STATE OF CALIFORNIA GAVIN NEWSOM, *Governor*

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

March 10, 2023 EA2022-985

Scott Hirashima, P.E.
Manager of Regulatory Standards and Compliance
Regulatory Standards and Compliance Section
City of Los Angeles, Department of Water and Power (LADWP)
111 North Hope Street, Room 1246
Los Angeles, CA 90012

SUBJECT: Audit of LADWP's Wilmington District

Mr. Hirashima:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Eric Ujiiye of my staff conducted an electric distribution audit of LADWP's Wilmington District from November 28, 2022, to December 2, 2022. The audit included a review of LADWP's inspection and maintenance records and a field inspection of LADWP's 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 April 10, 2023, by electronic or hard copy, of all corrective measures taken by LADWP to remedy and prevent such violations.

If you have any questions concerning this audit, you can contact Eric Ujiiye at (213) 620-2598 or eric.ujiiye@cpuc.ca.gov.

Sincerely,

Fadi Daye

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

Enclosure: Audit Findings

Cc: Lee Palmer, Director, Safety and Enforcement Division, CPUC
Nika Kjensli, Program Manager, ESRB, CPUC
Eric Ujiiye, Utilities Engineer, ESRB

Audit Findings

I. Records Review

During the audit, my staff reviewed the following records:

- Overhead and underground detailed inspection records.
- Completed and pending corrective action work orders.
- Pole loading calculations.
- Intrusive test records.
- LADWP's visual inspection program.
- ESRB's interview of two LADWP inspectors.

II. Records Review – Violations List

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

GO 165, Section III-B, Standards for Inspection, states:

> *Each utility subject to this General Order shall conduct inspections of its distribution facilities, as necessary, to ensure reliable, high-quality, and safe operation, but in no case may the period between inspections (measured in years) exceed the time specified in Table 1.*

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.*

LADWP's inspection records indicated that from January 1, 2011, to December 31, 2021, the following number of overhead patrol inspections were either completed or pending completion past the assigned due dates:

- Late Overhead Patrol Inspections
  - 970 - High Fire Threat Tier 1 and Non-High Fire Threat Areas
  - 22 - High Fire Threat Tier 2

LADWP's inspection records indicated that from January 1, 2011, to December 31, 2021, the following number of overhead detailed inspections were either completed or pending completion past the assigned due date:

- Late Overhead Detailed Inspections
  - 3179 - High Fire Threat Tier 1 and Non-High Fire Threat Areas
  - 50 - High Fire Threat Tier 2

GO 128, Rule 17.2, Inspection, states:

> *Systems shall be inspected by the operator frequently and thoroughly for the purpose of insuring that they are in good condition and in conformance with all applicable requirements these rules.*

LADWP inspection records indicated that from January 1, 2011, to December 31, 2021, the following number of underground patrol inspections were either completed or pending completion past the assigned due date:

- Late Underground Patrol Inspections
    - 271 - High Fire Threat Tier 1 and Non-High Fire Threat Areas
    - 5 - High Fire Threat Tier 2

LADWP inspection records indicated that from January 1, 2011, to December 31, 2021, the following number of underground detailed inspections were either completed or pending completion past the assigned due date:

- Late Underground Detailed Inspections
    - 867 - High Fire Threat Tier 1 and Non-High Fire Threat Areas
    - 6 - High Fire Threat Tier 2

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 …*

GO 95, Rule 31.1, Design, Construction and Maintenance, states in part:

> *For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice for the given local conditions known at the time by those responsible for the design, construction, or maintenance of communication or supply lines and equipment.*

LADWP's records indicated that from January 1, 2017, to December 31, 2021, LADWP completed 437 overhead work orders past LADWP's scheduled due date for corrective action.

GO 128, Rule 17.1, 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.*

LADWP's records indicated that from January 1, 2017, to December 31, 2021, LADWP completed 208 underground work orders past LADWP's scheduled due date for corrective action.

III. Field Inspection

My staff inspected the following facilities during the field inspection:

No.	Structure ID.	Type of Structure	Location
1	410145M	Pole	Wilmington
2	357523M	Pole	Wilmington
3	389403M	Pole	Wilmington
4	389402M	Pole	Wilmington
5	100979M	Pole	Wilmington
6	100978M	Pole	Wilmington
7	368677M	Pole	Wilmington
8	57778M	Pole	Wilmington
9	363568M	Pole	Wilmington
10	57777M	Pole	Wilmington
11	57776M	Pole	Wilmington
12	347538M	Pole	Wilmington
13	372899M	Pole	Wilmington
14	31617M	Pole	Wilmington
15	275717M	Pole	Wilmington
16	522463M	Pole	Harbor City
17	389603M	Pole	Harbor City
18	389604M	Pole	Harbor City
19	48852M	Pole	Harbor City
20	48853M	Pole	Harbor City
21	830581H	Pole	Harbor City
22	143166M	Pole	Harbor City
23	521706M	Pole	San Pedro
24	147098M	Pole	San Pedro
25	287951M	Pole	San Pedro
26	287950M	Pole	San Pedro
27	427715M	Pole	San Pedro
28	427716M	Pole	San Pedro
29	130197M	Pole	San Pedro
30	34755M	Pole	San Pedro
31	576232M	Pole	San Pedro
32	104311M	Pole	San Pedro
33	130198M	Pole	San Pedro
34	317735M	Pole	Terminal Island
35	371200M	Pole	Terminal Island
36	314500M	Pole	Terminal Island
37	398543M	Pole	Terminal Island
38	317734M	Pole	Terminal Island
39	373839M	Pole	Terminal Island

40	373838M	Pole	Terminal Island
41	317733M	Pole	Terminal Island
42	361575M	Pole	Terminal Island
43	360416M	Pole	Terminal Island
44	280072M	Pole	Terminal Island
45	280071M	Pole	Terminal Island
46	280070M	Pole	Terminal Island
47	280069M	Pole	Terminal Island
48	353095M	Pole	Terminal Island
49	437019M	Pole	San Pedro
50	31233M	Pole	San Pedro
51	31232M	Pole	San Pedro
52	395529M	Pole	San Pedro
53	31230M	Pole	San Pedro
54	31229M	Pole	San Pedro
55	523162M	Pole	Torrance
56	522056M	Pole	Torrance
57	523414M	Pole	Torrance
58	1295856	Vault	San Pedro
59	1604644	Pad mount	San Pedro
60	1565936	Pad mount	San Pedro
61	418742M	Pole	San Pedro
62	1483908	Pad mount	San Pedro
63	1291566	Pad mount	San Pedro
64	1291871	Pad mount	San Pedro
65	1291889	Pad mount	San Pedro
66	1291905	Pad mount	San Pedro
67	1291897	Vault	San Pedro
68	1291848	Pad mount	San Pedro
69	1291830	Pad mount	San Pedro

IV. Field Inspection – Violations List

My staff observed the following violations during the field inspections 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.*

LADWP facilities on the following poles required maintenance:

- Pole 389403M: a section of ground wire and ground moulding was missing from ground level to 5 feet above the ground.
- Pole 57777M: a capacitor control module attached to the pole had an open cover lid and damaged locking mechanism allowing access and exposing the contained components to the ambient weather conditions.
- Pole 314500M: a section of ground wire was not attached to the surface of the pole at 4 feet above the ground.

GO 95, Rule 35, Vegetation Management, states in part:

> *When a supply or communication company has actual knowledge, obtained either through normal operating practices or notification to the company, that its circuit energized at 750 volts or less shows strain or evidence abrasions 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).*

A secondary conductor span supported on Pole 31232M was strained and deflected by a tree at midspan.

General Order 95, Rule 38 - Minimum Clearances of Wires from Other Wires, Table 2, Column C, Case 9 requires the minimum "Vertical separation between conductors and/or cables, on separate crossarms or other supports at different levels (excepting on related line and buck arms) on the same pole and in adjoining midspans" and "Communication Conductors (Including Open Wire, Cables and Service Drops)″ to be 48 inches.

On Pole 48853M, a secondary conductor attached on the opposite end of a crossarm from a communication conductor did not maintain the minimal vertical clearance.

GO 95, Rule 51.6-A, 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 the following LADWP poles were damaged and/or missing:

- Pole 389403M – The "HIGH VOLTAGE" letters on the marking were completely faded making the signs illegible.
- Pole 57778M – The "HIGH VOLTAGE" letters on the marking were completely faded making the signs illegible.
- Pole 577778M – The "HIGH VOLTAGE" signs were damaged by having only portions of the lettering attached to the crossarm supported on the pole.
- Pole 347538M – The "HIGH VOLTAGE" signs were damaged by having only portions of the lettering attached to the crossarm supported on the pole.
- Pole 389604M – The "HIGH VOLTAGE" letters on the marking were completely faded making the signs illegible.
- Pole 48852M – The "HIGH VOLTAGE" signs were damaged by having only portions of the lettering attached to the crossarm supported on the pole.
- Pole 576232H – A single sign or a pair of signs with the words "HIGH VOLTAGE" were not supported on the pole.
- Pole 1043311M – A single sign or a pair of signs with the words "HIGH VOLTAGE" were not supported on the pole.
- Pole 130198M – A single sign or a pair of signs with the words "HIGH VOLTAGE" were not supported on the pole.
- Pole 314500M - A single sign or a pair of signs with the words "HIGH VOLTAGE" were not supported on the pole.
- Pole 31229M – The "HIGH VOLTAGE" signs were damaged by having only portions of the lettering attached to the crossarm supported on the pole.

GO 95, Rule 54.6-B, Ground Wires, states in part:

> *That portion of the ground wires 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).*

A ground wire supported on Pole 314500M was not protected by covering above 4 feet above the ground.

GO 128, 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 signs 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.*

A high voltage warning sign was not installed on the interior entrance of Vault 1295856.