

**VALLEY CENTER MUNICIPAL WATER DISTRICT**  
**SCADA / IT SYSTEMS ADMINISTRATOR**

**DEFINITION**

Under general direction of the Director of Information Technology, incumbent is responsible for the administration and coordination of activities related to the development, implementation, operation and maintenance of the District's Supervisory Control and Data Acquisition Systems (SCADA) and Information Technology infrastructure.

**CLASS CHARACTERISTICS**

This is a single incumbent, technical administration level class responsible for planning, coordinating, and administering activities related to SCADA systems and infrastructure. Under minimal supervision, incumbent performs complex information technology and networking duties to include the implementation, integration, deployment, and maintenance of complex process control software, related computer and electronic systems, and network infrastructure. This position requires the use of independent judgment and initiative, particularly in the event of emergency situations, where critical systems must be quickly brought back online. Incumbent may be assigned a varied work week as necessary for emergencies and/or system upgrades. Incumbent may be required to supervise lower level staff.

**ESSENTIAL DUTIES**

*The duties listed below are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related, or a logical assignment to this position.*

Responsible for maintaining the integrity and continual operation of District SCADA systems, Automated Meter Reading (AMR) systems, Advanced Metering Infrastructure (AMI), building security systems, and related communications networks, including wide area and wireless networks; administers and maintains SCADA system software, hardware, instrumentation, alarm and notification systems to ensure continuous reliability, availability, security, and real-time operating environment; administers the execution and assessment of assigned preventive maintenance programs and instrumentation calibration procedures to ensure infrastructure reliability.

Coordinates support of capital projects in the design, engineering, construction and startup of new and modified automation and control systems, operational support projects, planning and development projects, and system modifications as needed with the District staff.

Assists in the development and implementation of process control automation improvements, engineering and architecture designs, programming standards, and specifications for SCADA systems, servers, communications networks, instrumentation, and backup systems.

Coordinates, monitors, and documents work and services provided or performed by external consultants and contractors.

Assists in the development of SCADA screens and control interfaces for the purpose of controlling and monitoring operational processes and field equipment, and makes changes to existing application software to improve or expand the systems' performance; troubleshoots and corrects SCADA programming problems and writes programs for new or expanded SCADA functions; assists in the development, design, and implementation of new computer programs as required.

Reviews and interprets electrical and electronic schematics, piping and instrumentation drawings, instrument loop diagrams, electrical drawings, wiring diagrams, network diagrams, and construction drawings as they relate to the SCADA system.

Monitors, troubleshoots, and diagnoses a wide variety of hardware, software, and network problems, and identifies appropriate courses of action; repairs information technology components and equipment.

Makes recommendations and installs a variety of equipment and software; upgrades and modifies existing systems in accordance with procedural guidelines; purchases, installs, maintains, and disposes computing and communication devices, hardware, and software.

Reviews equipment maintenance histories and cost to determine repair, rebuild, overhaul and replacement needs; assesses the viability of improving facilities equipment and design requirements; recommends to the Director of Information Technology the rehabilitation and/or installation of equipment in accordance with the findings; prepares equipment design specifications.

Assists in the work to move, connect, change, install, repair, test or remove information technology equipment such as servers, workstations, phones, cables and wires in a timely manner; modifies equipment in accordance with approved user requests; performs the installation and configuration of hardware and software as needed.

Trains staff on related products and technology; provides technical assistance and support to users and demonstrates system operations or techniques as needed; provides training for users of new technology, hardware, or software.

Maintains current knowledge of industry standards and technology trends; researches and evaluates new technology for potential benefit to the District as requested.

Provides technical assistance and support of Boardroom audio visual equipment as required.

Available for emergency response and hands on technical troubleshooting and repair during emergencies; after-hours accessibility will be required as needed to meet District needs.

Ensures that safe work methods are being used and makes appropriate use of related safety equipment as required.

Performs other duties as assigned.

### **QUALIFICATIONS GUIDELINES**

**Knowledge of:** Process control systems and operating principles and practices; SCADA systems, interfaces and protocols; programming and scripting; data acquisition, instrumentation, sensors, flow meters, valves, pumps; basic electronics theory; Automated Meter Reading (AMR) and Advanced Metering Infrastructure (AMI) systems; supervisory principles and practices; administrative principles and practices, including goals and procedure development and implementation, work planning and organization; applicable laws and regulations; personal computer hardware, software, operating systems and peripherals; principles, practices, and protocols used in the administration of Local Area Networks (LAN), Wide Area Networks (WAN), wireless networks, telecommunication systems including VOIP telephony, computer security, network security, and other information systems; Windows server systems and technologies, Active Directory, workstations, desktop applications, virtualization, IP switching and routing, video surveillance systems; District standard application software and database systems; training methods and techniques used in instructing others in the use of personal computer and mobile device applications software; applicable laws, regulations, codes and special requirements of industrial process control systems, information systems and applications; security measures used in ensuring the immediate and long term integrity of information systems; standard office administration practices and methods; and safe work practices.

**Ability to:** Read, analyze, and interpret complex technical procedures, schematics and drawings, technical manuals, specifications and systems requirements; interpret a variety of technical instructions in procedural or diagram form and deal with several abstract and concrete variables and concepts; identify and implement effective courses of action to complete assignments; operate and maintain tools and equipment used in the work; coordinate and prioritize multiple assignments; communicate clearly and concisely and be understood while using the District's radio communication system; establish and maintain effective working relationships with other employees and those contacted in the course of the work; work independently and use sound independent judgement within procedural guidelines; train users in hardware, peripherals, and basic application software; maintain various control and informational records; prepare clear and accurate reports and statements; recommend hardware and software alternatives to reach stated information systems management goals of the District; identify and resolve problems related to hardware and software in SCADA, instrumentation, control systems, personal computers, peripherals, LAN, WAN, and application software; evaluate and analyze information systems needs and propose alternatives and recommend sound conclusions; define problems, collect data, establish facts, and draw valid conclusions.

### **EDUCATION, EXPERIENCE, LICENSES AND CERTIFICATIONS**

**Education:** Equivalent to a four-year degree from an accredited college or university in Electrical/Instrumentation Maintenance, Electrical or Mechanical Engineering, Information Technology, Computer Science, or a related field is required.

**Experience:** A minimum of five years of experience in SCADA automation maintenance, including installing, configuring, troubleshooting and supporting industrial automation and control systems, instrumentation, telemetry systems, network switches, routers, wireless equipment, Windows servers and workstations, and associated software and integration; and/or an equivalent combination of education, training and experience sufficient to successfully perform the essential duties of the job such as those listed above is required.

Experience in the water and wastewater utility industry, Human Machine Interface (HMI) systems, specifically Invensys Wonderware Archestra, InTouch, Historian, Inductive Automation Ignition, SQL and database servers, PLC programming, specialized training in installing, maintaining, inspecting and repairing SCADA controls, electrical and instrumentation equipment, software development, computerized control systems, or a related field is highly desirable.

**Licenses and Certifications:** California Class C Driver's License; Cisco Certified Network Associate (CCNA), Microsoft Certified Solutions Expert (MCSE), ISA Certified Automation Professional (CAP) or a demonstrated level of equivalent experience.

### **PHYSICAL DEMANDS AND WORK ENVIRONMENT**

*The physical demands and work environment described here are representative of those that must be met by an incumbent to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.*

**Physical Demands:** While performing the duties of this job, the incumbent is regularly required to use hands and fingers to grasp and feel, reach with hands and arms, stand, walk, climb, balance, stoop, kneel, crouch, crawl, talk and hear. The incumbent is occasionally required to sit. The incumbent must regularly lift and/or move up to 20 pounds and must occasionally lift and/or move up to 100 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and ability to adjust focus. May be required to medically qualify and wear a District approved respirator.

**Work Environment:** While performing the duties of this job, the incumbent is occasionally exposed to moving mechanical parts outside weather conditions; working in uncomfortable positions/places, wet and/or humid conditions; fumes or airborne particles; toxic or caustic chemicals; risk of electrical shock; high, precarious places; and vibrations. The noise level will range from moderate to very loud.

POSITION DESCRIPTION APPROVED:

  
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General Manager

  
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Date