

**CLASS SPECIFICATION**

6/10/2021

Signal Systems Electrician, 3819

Summary of Duties: A Signal Systems Electrician performs skilled technical work and may act as a head worker for and work with a signal construction or signal systems crew installing, repairing, maintaining, and modifying electric and microprocessor based traffic signal control devices and video and computer communications systems.

Class Characteristics: A Signal Systems Electrician performs journey-level electrical work modifying, installing, troubleshooting, repairing, and maintaining: traffic signal equipment at intersections; electronic and digital traffic controllers; microcomputers; other microprocessor based traffic signal control devices; and fiber optic, video, and laser pulsed traffic signal communication. In some positions, a Signal Systems Electrician is a head worker who reviews the work of other Signal Systems Electricians and Assistant Signal Systems Electricians or acts as a head worker of a crew of helpers and laborers. Employees in this class may work in the traffic signal shop or out in the field. The work may involve exposure to hazards from heavy traffic and relatively low voltage electricity. Employees receive assignments from a Signal Systems Supervisor in the form of verbal instructions, work orders, plans, timing charts, wiring schematics, intersection layouts, and route maintenance schedules.

Example of Duties:

- Ascertain the number and types of interconnecting conductors needed to install a traffic signal system;
- Designs, modifies, or installs nonstandard control circuits;
- Prepares work reports, work orders, and requisitions;
- May connect the signal controller to a microcomputer to install computer generated timing instructions;
- May design and construct specialized test equipment;
- May write operation and calibration manuals, schematic diagrams, and parts list to operate and maintain test equipment;
- May conduct acceptance tests of new, vendor supplied traffic and test equipment;
- May design, write, and present training courses to field personnel about the ATSAC system operation;
- May inspect traffic signal systems installed as part of permit or contract work;
- Plugs signal controller into controller box wiring harness;
- Turns on and tests the basic operation of traffic signals and control devices;

- Does preventive maintenance work in the field;
- Uses multimeters, megohmmeters, and frequency meters and other analog and digital electronic instruments;
- Uses wire cutters, pliers, crimpers, wrenches, and other hand tools;
- Uses drills, soldering guns, jack hammers, and other pneumatic and gasoline and electric tools;
- Works from ladders and aerial lifts;
- Studies engineering plans such as intersection layouts, location of electric and gas conduits, and work orders;
- Checks signal coordination and timing to engineering plans;
- Prepares work reports, work orders, and requisitions;
- May modify engineering plans to show the final signal equipment configuration for an accurate record of each installation;
- May answer emergency traffic signal trouble calls;
- Works with a signal construction crew as a head worker installing temporary traffic signals or stop signs, and placing safety cones before starting work; excavating foundations, pull boxes, and loop detectors; installing signal standards, controller cabinets, signal heads, loop detectors, and railroad and bus preemption module; pulling wire cables through conduits and signal standards; reconstructing or replacing vandalized or broken traffic signal equipment;
- Coordinates work with other personnel such as boom truck or cement crews, Traffic Officers, and Water and Power crews;
- Splices and weatherproofs wires in signal heads, pull boxes, and controllers; and
- May be assigned to other duties for training purposes or to meet technological changes or emergencies.

REQUIREMENTS:

1. Completion of a recognized apprenticeship as an electrician, which provides experience or training in electrical or electronic control work; or
2. Two years of full-time paid experience as an Assistant Signal Systems Electrician with the City of Los Angeles or two years of full-time paid experience performing electrical or electronics control work. Both require 18 semester units or 27 quarter units in electrical or electronic technology, such as Basic Electrical and Electronics Theory, Solid State Devices and Circuitry, Digital Electronics, and Microprocessors and Microcomputers from an accredited college or trade school; or
3. Four years of full-time paid experience as an Electrical Craft Helper with the City of Los Angeles and completion of the educational requirements specified in requirement #2.

Successful completion of a military electrician or electronics course of 24 weeks or longer may be substituted for the educational requirement specified in Requirement #2.

License: A valid California driver's license and a Class B driver's license is required. A Rubber Tired Tractor B Operator's license and a Hydrocrane Operator's license may be required for some positions.

Persons with disabilities may be able to perform the essential duties of this class with reasonable accommodation. Such accommodation will be evaluated on a **case by case** 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 indicated 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.