

CONTROL SYSTEMS ANALYST

Definition:

Under general supervision, performs difficult professional and technical control systems work in the development, implementation, modification, operation and maintenance of the Agency's Supervisory Control and Data Acquisition (SCADA) system, programmable logic controllers and other electronic controls and telemetry equipment and related software in the area of power generation, water supply and delivery systems, and water treatment and distribution facilities.

Distinguishing Characteristics:

This is the advanced journey professional level class in the Control Systems/SCADA classification series. The Control Systems Analyst class is distinguished from the Control Systems Technician by the level of responsibility assumed, complexity of duties assigned; independence of action taken; and discretion exercised over technical issues, problems and resolutions. Employees in this class may provide technical and functional supervision over others. Employees in this class are highly customer and team-oriented and work with peers, outside organizations and management in an effective and professional manner. The Analyst position's primary focus will be on the Agency's Middle Fork Project, providing secondary assistance to water system facilities. The duties require travel to various remote sites in Placer County, work in all types of weather, traversing uneven ground, the need to distinguish between colors, fine finger dexterity in manipulating small objects and regular walking, stooping, bending, lifting (approximately 50 pounds occasionally), and carrying. May occasionally work on a ladder or mechanical lift. Must regularly operate a motor vehicle. May be required to respond to off-hour emergencies.

Examples of Duties:

- recommend the purchase of appropriate equipment to meet Agency requirements;
- provide consultation on control system installations or troubleshooting;
- administer the installation, operation and maintenance of the SCADA control networks;
- ensure accurate data collection and the ongoing function and reliability of the systems and equipment;
- program, troubleshoot and maintain displays, database, graphics hardware, software and ancillary databases connected to SCADA systems;
- prepare a variety of correspondence, reports and records;
- manage SCADA system projects;
- configure communications between SCADA and PLC systems;
- PLC and HMI development and programming;

CONTROL SYSTEMS ANALYST

- provide technical support during project design and implementation;
- confer with Agency employees, consultants, contractors, representatives of other agencies (including regulatory and governmental agencies) and utilities to obtain and provide technical information and troubleshoot control systems problems;
- keep abreast of new developments in information technology applications related to the Agency's needs;
- administers contracts and manages projects, which may include directing staff and consultants;
- may participate in emergency response functions;
- performs other related duties as required.

Qualifications:

Knowledge of:

- fundamental principles and practices of control and electrical systems;
- principles and practices of project management and contract administration including planning, organizing, delegating, scheduling and controlling;
- data communications using radio, lease lines and fiber optics;
- principles and practices of control systems network administration including DeviceNet, ControlNet, industrial Ethernet, and common industry protocols;
- computer programs and languages and their applications;
- operational characteristics of local area networks and supporting platforms;
- electrical and electronic system methods, materials and equipment;
- Allen Bradley SCADA systems, HMI's and PLC's;
- various programming methods such as ladder logic and function block diagrams, and structured text;
- system operations, auxiliary systems, data acquisition and control strategies;
- SCADA software such as Proficy iFix, Wonderware, OSI Monarch, SCADA Alarm, VBA and Text-To-Speech;
- historians and databases such as Proficy iHistorian, OSISoft, PI, and SQL;
- reporting software such as Worksmart Automation report builder;
- industrial process control, system control strategies, associated field instrumentation, and remote communications telemetry;
- programming and operation of PLC's and HMI's;
- Microsoft Office software;
- analog and digital telemetering systems;
- safety regulations and procedures related to working with electronic equipment;
- programs and protocols used in control devices;

CONTROL SYSTEMS ANALYST

Ability to:

- analyze problems with equipment, programs, networks and installation procedures and take appropriate corrective measures;
- effectively organize and coordinate complex control systems projects, studies and contracted services;
- comprehend and work effectively from schematics, specifications and drawings;
- conduct common electrical and control systems equipment tests at project sites and existing facilities;
- read, understand and interpret control systems and electrical drawings, graphs, and specifications;
- prepare clear, concise and accurate reports and correspondence;
- maintain accurate data and records;
- deal tactfully and effectively with the public, other agencies, developers, engineering firms, contractors and other employees;
- communicate effectively both orally and in writing;
- lead assigned staff in completion of projects and tasks.

Education/Experience:

Sufficient education, training and experience to demonstrate the knowledge, skills and abilities listed above. These would normally be acquired by the completion of a Bachelor's degree from an accredited college or university with major coursework in computer science, electronics, electrical engineering or a closely related field and the equivalent of five years of full-time, progressively responsible control systems and/or electrical engineering experience, including configuring, programming and administering SCADA systems. An equivalent combination of education, training and experience may be acceptable. Familiarity or experience with the California Independent System Operator (CAISO) preferred.

License/Certificates:

Must possess and maintain a valid California driver's license with an acceptable driving record.