

STATE OF SOUTH DAKOTA CLASS SPECIFICATION

Class Title: Communications Maintenance Technician

Class Code: 40336

Pay Grade: GH

A. Purpose:

Performs preventive and routine maintenance on electronic broadcast, production, and microwave equipment and maintains the television and radio broadcasting and production equipment to ensure necessary repairs are made for proper operation; or installs and repairs microwave and other communications equipment to maintain the operational readiness of the State Radio Communications and Department of Transportation networks.

B. Distinguishing Feature:

The Communications Maintenance Technician performs preventive and routine maintenance on electronic broadcast, production, and microwave equipment or State Radio system elements either alone or under the direction of a Communications Engineer or Sr. Communications Maintenance Technician.

The Senior Communications Maintenance Technician is either identified by the FCC as the transmitter site's chief operator and may function as the chief engineer for one or more broadcast transmitters and microwave radio sites within a region of the state; or provides technical support, planning and design for State Radio Systems networks; assists in the installation of upgrades and new installations, and acts as regional support for all State Radio Services. Incumbents have a high degree of autonomy in diagnosing and repairing base station transmitting/receiving equipment and are expected to make even the most complex repairs without assistance or consultation.

C. Functions:

(These are examples only; any one position may not include all of the listed examples nor do the listed examples include all functions which may be found in positions of this class.)

1. Upgrades, installs, and maintains communications equipment to ensure availability, connectivity and effectiveness of communications systems statewide.
 - a. Upgrades and maintains the state's microwave system.
 - b. Upgrades and maintains the State Radio communications control centers throughout the state.
 - c. Upgrades and maintains all state owned mobile radio systems.
 - d. Maintains, installs, and distributes communications equipment in emergency and special use situations such as V.I.P. security, undercover operations, civil disasters, and disturbance situations.
 - e. Plans and evaluates site locations for State Radio mobile control center and repeater equipment for use in emergency situations.
 - f. Installs and maintains the State Radio Telecommunications and multi-line telephone key system.
 - g. Installs and maintains radio transmission antennas on State Radio and Educational Television towers.
2. Performs maintenance and repairs to television and radio broadcast equipment to ensure proper performance and operating levels.
 - a. Repairs and maintains broadcast equipment such as video recorders, cameras, video

- switchers, amplifiers, and transmission equipment by replacing defective components, wiring and adjusting mechanical parts.
- b. Measures and adjusts audio and video broadcast levels by monitoring program quality and adjusting levels as needed.
 - c. Installs, operates, and tests equipment used for remote broadcast and productions to ensure efficient operation.
 - d. Completes maintenance, microwave and transmitter logs, and other necessary reports to comply with FCC and network requirements.
3. Writes specifications for new equipment to ensure the most suitable and cost effective communications equipment is procured.
- a. Performs technical computations for electrical load levels, wiring requirements and air conditioning sizing for communications sites to ensure all equipment operates safely and efficiently.
 - b. Creates detailed plans to ensure new equipment is effectively integrated with existing equipment without causing degradation.
4. Performs other work as assigned.

D. Reporting Relationships:

Reports to a Communications Engineering Supervisor or a manager. Does not supervise.

E. Challenges and Problems:

Challenges include determining when a repair is within the scope of their abilities and when to call for assistance; what equipment has failed and how to make repairs; and evaluating situations correctly to provide an accurate analysis. Further challenged to interface new equipment into the existing communications system. This may be difficult because the equipment must be modified or have adaptations designed in order to function correctly.

Problems include diagnosing and repairing malfunctioning equipment, repairing old equipment that is no longer supported by the manufacturer, obtaining spare parts, and working within strict time constraints and limited budget.

F. Decision-making Authority:

Decisions include assessing equipment, material, and manpower needs for various projects, and determining the appropriate repair procedures.

Decisions referred include final approval of program criteria, operations, policies, and procedures; final decision on equipment purchases, and the prioritization of projects.

G. Contact with Others:

Daily contact with project supervisor, broadcast engineer, and other broadcast maintenance technicians to discuss condition of operations and equipment problems; and with various state, federal, local law enforcement and government agencies to repair, install and evaluate the performance and suitability of communications equipment.

H. Working Conditions:

Incumbents' workstations are spread across the state and must be accessed in all types of weather conditions. Work environment includes potential exposure to high radio frequencies, microwave radiation electrical hazards, caustic gases and liquids, high noise levels, and lifting heavy equipment. The incumbent is required to travel at all hours in order to make repairs and install equipment in all types of weather and climb towers up to 450 feet in height.

I. Knowledge, Skills, and Abilities:

Knowledge of:

- broadcast equipment;
- electronics maintenance techniques, terminology, and principles;
- electronic test equipment;
- FCC rules and regulations;
- operation and maintenance of communications equipment and systems.

Ability to:

- accurately diagnose technical problems;
- select most effective methods of repair;
- communicate effectively;
- establish and maintain effective working relationships with co-workers and client agencies;
and
- interpret and follow agency policies and procedures.