

LINE MECHANIC, 3883  
LINE PATROL MECHANIC, 3884

Summary of Duties: Independently performs skilled electrical work in the construction, maintenance and repair of overhead electric transmission, distribution, and utilitarian street light lines and equipment; patrols, locates, clears and repairs trouble on transmission, distribution, street light and communication lines and facilities of the Department of Water and Power; and does related work.

Distinguishing Features: Line Mechanics and Line Patrol Mechanics represent the journey level in the Line Mechanic series. They are exposed to the hazards of working with high-voltage energized lines and equipment above the ground on poles and towers. A Line Mechanic usually works in a crew under the direct supervision of an Electric Distribution Mechanic Supervisor, who plans and lays out the work and enforces conformance to standards, specifications, and proper safety precautions. An employee of this class may perform duties requiring climbing poles and working near energized high-voltage lines and equipment in connection with testing and maintenance work without direct supervision.

A Line Patrol Mechanic normally does not work under direct supervision, but reports to a Transmission and Distribution District Supervisor or reports to an Area Supervisor (Electric Distribution Mechanic Supervisor) who is responsible for electric trouble crews dispatched throughout the City. An employee in this class may be assigned to the construction, patrol, inspection, routine maintenance, and repair of overhead transmission and distribution lines, underground facilities, street lights, or generation and station facilities. A Line Patrol Mechanic is responsible for readily recognizing any condition that might result in trouble or failure and for seeing that the proper steps are immediately taken to clear existing trouble. An employee of this class is frequently accompanied on patrol by an Assistant Line Mechanic or an Electrical Craft Helper.

Examples of Duties: Line Mechanic: Constructs high-voltage electric power transmission and distribution pole lines; makes construction changes to existing lines, fittings, and equipment; repairs power lines and line equipment; repairs and reroutes service lines to customer's dwellings; sets poles; installs transformer racks; hangs and installs transformers and switches of various types and sizes; installs overhead street lights and guy line; replaces broken insulators and fuses transformers; splices, taps, and makes repairs to energized lines carrying up to 4800 volts; works on higher-voltage deenergized power lines; uses appropriate live line tools to install and remove approved protective covering on energized distribution and subtransmission circuits of 7.5 Kv and above while working on adjacent conductors, equipment, or hardware.

Patrols overhead street light circuits at night; contacts trouble dispatcher hourly for orders; removes grounds, closes open circuits, and removes contacts between street light and foreign circuits; operates time switches and makes tests on isolated circuits; replaces faulty lamps, fuses, sockets, film cutouts, refractors, globes, and liminaries; makes splices to restore lines to service;

Works with an Electrical Tester in a two-person filed test crew; climbs poles and connects and disconnects test leads on energized lines or transformers carrying up to 4800 volts; assists Tester in making voltage tests on customers' premises by making connection of test equipment to distribution lines;

May occasionally shoot trouble on low-voltage lines or act as a lead over another journey level worker in this work; may perform miscellaneous electrical work such as installing and servicing electric wiring, switches, multibreakers, meter boxes, conduit, cable, and outlets; may construct, patrol, test, and repair telephone lines or test, adjust, and replace fuses in carrier current and teletype equipment; and occasionally shoots petty trouble on customers' premises.

Line Patrol Mechanic: Patrols overhead power and communication lines, on foot, horseback, or motorized equipment, including boats and aircraft, and inspects for conditions that might lead to line outages, such as interference from trees, dangerous or defective poles, crossarms and transformer racks and insulators, slack or defective conductors, or guy wires, and obstructions hanging from lines; inspects condition of towers, counterpoise, spark gaps, fuses, and other line appurtenances; performs routine and preventive maintenance, installations and repairs on towers and pole lines; restrings conductors and replaces damaged insulators and hardware, at times on energized lines, using live line tools; inspects, tests, and washes insulators on energized transmission lines; operates regulators in the field to remove them from service or to parallel circuits; patrols street light circuits to regulate constant current transformers and to watch for conditions that could become dangerous or interrupt service; makes various tests, checks circuits for grounds, and installs and regulates time switches and carrier current controllers; locates and replaces burned out lamps; may be assigned to a crew that specialize in doing work on energized overhead lines with appropriate live line tools.

Locates trouble and determines cause; notified dispatcher of trouble and indicates necessary action, such as designating the circuit with which the trouble area should be tied and the amount of help, materials, and equipment needed to make repairs; reroutes lines; replaces fuses, transformers, and switches; makes emergency repairs and replacements to lines; locates, diagnoses, clears and when possible, repairs trouble at commercial and industrial substations and unattended distributing stations; locates, investigates, and clears trouble on underground primary distribution lines; performs field activities necessary to deenergized underground primary lines; tests

and determines load on underground primary circuits; clears debris at scenes of trouble and reports damage and injuries; reports job and daily operations;

Answers customer trouble calls concerning dangerous electrical conditions, major appliance outages, and objects on power lines and poles; calls equipment as required to clear and repair trouble and leave power lines or services in safe condition; notifies designated supervisor or repairer for subsequent work or repairs which require an extensive amount of time;

Answers Fire Department calls; disconnects service to burning buildings; helps protect and reports damage to Department property during fires; installs and removes meters; clears wires for house moving; installs temporary services and checks temporary power lines construction services for conformance to Department rules; patrols and locates, diagnoses, and repairs trouble on Department communication system; inspects right-of-way for encroachments and violations and makes investigations and prepares reports; inspects roads, trails, and culverts for damage or potential damage due to storms and fires, and in an emergency, makes temporary repairs; and occasionally supervises several employees making emergency repairs.

Both Classes: May occasionally be assigned to other duties for training purposes or to meet technological changes or emergencies.

Qualifications:

<u>Knowledges:</u>	Line <u>Mechanic</u>	Line <u>Patrol Mechanic</u>
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Fundamentals of electricity as related to electric power transmission and distribution systems and various street lighting systems;

Good

Good

Hazards related to working on poles and towers and with energized equipment and of the applicable safety precautions, devices used, and first-aid practices;

Good

Good

Qualifications: (Cont'd)

<u>Knowledges:</u>	Line <u>Mechanic</u>	Line <u>Mechanic</u>
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Methods, tools, equipment, and hardware used in line work including stringing wire and cable, setting and guying poles and towers,

installing crossarms, and running services;	Good	Good
Types of overhead circuits, including primary, secondary, and street lights;	Good	Good
Installation and maintenance of distribution transformers and of the proper connection including single-phase, star, open delta, and closed delta;	Good	Good
Rigging and the common knots used in line work;	Good	Good
Types, sources, and remedies of primary and transmission line trouble;		Good
Procedures for taking out line clearances;		Good
Provisions of State laws and Department standards and regulations regarding overhead line construction and clearances;	General	General
Types of transmission and distribution circuits;	General	General

Abilities:

Understand and follow written and oral instructions;	X	X
Keep records and make reports;	X	X

Qualifications: (Cont'd)

<u>Abilities:</u>	Line <u>Mechanic</u>	Line <u>Mechanic</u>
Use skillfully the tools and equipment employed in various types of assembly and repair work related to line and street light maintenance and construction;	X	X
Climb and work safely on poles carrying high and low voltage lines and equipment;	X	X

Climb and work safely on towers and in vaults carrying high-voltage lines and equipment; X

May supervise others during emergency repair work. X

Completion of a recognized power line mechanic apprenticeship program, including one year of work on energized high-voltage lines, or one year of journey level experience as a line mechanic working on energized high-voltage lines, is required for Line Mechanic.

Two years of experience as a journey level power line mechanic is required for Line Patrol Mechanic.

License: Both Classes: A valid California driver's license is required.

Physical Requirements: Both Classes: Strength to perform average lifting up to 70 pounds and occasionally over 70 pounds; body agility and equilibrium involved in activities such as climbing and balancing under precarious conditions; arm, hand, and finger dexterity with both hands involved in activities such as reaching, handling, and feeling; good speaking and hearing ability; and good eyesight.

Persons with medical limitations may, with reasonable accommodations, be capable of performing the duties of some of the positions in this class. Such determination must be made on an individual basis in light of the person's limitations, the requirements of the positions, and the appointing authority's ability to effect reasonable accommodations to the limitations.

As provided in Civil Service Commission Rule 2.5 and Section 4.55 of the Administrative Code, this specification is descriptive, explanatory and not restrictive. It is not intended to declare what the duties and responsibilities of any position shall be.