

JOB DESCRIPTION
Control and Communication Systems Coordinator
Code Number: 34002

GENERAL PURPOSE

Under direction, performs a wide variety of advanced professional and technical duties in the development, implementation, and modification of central control systems, water reclamation plant process control systems, RF and fiber-optic based telecommunication systems, and field telemetry communications systems; acts as a project leader, coordinating, overseeing and inspecting the work of professional and technical staff; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

This class performs a variety of difficult and complex professional and technical tasks involved in the development, implementation and support of the District's control and telemetry systems. Responsibilities are focused primarily on dedicated, computer-based distributed process control systems, supervisory control and wide-area telecommunication networks, including radio-based telemetry and voice radio systems.

This class differs from Control and Communication Analyst in that the former requires possession of an advanced-level of professional and technical knowledge in the process control and telecommunications fields; and serves as the team leader on large, long-term systems development and implementation projects.

ESSENTIAL DUTIES AND RESPONSIBILITIES

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 the class.

Engineers, plans, coordinates, develops implements and maintains aspects of the District's SCADA systems and sub-systems and related functions.

Provides technical guidance, and participates in the development, implementation and maintenance of the District's radio communications, process control, supervisory control and telemetry systems.

Develops, evaluates, tests, installs, troubleshoots and modifies central control operator interface graphics, ladder logic, control and communication databases, application programs and system support scripts.

Performs a variety of difficult and complex tasks in the diagnoses, calibration, installation and troubleshooting of trunked radio systems, fiber-optic telecommunication system equipment, telemetry-based controllers, PLCs, and related systems, equipment and facilities, utilizing sophisticated electronic test and measurement instrumentation.

Reviews, modifies and reports on District specifications and design documents for new and existing District facilities as related to process control schemes, instrumentation, communication and SCADA, checking for compliance with District and industry standards.

Designs and develops requirements including researching data and preparing plan specifications and estimates for the purchase, installation, modification and testing of SCADA systems for District offsite facilities.

Performs programming using a variety of programming tools.

Performs and instructs others in the support, preventive maintenance and repair of plant and central control electronic and computer systems, components, devices and equipment.

Provides integration and archiving services for electronic subsystems related to the daily development and operation of control and telecommunication systems.

Designs, modifies, tests and implements software-based control and instrumentation logic.

Designs, installs, modifies and supports systems required for the transportation of electronic signals across a wide geographic area, primarily via radio frequency.

Prepares design specifications and material lists for telemetry, central and process control, and telecommunications equipment and systems; reviews manufacturers' and contractors' submittals for conformance with design specifications.

Coordinates and ensures the quality of control and telecommunications systems provided by contracted equipment suppliers and consultants.

Monitors the startup of control facilities and debugging procedures, making necessary adjustments to assure proper operation.

Investigates the operation of existing control and telecommunications systems to determine the cause of failures, and recommends engineering and design changes necessary to prevent the recurrence of such failures.

Establishes application programming standards and naming conventions.

Maintains ladder logic, databases and graphics master files.

Develops documentation and online help systems for supervisory control and telemetry-based system operations.

Schedules and coordinates activities with other organizational units, suppliers, consultants, contractors and other agencies.

Requisitions necessary materials, equipment and supplies.

Researches new process control, supervisory control and telecommunication methods, techniques and equipment and recommends their application.

Plans and coordinates tasks from blueprints, drawings, sketches or verbal instructions; maintains records in the form of blueprints, plans and specifications.

Trains and instructs others in the work.

Performs related duties as assigned.

DESIRED MINIMUM QUALIFICATIONS

Knowledge of:

Theories, principles, practices, methods, techniques, tools and equipment used in the design, development, installation, testing, calibration, maintenance and repair of electronic and computer-based process control, supervisory control and telecommunication systems and equipment common to a large public utility, including those used for automated process control; PLC ladder logic programming; electrical power distribution and motor/pump control system design; operating characteristics of electronic components, including microprocessor controls; safety practices, safe work methods and safety regulations pertaining to the work; shop mathematics; computer applications related to the work; codes, ordinances and regulations pertaining to the work.

Ability to:

Analyze, diagnose and modify computer-based hardware and software programs; use spreadsheets and database management systems for field RTU configuration and report generation; design and program ladder logic for wells, boosters, pumping plants and lift stations, including interfaces to central control; use modern, state-of-the-art precision and diagnostic instruments to test, calibrate and repair complex electrical and electronic devices and equipment; identify and implement effective courses of action to complete assigned work; read and interpret plans, specifications and manuals; establish and maintain effective working relationships with those contacted in the course of work; follow and apply written and oral work instructions; communicate effectively, orally and in writing; make sound independent judgments within established guidelines.

Training and Experience:

A typical way of obtaining the knowledge, skills and abilities outlined above is graduation from an accredited college or university with a bachelor's degree in electronics, electrical engineering, computer science, or closely related field; and six years of increasingly responsible, professional-level experience developing process control, supervisory control and telemetry systems; or an equivalent combination of training and experience.

Licenses; Certificates; Special Requirements:

A valid California driver's license and the ability to maintain insurability under the District's Vehicle Insurance Policy. SCADA and Systems certification desired.

PHYSICAL AND MENTAL DEMANDS

The physical and mental demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this class. 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 employee is regularly required to use hands to finger, handle, feel or operate objects, tools or controls; and reach with hands and arms. The employee frequently is required to stand and talk or hear; walk or sit; stoop, kneel, crouch or crawl.

The employee must occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception and the ability to adjust focus.

Mental Demands

While performing the duties of this class, the incumbent is regularly required to use written and oral communication skills; read and interpret data, information and documents; analyze and solve problems; use shop mathematics; observe and interpret situations; deal with changing, intensive deadlines; and interact with officials and the public.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The employee works under both office and field conditions.

FLSA DETERMINATION: Meets administrative/computer exemption from overtime.