

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



SA2016-003

June 15, 2016

Pjoy T. Chua, P.E.
Manager of Regulatory and Compliance
Los Angeles Department of Water and Power (LADWP)
111 North Hope Street, Room 1246
Los Angeles, CA 90012

SUBJECT: Substation Audit of LADWP North Area

Dear Ms. Chua:

On behalf of the Electric Safety and Reliability Branch of the California Public Utilities Commission, Zelalem Ewnetu of my staff conducted a substation audit of LADWP's North Area from May 9, 2016 to May 13, 2016. The audit included a review of LADWP's records and field inspections 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 July 15, 2016, by electronic or hard copy, of all corrective measures taken by LADWP to remedy and prevent such violations.

If you have any questions, you can contact Zelalem Ewnetu at (213) 576-7042 or zel@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

Enclosure: Audit Findings

Cc: Elizaveta Malashenko, Director, Safety and Enforcement Division, CPUC
Charlotte TerKeurst, Program Manager, Electric Safety and Reliability Branch, CPUC

Audit Findings

I. Records Review

During the audit, my staff reviewed the following records:

- Inspection program document
- Recently completed work orders
- Inspection records

II. Records Review – Violations List

We observed the following violations during the records review portion of the audit.

GO 174, Rule 30.1, states in part:

Each Operator shall establish, update as needed, and follow an Inspection Program.

GO 174, Rule 21, states:

Inspection: A basic evaluation generally performed using visual and auditory senses, but which could be conducted by other means.

LADWP's inspection program considers inspections to be those done via "human senses (sight, smell and sound)." LADWP refused to provide my staff with oil test, electrical test, and infrared inspection records of its substation facilities, claiming that these are "tests, and not inspections," and that they are "beyond the scope" of this audit. According to GO 174, Rule 21, there is no distinction between tests and inspections; furthermore, expert organizations such as IEEE and EPRI consider oil tests such as Dissolved Gas Analyses (DGA) and infrared inspections to be basic inspection practices for determining the overall condition of oil-filled and insulated substation facilities, for which simple visual inspections are insufficient.

III. Field Inspection

The following substations were inspected during the audit:

Structure Number (Location)	Type of Structure	City
DS-69	Substation	Los Angeles
DS-86	Substation	Los Angeles
DS-48	Substation	Los Angeles
DS-82	Substation	Los Angeles
DS-138	Substation	Los Angeles
DS-77	Substation	Los Angeles
DS-65	Substation	Los Angeles
DS-71	Substation	Los Angeles
DS-140	Substation	Los Angeles
DS-85	Substation	Los Angeles
DS-57	Substation	Los Angeles

IV. Field Inspection – Undocumented Violations List

We observed the following violations during the field inspection. None of the violations were documented and/or addressed by LADWP during its last inspections.

GO 174, Rule 30, states in part:

Each Operator shall establish, update as needed, and follow an Inspection Program.

LADWP’s “Substation Inspection Practices”, states in part:

Each substation is inspected at least 10 times per year... We document and report any abnormal conditions found.

Substation DS-71

- The Van Nuys-Chandler Line-2 and Line-3 termination insulators (potheads) had moderate contamination.

Substation DS-48

- Pipes used to delivery nitrogen gas to lead cables were bent and protruding outward, posing a safety hazard to personnel.

V. Field Inspection – Documented Violations List

We observed the following violations during the field inspection. These violations were documented and/or addressed by LADWP during its last inspections.

GO 174, Rule 30, states in part:

Each Operator shall establish, update as needed, and follow an Inspection Program.

LADWP’s “Substation Inspection Practices”, states in part:

Each substation is inspected at least 10 times per year... We document and report any abnormal conditions found.

Substation DS-82

- At the termination insulator (pothead) of regulator 82-23 (C-phase), the Ozite cable’s insulating oil was leaking.