

CLASS SPECIFICATION
Telecommunications Engineer/Administrator

GENERAL PURPOSE

Under direction, supervises, oversees and participates in the work of the City's telecommunications services division and performs highly complex duties in the engineering design, development, installation, integration, administration and maintenance of the City's telecommunication systems; manages and optimizes telecommunication systems performance and interoperability; manages and administers the City's telephony, 800 MHz radio and backbone communication systems; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

Telecommunications Administrator is responsible for developing, integrating and managing the interoperations of the City's telecommunication systems to provide an efficient, stable, reliable infrastructure needed for effective operations and communication. The incumbent develops telecommunication system standards and policies, researches technology alternatives and plans for expansion of telecommunications capacity to support meeting City mission, goals and operational requirements. The incumbent manages and administers the City's telephony, 800 MHz radio and backbone communication systems. Duties and responsibilities are carried out with considerable independence within the framework of established policies, procedures and guidelines.

Telecommunications Administrator is distinguished from other information technology classes by the incumbent's overall responsibility for developing, supervising and integrating the City's telecommunications infrastructure and systems.

ESSENTIAL DUTIES AND RESPONSIBILITIES

The duties listed below are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to this class.

1. Plans, organizes, supervises and evaluates the work of the telecommunications section of the Technology Services Division; with staff, develops, implements and monitors work plans to achieve assigned goals and objectives; contributes to development of and monitoring of performance against the annual division budget; participates in developing, implementing and evaluating work programs, plans, processes, systems and procedures to achieve division and City goals, objectives and performance measures consistent with the City's quality and service expectations.
2. Plans and evaluates the performance of assigned staff; establishes performance requirements and personal development targets; regularly monitors performance and provides coaching for performance improvement and development; recommends compensation and provides other rewards to recognize performance; subject to management concurrence, takes disciplinary action, up to and including termination, to address performance deficiencies, in accordance with the City's human resources policies and labor contract provisions.

3. Provides day-to-day leadership and works with staff to ensure a high performance, customer service-oriented work environment which supports achieving City objectives and service expectations; provides leadership and participates in programs and activities that promote a positive employee relations environment.
4. Plans, supervises and participates in the development, acquisition, implementation, maintenance, administration and support of telephony, radio and backbone telecommunication systems and equipment; develops and proposes short- and long-range work plans, programs and objectives for the efficient development and utilization of telecommunications systems to meet City-wide service requirements; develops and implements telecommunications policies, procedures and standards for the improvement of internal operations; tracks productivity and prepares recommendations for improvement based on field survey data and other written materials.
5. Designs digital and analog telecommunication systems and reconfigurations; calculates link path losses and system gain; determines interfaces, antenna size and supporting structures for microwave paths; designs optical laser links for high-speed connectivity to remote City offices; prepares and maintains technical diagrams and systems configuration and maintenance documentation.
6. Supervises maintenance of telecommunication systems, including additions and moves of users, timely installation of equipment and wiring and periodic system maintenance activities; evaluates and prioritizes system maintenance and troubleshooting activities and determines primary and backup plans to resolve issues; establishes, manages and monitors procedures for troubleshooting and resolving user problems and complaints; provides direction and assists technical support staff, vendors and volunteers during emergency situations.
7. Manages, supervises and participates in the development, maintenance and administration of the City's 800 MHz radio system; analyzes and resolves system functionality issues with departmental customers; coordinates the troubleshooting and resolution of signal strength and other operational issues with the equipment vendor.
8. Ensures the integrity and security of City telecommunications systems and equipment; reviews, modifies, tests and implements departmental procedures for systems backup, recovery and security.
9. Performs project leadership functions for telecommunications projects; consults with customers regarding voice/data/video/radio communication needs and requirements; performs cost studies and researches and presents technology alternatives; evaluates and tests vendor products for conformance with customer requirements and City standards; evaluates the feasibility of modifications and upgrades to existing systems or implementation of new systems; conducts field surveys to determine methods for new equipment installation; prepares specifications for bid proposals; evaluates the competitiveness of vendor and provider cost structures; analyzes project costs and recommends vendor selection and the selection and purchase of equipment and services.
10. Manages City relationships with telecommunications vendors and service providers to ensure telecommunications requirements and reliability standards are met; evaluates and negotiates service agreements with vendors and service providers; monitors contract terms, specifications and scopes of work; negotiates memorandums of understanding with other agencies for system support services.
11. Provides expert advice and assistance to other Information Technology staff on difficult and complex telecommunication issues; serves as technical advisor on telecommunication system design, operability and installation issues to other IT and City staff; coordinates work with other information technology staff to ensure that telecommunications functionality is consistent with all information technology strategies.

12. Works with contract consultants to prepare FCC applications and ensure compliance with FCC rules and regulations; reviews microwave prior coordination notices; monitors radio system use and operation for compliance.

OTHER DUTIES

1. Prepares confidential trace analyses of radio and telephone traffic and records abusive calls for tape evidence; attends court hearings on behalf of the City.
2. Monitors trends and developments in telecommunication technologies; consults with vendors and other sources on industry and product direction, functionality and capabilities.

QUALIFICATIONS

Knowledge of:

1. Theories, principles, concepts, methods, techniques, operational requirements, standards, tools, materials and equipment used in the development, construction, installation, troubleshooting, maintenance and repair of all types of telecommunications systems.
2. Principles, methods and techniques for layout, installation, configuration, integration and operation of telecommunication systems and equipment.
3. Standard telecommunication system management methods, tools and utilities.
4. Principles, practices and methods of telecommunication systems administration and maintenance.
5. Telecommunication system and equipment security principles, practices, techniques and tools.
6. Disaster planning and recovery techniques.
7. Principles and practices of telecommunication systems analysis and design.
8. Federal, state and local laws, regulations and court decisions applicable to assigned areas of responsibility.
9. Project management methods, tools and techniques.
10. Principles and practices of sound business communication
11. Principles and practices of effective supervision.
12. City human resources policies and procedures and labor contract provisions.

Ability to:

1. Plan, organize, integrate and supervise a broad range of complex telecommunications development, administration and maintenance activities.
2. Develop conceptual frameworks and apply state-of-the-art technology to the design, management and administration of telecommunication systems and infrastructures.
3. Configure, maintain and manage the operations of complex telecommunication systems to achieve optimal technical performance and user support.

4. Troubleshoot complex telecommunication systems and equipment problems and make modifications and fixes to resolve problems.
5. Assess customer needs, set priorities and allocate resources to most effectively meet needs in a timely manner.
6. Understand and apply the analysis of functional requirements to the development of proposals, specifications and recommendations for efficient, cost-effective telecommunications systems and technology solutions.
7. Plan, organize and complete projects efficiently and in accordance with City quality standards.
8. Prepare clear, concise and comprehensive correspondence, reports and other written materials.
9. Communicate clearly and effectively to diverse audiences of technical and non-technical personnel, both orally and in writing.
10. Organize, set priorities and exercise sound independent judgment within areas of responsibility.
11. Exercise tact and diplomacy in dealing with sensitive and complex issues and situations.
12. Establish and maintain effective working relationships with City management, staff, vendors, service providers, other public and private agencies, the public and others encountered in the course of work.

Education, Training and Experience:

A bachelor's degree in telecommunications, communications engineering or a closely related field. A minimum of six years of progressively responsible experience in the analysis, design, development and administration of telecommunication systems and infrastructures; and at least two years' experience in a lead or project management capacity.

Licenses; Certificates; Special Requirements:

A valid California driver's license and the ability to maintain insurability under the City's vehicle insurance policy.

PHYSICAL AND MENTAL DEMANDS

The physical and mental demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Physical Demands

While performing the duties of this job, the employee is regularly required to sit; talk or hear, both in person and by telephone; use hands to finger, handle and feel computers and standard business equipment; and reach with hands and arms. The employee is frequently required to stand and walk; climb and balance; smell; and lift up to 50 pounds and occasionally up to 100 pounds.

Specific vision abilities required by this job include close vision, distance vision, peripheral vision, depth perception, use of both eyes, the ability to distinguish shades and colors and the ability to adjust focus.

Mental Demands

While performing the duties of this class, the incumbent is regularly required to use written and oral communication skills; read and interpret complex data, information and documents; analyze and solve complex problems; use math/mathematical reasoning; perform highly detailed work under changing, intensive deadlines, on multiple concurrent tasks; work with constant interruptions, and interact with City management, staff, vendors, service providers, other public and private agencies, the public and others encountered in the course of work.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The employee works under typical office conditions, and the noise level is usually quiet. The employee frequently works in outside conditions, exposed to wet and/or humid conditions, where the noise level may be loud. Work may be performed near moving mechanical parts and equipment, on ladders or in high precarious places, on uneven or slippery surfaces and subject to risk of electrical shock or radiation. Work may be performed in confined spaces with exposure to fumes and particles and biological hazards.