/Rancho Vista – Mile 14/Tower 3 | H-frame        |
| 9   | 18990679E                            | Steel Pole     |
| 10  | Padua/Rancho Vista – Mile 14/Tower 2 | H-frame        |
| 11  | 1890678E                             | Steel Pole     |
| 12  | 4466819E                             | Steel Pole     |
| 13  | 4466820E                             | Steel Pole     |
| 14  | 1822451E                             | Steel Pole     |
| 15  | 4466818E                             | Wood Pole      |
| 16  | 2336792E                             | Wood Pole      |
| 17  | 4017561E                             | Wood Pole      |
| 18  | 4017562E                             | Wood Pole      |
| 19  | 4017563E                             | Wood Pole      |
| 20  | 4017564E                             | Wood Pole      |
| 21  | 2336775E                             | Wood Pole      |
| 22  | 2336774E                             | Wood Pole      |
| 23  | X17793E                              | Wood Pole      |
| 24  | X17778E                              | Wood Pole      |
| 25  | 4852173E                             | Wood Pole      |
| 26  | 4853957E                             | Wood Pole      |
| 27  | 4853956E                             | Wood Pole      |
| 28  | 4852172E                             | Wood Pole      |
| 29  | 420971E                              | Wood Pole      |
| 30  | 2131068E                             | Wood Pole      |
| 31  | 2132069E                             | Wood Pole      |
| 32  | 2131070E                             | Wood Pole      |
| 33  | 2131071E                             | Wood Pole      |
| 34  | 2131072E                             | Wood Pole      |
| 35  | Rio Hondo/Vincent – Mile 59/Tower 1D | Tower          |
| 36  | Mira Loma/ Vincent – Mile 32/Tower 1 | Tower          |
| 37  | Mira Loma/Vincent – Mile 32/X1       | Steel Pole     |
| 38  | 7014162                              | Tower          |
| 39  | Rio Hondo/Bradbury – Mile 0/ Tower 2 | Tower          |
| 40  | 7014160                              | Tower          |

|    |  |            |
|----|--|------------|
| 41 | Rio Hondo/Anita No. 2 – Mile 0/ Tower 2              | Tower      |
| 42 | Rio Hondo/Lark Ellen Package Walnut – Mile 0/Tower 2 | Tower      |
| 43 | Rio Hondo/Citrus– Mile 0/Tower 2                     | Tower      |
| 44 | Rio Hondo/Amador – Mile 10/Tower 2                   | Tower      |
| 45 | 4733495E   | Steel Pole |
| 46 | 1379846E   | Wood Pole  |
| 47 | 1379847E   | Wood Pole  |
| 48 | 1379848E   | Wood Pole  |
| 49 | 1379849E   | Wood Pole  |
| 50 | 1379850E   | Wood Pole  |
| 51 | 1379851E   | Wood Pole  |
| 52 | 1379852E   | Wood Pole  |
| 53 | 1379853E   | Wood Pole  |
| 54 | 4900505E   | Steel Pole |
| 55 | X14565E  | Wood Pole  |
| 56 | 328159E  | Wood Pole  |
| 57 | 4503103E   | Wood Pole  |
| 58 | 2184626E   | Wood Pole  |
| 59 | 4715843E   | Wood Pole  |
| 60 | 1819542E   | Wood Pole  |
| 61 | 1819541E   | Wood Pole  |
| 62 | 1819543E   | Wood Pole  |
| 63 | 1819544E   | Wood Pole  |
| 64 | 4503951E   | Wood Pole  |
| 65 | 4327217E   | Wood Pole  |
| 66 | 1962117E   | Wood Pole  |
| 67 | 2102013E   | Steel Pole |
| 68 | 2102014E   | Wood Pole  |
| 69 | 656774E  | Wood Pole  |
| 70 | 656775E  | Wood Pole  |
| 71 | 1862121E   | Wood Pole  |
| 72 | 1682734E   | Steel Pole |
| 73 | 656778E  | Steel Pole |
| 74 | 2102015E   | Steel Pole |
| 75 | 1862115E   | Wood Pole  |
| 76 | 4327079E   | Wood Pole  |
| 77 | 1787491E   | Wood Pole  |
| 78 | 1661827E   | Wood Pole  |
| 79 | Mira Loma/Vincent – Mile 1/Pole 1                    | Steel Pole |
| 80 | Rio Hondo/Vincent No. 2 – Mile 1/Pole 1              | Steel Pole |
| 81 | Rio Hondo/Vincent No. 1 – Mile 28/Tower 1            | Tower      |
| 82 | Mira Loma/Vincent – Mile 1/ Pole 2                   | Steel Pole |
| 83 | Rio Hondo/Vincent No. 2 – Mile 1/Pole 2              | Steel Pole |
| 84 | Rio Hondo/Vincent No. 1 – Mile 28/Tower 2            | Tower      |
| 85 | Rio Hondo/Vincent No. 1 – Mile 27/Tower 5            | Tower      |

|     |  |            |
|-----|--|------------|
| 86  | Rio Hondo/Vincent No. 2 – Mile 0/Pole 5  | Steel Pole |
| 87  | Mira Loma/Vincent – Mile 0/Pole 5        | Steel Pole |
| 88  | Pardee/Vincent /No. 2 – Mile 32/Tower 1  | Tower      |
| 89  | 7026083                                  | Tower      |
| 90  | Pardee/Vincent No. 1 – Mile 31/Tower 5   | Tower      |
| 91  | 7028117                                  | Tower      |
| 92  | Santa Clara/Vincent – Mile/Tower 1       | Tower      |
| 93  | Santa Clara/Vincent – Mile 1/Tower 2     | Tower      |
| 94  | Santa Clara/Vincent – Mile 1/Tower 3     | Tower      |
| 95  | 7028118                                  | Tower      |
| 96  | Pardee/Vincent No. 1 – Mile 31/Tower 4   | Tower      |
| 97  | Pardee/Vincent No. 2 – Mile 31/Tower 4   | Tower      |
| 98  | 7026084                                  | Tower      |
| 99  | 4331595E                                 | Wood Pole  |
| 100 | 4331596E                                 | Wood Pole  |
| 101 | 4331594E                                 | Wood Pole  |
| 102 | 4515584E                                 | Wood Pole  |
| 103 | VT6001483                                | Vault      |
| 104 | V6001488                                 | Vault      |
| 105 | Chino/Mira Loma No. 1 – Mile 231/Tower 4 | Tower      |
| 106 | 7027131                                  | Tower      |
| 107 | Chino/Mira Loma No.1 – Mile 232/Tower 2  | Tower      |
| 108 | 7027129                                  | Tower      |
| 109 | 7028537                                  | Tower      |
| 110 | 1869163                                  | Wood Pole  |
| 111 | 4766143                                  | Wood Pole  |
| 112 | 2349035                                  | Wood Pole  |
| 113 | 4330738E                                 | Wood Pole  |
| 114 | 1869157E                                 | Wood Pole  |
| 115 | 1869157E                                 | Wood Pole  |
| 116 | 4171797E                                 | Wood Pole  |
| 117 | 4171795E                                 | Wood Pole  |
| 118 | 4171794E                                 | Wood Pole  |
| 119 | 4705712E                                 | Steel Pole |
| 120 | 4705711E                                 | Steel Pole |
| 121 | 4705710E                                 | Steel Pole |

#### IV. Field Inspection - Violations List

My staff observed the following violations during the field inspection portion of the audit:

**GO 95, Rule 31.1, Design Construction and Maintenance**, 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.*

The following SCE transmission facilities required maintenance:

- Rio Hondo/Vincent No. 1/2 – Mile 59/Tower 10: A structural member was damaged at the base of the tower.
- Chino/Mira Loma No. 1 – Mile 231/Tower 4: A structural member was damaged at the base of the tower.
- Chino/Mira Loma No. 1 – Mile 232/ Tower 2: A structural member was damaged at the base of the tower.
- Pardee/Vincent No. 2 – Mile 31/Tower 4: Two steel structural members were buried in the ground.
- Padua/MWD San Dimas – Mile 0/Tower 5: A concrete tower support footing was buried in the ground.
- Tower 7026083 – Mile 0/Tower 5: A concrete tower support footing was buried in the ground.
- Santa Clara/Vincent – Mile 1/Tower 1: Two of the four tower support footings were buried in the ground.
- Santa Clara/Vincent 1 – Mile 1/Tower 3: A tower support footing was buried in the ground.
- Pole 2131069E: The 2<sup>nd</sup> and 3<sup>rd</sup> top lines located approximately 20 feet from the pole had bird caging damage.
- Pole 1869157E: The visibility strip was damaged.
- Pole 656775E: The pole tag on was missing.

The “eye” of the down guy anchor attached to the following SCE poles was buried in the ground:

- 4331596E
- 4330738E
- 1869157E

**GO 95, Rule 61.6, Marking and Guarding**, states in part:

*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.*

The following SCE transmission towers supported warning signs that were illegible/missing from all four corners of the tower.

- Mira Loma/ Vincent – Mile 32/Tower 1
- Santa Clara/Vincent – Mile 1/Tower 3
- 7028537
- 4733495E

**GO 95, Rule 51.6, Marking and Guarding, High Voltage Marking of Poles**, 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.’*

The high voltage signs on each of the following poles were either missing or damaged:

- 7009583
- 1890680E
- 1890684E
- 1890682E
- 1890681E
- 18990679E
- X17778E
- 4853957E
- 2131070E
- 1379846E
- 1819543E
- 4327217E
- 4327079E
- 4515584E
- 2349035E
- 1869157E
- 4171794
- Padua/MWD San Dimas – Mile 0/Tower 5
- Padua/Rancho Vista ½ - Mile 14/Tower 2
- Padua/Rancho Vista ½ - Mile 14/Tower 4

**GO 95, Rule 34 Foreign Attachments**, states in part:

*Nothing in these rules shall be construed as permitting the unauthorized attachment, to supply, street light or communication poles or structures, of antennas, signs, posters, banners, decorations, wires, lighting fixtures, guys, ropes and any other such equipment foreign to the purposes of overhead electric line construction.*

An unauthorized camera was attached to Pole No. 2131070E.

**GO 95, Rule 56.2 Overhead Guys, Anchor Guys and Span Wires, Use**, 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.*

The down guy wire attached on each of the following SCE poles was loose and not taut:

- 4331596E
- 1869157E

**GO 95, Rule 84.6-B, Ground Wires**, states in part:

*Ground wires, other than lightning protection wires not attached to equipment or ground wires on grounded structures, shall be covered by metal pipe or suitable covering of wood or metal, or of plastic conduit material as specified in Rule 22.8–A, for a distance above ground sufficient to protect against mechanical injury, but in no case shall such distance be less than 7 feet.*

The ground moulding and insulation attached to Pole 2131071E was damaged.

**GO 95, Rule 61.7, Stepping**, states in part:

*All towers which are required to be climbed by workmen shall be provided with steps or ladders. Steps or ladders shall start at not less than 7 feet 6 inches from the ground line or from any easily climbed foreign structure, within 6 feet of a tower, from which one could reach or step, including tower footings. The spacing between steps on the same side of the tower legs shall not exceed 36 inches.*

The climbing pegs on Mesa/Rio Hondo ½ - Mile 59/Tower 1B started too low and was able to be reached from ground.