



COMMUNICATIONS ELECTRONIC TECHNICIAN

FC: MA115
PG: MW-III
FLSA: Non-Exempt

PC: 301
BU: 01 (SEIU)
Created: April 1988
Revised: 2004

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are **not** intended to reflect all duties performed within the job.*

DEFINITION

Under general supervision, troubleshoots, adjusts, installs, modifies, maintains and performs primary repair of communications equipment, devices and systems; maintains records of work performed; and performs related duties as assigned.

CLASS CHARACTERISTICS

This is the journey level class performing skilled maintenance and repair of radio and telephone systems, carrier systems, cabling, antennae, public address and other audio, video and data transmitting, transmission, receiving and recording equipment, systems and devices. Incumbents work independently according to accepted standards of the trade, supervisory direction and District procedures and practices. Incumbents at this level are expected to select appropriate tools, materials and approach to the work. This class is distinguished from other electronic technician classes in that the duties relate specifically to the maintenance and repair of specialized communications and related equipment.

REPORTS TO

This position reports to the Communications Foreworker.

EXAMPLES OF DUTIES - *Duties may include, but are not limited to, the following:*

1. Adjusts, removes and replaces printed circuit boards.
2. Installs, maintains and performs primary maintenance of amplifiers, receivers, transmitters, power supplies, filters, switchboards, controls, alarms and related electrical and electronic parts.
3. Installs police and other vehicle base and equipment radios.
4. Installs cabling and related apparatus for major voice and data communication systems.
5. Installs maintenance vehicle detection devices; adjusts voltage, frequency, tuning and sensitivity of components.
6. Replaces wiring, annunciators and switches and solders new connections.

Communications Electronic Technician

Page 2

7. Isolates defective components, parts and wiring; identifies necessary repairs and adjustments.
8. Determines and gathers necessary tools, equipment, parts and test apparatus for jobs.
9. Positions assigned as test board operator may receive and relay information to technicians and foreworkers in the field, dispatch parts, update drawings and prepares maintenance checklists and parts lists.
10. Troubleshoots, tests and diagnoses both hardware and software equipment problems using computerized diagnostic tools, oscilloscopes, voltage, amperage and ohm meters, pressure gauges, magnetic field testers, calipers, multi-meters, signal and tone generators and frequency standards, spectrum analyzers, test cards, special test equipment and related devices.
11. Performs preventive maintenance of equipment, including clearing, lubricating, checking and adjusting all part and components.
12. Reads work requests and discusses work to be performed with lead, foreworkers, supervisors, or work requests, initiators and engineers.
13. Reads and interprets manuals, procedures, specifications and schematic diagrams.
14. Determines whether equipment can be repaired in the field; removes and may send equipment to component repair shops.
14. Responds to computerized, telephone, and in-person requests for communications equipment maintenance.
15. Maintains records of work performed, time required, parts and materials used, component serial numbers, and related data, using current District maintenance management software and other PC applications such as, excel, lotus notes, word, etc.
16. Confirms that simple work orders and safe clearances have been provided when necessary, and uses appropriate safety apparel and devices.
17. Updates drawings to reflect field conditions.
18. Prepares brief reports of repeated maintenance problems.
19. Operates District vehicles to reach equipment to be serviced and may include high-railed vehicles used on tracks; may operate cranes or other equipment as required for repair.

QUALIFICATIONS

Knowledge of:

Operating principles of radio-wave signal and carrier voice and data communication systems and equipment, digital electronics and electrical circuitry.

Methods, materials, tools and equipment used in installation, preventive maintenance and primary

Communications Electronic Technician

Page 3

repair of communications systems and equipment.

Procedures and equipment for diagnosing and troubleshooting communications equipment problems.

Use and care of hand and power testing and repair tools and equipment.

Current District PC applications such as excel, lotus notes, word, etc.

Mathematics used in communications maintenance including ladder logic.

Safety practices and procedures for communications equipment repair and maintenance.

Skill in:

Assessing and troubleshooting both hardware and software problems in computerized electronic, electrical and mechanical communications equipment and systems down to the component level.

Installing, maintaining and repairing communications equipment.

Operating and maintaining hand and power tools and equipment used in the trade.

Reading and interpreting manuals, procedures, diagrams and schematics.

Keeping simple written records of work performed and parts and materials used.

Using current PC applications systems.

Establishing and maintaining effective working relationships with those contacted in the course of the work.

Operating the District's radio and communication systems in compliance with District Rules, Regulations and Procedures.

MINIMUM QUALIFICATIONS

Education:

An Associate degree in electronics from an accredited college, or a Certificate of Achievement in Electronics from an accredited college, or completion of military training in electronics, or completion of a formal apprenticeship as an electronic technician and possession of a high school diploma, GED, or recognized equivalent.

Experience:

One (1) year of (full-time equivalent) verifiable journey level experience in the maintenance and repair of communications equipment.

Other Requirements:

Must possess a valid California driver's license and have a satisfactory driving record.

Must possess adequate color vision to distinguish wiring and parts, and read diagrams.

Must be physically able to lift to waist level and carry up to 60 pounds.

Must be physically able to climb, bend, stoop and crawl to reach work.

Must be physically able to walk on uneven surfaces for long distances.

Must be physically able to work in confined spaces.

Must be physically able to work in exposure to live voltage and air contamination Must be physically able to work underground and on aerial structures.

Must be able to wear respiratory protective equipment during the performance of assigned duties in accordance with the District Respirator Program and applicable Cal-OHSA requirements.

Must be able to understand, read and communicate in English.

Must be able to work various shifts, weekends, holidays, and overtime.

Substitution:

In addition to the experience listed above, four (4) years of (full-time equivalent) verifiable electronic maintenance experience (i.e. maintaining, troubleshooting and repairing electronic and/or electro-mechanical equipment) can be substituted for the education.

WORKING CONDITIONS

Environmental Conditions:

Shop environment; exposure to live voltage, air contamination, heat, and cold; field environment; exposure live voltage, uneven surfaces, confined spaces, underground, aerial structures, and inclement weather.

Physical Conditions:

Requires maintaining physical condition necessary for lifting and carrying; climbing, bending, stooping, crawling, walking, standing, or sitting for prolonged periods of time.