

RADIO ENGINEER I

DESCRIPTION OF WORK

This is technical work in the maintenance of radio communications equipment in a large geographical area of the state.

Employees install, maintain, repair, and replace mobile and stationary radio transmitting and receiving equipment, special testing instruments, and allied electrical and mechanical equipment in an assigned area for the North Carolina Forestry Service. Assignments develop as a result of faulty equipment or operating difficulties, and employees independently make technical determinations necessary to repair equipment and maintain effective reception and transmission of messages. Some work is performed in a shop; however, most work is performed in the field, and around-the-clock availability of employees in an "on call" status is required for immediate repair of equipment failures, and to assure continued operation of communications. Work is performed under the general administrative supervision of a Regional Forester and is subject to limited technical review by the division's Radio Communications Engineer.

EXAMPLES OF DUTIES PERFORMED

Tests radio transmitters and receivers, using such instruments as frequency meters, signal generators, oscilloscopes, and tube testers; isolates and diagnoses defects, and repairs or replaces defective parts. Uses frequency meter to determine if transmitter is operating on the designated frequency and makes necessary adjustment to secure correct frequency and maximum output.

Installs and maintains radios on trucks, cars, tractors, airplanes, offices, and forest towers.

Assists in training radio operators to operate communications systems.

Maintains stock records on all radio and maintenance parts used in the system.

Replaces and repairs antennae on lookout towers as needed.

Performs miscellaneous electrical work, such as installing and repairing electrical wiring in lookout towers.

Maintains necessary records as required by the Forestry Division and the Federal Communications Commission.

Performs related work as required.

RECRUITMENT STANDARDS

Knowledges, Skills, and Abilities

Considerable knowledge of the principles and theories of basic electricity and radio electronics, as applied to the operation and maintenance of radio communications equipment.

Considerable knowledge of safety methods and devices used in radio repair and maintenance.

Considerable knowledge of the practices, methods, tools, equipment, and material used in the repair, testing, maintenance, and replacement of radio receiving and transmitting equipment.

Considerable knowledge of Federal Communications Commission rules and regulations relating to the installation, maintenance, and operation of radio transmitting and receiving equipment.

Skill in the use and operation of tools and equipment used in radio installation and repair work.

Skill in the detection, diagnosis, and repair of mechanical and electrical defects in radio receivers, transmitters, and related electronic devices.

Ability to interpret and work from technical diagrams and blueprints.

Ability to work rapidly in emergency situations, without supervision.

Ability to estimate need for materials and replacement parts.

Minimum Education and Experience

Graduation from a technical school or community college with a two-year degree in electronics and one year of experience in the repair and maintenance of a variety of electronics devices; or an equivalent combination of education and experience.

Necessary Special Requirement

Positions in the Highway Patrol may require a FCC License of the appropriate type. Other positions in the class may require a FCC License.

Degrees must be received from appropriately accredited institutions.

Special Note – This is a generalized representation of positions in this class and is not intended to identify essential functions per ADA. Examples of work are primarily essential functions of the majority of positions in this class, but may not be applicable to all positions.