



## CLASS SPECIFICATION

Class Code: 60015838  
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FLSA: non-exempt  
Probation: 12 months

### SENIOR TECHNOLOGY NETWORK ENGINEER

#### **DEFINITION**

Under general supervision, designs, plans, organizes and oversees the implementation of wired and wireless network, public safety radio, cybersecurity and electronic and physical security systems for the County; and performs related work as required.

#### **EXPERIENCE AND TRAINING REQUIREMENTS**

Four years of experience in computer and/or network support, cybersecurity, electronic security systems or public safety radio system support, including one year of full-time experience in communications infrastructure, design and planning AND a bachelor's degree from an accredited college or university in electrical engineering, computer science, networking, computer systems, cybersecurity or a closely related field; OR an equivalent combination of education and experience.

#### **LICENSE OR CERTIFICATE**

A valid driver's license is required at the time of appointment and must be maintained for continued employment in this classification.

Positions within this classification assigned to the Cybersecurity team require a Certified Ethical Hacker certification within one year from the time of appointment and must be maintained for continued employment in this classification.

Positions within this classification assigned to the infrastructure support team within the Enterprise Infrastructure Division will require certification from the County's standard wiring vendor on the design, installation and support of their wiring products within one year from the time of appointment and must be maintained for continued employment in this classification.

Positions within this classification assigned to the Washoe County Regional Communication System (WCRCS) must possess an FCC General Radio Operators License (GROL) within one year of the time of appointment and must be maintained for continued employment in this classification.

#### **DISTINGUISHING CHARACTERISTICS**

This is the advanced level in the Technology Network Engineer series. Incumbents are responsible for planning, analysis and design, and serving as project manager for infrastructure projects. The senior level provides expertise for advanced diagnostics and troubleshooting of complex technical issues, and training and leadership of technical staff. It is distinguished from Technology Network Engineer II by the leadership responsibilities over positions in the same class series, and by the responsibilities for long-term planning and design, and project management duties.

#### **SUPERVISION EXERCISED**

Exercises lead direction.

**EXAMPLES OF DUTIES** *(The following is used as a partial description and is not restrictive as to duties required.)*

Provide lead direction, support and training for Technology Network Engineers.

Meet with department heads and County management to discuss and design security system standards and specifications to meet County and department security goals as well as represent Technology Services at department meetings and participate on project teams and committees.

Provide technical leadership on technology projects, providing research, design and deployment; may act as project team lead.

Manage projects involving the maintenance and upgrades to network equipment, security systems, and peripherals, including coordinating with appropriate staff, establishing timeframes, monitoring progress, providing project documentation for new systems, and following through with vendors to assure County standards are met.

Coordinate with County Capital Projects staff to plan and implement communications infrastructure related to the construction or remodeling of County facilities, or to extend communications to new network connected technologies in existing facilities.

Administer and integrate a variety of vendor equipment and video recording system solutions, including camera matrix systems for countywide facilities, NVRs, camera management servers and applications, video monitoring computer stations and applications, video data storage devices and associated network communications hardware and wiring to provide high quality live video monitoring capabilities for County security staff, as well as storage of recorded video footage for use in investigations and for legal discovery purposes.

Develop and recommend security policies; manage various aspects of internet and network security and advise management on various security related issues; implement new security applications and procedures; monitor and audit network activity to detect, prevent, and mitigate security attacks and intrusions.

Design new communications infrastructure plans, design bid specifications, write Request for Proposals, and prepare estimates of equipment and resources required for projects; review proposals and statements of work contracts, select vendors for contracted implementation projects, and interface with selected vendors during implementations to provide project coordination and review of results; provide consultation to management and departmental staff.

Translate designs to schematic diagrams for use by internal and/or contracted technicians in network installation.

Assess potential network equipment and software for performance, reliability, maintenance problems, cost, ease of use, and user satisfaction.

Maintain electronic card access, intrusion alarms, and panic alarm systems used throughout County buildings including system administration of security cardkey access servers and applications; administer security system servers and applications including user management, file management, permission levels, and building access programming in order to provide physical security to County facilities and employees.

Coordinate with local area vendors to implement the installation of proprietary equipment, wiring and related technology management software. Prepare reports and make presentations of product findings, which include recommendations for purchase.

Prepare exception reports regarding abnormal performance of network components already used by the County, describing diagnostic procedures, specific problems and corrective actions.

Develop recommendations for improvements to network infrastructure performance and reliability.

Develop County electronic security equipment standards, maintenance procedures, and repair policies; work with

County Technology staff to schedule and manage enterprise-wide security systems data backups; manage ongoing technology replacement and upgrades as required to keep County owned technology up to date with evolving industry standards and best practices.

Investigate, troubleshoot and resolve complex network hardware and software problems at the system and component level, utilizing a variety of testing routines, tools and equipment.

Monitor enterprise-wide security system for abnormal performance, failures or unauthorized access, and take required steps to mitigate risks, respond to events, and minimize system downtimes.

Provide training to and lead staff in performing end user support, monitoring and administration of systems, implementation of communications infrastructure and technical troubleshooting of communications technology.

Coordinate with other department staff on collaborative planning and problem solving.

Manage equipment inventories and associated maintenance contracts.

Coordinate with outside regulatory agencies on documenting and auditing County compliance with regulatory standards such as CJIS, HIPAA and PCI-DSS.

### **JOB RELATED AND ESSENTIAL QUALIFICATIONS**

**Full Performance** *(These may be acquired on the job and are needed to perform the work assigned.)*

#### **Knowledge of:**

Department and countywide policies, procedures, and technology standards.

Principles of lead direction and training.

Touch screen security systems and prison security door systems.

Television video production and video streaming technologies.

Functions and applications of County computer hardware and software as they relate to microcomputers, networks, data communications, telecommunications, cybersecurity and physical electronic security, and radio systems technology.

Compliance standards related to data communications, including CJIS, HIPAA, and PCI-DSS.

County technology infrastructure installations in all County occupied facilities.

County radio communications systems including P25 and their derivatives.

Building codes and safety regulations as related to the installation and construction of data and phone communications wiring, data centers and data closets.

#### **Ability to:**

Use and maintain County's mix of system monitoring, logging and alerting systems.

Provide lead direction to staff with technology projects, research, design and deployment.

Mentor and lead staff in a positive and constructive manner.

Participate in division projects related to assigned responsibilities.

Inspect and certify County data and phone wiring per the warranty specifications for County's selected wiring supplier standards.

Design and implement wireless data communications.

Read, interpret and apply regulations, policies and procedures.

**Entry Level** (*Applicants will be screened for possession of these through written, oral, performance or other evaluation methods.*)

**Knowledge of:**

PC, Server, network, phone, and radio hardware.

Network operating systems, network communication protocols, and network security methods.

Electronics and security integration software.

Video and audio wiring principles.

Security systems wiring principles.

Security camera system operations and administration.

Audio video security surveillance systems and NVRs.

Door controller hardware and wiring.

RAID Levels and management of large RAID storage devices.

Principles, theory and practices of data communication systems, and troubleshooting complex data communication system problems.

Current industry standards and product availability in hardware and software.

Project management techniques.

Radio communications coverage and modes of propagation.

AC power systems both single and three phase operations.

Electrical and electronics theory.

**Ability to:**

Organize work, meet schedules and timelines, prioritize projects, and handle multiple tasks concurrently.

Propose project plans and systems integration with new technology rollout.

Maintain awareness of current industry product offerings and research new emerging technologies.

Utilize diagnostic routines, tools and equipment used in diagnosing and resolving network communications and equipment malfunctions.

Use network line testers, performance monitoring tools and/or land mobile radio test equipment to certify infrastructure meets industry standard communications specifications.

Analyze data communication and network hardware and software and develop recommendations regarding performance, reliability and cost.

Interpret and communicate current technical information to other staff, orally, in writing, and via understandable schematics.

Read and understand engineering drawings, blueprints, and associated building information.

Analyze and solve advanced problems, both independently, as well as part of multi-functional teams to include complex system performance and security issues.

Make effective presentations and write comprehensive reports.

Communicate effectively, both orally and in writing.

Establish and maintain cooperative working relationships with all those contacted in the course of work including division staff, representatives of other departments and other agencies and vendors.

**SPECIAL REQUIREMENTS** *(Essential duties require the following physical skills and work environment.)*

Washoe County Technology Services employees may be called to work during a disaster or emergency situation.

Positions may be required to be part of a weekly rotation of on-call support hours that includes evenings, weekends and holidays.

Ability to work in a professional office environment and in outdoor settings in various types of weather. Ability to use data processing and assorted technological equipment. Ability to work in an environment with controlled temperatures. Ability to work under conditions involving exposure to electrical energy, noise, dust, grease, and chemicals. Ability to work around machinery with moving parts.

Ability to use dexterity, fine motor skills and general strength to lift and move objects up to 65 pounds. Ability to sit for extended periods. Ability to frequently stand, walk, bend, stoop, kneel, reach and stretch. Ability to crawl in confined spaces. Ability to climb scaffolding, and ladders. Some positions may require ability to work at high altitudes (above 10,000 ASL) for work at radio tower sites; some positions may require the ability to climb a 60-foot tower. Some positions within this classification may require employee to obtain a Tower Climbing Safety certification.

*This class specification is used for classification, recruitment and examination purposes. It is not considered a substitute for work performance standards.*