SCADA SYSTEMS MANAGER

DEFINITION

Under the direction of higher level staff, manages, coordinates, performs, and supervises a variety of work activities and duties related to the installation, programming, testing, maintenance, repair, and calibration of the City's water and wastewater SCADA and electrical systems; performs all other related duties as assigned.

CLASS CHARACTERISTICS

This classification is distinguished by its responsibilities for the management, coordination, oversight, and performance of a variety of activities related to installation, maintenance, operation, adjustment, calibration, programming, trouble diagnosis and fabrication of City SCADA, (Supervisory Control and Data Acquisition), water/wastewater control, industrial communication, water/wastewater instrumentation, telemetry, motor control centers and other equipment that support the City's real-time systems used for monitoring and controlling water/wastewater operations. Trains, instructs and assists staff in the use of SCADA and related equipment. This classification is further distinguished by the highly technical and skilled tasks required to perform the essential duties of the position. Incumbents are expected to independently perform the full scope of assigned duties.

EXAMPLES OF ESSENTIAL DUTIES

- Manages, coordinates, and participates in all aspects of programming, troubleshooting, repairing and maintenance of the City's Supervisory Control And Data Acquisition (SCADA) computerized operating system.
- Performs a variety of highly technical and skilled duties involved in the programming, troubleshooting, repairing, calibrating, testing, and maintenance of water/wastewater treatment equipment and systems, such as water/wastewater treatment instrumentation, testing, and monitoring devices, automated control devices, electrical relays, cathodic protection systems, metering and recording instruments, data logging and display equipment, telemetry radio stations and antennas.
- May perform minor to journey level commercial electrical work in related areas, including motor controls, instrumentation, computers, alarm systems, telephone systems, telecommunications, heating, refrigeration, motors, and generator equipment.
- Oversees and performs testing of SCADA and water/wastewater instrumentation systems using RUGID proprietary programming environment, DEC/Novell Interface programs and industrial networks (DeviceNet, ControlNet, ModBus, etc), time-domain reflectometer, spectrum analyzer, digital multimeter, signal tracer, Bird RF power/SWR meter, digital multimeter, serial data breakout box, and other hardware & software. Participates in the integration, loading, configuration, programming and testing of SCADA and water/wastewater instrumentation systems.
- Reads, develops and interprets technical specifications, manuals, blueprints, and schematics drawings; prepares schematic drawings and updates blueprints to reflect as-built conditions.
- Develops, implements, and monitors preventative and emergency maintenance of computerized SCADA and water/wastewater instrumentation systems and peripherals, remote telemetry and data gathering systems, communication systems, and other electronic equipment according to applicable electrical, SCADA, instrumentation, network, telecommunication and security standards.

- Develops, implements and maintains standards, guidelines, procedures, records, logs, and reports
 of work performed; Recommends hardware software, peripheral equipment, and other related
 equipment purchases; prepares and evaluates bid proposals, RFP's, specifications, and contracts;
 monitors vendor contracts to ensure compliance with performance requirements; develops and
 maintains a variety of records and logs related to installation configurations, inventory, cabling
 and equipment maintenance.
- Provides training for and performs hardware support and maintenance, applications support, system backups, backup hardware cycling, historical information systems maintenance and support, RTU maintenance, protocol applications and support and security monitoring; provides technical assistance to other personnel as required.
- Keeps current with changing technologies concerning applications and operations; researches and evaluates new and existing operational methods, hardware and software and equipment in coordination with management and operational and maintenance staff.
- Participates in the preparation and administration of assigned activity and project budgets.
- Performs all other related duties as assigned.

REQUIREMENTS

Knowledge of: Methods and techniques used in the installation, programming and maintenance of SCADA and other related water/wastewater operational electrical and instrumentation systems; standard methods, practices, tools and materials used for repair and maintenance of a wide variety of control systems and communication equipment; functional operational and testing principles of solid state electronics, solid state and electro-mechanical controls, and real-time computer control systems; interface programs and industrial networks used by the City; operation of applicable instrumentation and equipment; basic math to conduct calculations for programming applications; applicable local, State, and Federal laws, rules, and regulations; English usage, spelling, grammar, vocabulary and punctuation; the principles and practices of budget development and administration; principles of record keeping; techniques for dealing effectively with those contacted in the course of work, both in person and on the telephone.

Ability to: Install, program, repair, maintain and troubleshoot the City's water and wastewater SCADA and electrical systems and equipment, including water/wastewater treatment instrumentation, testing, and monitoring devices, automated control devices, electrical relays, cathodic protection systems, metering and recording instruments, data logging and display equipment, telemetry radio stations and antennas; read, develop and interpret plans, specifications and manuals; analyze current and future application, equipment and operational requirements and needs; learn and apply new technological developments; analyze data and develop logical solutions to problems; recommend and implement appropriate revisions to processes and procedures; design implementation and operational procedures; develop and maintain a variety of records and logs; effectively train and support and provide technical support to other staff as it relates to the water/wastewater SCADA and electrical systems and equipment; assist in preparation and administration of assigned project budget; exercise critical thinking and problem solving skills; communicate effectively, both orally and in writing; work independently and as a member of a work team; establish and maintain cooperative and effective working relationships with others contacted in the course of work; ability to work independently, prioritize multiple complex projects, monitor work progress.

OTHER REQUIREMENTS

- Must possess a valid California Driver's License.
- Must be willing and able to work a flexible and varied work schedule that is often determined by the needs of the systems and operations. This will often include evenings, weekends, and holidays; and being on-call.

PHYSICAL REQUIREMENTS

Work is generally performed in both a general office and field environment. Must be able to perform the physical aspects of the job, including sitting for periods of time, operating standard office equipment, including a computer and SCADA equipment; working around low and high-voltage equipment; traversing uneven terrain; operating a motor vehicle; working outside in varying weather conditions, hearing and speech to communicate in person and over the telephone; lift, push, pull, and carry up to 50 lbs.; working alone; working at heights up to 40 feet; with occasional exposure to toxic chemicals, gases, dust, fumes, smoke, odors and excessive noises.

EXPERIENCE AND TRAINING

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 a Bachelor's degree from an accredited college or university with major coursework in computer science, industrial science, electricity and electronics, or a related field; and at least four (4) years progressively responsible experience in programming, operation and maintenance of computer systems, supervisory control, data acquisition and communication systems.

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