TRAFFIC SYSTEMS TECHNICIAN 1 4309

GENERAL DESCRIPTION OF CLASS

The TRAFFIC SYSTEMS TECHNICIAN 1 installs, inspects, maintains and tests complex traffic system devices and systems. Employees receive on-the-job instruction from journey-level Traffic Systems Technicians or the Traffic Systems Unit Manager. Employees in this class, although at the sub-journey level, work on technically complex equipment with increasing independence as they become more proficient.

DISTINGUISHING FEATURES

This is the first level of a three-level series. It is distinguished from the fully proficient journey-level Traffic Systems Technician by the absence of the requirement to possess a valid Oregon electrical license or to independently diagnose and repair complex equipment.

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 Systems Devices

Under supervision of a Traffic Systems Technician 2 or 3, or manager, participate in on-site installation of traffic system equipment throughout the state of Oregon. Remove existing traffic system equipment or replace it with updated traffic system equipment. Connect required wiring to control devices. Inspect solid-state electronic components and electromechanical mechanisms to verify proper operation and make adjustments. Test microprocessors within the system and modify software or configuration of equipment to make sure the installed equipment functions properly. 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 systems are operating properly. 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

Under direct supervision of a Traffic Systems Technician 2 or 3, or manager, assist with inspections of traffic systems equipment by lab testing new products according to shop procedures. Use 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 in control units. Prepare and submit reports detailing maintenance performed during the inspection.

3. Maintenance and Repair of Traffic Systems Devices

Respond with Traffic Systems Technician 2 or 3 personnel to maintenance calls when traffic systems fail. Assist in troubleshooting faults and generating solution proposals. 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 individual electronic component level. Reference diagrams, schematics, manufacturer’s notes and specifications to locate and correct equipment problems.

RELATIONSHIPS WITH OTHERS

Employees in this class have limited contact outside of the work unit, usually in conjunction with a Traffic Systems Technician 2 or 3. Employees have occasional contact with private contractors and manufacturers to discuss equipment operation and specifications. Employees have occasional telephone contact with local government officials, law enforcement agencies, and citizens reporting traffic signal malfunctions.

SUPERVISION RECEIVED

Employees in this class receive close supervision. Their work is assigned and reviewed by a lead worker or manager. Guidelines include agency and manufacturers' specifications, wiring diagrams and schematics for maintenance, testing, and installation of signal control equipment.

KNOWLEDGE AND SKILLS (KS)

Basic knowledge of:

Electrical, solid-state and electro-mechanical theory applicable to traffic systems maintenance and repair.
State and local building codes, 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.
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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