

MAJOR FUNCTION

This is professional, administrative, supervisory and technical work in defining, developing, maintaining and advising staff to ensure reliable and effective automation of the City's Supervisory Control and Data Acquisition (SCADA) system. The incumbent analyzes and resolves network hardware and software problems in a timely and accurate fashion, and consults with end-users, as necessary. The incumbent's work includes system and network management activities, software and hardware installation, configuration, integration, security and support. Work also involves supervising staff engaged in installing, wiring, repair/replacement, configuration of programmable logic controllers (PLC's), Remote Terminal Units (RTU's), hubs, switches, routers, RS232/RS485, Ethernet and fiber optic networks and radio telemetry/communications equipment. An employee in this class exercises considerable independence in determining specific work methods and procedures. Work is performed under the general direction of the Principal Engineer-SCADA, who reviews the work through observation, conferences, reports, and by results obtained.

ESSENTIAL DUTIES AND OTHER IMPORTANT JOB DUTIES**Essential Duties**

Provides project management and supervision to other SCADA professionals, technicians and contracted workers. Consults with designated staff in Underground Utilities and other City departments to assess near-term and long-term SCADA network needs. Designs, configures, deploys and maintains the SCADA local and wide area networks (LANs, WANs), including servers, routers, hubs, switches, firewalls, wireless technology and other associated hardware to ensure safe and reliable operation for fulfilling designated business objectives and processes. Manages the installation, configuration, integration and support of software and hardware. Plans and organizes activities regarding Utility SCADA systems software and network support, maintenance and security of server computer systems. Establishes and maintains documentation and technical information library. Coordinates the analysis and review of SCADA hardware and SCADA systems software. Coordinates data communications and network design and maintenance. Establishes and maintains data and network security for computer systems. Monitors SCADA network performance and troubleshoots problem areas as needed. Responds to system users and performs analysis to determine problems and recommends resolution and when necessary. Supervises technicians in repairs, moves/changes and additions of new services. Performs management activities for existing hardware, systems and networks by creating and maintaining documentation, as it relates to SCADA network configuration, mapping, processes, security and service records. Monitors and tests network performance and ensures network connectivity of all servers, workstations, and other network appliances. Assists in managing all SCADA network security solutions. Manage servers, including database, and backup servers and their associated operating systems and software. Performs server and security audits and system backups and recovery. Coordinates arrangements for the installation, configuration, maintenance, and troubleshooting of end user workstation hardware, software, and peripheral devices pertaining to the SCADA network. Serves as a member of project teams for new technology awareness, research and system integration. Assists develop, implement and maintain policies, procedures, and associated protocol for SCADA network administration, usage, reliability and disaster recovery. Manages personnel actions and issues, including recommendations for hire, advancement, dismissal, discipline, staff development and grievance resolution in compliance with City policies and procedures. Conducts performance evaluations and recommends the approval or disapproval of merit raises, as appropriate. Performs related work as required.

Other Important Duties

Provides input for engineering design, technical review and installations of Underground Utilities' capital improvement projects related to or interfacing with SCADA systems. Monitors remote stations via the SCADA System, as required. Conducts field inspections and maintenance to ensure safety and integrity of equipment, as needed. Prepares and maintains system documentation, as

appropriate. Supervises the resolution of computer, operating system (OS) and OS patching problems within procedural guidelines. Specifies and purchases fiber optic cable, communications and power cable, and wide area network components. Conducts research on network products, services, protocols, and standards. Performs related work as required

DESIRABLE QUALIFICATIONS

Knowledge, Abilities and Skills

Considerable knowledge of local and wide area network technologies and concepts, including Internet protocol routing and topologies, switching technologies, and virtual LANs, etc. Knowledge of network equipment and operating systems, including configuration of routers, switches and wireless networks and services such as Dynamic Host Configuration Protocol (DHCP) and Digital Network Services (DNS). Knowledge of Active Directory service (ADS) and personal computer operating systems. Knowledge of network security protocols and methodologies that extends beyond the use of basic security tools. Ability to isolate, define and resolve failed equipment. Knowledge of communications protocols such as Modbus, BSap, DNP3, TCP/IP, etc. Knowledge of the Institute of Electrical and Electronics Engineers (IEEE) and International Society of Automation (ISA) standards applicable to process control and SCADA networks used in the utility industry. Knowledge of cyber security practices and principles. Knowledge of computer applications concerning supervisory control equipment and communications. Ability to design, configure and support complex WANs. Ability to troubleshoot hardware and software system problems. Ability to interpret and work from technical manuals, diagrams, sketches, or blueprints. Ability to plan, schedule and coordinate project teams. Ability to learn and support new network components. Ability to understand and effectively carry out oral and written instructions. Ability to establish and maintain effective work relationships with system users. Ability to lead technical personnel in area of responsibility. Ability to evaluate job performance of assigned staff. Ability to express ideas clearly and concisely, orally and in writing. Skill in the use of network management products and the tools and equipment necessary for successful job performance.

Minimum Training and Experience

Possession of a bachelor's degree in data processing, computer science, mathematics, engineering or a related field and four years of professional and technical experience that includes implementing and supporting data communications networks and operating systems software and hardware; or Possession of a two year technical school certificate of completion or an associate's degree in fiber optics, computer networks, computers, electronics, electrical engineering technology, computer technology or a related field and six years of technical experience in the installation and maintenance of process control/monitoring systems; or an equivalent combination of training and experience. One year of the required experience must have been in a lead worker or supervisory capacity.

Necessary Special Requirements

Must possess a Class E State driver's license at the time of hire.

Established: 07-18-13