

INFORMATION/INSTRUMENTATION SYSTEM MANAGER

DEFINITION

Under general direction, plans, organizes, evaluates, and manages the development and maintenance of the information, control, and instrumentation technology systems in support of District operations; performs long- and short-term project planning, design, and improvements to the electronic, instrumentation and computerized control system components; provides responsible and complex support to the District management in areas of expertise; and performs related work as required.

SUPERVISION RECEIVED AND EXERCISED

Receives general direction from the Operations and Maintenance Manager. Exercises no direct supervision over staff. May provide technical and functional direction to staff or consultants.

CLASS CHARACTERISTICS

This is a mid-management classification responsible for developing and implementing policies and procedures, budget administration, reporting, regulatory compliance, and evaluation of assigned areas. Incumbents serve as a resource for organizational, managerial, and operational analyses and studies. Responsibilities include coordinating assigned activities with those of other departments and outside agencies and managing and overseeing the complex and varied functions of the assignment. The incumbent is accountable for accomplishing planning and operational goals and objectives, and for furthering District goals and objectives within general policy guidelines.

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 essential functions of the job.

- Oversees development, modification, and implementation of the District's Technology master plan; investigates, evaluates, and oversees administration of new applications and hardware/software upgrades related to computer technology, infrastructure changes, data, communications, and network systems.
- Develops and implements goals, objectives, policies, procedures, and work standards related to the assignment.
- Works with District managers to support new construction, upgrades, modifications, and other special projects to improve the technological efficiency, reliability, and effectiveness related to District operations; schedules, coordinates, and facilitates meetings with other staff as needed.
- Provides recommendations for the District master plans for all electrical, energy management, instrumentation, and SCADA systems; assists in forecasting additional funds needed for staffing, equipment, materials, and supplies.
- Inspects, installs, repairs, maintains, calibrates, tests, and troubleshoots process instrumentation, such as indicators, recorders, flow meters, transmitters, transducers, controls, regulators, valve actuators, and other equipment related to the District's water and wastewater operations and related facilities.

- Inspects, installs, maintains, tests, and repairs electronic equipment, including metering and recording instruments, control apparatus, data logging and display equipment, circuits, transformers, uninterruptible power supplies, and electronic components of process control, cathodic protection systems, electronic equipment boards, communications and telemetry systems, SCADA, and related software and hardware.
- Develops and maintains SCADA screens for the purpose of monitoring operational processes and field equipment and makes changes to existing application software to improve or expand control system or management information system performance; troubleshoots and corrects SCADA programming problems and develops programs for new or expanded SCADA functions.
- Develops, recommends, and installs new computer programs when required for the addition of new control system or management information system capabilities; supports system users and assists operators in the development of process control strategies as necessary.
- Installs, maintains, and repairs multi-channel system radio and telephone system; provides in-house support for major software applications such as utility billing, integrated financials, SCADA systems, and related.
- Coordinates and conducts management analyses, studies, assignments, and projects; performs ad-hoc analyses for the Board and senior management related to information technology issues.
- Develops, implements, and manages information security and privacy programs to ensure the integrity of the District's information services infrastructure and information; analyzes business operations and possible cyber security threats; ensures new additions and changes to District technology do not affect the integrity of information security.
- Develops and implements strategies and plans to ensure all critical information and instrumentation systems, equipment, and facilities are operable; confers with staff, consultants, and contractors regarding the design and construction of new systems, facilities, and the renovation of existing facilities.
- Generates and develops reports related to District operations; maintains accurate electronic historical records, files, and data.
- Maintains and updates electronic operational and maintenance manuals and electronic emergency response plans.
- Provides highly complex staff assistance to the General Manager; presents information to the Board of Directors and other external councils, commissions, committees, and boards.
- Attends and participates in industry group meetings; stays abreast of new trends and innovations in the field of water production and distribution systems, wastewater collection and treatment operations and maintenance; researches emerging products and enhancements and their applicability to meet District needs.
- Monitors changes in regulations and technology that may affect District operations; implements policy and procedural changes after approval.
- Performs related duties as assigned.

QUALIFICATIONS

Knowledge of:

- Organization and management practices as applied to the development, analysis, and evaluation of programs, policies, and operational needs of the assigned area of responsibility.
- Principles and practices of water distribution and storage operations and wastewater collection and treatment systems operations and maintenance.
- Principles, practices, and methods related to monitoring and troubleshooting of various data acquisition software and hardware.
- Various PLC programming software applications.

- Control systems theory and its practical application to process control and field instrumentation.
- Basic computer programming.
- Electronic theory, work methods, tools, and testing equipment used in the District's building maintenance, water, collections, and wastewater facilities.
- Communications and SCADA equipment.
- Principles, methods, practices, techniques, tools, and equipment common to the electrical and electronics related to the operation and maintenance of a water works system or wastewater treatment facility.
- Hardware and software security controls including access control, software development security, business continuity and disaster recovery planning, cryptography, Information Security Governance and risk management, legal regulations investigations and compliance, security operations, some physical (environmental) security, security architecture and design, telecommunications, and network security.
- Applicable federal, state, and local laws, regulatory codes, ordinances, and procedures relevant to assigned area of responsibility.
- Practices of researching technology issues, evaluating alternatives, making sound recommendations, and preparing and presenting effective staff reports.
- General principles of risk management related to the functions of the assigned area.
- Modern equipment and communication tools used for business functions and program, project, and task coordination, including computers and software programs relevant to work performed.
- District and mandated safety rules, regulations, and protocols.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar to effectively perform the work.
- Techniques for effectively representing the District in contacts with government agencies; community groups; and various business, professional, regulatory, and legislative organizations.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and District staff.

Ability to:

- Recommend and implement goals, objectives, and practices for providing effective and efficient services.
- Administer, review, and evaluate the operations of a water and wastewater electrical, instrumentation, and control systems installation, repair, and maintenance program.
- Inspect, operate, and diagnose problems and oversee preventative maintenance and repair work on electrical, instrumentation, and control systems; take appropriate action when failures occur.
- Read, interpret, and work from sketches, blueprints, schematic diagrams, and equipment manuals.
- Analyze programming, observe monitoring signals, troubleshoot systems, understand system operation, and explain new programs to operators; intermittently interpret data, and remember system modifications and system configurations.
- Evaluate and develop improvements in operations, procedures, policies, or methods.
- Analyze, interpret, summarize, and present administrative and technical information and data in an effective manner.
- Interpret, apply, explain, and ensure compliance with federal, state, and local policies, procedures, laws, and regulations.
- Effectively represent the District in meetings with governmental agencies; various businesses, professional, and regulatory organizations; and in meetings with individuals.
- Prepare clear and concise reports, correspondence, procedures, and other written materials.
- Oversee the development and maintenance of a variety of manual and computerized files, recordkeeping, and project management systems.

- Organize and prioritize a variety of projects and multiple tasks in an effective and timely manner; organize own work, set priorities, and meet critical time deadlines.
- Effectively use computer systems, software applications relevant to work performed, and modern business equipment to perform a variety of work tasks
- Use English effectively to communicate in person, over the telephone, and in writing.
- Use tact, initiative, prudence, and independent judgment within general policy and procedural guidelines.
- Understand, and adhere to established District standards, policies, and procedures.
- 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:

Equivalent to an associate degree from an accredited college or university with major coursework in computer science, management information systems, electronics, instrumentation, control systems, and/or computer systems and five (5) years of increasingly responsible experience in an industrial environment, maintaining, installing, troubleshooting, and repairing SCADA, Programmable Logic Controllers (PLC's), and telemetry systems, including one (1) year of experience with operating system report generation. Experience working in a wastewater or water facility or engineering experience is desirable.

Licenses and Certifications:

- Possession of, or ability to obtain, a valid California Driver's License by time of appointment.
- Possession and maintenance of a California Water Environment Association Electrical/Instrumentation Technology Grade III or an International Society of Automation (ISA) Certified Control Systems Technician Level II certification within two (2) years of appointment.
- Possession of Certified Information Systems Security Professional designation or equivalent highly desired.

PHYSICAL DEMANDS

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer, and to work in the field; strength, stamina, and mobility to perform light physical work, to work in confined spaces, around machines, to climb and descend ladders, and to operate a motor vehicle to visit various District and meeting sites; vision to read printed materials and a computer screen; and hearing and speech to communicate in person and over the telephone or radio. The job involves walking in operational areas to identify problems or hazards and to conduct field inspections of projects and work sites. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate tools and equipment. Positions in this classification bend, stoop, kneel, reach, and climb to perform work in and inspect work sites.

ENVIRONMENTAL ELEMENTS

Employees work primarily in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to potentially hazardous physical substances. Employees also work in the field and are exposed to cold and hot temperatures, inclement weather conditions, road hazards, loud noise levels, vibration, confining workspaces, chemicals, mechanical and/or electrical hazards, and hazardous physical substances and fumes.