

PUBLIC UTILITIES COMMISSION

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Daryl A. Buckley
Manager, Support Services and Regulatory Compliance
Los Angeles Department of Water and Power (LADWP)
City of Los Angeles
P.O. Box 51111
Los Angeles, CA 90051-5700

SUBJECT: Audit of LADWP's Northridge District

Dear Mr. Buckley:

On behalf of the Utilities Safety and Reliability Branch of the California Public Utilities Commission, I conducted an electric audit of LADWP's Northridge District from July 12-19, 2010. The audit included a review of LADWP's records and a field inspection of recently inspected overhead and underground facilities.

During the audit, I identified violations of General Orders (GOs) 95, 128, and 165. An Audit Summary itemizing these findings is enclosed. Within 30 days, provide a written response indicating the corrective measures taken by LADWP regarding the violations.

If you have any questions, you may contact me at (213) 620-2780.

Sincerely,

A handwritten signature in cursive script that reads "Cynthia Lee".

Cynthia Lee
Utilities Engineer
Utilities Safety and Reliability Branch
Consumer Protection and Safety Division

Enclosure: Audit Summary

Cc: Fred Villa, Northridge District Superintendent
Brad Basset, Lincoln Heights District Superintendent

Audit Summary

The following is a list of violations identified during the LADWP Northridge District audit conducted on July 12-19, 2010.

GO 165, Inspection Cycles for Electric Distribution Facilities, states:

"The purpose of this General Order is to establish minimum requirements for electric distribution facilities, regarding inspection (including maximum allowable inspection cycle lengths), condition rating, scheduling and performance of corrective action, record-keeping, and reporting, in order to ensure safe and high-quality electrical service..."

LADWP's inspection program did not include a detailed inspection program for its overhead facilities as defined by GO 165, Section III(D).

During the audit, I requested copies of several overhead facility maps, including map numbers 214-132, 166-108, and 214-135. These three maps did not indicate that a patrol inspection was performed during the 2006 calendar year. The attached table in GO 165 requires that patrol inspections for overhead facilities in urban areas be performed once per year.

GO 165, Section IV Standards for Inspection, Record-keeping, and Reporting, states:

"For all inspections, within a reasonable period, company records shall specify the circuit, area, or equipment inspected, the name of the inspector, the date of the inspection, and any problems identified during each inspection, as well as the scheduled date of corrective action. For detailed and intrusive inspections, companies shall also rate the condition of inspected equipment. Upon completion of corrective action, company records will show the nature of the work, the date, and the identity of persons performing the work."

Inspection records did not contain condition ratings for detailed inspections of underground facilities.

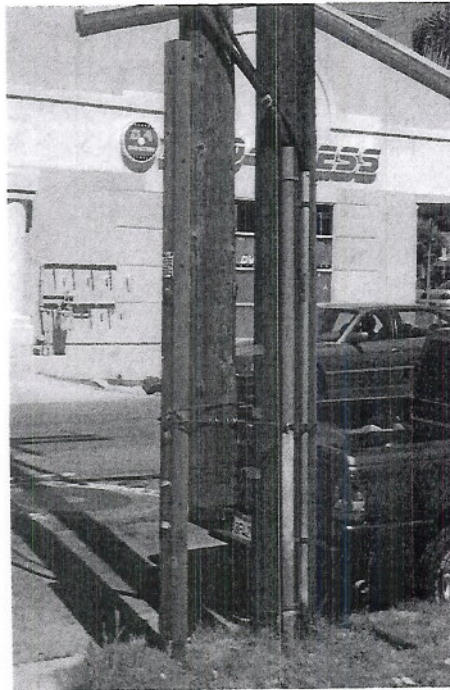
Although a priority system is in place, there was no consistency in adhering the schedule of maintenance the priority system had created. I found that violations of GO 95 and 128 considered a Priority 3 were not documented and scheduled for corrective action as part of LADWP's inspection and maintenance programs. Furthermore, Circuit Patrol Job Requests, which are forms that an inspector would complete for facilities requiring corrective action, do not include a Priority 3 rating as an option. Any problems rated a Priority 3 that are identified during any inspection must be documented and assigned a scheduled date of corrective action.

During an inspection of pad mounted transformer facility identification (FID) number 1421833 at 16900 Burbank Blvd. in Encino, I found the compartment casing to have multiple corroded holes. An inquiry to the history of this equipment revealed an open work request (WR) number 689333. This WR had an entry date of March 20, 2007 and indicated the above pad mounted transformer was "rusted through." In addition, this WR had a priority code of 1, a requested completion date of March 28, 2007, and a scheduled start date of June 1, 2010. This WR was open and outstanding for more than three years.

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

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

While inspecting pole number 402410M at 10246 Owensmouth Ave. in Chatsworth, I observed an adjacent pole that was topped at the communication level and supported by a piece of lumber at the ground level. This pole was last patrol inspected on November 11, 2009 and the inspector did not notify the other company and/or facility owner of the safety hazard.



GO 95, Rule 31.2 Inspection of Lines, states:

"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. Lines temporarily out of service shall be inspected and maintained in such condition as not to create a hazard."

I found that LADWP does not thoroughly inspect its overhead system for the purpose of insuring that it is in good condition so as to conform with GO 95. The following is a list of GO 95 violations that were observed during the audit and were not documented by LADWP Northridge District during its inspection.

1. GO 95, Rule 31.1 Design, Construction and Maintenance, states:

"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 6 poles were found to have one or more bent and/or turned pole steps:

- 223090M located in an alley near Loma Verde Ave. and Ingomar St. in Canoga Park.
- 223075M located in an alley near Loma Verde Ave. and Ingomar St. in Canoga Park.
- 250692M located in an alley near Loma Verde Ave. and Ingomar St. in Canoga Park.
- 250691M located in an alley near Loma Verde Ave. and Ingomar St. in Canoga Park.
- 382684M located in an alley near Flanders St. and Babbitt Ave. in Granada Hills.
- 294147M at 11624 Paso Robles Ave. in Granada Hills.

The following 11 poles were found to have one or more pin insulators not properly supported and contacting the top surface of the crossarms to which the pins were attached.

- 569517H located near Variel and Saticoy St. in Canoga Park.
- 223076M located in an alley near Loma Verde Ave. and Ingomar St. in Canoga Park.
- 77795M at 4157 Rosario Rd. in Woodland Hills.
- 260771M located at the rear of 17266 Flanders St. in Granada Hills.
- 260770M at 17221 Rinaldi St. in Granada Hills.
- GT200837 located in an alley near Flanders St. and Babbitt Ave. in Granada Hills.
- 17639CWT located in an alley near Amstoy Ave. and Flanders St. in Granada Hills.
- 17156CWT located at the rear of 17019 Rinaldi St. in Granada Hills.
- 246988M at 11559 Rinaldi St. in Granada Hills.

- 294147M at 11624 Paso Robles Ave. in Granada Hills.
- 294145M located at the rear of 11654 Paso Robles Ave. in Granada Hills.

The following 2 poles were found to have one or more deteriorated and/or split crossarms:

- 246988M at 11559 Rinaldi St. in Granada Hills had two split crossarms at the primary supply level.
- 294147M at 11624 Paso Robles Ave. in Granada Hills had a deteriorated crossarm at the primary supply level.

Pole number 97041M located near Devonshire St. and Jordan Ave. in Chatsworth was found to have a broken strap attachment to the conduit located on the bottom surface of the primary crossarm.

Pole number GT203576 located in an alley near Balboa Blvd. and Flanders St. in Granada Hills was found to have a broken strap attachment to the conduit at a level accessible to the public.

2. GO 95, Rule 31.6 Abandoned Lines, states:

"Lines or portions of lines permanently abandoned shall be removed by their owners so that such lines shall not become a public nuisance or a hazard to life or property. For the purposes of this rule, lines that are permanently abandoned shall be defined as those lines that are determined by their owner to have no foreseeable future use."

The following 8 poles were found to have abandoned lines or portions of lines:

- 266581M located near Variel and Saticoy St. in Canoga Park had an abandoned riser.
- 250641M located in an alley near Loma Verde Ave. and Strathern St. in Canoga Park had two (2) abandoned risers.
- 686796H located near 4316 Camello Rd. in Woodland Hills had an abandoned anchor rod.
- 346805M at 4353 Alhama Dr. in Woodland Hills had an abandoned insulator rack.
- 253640M at 11524 Andasol Ave. in Granada Hills had an abandoned insulator rack.
- 253644M located at the rear of 17333 Rinaldi St. in Granada Hills had an abandoned insulator rack.
- 17475CWT located near Flanders St. and Babbitt Ave. in Granada Hills had an abandoned pin throughbolt at the top of the pole.
- 246989M located in an alley near Hasley and Paso Robles Ave. in Granada Hills had an abandoned insulator rack.

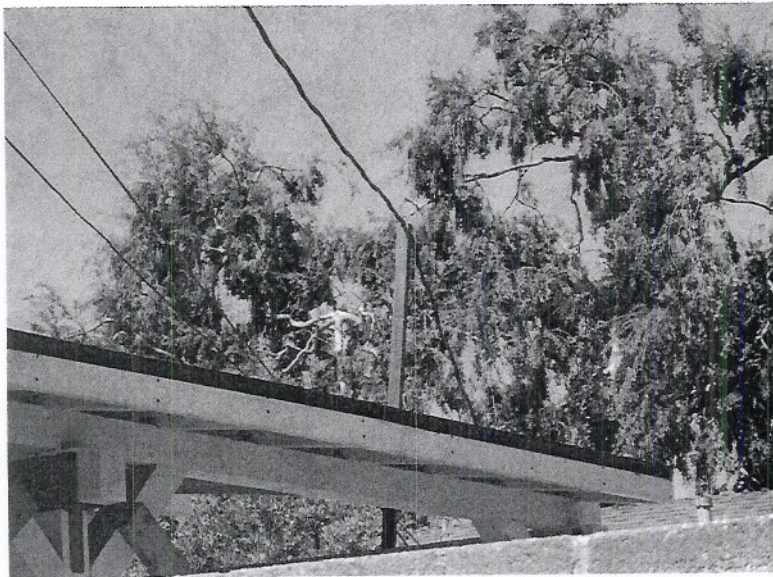
3. GO 95, Rule 34 Foreign Attachments states:

“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...”

Pole number 402410M at 10246 Owensmouth Ave. in Chatsworth had a structure attached to the pole.

Pole number 77804M at 4264 Morro Dr. in Woodland Hills had a mail box attached to the pole.

Pole number 250695M located in an alley near Loma Verde Ave. and Strathern St. in Canoga Park had a piece of wood supporting a service drop above a roof.



4. GO 95, Rule 35 Vegetation Management, states:

“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 established in Table 1, Cases 13 and 14, measured between line conductors and vegetation under normal conditions, shall be maintained. (Also see Appendix E for tree trimming guidelines)...

...Communication and electric supply circuits, energized at 750 volts or less, including their service drops, should be kept clear of vegetation in new construction and when circuits are reconstructed or repaired, whenever practicable. When a utility has actual knowledge, obtained either through normal operating practices or notification to the utility, that any circuit energized at 750 volts or less shows strain or evidences abrasion 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). For the purpose of this rule, abrasion is defined as damage to the insulation resulting from the friction between the tree and conductor. Scuffing or polishing of the insulating covering is not considered abrasion. Strain on a conductor is present when deflection causes additional tension beyond the allowable tension of the span. Contact between vegetation and conductors, in and of itself, does not constitute a violation of the rule.”

Pole number 70045M at 7849 De Soto Ave. in Canoga Park was found to have a span guy wire in a tree branch.



Pole number 335958M located near Saltillo St. and Castillo St. in Woodland Hills was found to have a down guy wire in a tree branch.



The following 4 poles were found to have service drops strained by a tree:

- 335957M at 4319 Saltillo St. in Woodland Hills.
- 37633M at 4259 Alhama Dr. in Woodland Hills.
- 668679H at 4366 Rosario Rd. in Woodland Hills.
- 294145M located at the rear of 11654 Paso Robles Ave. in Granada Hills.

5. GO 95, Rule 38 Minimum Clearances of Wires from Other Wires, states:

“The minimum vertical, horizontal or radial clearances of wires from other wires shall not be less than the values given in Table 2...”

The conductors between poles numbered 250643M, 250642M, 250641M and 250640M located in an alley near Loma Verde Ave. and Strathern St. in Canoga Park did not meet Table 2, Case 3D. I observed the conductors to have a clearance of less than 48 inches at mid-span from the communication conductors.

Pole number 246988M at 11559 Rinaldi St. in Granada Hills was found to have a service drop contacting a down guy wire.

Pole number 266623M at 11709 Balboa Blvd. was found to have one service drop contacting another service drop supported on the same pole.

6. GO 95, Rule 51.6, Marking and Guarding, states:

“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 following 65 poles were found to have illegible, broken or missing high signs:

- 342049M at 10121 Jordan Ave. in Chatsworth.
- 255835M at 10161 Jordan Ave. in Chatsworth.
- 192656M located near Craggyview St. and Jordan Ave. in Chatsworth.
- 97041M located on Jordan Ave., south of Devonshire St. in Chatsworth.
- 384668M located in an alley near Jordan Ave. and Devonshire St. in Chatsworth.
- 259866M at 10069 Owensmouth Ave. in Chatsworth.
- 70063M located near Independence and Saticoy St. in Canoga Park.
- 70065M located near Independence and Saticoy St. in Canoga Park.
- 70066M at 21030 Saticoy St. in Canoga Park.
- 70067M at 21050 Saticoy St. in Canoga Park.
- 569517H located near Variel and Saticoy St. in Canoga Park.
- 266581M located near Variel and Saticoy St. in Canoga Park.
- 217023M at 7620 Variel Ave. in Canoga Park.
- 217035M located near Keswick St. and Variel Ave. in Canoga Park.
- 217029M at 7753 Variel Ave. in Canoga Park.
- 251551M located near the corner of Ingomar St. and Variel Ave. in Canoga Park.
- 223095M located in an alley near Loma Verde Ave. and Ingomar St. in Canoga Park.
- 223076M located in an alley near Loma Verde Ave. and Ingomar St. in Canoga Park.
- 163353M located near Cohasset and Chaminade in West Hills.
- 163354M at 23305 Cohasset in West Hills.
- 153549M located near Bernadine Ave. and Cohasset in West Hills.
- 122022M at 7520 March Ave. in West Hills.
- 299856M located near Windom St. and March Ave. in West Hills.
- 122021M at 7540 March Ave. in West Hills.
- 250641M located in an alley near Loma Verde Ave. and Strathern St. in Canoga Park.
- 251701M located in an alley near Loma Verde Ave. and Strathern St. in Canoga Park.
- 250693M located in an alley near Loma Verde Ave. and Ingomar St. in Canoga Park.

- 250692M located in an alley near Loma Verde Ave. and Ingomar St. in Canoga Park.
- 70045M at 7849 De Soto Ave. in Canoga Park.
- 70043M at 7907 De Soto Ave. in Canoga Park.
- 70042M at 7925 De Soto Ave. in Canoga Park.
- 70037M at 8019 De Soto Ave. in Canoga Park.
- 70035M at 8037 De Soto Ave. in Canoga Park.
- 70034M at 8115 De Soto Ave. in Canoga Park.
- 70033M at 8125 De Soto Ave. in Canoga Park.
- 312443M located near Saltillo and Castillo St. in Woodland Hills.
- 312442M at 21310 Saltillo St. in Woodland Hills.
- 80926M at 4245 Alhama in Woodland Hills.
- 37633M at 4259 Alhama in Woodland Hills.
- 37631M at 4316 Camello Rd. in Woodland Hills.
- 73884H at 4340 Camello Rd. in Woodland Hills.
- 347250M at 4355 Camello Rd. in Woodland Hills.
- 36965M at 21083 Topochico Dr. in Woodland Hills.
- 66981M at 21020 Topochico Dr. in Woodland Hills.
- 166958M at 21008 Topochico Dr. in Woodland Hills.
- 362414M at 4344 Rosario Rd. in Woodland Hills.
- 668678H at 4351 Rosario Rd. in Woodland Hills.
- 359398M at 4242 Morro Dr. in Woodland Hills.
- 77803M located near Morro Dr. and Elzevir Rd. in Woodland Hills.
- 253641M located in an alley near Flanders St. and Andasol Ave. in Granada Hills.
- 253640M at 11524 Andasol Ave. in Granada Hills.
- 260767M located in an alley near Flanders St. and Louise Ave. in Granada Hills.
- 260771M located at the rear of 17266 Flanders St. in Granada Hills.
- 260768M located in an alley near Flanders St. and Louise Ave. in Granada Hills.
- 260770M at 17221 Rinaldi St. in Granada Hills.
- 342550M located in an alley near Flanders St. and Babbitt Ave. in Granada Hills.
- GT200837 located in an alley near Flanders St. and Babbitt Ave. in Granada Hills.
- 382684M located in an alley near Flanders St. and Babbitt Ave. in Granada Hills.
- 17154CWT located in an alley near Flanders St. and Balboa Blvd. in Granada Hills.
- 246986M located in an alley near Flanders St. and Balboa Blvd. in Granada Hills.
- 246988M at 11559 Rinaldi St. in Granada Hills.
- 294147M at 11624 Paso Robles Ave. in Granada Hills.

- 294145M located at the rear of 11654 Paso Robles Ave. in Granada Hills.
- 266624M located in an alley near Halsey St. and Paso Robles Ave. in Granada Hills.
- 266625M located in an alley near Halsey St. and Paso Robles Ave. in Granada Hills.

7. GO 95, Rule 54.6B, Ground Wires, states:

“Ground wires shall have a conductivity and mechanical strength at least equal to that of No. 8 AWG medium-hard-drawn copper wire; they shall not be installed on the top surfaces of crossarms; and they shall have clearances of not less than 1.5 inches from hardware in accordance with the provisions of Rules 52.7-B and 52.7-C .”

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)...”

The following 15 poles were found to have exposed ground wires located at a level accessible by the public:

- 342049M at 10121 Jordan Ave. in Chatsworth.
- 255835M at 10161 Jordan Ave. in Chatsworth.
- 259872M located near Dupont St. and Owensmouth Ave. Chatsworth.
- 379888M located near Independence and Saticoy St. in Canoga Park.
- 70067M at 21050 Saticoy St. in Canoga Park.
- 569517H located near Variel and Saticoy St. in Canoga Park.
- 310627M at 7620 Variel Ave. in Canoga Park.
- 250696M located in an alley near Loma Verde Ave. and Strathern St. in Canoga Park.
- 70038M at 8007 De Soto Ave. in Canoga Park.
- 359398M at 4242 Morro Dr. in Woodland Hills.
- 253641M at 11516 Andasol Ave. in Granada Hills.
- 253644M located at the rear of 17333 Rinaldi St. in Granada Hills.
- GT200841 located in an alley near Flanders St. and Babbitt Ave. in Granada Hills.
- 382684M located in an alley near Flanders St. and Babbitt Ave. in Granada Hills.
- 294145M located at the rear of 11654 Paso Robles Ave. in Granada Hills.

The following 4 poles were found to have exposed ground wires located at the supply and/or communication level:

- 366813M located at Cohasset and Chaminade in West Hills.
- 250643M located in an alley near Loma Verde Ave. and Strathern St. in Canoga Park.
- 116149M at 4307 Topochico Dr. in Woodland Hills.
- 668679H at 4366 Rosario Rd. in Woodland Hills.

Pole number 37633M at 4259 Alhama Dr. in Woodland Hills was found to have exposed ground wires located in the climbing space, contacting pole steps.

8. GO 95, Rule 54.7 Climbing and Working Space, states:

"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 with dimensions as specified..."

Pole number 37633M at 4259 Alhama Dr. in Woodland Hills was found to have exposed ground wires contacting pole steps and obstructing climbing space.

Pole number 259397 at 4252 Morro Dr. in Woodland Hills was found to have a tree obstructing the climbing space on all sides of the pole.

Pole number 260769M located in an alley near Flanders St. and Louise Ave. in Granada Hills was found to have a tree obstructing the climbing space on all sides of the pole.

9. GO 95, Rule 54.8C(4) Clearances between Supply Service Drops and Communication Service Drops, states:

"The radial clearance between communication service drop conductors and supply 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."

Pole number 362414M at 4344 Rosario Rd. in Woodland Hills was found to have a service drop contacting a communication service drop.

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 of these rules...”

I found that LADWP does not thoroughly inspect its underground system for the purpose of insuring that it is in good condition so as to conform with GO 128. The following is a list of GO 128 violations that were observed during the audit and were not documented by LADWP Northridge District during its inspection.

1. 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.”

The following equipment was not marked as to ownership:

- Handhole FID number 1145580 at 17320 Burbank Blvd. in Encino.
- Manhole FID number 1145531 at 5462 Balboa Blvd. in Encino.

2. 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.”

Pad mounted transformer FID number 1421833 at 16900 Burbank Blvd. in Encino had no warning signs indicating high voltage installed on the interior surface or barrier of the compartment casing.

Other observations/concerns:

- While inspecting vault FID 1370477 at 15012 Alda Place in Van Nuys, LADWP's crew did not heat scan the electrical equipment and conductors, including the primary transformer, before I had entered the enclosure for inspection. Prior to entering vaults, manholes, and subsurface equipment enclosures, workers should heat scan all electrical equipment and conductors in order to identify any potential safety hazards.
- On pole number 88207M at 7635 Variel Ave. in Canoga Park, I observed wood deterioration at the top of the pole. The pole should undergo intrusive testing to determine the pole's strength.