



## CLASS SPECIFICATION

03-23-2017

## SENIOR ELECTRICAL TEST TECHNICIAN, 7515

**Summary of Duties:** Performs highly skilled work and specialized functions in the installation, operation, maintenance, calibration, evaluation, repair, acceptance and periodic testing and inspection of electrical equipment and apparatus, and other systems and devices; develops work plans and schedules specific to jobs and/or tasks; coordinates, facilitates, and participates in routine calibration tests of meters; routine electrical tests of materials; testing of more complex electric instruments and equipment; testing electric meters, protective relays and controls, instruments, transformers, and other equipment and materials; performs the more difficult functions of electrical testing; and performs related duties.

**Class Characteristics:** A Senior Electrical Test Technician may work independently, performing the more complex testing, installation, investigation, calibration, and repair of equipment and materials used in distribution, industrial, customer, receiving and generating stations, smart-grid systems, and other conventional and renewable generation resources.

A Senior Electrical Test Technician acts as a lead to a small group of journey-level Electrical Test Technicians, trainees and Electrical Craft Helpers in addition to performing or providing technical support for the more difficult and skilled electrical work; instructs new employees in test methods and safe and proper use of equipment, and provides guidance and on-the-job training to trainees. Employees in this classification usually work on or near energized equipment. Such work includes hazards in addition to those present in routine field/laboratory tasks.

**Examples of Duties:** A Senior Electrical Test Technician:

- Leads and participates in the performance of dielectric, load, operating, and other tests on new and reconditioned transformers, oil circuit breakers, and protective devices, and other equipment and electrical materials; recommends necessary repairs on equipment; assists in devising and preparing test procedures; assist in the maintenance and compilation of test and equipment data;
- Provides technical support and solutions to complex problems in the routine testing, installation, programming, and repairing of watt-hour meters and meter test accessories, instrument transformers, and related equipment; devises new testing methods;
- Leads and participates in conducting field transformer and circuit voltage, load, corrosion surveys (including adjusting protective devices) and related tests, including pole top connections, installing graphic or indicating instruments, obtaining voltage readings, and determining transformer ratios; and in the performance of insulating oil and gas sampling, testing and station wash ground testing, and calibration tests on portable instruments and laboratory standards;

- Schedules, coordinates and participates in the testing of protective relay equipment and related devices, such as current and potential transformers, relay circuits, and pilot wires under simulated short circuit and normal conditions; tests protective relay equipment associated with oil circuit breakers and switching facilities; changes relay settings and calibrations; reviews specifications for relays and associated equipment for conformance to engineers' orders; prepares reports, tests procedure and modification of relays; makes various tests of electrical equipment; makes, or assists an Electrical Test Technician with, commissioning tests of power circuits and equipment;
- Performs field and/or laboratory tests, troubleshooting and repairs on watt-hour and indicating metering equipment protective and control systems, digital fault recorders, sequence of events recorders, oscillographs, generating plant equipment, substation equipment, remote terminal units, and electrical equipment installed on the Power System, checking test data and compiling reports from information obtained; maintains records of test data, equipment identification, and condition of equipment and materials tested; interprets and enforces safety rules and regulations; initiates orders for equipment, materials, and repair parts; requisitions supplies;
- Inspects, adjusts, calibrates, tests, and repairs electrical metering, and control and protective equipment installed at various locations; obtains clearances to remove equipment from service for testing purposes or to conduct tests on energized equipment; instructs new employees in test methods and the safe and proper use of equipment; leads and participates in conducting efficiency, ratio and phase angle tests; leads and participates in testing samples of gases and insulating oils;
- May occasionally be assigned other duties for training purposes or to meet technological changes or emergencies.

**Qualifications:** Incumbents must have the following knowledge and abilities:

Knowledge of:

- Tools, methods, and equipment used in testing, investigation, calibration, adjustments, installation, evaluation, repair and maintenance of electric meters, relays, instrumentation, transformers, circuit breakers, insulation and other electric equipment used in underground and overhead electric transmission and distribution systems, customer and industrial stations, receiving and generating stations, smart-grid systems, and other conventional and renewable generation resources;
- Fundamental principles of electricity and electronics;
- Power System equipment, instrumentation, controls, design, construction, and the principles of maintaining electrical systems;
- Electrical construction drawings and specifications, electrical circuit prints and diagrams, mechanical and other related drawings;
- Principles of operations, characteristics, and common sources of trouble in electric meters, instruments, and equipment used in the Power System;
- Test techniques and procedures;
- Computer based controls and communication systems;
- Power System policies and procedures;
- Safe Work Procedures concerning working on high and low voltage equipment;
- CAL/OSHA Title 8 and LADWP Safety Rules;
- New technologies applicable to Power System operations
- Basic work practices of related craft employees.

The ability to:

- Use tools and equipment needed in electrical testing work;
- Work on and near energized high voltage equipment;
- Plan, schedule, organize, coordinate, and lead a group of electrical workers;
- Devise test methods for electrical testing;
- Evaluate technical problems;
- Read, interpret, and prepare electrical diagrams;
- Troubleshoot electronic equipment down to the component level;
- Analyze equipment failure, recommendations and data acquisition;
- Analyze/interpret test data and to make sound recommendations;
- Use sound judgment and take appropriate action in emergency situations;
- Recognize and mitigate work hazards;
- Prepare comprehensive and detailed reports;
- Establish and maintain effective working relationships with supervisors, fellow employees, and the public.

**Requirement:**

Two years of full-time paid experience as a journey-level Electrical Test Technician with the City of Los Angeles.

**License:** A valid California driver's license and good driving record is required. Some positions may require a license to operate a forklift or crane.

**Physical Requirements:** Strength to perform average lifting of up to 25 pounds routinely and occasionally 75 pounds; extensive use of legs for walking and standing, climbing stairs and ladders of up to 40 feet, climbing and crawling near energized equipment; use of hands and fingers; and back for strenuous labor; face severe working conditions outdoors and on or near water; work in confined spaces or awkward positions for extended periods; good speaking and hearing ability; good eyesight; good balance for working heights.

Persons with disabilities may be able to perform the essential duties of this class with reasonable accommodation. Reasonable accommodation will be evaluated on an individual basis and depend, in part, on the specific requirements for the job, the limitations related to the disability, and the ability of the hiring department to reasonably accommodate 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 all of the duties and responsibilities of any position shall be.**