

OPERATIONAL TECHNOLOGY SPECIALIST I/II/III

DEFINITION

Under immediate (Operational Technology Specialist I) to general supervision (Operational Technology Specialist II), to direction (Operational Technology Specialist III), performs technical and professional duties related to planning, development, testing, implementation, administration, operations, and maintenance of SCADA (supervisory control and data acquisition) and DCS (distributed control system) systems including telemetry, instrumentation, motor control centers, process control systems, and numerous other types of electronic and electrical equipment and machinery associated with municipal pumping, storage and distribution of potable, reclaimed, and agricultural water systems, and municipal water and wastewater treatment plants; and performs related duties as assigned.

SUPERVISION RECEIVED AND EXERCISED

Receives immediate (Operational Technology Specialist I) to general (Operational Technology Specialist II) supervision, to direction (Operational Technology Specialist III), from assigned supervisory or management personnel. Exercises no direct supervision over staff.

CLASS CHARACTERISTICS

Operational Technology Specialist I: This is the entry-level classification in the Operational Technology Specialist series. Initially under close supervision, incumbents learn and perform routine support of SCADA, DCS, and associated equipment. As experience is gained, assignments become more varied, complex, and difficult; close supervision and frequent review of work lessen as an incumbent demonstrates skill to perform the work independently. Positions at this level usually perform most of the duties required of the positions at the II-level but are not expected to function at the same skill level and usually exercise less independent discretion and judgment in matters related to work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise.

Operational Technology Specialist II: This is the fully qualified journey-level classification in the Operational Technology Specialist series. Positions at this level are distinguished from the I-level by the performance of the full range of duties as assigned, working independently, and exercising judgment and initiative. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit.

Operational Technology Specialist III: This is the advanced journey-level classification in the Operational Technology Specialist series. Incumbents work under direction and exercise a high level of discretion and independent judgment in performing the full range duties in support of the District's SCADA and DCS systems, instrumentation, and equipment. Assignments are given with general guidelines and incumbents are responsible for establishing objectives, timelines, and methods to deliver work products or services. Work is typically reviewed upon completion for soundness, appropriateness, and conformity to policy and requirements.

Positions in the Operational Technology Specialist I-II-III class series are flexibly staffed; positions at the II-level and III-level are normally filled by advancement from the I-level and II-level, respectively. Progression to the II-level and III-level is dependent on satisfactory work performance, the incumbent meeting the minimum qualifications for the classification including any licenses and certifications, and management approval for progression to the II-level and III-level.

EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)

Management reserves the right to add, modify, change, or rescind the work assignments of different positions and to make reasonable accommodations so that qualified employees can perform the typical functions of the job.

Positions at the Operational Technology Specialist I level may perform some of these duties and responsibilities in a learning capacity.

- Installs, programs, repairs, maintains, upgrades, and calibrates all components of SCADA/DCS systems, instrumentation, and equipment such as, but not limited to, programmable logic controllers (PLCs) and variable frequency drives (VFDs); tests and verifies system and process functionality and efficiency.
- Monitors, identifies, troubleshoots, and resolves telemetry system and/or communication issues.
- Performs troubleshooting of electrical and electronic components.
- Sets up laptops and workstations; installs software and hardware, configures software, and troubleshoots hardware, software, and network issues to support SCADA and DCS functionality.
- Installs, maintains, and repairs backup power systems; conducts battery tests on backup systems.
- Installs, sets up and programs, maintains, and repairs flow meters at water treatment plants.
- Troubleshoots, repairs, programs, configures, tests, and performs maintenance on systemwide and server issues.
- Participates in implementation, upgrading, and testing of new systems, instrumentation, and/or equipment.
- Trains information technology, maintenance, and operations staff on safe and proper use of SCADA and DCS systems and equipment.
- Plans, schedules, directs, and inspects the work performed by contractors to ensure adherence to District and industry standards.
- Performs bench repairs at the component level in shop and field settings.
- Reviews and updates electrical and technical drawings, schematics, and related documentation.
- Maintains, reviews, and records a variety of reports, including daily activity reports, work orders, work requests, monthly statistical reports, and other reports and records as required.
- Requisitions necessary parts, tools, equipment, and supplies; maintains an inventory of supplies, tools, and equipment.
- Reads, understands, and ensures compliance with the District's Safety Manual; attends safety meetings as required; reports all accidents, violations, or infractions to supervisors.
- Performs related duties as assigned.

Operations Technology Specialist III (in addition to above):

- Participates in developing long-term plans, goals, and objectives to achieve District and department technology and business priorities.

- Provides comments for plan checks and reviews for engineering projects; meets with District project team, consultants, contractors, and vendors and provides feedback on SCADA and DCS system design, installation, configuration, and operational needs.
- Manages and administers various physical hardware and software applications related to SCADA, DCS, and information technology systems; verifies system and process functionality and efficiency; modifies and adds applications using vendor tools and software; implements and maintains strong cyber security.
- Coordinates and participates in the installation, programming, repair, maintenance, upgrade, and calibration of all components of SCADA/DCS systems, instrumentation, and equipment such as, but not limited to, programmable logic controllers (PLCs) and variable frequency drives (VFDs); tests and verifies system and process functionality and efficiency.
- Reviews and updates electrical and technical drawings, schematics, and related documentation.

QUALIFICATIONS

Positions at the Operational Technology Specialist I-level may exercise some of these knowledge and abilities statements in a learning capacity.

Knowledge of:

- Operational characteristics of process control instrumentation systems, equipment, and components and high-power equipment such as VFDs.
- Electrical theory, analog and digital theory, and electronic technology principles and practices.
- Principles, techniques, methods, materials, and tools used in process control instrumentation installation, programming, troubleshooting, preventative and corrective maintenance, and repair work.
- Methods and techniques of evaluating business need requirements to provide technology solutions.
- Methods and techniques of troubleshooting electrical and electronic system issues.
- Principles, practices, equipment, and protocols for the operation, security, troubleshooting, maintenance, and monitoring of networks, hardware and software, server, and related equipment and devices associated with operations technology systems.
- Research and reporting techniques, methods, and procedures.
- Methods and techniques of eliciting information and performing diagnostic procedures on operations technology systems.
- Principles and practices of reviewing and revising drawings and related documentation.
- Record keeping and filing system methods, principles, and practices.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and District staff.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition and grammar.
- Modern equipment and communication tools used for business functions and program, project, and task coordination, including computers and software programs relevant to work performed.

Ability to:

- Install, program, repair, maintain, upgrade, and calibrate all components of SCADA/DCS systems, instrumentation, and equipment.

- Learn and understand operations technology infrastructure and systems and the integration with water and wastewater operations processes.
- Learn, understand, interpret, explain, and apply all pertinent laws, codes, regulations, policies and procedures, and standards relevant to work performed.
- Analyze complex system, electrical, and electronic problems, evaluate alternatives, and devise efficient, cost-effective, user-friendly solutions.
- Monitor system operational effectiveness, reliability, and security vulnerability; implement approved measures to ensure integrity and security of infrastructure and systems.
- Prepare clear, concise, and accurate technical documentation, user guides, reports of work performed, and other written materials.
- Communicate complex technology issues clearly to non-technical parties.
- Maintain a variety of filing, record keeping, and tracking systems.
- Organize work, set priorities, meet critical deadlines and follow-up on assignments.
- Meet deadlines in a fast paced and changing environment; handle multiple assignments simultaneously.
- Use tact, initiative, prudence, and judgment within general policy and procedural guidelines.
- Effectively use computer systems, software applications relevant to work performed and modern business equipment to perform a variety of work tasks.
- Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Education and Experience:

Any combination of training and experience that would provide the required knowledge, skills, and abilities is qualifying. A typical way to obtain the required qualifications would be:

Education:

Equivalent to completion of the twelfth (12th) grade supplemented by technical training, shop courses, and/or electrical/electronic coursework or training.

Experience:

Operational Technology Specialist I

- One (1) year of experience performing work related to supporting operations technology systems, instrumentation, and equipment.

Operational Technology Specialist II

- Three (3) years of increasingly responsible experience maintaining and repairing SCADA/DCS systems, instrumentation, and equipment in domestic, reclaimed, and agricultural waste distribution, water or wastewater treatment facilities, or similar facilities or equivalent and related responsibilities to experience as a Operational Technology Specialist I.

Operational Technology Specialist III

- Five (5) years of increasingly responsible experience maintaining and repairing SCADA/DCS systems, instrumentation, and equipment in domestic, reclaimed, and agricultural waste distribution, water or wastewater treatment facilities, or similar facilities or equivalent and related responsibilities to experience as a Operational Technology Specialist II.

Licenses and Certifications:

- Possession of a valid California Class C driver's license, to be maintained throughout employment.

Operational Technology Specialist I

- Possess and maintain, a valid Grade 2 CWEA Electrical & Instrumentation Technologist Certification, or the ability to obtain one within 12 months of hire.

Operational Technology Specialist II & III

- Possess or obtain within (12) twelve months a valid Level I Certified Control Systems Technician Certification issued by International Society of Automation (ISA).

PHYSICAL DEMANDS AND WORKING ENVIRONMENT

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.

ENVIRONMENT

Standard office setting and outdoor field environment; travel from site to site; exposure to noise, dust, grease, smoke, fumes, noxious odors, gases, vibrations, and all types of weather and temperature conditions; exposure to hazardous traffic conditions; work in or around water; work and/or walk on various types of surfaces including slippery or uneven surfaces and rough terrain.

PHYSICAL

- Level Three
- Pulmonary

Incumbents require sufficient mobility to work in an office setting and field environment; walk, stand, and sit for prolonged periods of time; frequently stoop, bend, kneel, crouch, crawl, climb, reach, and twist; push, pull, lift, and/or carry light to moderate amounts of weights; operate office equipment including the use of a computer keyboard; operate assigned equipment and vehicles; ability to verbally communicate to exchange information.

VISION

See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents; and to operate assigned equipment.

HEARING

Hear in the normal audio range with or without correction.

ADDITIONAL REQUIREMENTS

Must be able to respond to emergency callout situations as necessary and participate in standby or on-call duty. Incumbents may be required to work extended hours including evenings, holidays, and weekends.