

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



November 29, 2016

Burhan Alshanti  
Electrical Engineer II  
Glendale Water and Power  
141 N. Glendale Avenue, 4<sup>th</sup> Floor  
Glendale, CA 91206

EA2016-008

**SUBJECT:** Electric Audit of Glendale Water and Power

Mr. Alshanti:

On behalf of the Electric Safety and Reliability Branch of the California Public Utilities Commission (CPUC), Koko Tomassian of my staff conducted an electric audit of Glendale Water and Power (GWP) from May 2, 2016 to May 6, 2016. The audit included a review of GWP's records and field inspections of GWP'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 December 29, 2016, by electronic or hard copy, of all corrective measures taken by GWP to remedy and prevent such violations.

If you have any questions, you can contact Koko Tomassian at (213) 576-7099 or [koko.tomassian@cpuc.ca.gov](mailto:koko.tomassian@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:

- GWP utility statistics
- GWP's Inspection Program
- Overhead and underground inspection records
- Pole fumigation records
- Repair work order records
- Pole loading calculations
- Inspectors list

### II. Records Review – Violations List

**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 165, Table 1 requires overhead conductors and cables, and overhead or padmounted transformers, switching/protective devices, and regulators/capacitors to be detail inspected at least once every five years. Additionally, GO 165, Table 1 requires underground transformers, switching/protective devices, and regulators/capacitors to be detail inspected at least once every three years.

GWP's Inspection Program does not require a cycle for detailed inspections of overhead or underground electrical facilities. Currently, GWP performs detailed inspections on an as-needed basis per project requirements; this does not ensure that the entire system is detailed inspected on a five or three year cycle, as required by GO 165.

**GO 165, Section III-C, Record-keeping**, states in part:

*... For all inspections records shall specify the circuit, area, facility or equipment inspected, the inspector, the date of the inspection, and any problems (or items requiring corrective action) identified during each inspection, as well as the scheduled date of corrective action.*

GWP's inspection records do not specify a scheduled date of corrective action for problems identified during each inspection.

**GO 95, Rule 18-A2, Resolution of Safety Hazards And General Order 95 Nonconformances**, states in part:

*All companies must include a timeline for corrective actions to be taken following the identification of a Safety Hazard or nonconformances with General Order 95 on the company's facilities. The auditable maintenance program shall prioritize corrective actions consistent with the priority levels set forth below and based on the following factors, as appropriate.*

GWP's maintenance program does not have priority levels that are consistent with the requirements of GO 95, Rule 18-A2.

**GO 95, Rule 18-A2aii**, which describes the "Level 2" priority level, states in part:

*Take action to correct within specified time period (fully repair, or by temporarily repairing and reclassifying the condition to a lower priority). Time period for correction to be determined at the time of identification by a qualified company representative but not to exceed: (1) 12 months for nonconformances that compromise worker safety, (2) 12 months for nonconformances that create a fire risk and are located in an Extreme or Very High Fire Threat Zone in Southern California, and (3) 59 months for all other Level 2 nonconformances.*

GWP's maintenance program does not have a priority level that provides a time period of "12 months for nonconformances that create a fire risk and are located in an Extreme or Very High Fire Threat Zone in Southern California". GWP indicated that it does not utilize the FRAP map to inform any of its inspection or maintenance activities.

**GO 95, Rule 18B, Notification of Safety Hazards**, states in part:

*If a company, while performing inspections of its own facilities, discovers a safety hazard(s) on or near a communications facility or electric facility involving another company, the inspecting company shall notify the other company and/or facility owner of such safety hazard(s) no later than 10 business days after the discovery.*

GWP did not have any records of safety hazard notifications sent to other parties to satisfy the 10 business day requirement, nor did they have a mechanism and/or system in place to facilitate those notifications and retain records of those communications.

### III. Field Inspections

The following facilities were inspected during the audit:

<b>Structure ID</b>	<b>Facility Type</b>	<b>City</b>
V191	Vault	Glendale
V192	Vault	Glendale
V193	Vault	Glendale
34444A	Pole	Glendale
34445A	Pole	Glendale
34473A	Pole	Glendale
34469A	Pole	Glendale
34472A	Pole	Glendale
31779A	Pole	Glendale
9942A	Pole	Glendale
29623A	Pole	Glendale
29625A	Pole	Glendale
29626A	Pole	Glendale
9945A	Pole	Glendale
29627A	Pole	Glendale
29628A	Pole	Glendale
29629A	Pole	Glendale
29630A	Pole	Glendale
9614A	Pole	Glendale
9615A	Pole	Glendale
29035A	Pole	Glendale
29631A	Pole	Glendale
29036A	Pole	Glendale
29632A	Pole	Glendale
29882A	Pole	Glendale
29881A	Pole	Glendale
1005921H	Pole	Glendale
30385A	Pole	Glendale
30387A	Pole	Glendale
13594A	Pole	Glendale
13595A	Pole	Glendale
13596A	Pole	Glendale
13597A	Pole	Glendale
15797A	Pole	Glendale
33377A	Pole	Glendale
33316A	Pole	Glendale
33315A	Pole	Glendale
15801A	Pole	Glendale
15802A	Pole	Glendale
15803A	Pole	Glendale

<b>Structure ID</b>	<b>Facility Type</b>	<b>City</b>
15804A	Pole	Glendale
15805A	Pole	Glendale
15806A	Pole	Glendale
24482A	Pole	Glendale
15808A	Pole	Glendale
18399A	Pole	Glendale
15809A	Pole	Glendale
15810A	Pole	Glendale
15811A	Pole	Glendale
15812A	Pole	Glendale
16664A	Pole	Glendale
24145A	Pole	Glendale
27731A	Pole	Glendale
27730A	Pole	Glendale
27729A	Pole	Glendale
27728A	Pole	Glendale
27727A	Pole	Glendale
27726A	Pole	Glendale
27725A	Pole	Glendale
27724A	Pole	Glendale
V1162	Vault	Glendale
V1296	Pull Box	Glendale
3991E	Padmount (Customer Service Facility)	Glendale
3282E	Padmount (Customer Service Facility)	Glendale
4129E	Padmount (Customer Service Facility)	Glendale
V1393	Pull Box	Glendale
V1273	Pull Box	Glendale
3850E	Padmount (Customer Service Facility)	Glendale
3918E	Padmount (Customer Service Facility)	Glendale
3782E	Padmount (Customer Service Facility)	Glendale
4681E	Padmount (Customer Service Facility)	Glendale

#### **IV. Field Inspections – Undocumented Violations List**

My staff observed the following violations during the field inspections. None of the violations were documented and/or addressed by GWP during its inspections:

**GO 95, Rule 54.7, Climbing and Working Space**, states in part:

*... Climbing space shall be maintained from the ground level. Climbing space, measured from center line of pole, shall be provided on one side or in one quadrant of all poles or structures...*

**GO 95, Rule 18-B, Notification of Safety Hazards**, states:

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

Communications facilities on the following poles encroached upon the climbing space:

- 31779A
- 9614A

**GO 95, Rule 51.6-A, High Voltage Marking**, states in part:

*Poles which support line conductors of more than 750 volts shall be marked with high voltage signs..... Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.*

The following poles either were not marked with a High Voltage sign or the High Voltage sign was not legible:

- 29630A
- 29035A
- 13595A
- 13596A
- 15811A

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

*Electrical supply and communications 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...*

One or more pole steps on the following poles were either broken or bent:

- 29035A
- 29631A
- 27726A

**GO 95, Rule 56.2, 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.*

Two down guy wires on pole number 34472A were not taut.

**GO 95, Rule 56.9, Guy Marker (Guy Guard)**, states:

*A substantial marker of suitable material, including but not limited to metal or plastic, not less than 8 feet in length, shall be securely attached to all anchor guys. Where more than one guy is attached to an anchor rod, only the outermost guy is required to have a marker.*

The guy guard for the down guy wire on the following poles was either missing or not securely attached:

- 9614A
- 9615A
- 13595A

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

*Electrical supply and communications 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...*

A secondary insulator pin on pole number 15810A was either loose or broken.

**GO 95, Rule 54.8-C4, Clearances between Supply Service Drops and Other Conductors**, states:

*The radial clearance between supply service drop conductors and communication service drop conductors may be less than 48 inches as specified in Table 2, 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.*

A GWP service drop and a communication service drop on pole number 15812A were touching.

**GO 128, Rule 17.8, Identification of Manholes, Handholes, Subsurface and Self-contained Surface-mounted Equipment Enclosures**, states:

*Manholes, handholes, subsurface and self-contained surface-mounted equipment enclosures shall be marked as to ownership to facilitate identification by persons authorized to work therein and by other persons performing work in their vicinity.*

Padmount number 4129E was not marked as to ownership.



## V. Field Inspections – Documented Violations

My staff observed the following violations during the field inspection that were documented and/or addressed by GWP during its last inspection:

**GO 95, Rule 51.6-A, High Voltage Marking**, states in part:

*Poles which support line conductors of more than 750 volts shall be marked with high voltage signs..... Such signs shall be of weather and corrosion–resisting material, solid or with letters cut out therefrom and clearly legible.*

The High Voltage sign on the following poles was either missing or not legible:

- 29623A
- 29625A
- 29626A
- 29628A
- 29631A
- 29036A
- 29632A
- 29881A
- 15803A

**GO 95, Rule 54.7, Climbing and Working Space**, states in part:

*... Climbing space shall be maintained from the ground level. Climbing space, measured from center line of pole, shall be provided on one side or in one quadrant of all poles or structures...*

Vegetation on the following poles was obstructing the climbing space:

- 9942A
- 29881A

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

*Where overhead conductors traverse trees and vegetation, safety and reliability of service demand that certain vegetation management activities be performed in order to establish necessary and reasonable clearances the minimum clearances set forth in Table 1, Cases 13 and 14, measured between line conductors and vegetation under normal conditions, shall be maintained...*

The radial clearance between an overhead conductor installed on pole number 29628A and vegetation was less than the 18 inches required by the above rule.

**GO 95, Rule 56.2, 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.*

A span guy wire on pole number 9945A was not taut.

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

*Electrical supply and communications 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...*

Pole number 29632A had a sunken insulator.

**GO 95, Rule 91.3-A1, Poles with Vertical Runs or Risers**, states in part:

*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 supported supply conductors with vertical risers but were not provided with pole steps:

- 13594A
- 15804A