



TRAFFIC SYSTEMS TECHNICIAN 2

4310

GENERAL DESCRIPTION OF CLASS

The TRAFFIC SYSTEMS TECHNICIAN 2 independently diagnoses, installs, inspects, repairs and tests complex traffic system devices and systems. Employees analyze and program computerized software parameters; identify and coordinate problems with manufacturers; verify corrections review and inspect contracted installations. Employees in this class work on technically complex electronic microprocessor-based equipment and systems.

DISTINGUISHING FEATURES

This is the second level of a three-level series. It is distinguished from the Traffic Systems Technician 1 by full journey-level proficiency and is required to independently diagnose and correct a wide variety of complex traffic systems malfunctions.

This class is distinguished from the higher level by the absence of responsibility for planning, assigning, and reviewing the work of other positions; and by the absence of responsibility for the review of work documentation for consistency with Federal regulations and industry standards. Employees at this level work with and guide lower level employees until those employees have met the requirement to work at the journey-level.

DUTIES AND RESPONSIBILITIES

The duties listed are characteristic of the type and level of work associated with this class. Individual positions may do all or some combination of the duties listed as well as other related duties.

1. Installation of Traffic System Devices

Do on-site installation of traffic systems equipment throughout the state of Oregon. Remove existing traffic systems equipment or replace it with updated traffic systems equipment. Connect required wiring to control devices. Inspect solid-state electronic components and electromechanical mechanisms to verify proper operation and make required adjustments. Test microprocessors within the system and modify software or configuration of equipment to make sure the installed equipment functions properly. Install modems and telephone voice-grade coordinated traffic systems installations using testing instruments designed explicitly for this type of application. Use a wide variety of electronic testing equipment such as multi-meters, inductance meters, time domain reflectometers oscilloscopes, meggers, break out boxes, signal generators, frequency counters and spectrum analyzers to verify proper system operation. Work closely with field electrical crews, engineers, project management staff and contractors to make sure systems are fully functional before being placed into operation. Write detailed reports documenting the completed installation.

2. Inspection of Traffic Systems

Inspect operational systems using a comprehensive inspection checklist to verify wiring circuits, physical and operational condition of equipment, software parameter settings, sensor accuracy, and infrastructure condition which includes pavement conditions and markings, structural poles, signals, signs and sensors. Diagnose malfunctions and make repairs by replacing or repairing failed components. Inspect, clean, lubricate, and adjust equipment to assure continued trouble-free operation. Prepare and submit reports detailing maintenance performed during the inspection.

3. Maintenance and Repair of Traffic Systems Devices

Respond to maintenance calls when traffic systems fail. Independently troubleshoot faults and determine best solution options. Replace defective modules with working units. Use a wide variety of electronic testing equipment and hand tools to troubleshoot circuitry to identify and repair failures to the individual electronic component level. Reference diagrams, schematics, manufacturer's notes and specifications to locate and correct equipment problems. Design and implement technology upgrades that extend the service life of legacy traffic systems devices and installations.

4. Testing of Traffic System Devices

Inspect new traffic systems products by conducting comprehensive physical, environmental, and operational evaluations to determine if products meet all specifications and criteria for specific applications. Operate environmental chamber controls to subject equipment under test to hot and cold temperature extremes. Write detailed reports to document equipment performance throughout testing processes. Notify customer with details of specific laboratory test failures. Design and fabricate specialized electronic testing equipment for which there is no available commercial source.

5. Miscellaneous

Explain to agency, city and county personnel, electrical contractors, the state and federal laws, rules, policies and regulations regarding the operation of traffic systems and related components. Assist in training, advising and supervising Traffic Systems Technicians and other employees involved in the construction, maintenance and operation of traffic systems on maintenance, inspection, testing, and job requirements.

RELATIONSHIPS WITH OTHERS

Employees have daily contact with various levels of staff to coordinate the installation, maintenance and operation of traffic systems devices with related construction and maintenance projects. Employees have frequent contact with private contractors and manufacturers to discuss equipment operation and specifications. Employees have occasional contact with local government officials, law enforcement agencies, and citizens reporting traffic signal malfunctions. .

SUPERVISION RECEIVED

Employees receive general supervision from the Traffic Systems Technician 3 or the Traffic Systems Unit Manager who assigns work and periodically reviews reports on installations, inspections, maintenance, and testing activities for compliance with statutory requirements and consistency with agency standards and procedures.

Guidelines include manufacturers' specifications, wiring diagrams and schematics for maintenance, testing and installation of traffic systems equipment. Employees use agency policies and procedures and administrative rules to execute proper techniques for the installation and repair of equipment. Employees also refer to federal and state laws and regulations regarding the standards for traffic systems, the National Electrical Code, and the Standard Specifications for Highway Construction.

KNOWLEDGE AND SKILLS (KS)**Extensive knowledge of:**

Electrical, electronic and electro-mechanical theory applicable to traffic system installation, testing, maintenance and repair.
Data communication technology including protocols, wiring, and interfaces.
Digital computer hardware designs used in traffic systems to the interface and component levels.
National Electrical Code and fire, environmental and safety codes related to the electronics trade.
Standard practices, methods, tools and materials of the electronics trade.
Mathematics as applied to electronics.

Skill to:

Operate, maintain and apply the tools, materials and equipment used in the electronics trade.
Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
Talk to others to effectively convey information.
Read and interpret blueprints, electrical and electronic specifications, plans and drawings.
Understand written sentences and paragraphs in work related documents.
Install equipment, machines, wiring or programs to meet specifications of the electronics trade.
Apply electronic and microprocessor theories in order to conduct tests and inspections of electronic products, services, or processes to evaluate quality or performance.
Accurately and quickly diagnose electrical and electronic malfunctions.

NOTE: The KNOWLEDGE and SKILLS are required for initial consideration. Some duties performed by positions in this class may require different KS's. No attempt is made to describe every KS required for **all** positions in this class. Additional KS requirements will be explained on the recruiting announcement.

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