

UTILITIES SYSTEMS ANALYST III

JOB DESCRIPTION

Classification Responsibilities: A Utilities Systems Analyst III is responsible for ensuring the security, integrity, and availability of industrial control systems within the City. This includes monitoring, managing, and securing the network and systems that control critical industrial operations and requires expertise in both Information Technology (IT) and Operational Technology (OT) security practices, as well as an understanding of the specific needs and risks related to Industrial Control Systems (ICS). The incumbent provides advanced technical expertise regarding computer and Supervisory Control and Data Acquisition (SCADA) network services for both local SCADA networks and wide area SCADA networks; formulates, develops, and implements integrated SCADA network architectures; develops department standards for SCADA network architecture (example: standards for wiring, equipment, system security, and routing protocol); upgrades, programs, maintains, and repairs the Programmable Logic Controls (PLC); assists with project management in the implementation, installation, configuration, and technical support of computer and SCADA network architecture; programs Remote Telemetry Units (RTU) at lift stations, metering sites, pump stations, and well sites; serves as primary point of contact and liaison with Information Services Division; evaluates, tests, and reviews vendor products; installs, configures, and maintains computer and SCADA network operating system and application software; performs upgrades and maintenance to software applications and hardware; installs local and wide area SCADA networks including network servers, hubs, routers, workstations, printers, and other peripheral devices; troubleshoots, tests, evaluates, installs, monitors, maintains, diagnoses, tests, analyzes, and performs corrective steps to resolve problems with network communications, software, and hardware; participates in long-range and short-range technology planning for the Water Resources Department; and maintains documentation regarding SCADA network configuration, operating procedures, and service records relating to network hardware and software. The Utilities Systems Analyst III classification provides on-call support during non-business hours including evenings, weekends, and holidays; and performs related duties as required.

Distinguishing Features: Work requires considerable independent judgment and initiative in combining a broad scope of technical knowledge in software, hardware, networks, and applications. Incumbents are required to carry out assignments without detailed instruction or guidance. The Utilities Systems Analyst III differs from the Utilities Systems Analyst II by performing work that requires a broader knowledge of the SCADA network. This class reports to a Utilities Control Systems Supervisor who reviews work through reports, conferences, and the evaluation of results achieved. This class is FLSA exempt-computer professional.

QUALIFICATIONS

Employee Values: All employees of the City of Mesa are expected to uphold and exhibit the City's shared employee values of Knowledge, Respect, and Integrity.

Minimum Qualifications Required. Any combination of training, education, and experience equivalent to graduation from an accredited college or university with an Associate's Degree in Computer Science, Information Technology, Engineering, or related field. Five years of work experience in information systems including two years of Supervisory Control and Data Acquisition or Utility Network experience.

Special Requirement. Must possess a valid Class D Arizona Driver's License by hire or promotion date.

Substance Abuse Testing. Due to the safety and/or security sensitive nature of this classification, individuals shall be subject to pre-employment or pre-placement alcohol, drug and/or controlled substance testing as outlined in City policy and procedures.

Preferred/Desirable Qualifications. Experience in industrial control systems either as an electrician or an instrument technician. Good (1 - 3 years) experience in the installation, maintenance, calibration, and repair of electronic (solid-state) controls, instrumentation, and related equipment.

ESSENTIAL FUNCTIONS

One position may not include all of the essential functions, knowledge and abilities listed, nor do the listed examples include all the knowledge and abilities which may be found in positions of this classification.

Communication: Communicates with other City employees, vendors, management, contractors, and other government agencies in order to identify problems or required changes, communicate recommendations and specifications, coordinate the implementation of solutions, and provide project status reports. Communicates with team members in order to maintain continuity and quality of customer service. Instructs and/or trains others regarding computer systems design, documentation, programming, and/or testing and debugging techniques. Prepares written documents such as memos, project plans, reports, etc., and technical documentation, with clearly organized thoughts, using proper sentence structure, punctuation, and grammar. Works courteously with customers and employees in situations that require tact and diplomacy in order to identify and resolve technical issues.

Manual/Physical: Distinguishes colors to identify color-coded cable, wiring, and electronic components. Enters data into a personal computer (PC) to create documentation, test, and debug computer applications or system software, and/or write computer programs. Moves hardware weighing up to 75 pounds using a cart or other aid when necessary to provide customers with products. Operates a motor vehicle requiring a standard Class D Arizona Driver's License to provide on-site technical support at customer locations. Operates a variety of standard office equipment, such as a PC, printer, telephone, and fax. Meets scheduling and attendance requirements.

Mental: Comprehends and makes inferences from written material including technical documentation related to system hardware and/or software. Conducts research and/or analyzes system-related data to improve system performance. Organizes and directs the activities of staff members engaged in the installation and maintenance of system hardware and/or software. Resolves procedural, operational, and other work-related problems by analyzing problems and recommending resolutions or correcting problems. Learns mainframe and/or PC hardware and/or software through on-the-job training, in a classroom setting, or through other formats such as self-study or computer-based training.

Knowledge and Abilities:

Knowledge of:

SCADA systems software and hardware (examples: Cisco, Enterasys, 3COM, IFIX, Intellution, routers, switches, etc.);
Programmable Logic Controllers (PLC);
practices and procedures of water and wastewater treatment plants;
analysis and research techniques;
telemetry systems, data communications, data acquisition, and process control;
concepts of operating systems, networking, and communication systems;
computer and networking troubleshooting and maintenance procedures;
high-level computer language used in making system modifications;
networking protocols (TCP/IP, Ethernet, Modbus, DNP3, OPC) and security controls for ICS;
ICS-specific cybersecurity frameworks, such as ISA/IEC 62443 and NIST SP 800-82;
ICS security tools like firewalls, IDS/IPS, SIEM, and vulnerability scanning tools;
network administration principles and practices;
database management systems and applications;
database administration and optimization;
project management, project manning concepts; and
safeguards and security procedures for information systems.

Ability to:

install, operate, and maintain complex data communications and networking equipment;
install and operate software required for system operations;
analyze, design, and implement computer control logic and strategies;
troubleshoot and resolve routine software, hardware, and network problems;
analyze and repair software, hardware, and system equipment malfunctions;
work with vendors and design engineers to produce a working system;
read control schematics;
communicate technical issues clearly both verbally and in writing;
train non-technical users;
utilize application software and utilities to perform analyses, generate reports, sort and categorize data, etc.;
understand and follow oral and/or written policies, procedures, and instructions;
develop and implement security policies and procedures for ICS environments;
ensure compliance with industry standards and regulations (NIST, ISA/IEC 62443, etc.);
manage and apply security patches and updates to ICS systems;
monitor ICS networks for signs of unauthorized access or cyber threats;
work closely with IT security teams to ensure the integration of cybersecurity measures between IT and OT environments;
make sound and reasonable decisions in accordance with laws, ordinances, regulations, and established procedures;
develop and update procedure and operational manuals;
conduct tests, analyze results, detect errors, and take corrective action, in the office and the field; and
establish and maintain effective working relationships with City staff.

The duties listed above are intended only as general illustrations of the various types of work that may be performed. Specific statements of duties not included do not exclude them from the position if the work is similar, related, or a logical assignment to the position. Job descriptions are subject to change by the City as the needs of the City and requirements of the job change.

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CS5163.DOCX

EEO-Tech

JOB FCTN-INT

Non-DOT Safety and Security-Y

CDL-N

RESP-N

PAY GRADE: 59

IND-9410

SWORN-No

Non-DOT Random-N

DOT-N

INCREMENTS 47-200