

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



January 17, 2023

TA2022-990

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

Subject: Audit of SCE's Highland Grid

Mr. Stark:

On behalf of the Electric Safety and Reliability Branch of the California Public Utilities Commission (CPUC), Saimon Islam of my staff conducted a transmission audit of Southern California Edison's (SCE) Highland Grid from October 31, 2022, to November 4, 2022. 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 February 17, 2023, 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 Saimon Islam at (213) 326-2600 or [saimon.islam@cpuc.ca.gov](mailto:saimon.islam@cpuc.ca.gov).

Sincerely,

A handwritten signature in blue ink 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  
Majed Ibrahim, Senior 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 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 from 2021- 2022, SCE did not complete 72 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	7025332	Steel Tower
2	7027042	Steel Tower
3	4170724E	Wood Pole
4	4170725E	Wood Pole
5	4170726E	Wood Pole
6	4170727E	Wood Pole
7	4170728E	Wood Pole
8	4170729E	Wood Pole
9	4170731E	Wood Pole
10	4192726E	Wood Pole
11	4170730E	Wood Pole
12	7027033	Steel Tower
13	7004811	Steel Tower
14	4170806E	Wood Pole
15	4170805E	Wood Pole
16	4170804E	Wood Pole
17	4170803E	Wood Pole
18	4170802E	Wood Pole
19	4170801E	Wood Pole
20	4170750E	Wood Pole
21	4170749E	Wood Pole
22	7004812	Steel Tower
23	7004813	Steel Tower
24	7026586	Steel Tower
25	7027037	Steel Tower
26	7025327	Steel Tower
27	7027036	Steel Tower
28	7025326	Steel Tower
29	7027035	Steel Tower
30	7025325	Steel Tower
31	M-17,T-4 (Vincent Whirlwind 500 kV)	Steel Tower
32	787256E	Wood Pole
33	4446323E	Wood Pole
34	228785E	Wood Pole
35	1025374E	Wood Pole
36	1025373E	Wood Pole
37	1025371E	Wood Pole
38	2287551E	Wood Pole
39	787260E	Wood Pole
40	787259E	Wood Pole

41	787258E	Wood Pole
42	787257E	Wood Pole
43	4053108E	Wood Pole
44	4493449E	Steel Pole
45	4053110E	Wood Pole
46	4053109E	Wood Pole
47	4837293E	Wood Pole
48	178800E	Wood Pole
49	313748E	Steel Tower
50	4053111E	Wood Pole
51	1526236E	H-Frame (Steel)
52	1526235E	H-Frame (Steel)
53	4493443E	H-Frame (Steel)
54	4493442E	H-Frame (Steel)
55	1526245E	H-Frame (Steel)
56	1526246E	H-Frame (Steel)
57	4141298E	H-Frame (Steel)
58	1526262E	H-Frame (Steel)
59	1526270E	H-Frame (Steel)
60	1966148E	H-Frame (Steel)
61	4620176E	H-Frame (Steel)
62	4620175E	H-Frame (Steel)
63	4438715E	H-Frame (Steel)
64	4438716E	H-Frame (Steel)
65	1749734E	H-Frame (Steel)
66	1749733E	H-Frame (Steel)
67	1749731E	H-Frame (Steel)
68	1749732E	H-Frame (Steel)
69	1749448E	H-Frame (Steel)
70	1749447E	H-Frame (Steel)
71	1749427E	H-Frame (Steel)
72	1748428E	H-Frame (Steel)
73	1749419E	H-Frame (Steel)
74	1749420E	H-Frame (Steel)
75	4815442E	Steel Pole
76	816950E	Wood Pole
77	4012828E	Wood Pole
78	4012827E	Wood Pole
79	4012826E	Wood Pole
80	2241835E	Wood Pole
81	2370730E	Steel Pole
82	4605678E	Steel Pole
83	4620576E	Steel Pole
84	4620577E	Steel Pole
85	4620578E	Steel Pole

86	4620579E	Steel Pole
87	4620580E	Steel Pole
88	4620581E	Steel Pole
89	4793674E	Wood Pole
90	4793675E	Wood Pole
91	4793676E	Wood Pole
92	4793677E	Wood Pole
93	4793678E	Wood Pole
94	4793679E	Wood Pole
95	146496E	Steel Pole
96	4620856E	Steel Pole
97	4756016E	Steel Pole
98	4620587E	Steel Pole
99	4438719E	Steel Pole
100	350521E	Steel Pole
101	4420147E	Wood Pole
102	4438085E	Wood Pole
103	313758E	Wood Pole
104	313757E	Wood Pole
105	4446478E	Wood Pole
106	313755E	Steel Pole
107	7026649E	Steel Tower
108	7026650E	Steel Tower
109	7026651	Steel Tower
110	7026652	Steel Tower
111	7026653	Steel Tower
112	7026654	Steel Tower
113	7026318E	Steel Pole
114	7026319E	Steel Pole
115	7026320E	Steel Pole
116	7026324	Steel Pole
117	7026323	Steel Pole
118	7026322	Steel Pole
119	7026321	Steel Pole
120	V-4664	Vault
121	V-4663	Vault
122	V-4901	Vault
123	1270563E	Steel Pole
124	1270564E	Wood Pole
125	1270565E	Wood Pole
126	1270566E	Wood Pole
127	1270567E	Wood Pole
128	1270568E	Wood Pole
129	1270569E	Wood Pole
130	1270570E	Wood Pole

131	1270571E	Steel Pole
132	1270572E	Wood Pole
133	1270573E	Wood Pole
134	4605167E	Wood Pole
135	1270575E	Wood Pole
136	4747375E	Wood Pole
137	1404027E	Wood Pole
138	V-4714	Vault
139	V-4711	Vault
140	V-4707	Vault
141	4756420E	Wood Pole
142	4756413E	Wood Pole
143	4756406E	Wood Pole
144	7014270	Steel Tower
145	7014282	Steel Tower
146	7014400	Steel Tower
147	M-10 T-7 (Banducci- Kern River no.1 66 kV)	Steel Tower

#### 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:

- Tower Number 7027033 had a bird nest at the top of the steel tower very close to conductors.
- Tower Number 7004812 had a vibration damper missing on one side of the conductors.
- Pole Number 178800E had an abandoned anchor
- Pole Number 4793678E had an abandoned anchor
- Pole Number 1270575E had a broken ground molding.
- Tower Number 7014270 had a bird nest at the top of the steel tower very close to conductors.

**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 warning signs attached to each of the following SCE transmission towers were missing from the four corners of each tower:

- Tower Number 7026586 (Antelope Vincent #1 500 kV)
- Tower Number 7027037 (Antelope Vincent #2 500 kV)
- Tower Number 7025327 (Vincent Whirlwind 500 kV)

**GO 128, Section III, Rule 35.3, Warning Signs, states:**

*Warning signs indicating high voltage shall be installed on an interior surface, or barrier if present, inside the entrance of vaults, manholes, handholes, pad-mounted transformer compartments, and other above ground enclosures containing exposed live parts above 750 volts. Such warning sign shall also be installed on an exterior surface of all such pad mounted transformer compartments and other above ground enclosures. Such signs shall be clearly visible to a person in position to open any such access door, other opening, or barrier.*

The high voltage signs on Vault Number VT4901 contained exposed live parts above 750 volts and did not have warning signs inside the entrance of the vault.