Job Class: SCADA Analyst

FLSA Status: Non Exempt

Supervisor: Superintendent (Production)

Effective Date: May 2022

Definition
Performs a variety of technical duties in the analysis, design, programming, testing, installation, and maintenance of data processing systems, Supervisory Control and Data Acquisition (SCADA), Programmable Logic Controller (PLC) software, Human Machine Interface (HMI), computer equipment and peripherals to support the District's overall operational functionality.

Distinguishing Characteristics
This is a journey level classification, fully competent to independently perform a variety of specialized technical duties related to the development and maintenance of SCADA, PLC, and HMI systems, including installing, troubleshooting, servicing, programming, and repairing of electronic applications, software, computer-based process control, data logging, and remote control equipment. Incumbents are expected to be familiar with a diverse set of procedures and situations. Employees at this level receive only occasional instruction, assistance or direction as new or unusual situations arise and are fully aware of the District's operating procedures and policies.

Examples of Essential Duties
The following duties are typical for this classification. Depending upon the assignment, the employee may not perform all of the listed duties and may be required to perform additional or different duties from those set forth below to address business needs and changing business practices. Management retains the right to add, remove, or change duties at any time.

- Performs specialized duties in support of SCADA graphical representation and data accuracy, PLC programming, operational functionality, and remote telemetry communication reliability; troubleshoots and corrects programming, configuration, and interface issues of SCADA, PLC, and HMI systems; determines method of integrating new programming code into existing applications and/or programs to meet user needs.
- Reads, interprets, and/or updates schematics, software control descriptions, design drawings, and specifications for SCADA-related modifications.
- Analyzes, evaluates, designs, develops, programs, tests, installs, implements, documents, and maintains SCADA, PLC, and HMI systems to support operations of the District's water facilities and production systems, including, but not limited to, remote operation technology, communication networks, Historian databases, and security systems.
- Analyzes user operations and technological advancements to determine whether new or existing systems, applications, and/or programs meet business and technology requirements and makes adjustments and/or recommendations as required.

- Maintains and provides technical support to existing SCADA, PLC, HMI, and other related systems; provides prompt resolutions to various user requests, questions, and inquiries concerning system use.
- Performs comprehensive preventative analysis and maintenance of SCADA, PLC, and HMI system software, databases, networks, and related applications; resolves compatibility issues; monitors and optimizes performance.
- Monitors system security and the performance of security protocols; identifies unauthorized access and potential security breaches; reports findings promptly to management and provides recommendations for security and network performance improvements.
- Develops and reviews complex reports related to the operation and compliance of SCADA, PLC, HMI, and other related control systems; reports findings to management on a consistent and regular basis; develops and implements various reporting tools as necessary.
- Trains or instructs staff and other users regarding SCADA, PLC, HMI, and other existing District control systems and/or applications on general technical information to monitor operational processes and perform basic troubleshooting; assists operations staff in the development of process control strategies.
- Inspects and oversees work performed by consultants, contractors and/or vendors to ensure District facilities operate as intended.
- Reviews and provides feedback on new project submittals, existing system upgrades, and survey sites for SCADA telemetry system implementation; conducts feasibility studies, and prepares and submits reported findings to management.
- Performs emergency response duties to address SCADA-related issues as needed; may work extended hours outside of the regularly scheduled workweek to respond to after-hour emergencies as needed
- Complies with all District policies, procedures, rules and regulations including, but not limited to, all safety standards.
- Maintains regular attendance and adheres to prescribed work schedule to conduct job responsibilities.
- Builds and maintains positive working relationships with coworkers, other District employees and the public using principles of good customer service.
- Performs related duties as assigned.

Minimum Qualifications
Knowledge Of:
- Principles and practices of computer science, process control systems, and information system operations and components, including systems analysis, programming, database administration, and network administration.
- Modern principles, practices, methods, and techniques used in the installation, programming, troubleshooting, and maintenance of data acquisition software, hardware, equipment, networks, and programming applications such as SCADA, PLC, and HMI.
- Control systems theory and its practical applications to process control and instrumentation.
- Electronic network design principles and communication network design principles.
- Complex arithmetic and statistical techniques.

- Operation and maintenance of a wide variety of hand and power tools and test equipment common to electrical and electronic work.
- Safe work methods and safety regulations pertaining to the work.
- Codes, laws and ordinances pertaining to the work.
- Shop and electrical mathematics.
- Modern office methods, procedures, and equipment including common office computer software and database programs, including the Microsoft Suite of Programs (Word, Excel, Outlook, Access, and PowerPoint).
- Techniques and principles of effective interpersonal communication.
- Principles and practices of good customer service.
- Principles and practices of work safety.

Ability To:
- Utilize computer applications for work and equipment documentation; perform all duties in a safe manner.
- Demonstrate aptitude in practical mathematics.
- Understand and follow written, oral, or schematic instructions; read, interpret, and apply complex instructions, rules, and regulations.
- Successfully coordinate work with and assistance of management, staff, contractors, and vendors.
- Identify and implement effective course of action to complete assigned work.
- Exercise independent judgment and initiate action without close supervision.
- Maintain records, document modifications made to systems and compose verbal and written reports and presentations.
- Be an integral team player, which involves flexibility, cooperation and communication.
- Communicate effectively, both verbally and in writing.
- Pass pre-employment physical, drug test, and background check.

Experience and Education:

Experience:
Three (3) years of journey level and increasingly responsible experience working with SCADA, PLC programming, remote telemetry, and/or related process control systems.

AND

Education:
Bachelor's degree in Computer Science or related field, OR two (2) years of qualifying experience (in addition to the experience already required), AND an Associate's degree in Computer Science. An additional two years of responsible experience in a related field may substitute for the educational requirements above.

License and/or Certificates:
- Valid California Driver's License issued by the California Department of Motor Vehicles and proof of good driving record as evidenced by freedom from multiple or serious traffic violations or accidents for at least two (2) years duration. The driving record will not contribute to an increase in the District's automobile

insurance rates. Individuals who do not meet this requirement due to a physical disability will be considered for accommodation on a case-by-case basis.

Working Conditions and Physical Demands
The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions.

- Operates District owned or rented vehicles in the performance of duties. Travels occasionally by automobile or truck in conducting District business.
- Communicates both written and verbally with District management, coworkers, and vendors, both one-to-one, and in group settings.
- Regularly uses a telephone for communication and office equipment such as computers and copiers.
- Intermittently sit, stand, reach, bend, squat, kneel, climb and twist. Walk in an office or field environment; perform simple and power grasping, pushing, pulling and fine manipulation.
- Ability to carry, reach and lift supplies and equipment weighing up to 25 pounds.
- Occasionally required to change working hours or work overtime.

The specific statements shown in each section of this class specification are not intended to be all-inclusive. They represent typical elements and criteria necessary to successfully perform the job.

APPROVED:

Dated: _____May 17, 2022_____

By: _____
       Dan York
       General Manager

Employee Statement:
I certify I have read, understand, and acknowledge receiving a copy of this class specification.

_____
Employee Signature   Date