

## UTILITIES SYSTEMS ANALYST II

### JOB DESCRIPTION

**Classification Responsibilities:** A Utilities Systems Analyst II 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 technical support and expertise in programming of the Supervisory Control and Data Acquisition (SCADA) system; develops programs, installs upgrades, maintains, and repairs the Programmable Logic Controls (PLC) at the Water Treatment Plants, pump stations, wells, lift stations, and sulfide treatment stations using Function Block Programming and Human Machine Interface (HMI) design; develops, creates, modifies, and tests graphic interfaces for use by the Utility Control Center and Plant Operators; evaluates, tests, and reviews vendor products; assists in installing, maintaining, troubleshooting, repairing, and modifying SCADA system hardware and software (examples: Ethernet networks, servers, workstations, routers, switches, network communication devices, and PLCs); verifies Process and Instrumentation (P&ID) and electrical drawings for accuracy, and verifies that drawings agree with control descriptions and plant specifications; interfaces with engineers, contractors, vendors, and City personnel to determine how PLC software should control the plant and what type of HMI is needed; maintains documentation regarding SCADA network; and develops daily, weekly, monthly, and yearly reports as required by management and plant personnel. The Utilities Systems Analyst II classification provides on-call support during non-business hours including evenings, weekends, and holidays and performs related duties as required.

**Distinguishing Features:** Incumbents are required to carry out assignments without detailed instruction or guidance. The Utilities Systems Analyst II differs from the Utilities Systems Analyst I because of the development work that is performed in the creation of programs for new plants and sites. The Utilities Systems Analyst II class differs from the Utilities Systems Analyst III by the latter having a greater involvement in the network architecture and broader scope of knowledge. 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. Considerable (3 - 5 years) work experience in information systems including work with SCADA or Utility Network experience.

**Special Requirements.** 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 the installation, maintenance, calibration, and repair of electronic (solid-state) controls, instrumentation, and related equipment is highly desirable.

## **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 and 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;  
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, both 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 does 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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CS4980.DOCX

EEO-Tech

JOB FCTN-INT

Non-DOT Safety and Security-Y

CDL-N

RESP-N

PAY GRADE: 58

IND-9410

SWORN-No

Non-DOT Random-N

DOT-N

INCREMENTS 51-200