

RADIO FREQUENCY (RF) NETWORK ENGINEER II**DEFINITION**

Under general supervision, installs, configures, monitors and assists in maintaining 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.

Receives lead direction from the Senior Radio Frequency Network Engineer. This class does not exercise supervision.

DISTINGUISHING CHARACTERISTICS

Radio Frequency Network Engineer II is the experienced level class in the Radio Frequency Network Engineer series. Incumbents monitor, maintain, troubleshoot, and control RF, LMR, video surveillance systems and associated data networks; identify and resolve communication system issues; and provide technical assistance to other City departments, and relevant stakeholders. 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.

Radio Frequency Network Engineer II incumbents are fully trained and experienced in the performance of duties. Radio Frequency Network Engineer II differs from Senior Radio Frequency Network Engineer in that the incumbents of the latter provide lead direction on projects along with lead direction and training to lower-level staff and perform the most complex duties.

EXAMPLES OF IMPORTANT AND ESSENTIAL DUTIES

May include, but not limited to, the following:

Configures, tests, installs, maintains, diagnoses and repairs RF/LMR systems, cameras and video surveillance systems and related network hardware and services.

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

Performs system backups, firmware upgrades, signal strength testing and equipment testing.

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

May conduct research on evolving technologies within the field of RF for the purpose of recommending procedures or system changes.

Responds to urgent requests as needed.

Assists in maintaining radio/transmitter sites and/or Division facilities, including performing preventive and corrective maintenance as directed.

Performs related duties as required.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Intermediate knowledge of:

Electronics, electricity, RF theory and related best practices.

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

The use of electronic and electrical test equipment, including but not limited to multimeters, inductive probes, power meters, SpecAns, and VNAs.

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 administering systems via CLI.

Server configuration and hardware including server operating systems such as Windows Server and Linux-based systems.

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

Skill/Ability to:

Interpret schematics, wiring diagrams, functional requirements and specifications for RF, surveillance, and networking hardware.

Install, troubleshoot, and repair RF/radio, 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.

Communicate effectively, both orally and in writing.

Explain technical details to non-technical staff.

Safely operate a motor vehicle.

MINIMUM QUALIFICATIONS

Option 1:

Experience:

One (1) year of experience as a Radio Frequency Network Engineer I with the City of Fresno.

Option 2:

Education:

Possession of a bachelor's degree from an accredited college or university in computer science, management information systems, electrical engineering or related field.

Experience:

Two (2) years of full-time paid work experience configuring, testing, installing, maintaining, diagnosing, and/or repairing RF/LMR systems, cameras and video surveillance systems and related network hardware and services. Additional qualifying experience may be substituted for the required education on a year-for-year basis. If qualifying solely with experience, a High School diploma or equivalent is required at time of appointment.

Special Requirements:

Possession and continued maintenance of a valid California Driver's License is required at time of appointment.

Possession of an FCC issued Amateur Radio certificate at the Technician class or higher at time of appointment. Failure to maintain the required certification for the entire term of employment in this classification shall be cause for termination.

Eligible applicants certified for consideration for hire will be required to pass an extensive pre-employment background investigation.

APPROVED: (Signature on File)
Director of Personnel Services

DATE: 3/25/2024

New:12/14/2023

Revised: SM:vp 3/25/2024