

SENIOR RADIO FREQUENCY (RF) NETWORK ENGINEER

DEFINITION

Under general supervision, installs, configures, monitors and maintains the City's RF (radio frequency)/LMR (land mobile radio) systems, video surveillance cameras and associated systems, dispatch systems, and related data networking systems. Assists in ensuring the highest level of uptime, secure functionality and efficiency of these systems.

SUPERVISION RECEIVED/EXERCISED

Receives supervision from the Communications Manager, Supervisor or designee. This class does not exercise supervision but may provide lead direction on projects along with lead direction and training to lower-level staff and performs the most complex duties.

DISTINGUISHING CHARACTERISTICS

The Senior Radio Frequency Network Engineer is the advanced level classification in the Radio Frequency Network Engineer series. Incumbents monitor and perform advanced maintenance and troubleshooting of RF, LMR, and video surveillance systems; conduct analyses of overall network performance; and identify and resolve more complex communications system and networking issues. Incumbents will be periodically required to work with, troubleshoot, or repair small electronic components, such as circuit boards and displays. This work may also require reading and interpreting small diagrams, schematics and other documentation, and distinguish between color-coded items. The incumbent will be assigned to work on-call, weekends, or holidays for after-hours support on a scheduled basis.

This class is distinguished from the Radio Frequency Network Engineer I/II classification in that the Senior may have lead responsibilities over projects and/or staff and may participate in large-scale projects where more complex issues and critical systems are involved.

EXAMPLES OF IMPORTANT AND ESSENTIAL DUTIES

May include, but not limited to, the following:

Performs and provides lead guidance in the configuration, testing, installation, maintenance troubleshooting and repairs of RF/LMR systems, cameras and video surveillance systems and related network hardware and services.

Provides lead technical assistance and may act as lead technical advisor to ISD and/or other City staff and/or other stakeholders and agencies.

Performs and provides lead guidance with regards to system design, system backups, firmware upgrades, testing and equipment calibration.

Monitors RF and video surveillance camera systems, and associated networking systems to ensure secure and optimal functionality.

Recommends modifications to systems and services and may conduct research as required.

Responds to urgent requests as needed.

Assists and provides lead guidance in the maintenance of radio/transmitter sites and/or Division facilities, including preventive and corrective maintenance as directed.

Performs related duties as required.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Advanced knowledge of:

Electronics, electrical and RF theory and the ability to explain to others, on the use of electronic and electrical test equipment, including but not limited to multimeters, inductive probes, power meters, SpecAns, and VNAs.

RF/radio, video surveillance, networking, and telecommunications systems.

LANs, VLANs, switching and routing, networking hardware, including protocols and services such as TCP/IP, UDP, VPN and VoIP.

Protocols such as SSH, Telnet, RDP and the use of non GUI systems such as CLI.

Server configuration, related hardware, and contemporary server operating systems.

Metric units of measurement and application in RF/radio and telecommunication systems and equipment.

Skill/Ability to:

Interpret and explain to others the schematics, wiring diagrams, architectural and construction drawings, electrical and RF theory, functional requirements and specifications for RF, surveillance, and networking hardware.

Install, troubleshoot, and repair complex RF/radio equipment, video, computer and network hardware which may involve climbing ladders and/or working on elevated surfaces.

Troubleshoot, or repair small sized electronic components, such as circuit boards and displays; read and interpret small sized diagrams, schematics and other documentation; and distinguish between color-coded items, all with or without reasonable accommodations.

Lift and/or move up to 50 pounds (23 kilograms) with or without reasonable accommodation.

Establish and maintain effective working relationships with co-workers, representatives of other departments and/or relevant stakeholders.

