

JOB DESCRIPTION
Control and Communication Analyst II
Code Number: 34004

GENERAL PURPOSE

Under general supervision, performs a wide variety of skilled, journey-level duties in the development, installation, modification and support of supervisory control systems, plant control systems, RF and fiber-optic based telecommunication systems, and field telemetry control systems; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

Control and Communication Analyst II is the journey-level class in this series. Under general supervision, incumbents perform the full range of assigned duties. This class differs from the lower-level class in the skill level required and the complexity of assigned projects based on knowledge of the District's equipment, systems, standards and procedures. Assignments vary, encompass a wide variety of tasks, seldom require detailed instructions, and require sound judgment and initiative.

This class is distinguished from the lower class of Control and Communication Analyst I in that is the entry level class in the series responsible for a more limited range of compliance assignments.

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.

Program, update site network configurations and ensure data security for the central Field Interface Units, Front End Processors and Store and Forward repeaters. Verify communication integrity with the field RTUs. Retrieve and exchange plant alarms and critical site data with the OASYS system. Monitor to ensure other networks have not infringed on dedicated radio frequencies. Interface with field devices using a variety of communication protocols such as Modbus, ASCII, DF1, INTRAC, DMP3, Hart and Series II.

Provide advanced level technical direction for telecommunications services. Plan the activities associated with the installation, service and preventive maintenance of district remote communications facilities and telecommunications systems including, two-way

radio, spread spectrum, microwave wireless, voice, data and supervisory control and data acquisition.

Maintains compliance with the District's Federal Communications Commissions licenses. Ensures security and reliability of remote communications systems. Configures and installs software upgrades, firmware upgrades and installs communications drivers necessary to interface with field devices for data exchange.

Serves as a project leader on assigned projects, coordinating and inspecting the work of professional and technical staff and providing advanced technical guidance and training as needed. Sets up and installs communications devices in accordance with established protocols; assists in installing multi-platform interfaces.

Researches new operational methods, techniques and equipment and recommends their application. Develops and maintains ladder logic, CAD drawings, I/O databases and supervisory control system graphics master files, and diagnostic screens.

Interfaces with contractors during project construction; conducts pre-job conferences and on-site coordination meetings. Monitors construction work, performs field investigations, and ensures compliance with approved plans, specifications and standards.

Develops or refines RTU data network communications device specifications. Analyzes and performs system and network configuration modifications and fixes, to correct and optimize system performance and cost-effectiveness.

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

Modifies, installs and supports software-based control and instrumentation logic.

Perform communication site engineering including the design of battery plants, antennas, towers, generators, and cabling.

Research, engineer, design, develop, and support of supervisory control systems, plant control systems, radio modem, ethernet, and serial based telecommunication systems.

Develop department databases for matters such as daily work reports, purchase order requisitions and radio configurations.

Performs related duties as assigned.

DESIRED MINIMUM QUALIFICATIONS

Knowledge of:

Practices, methods, techniques, tools and equipment used in the design, installation, testing, calibration, maintenance and repair of electronic, process control, supervisory control and telecommunication equipment and devices common to a large public utility; PLC ladder logic programming; PLC plant control subsystem configuration, diagnoses and support; Telemetry central FIU and RTU configuration, diagnosis and support; RF subsystem configuration, diagnosis and support for voice radio and telemetry radio; FCC licensing requirements; electrical power distribution and motor/pump control system design; operating characteristics of electronic components, including microprocessor controls; programming and development of graphic user interfaces, supervisory control system databases, command language scripts and CAD-like tools; electronic shop procedures and practices; 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:

Test, diagnose, program, calibrate and repair a wide variety of electronic process control, supervisory control and telecommunication systems and equipment; use modern, state-of-the-art precision and diagnostic instruments, computers and specialized software to test, calibrate and diagnose complex control and telecommunication systems, 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 high school, or G.E.D. equivalent; and three years of journey-level experience in the installation, maintenance and support of complex process control, supervisory control and telecommunication systems, equipment and devices common to a large public utility; 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.

FCC General Radio Telephone License is 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; climb and work at heights; 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 frequently works outside in a wide range of weather conditions, near moving mechanical parts, and on slippery and uneven surfaces. Employees may, at times, be required to wear appropriate personal protective equipment including respiratory protection while performing work in environments that could have the potential to contain wet or humid conditions, vapors or particulates, hazardous chemicals, and the risk of electric shock. The noise level in the work environment is frequently loud.