

Job Description

Job Title: Instrument & Electrical Technician	Status: Non Exempt
Salary Range: 24	Date: July 2020
Department: Operations & Maintenance	Reports to: Supervising Instrument & Electrical Technician

DEFINITION

Under general supervision, installs, operates, and maintains electrical and electronic instrumentation and mechanical systems including computers, Programmable Logic Controller (PLC) systems, variable frequency drives (VFD), and Supervisory Control and Data Acquisition (SCADA) systems related to water management, water treatment and distribution systems, well operation, and hydroelectric production; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

The Instrument & Electrical Technician is the journey level in the series; incumbents perform the full range of job duties and work with considerable independence. This class is distinguished from the Water System Electrician by its responsibility for integrating electrical systems and instrumentation into a control scheme for use by operations staff, whereas the Water System Electrician is primarily responsible for installing, maintaining, and repairing the District's electrical infrastructure. It is further distinguished from the Supervising Instrument & Electrical Technician in that the latter class has responsibility for assigning and reviewing work and setting work priorities.

EXAMPLES OF ESSENTIAL DUTIES

NOTE: The following are the duties performed by employees in this classification. However, employees may perform other related duties at an equivalent level. Each individual in the classification does not necessarily perform all the duties listed.

1. Installs and maintains computerized control devices, water treatment equipment, and Supervisory Control and Data Acquisition (SCADA) systems; analyzes malfunctions of such equipment and makes needed repairs.
2. Writes programs for SCADA systems and programmable logic controllers (PLC).
3. Modifies or installs new electrical and electronic equipment, in coordination with contractors and operations staff; maintains, troubleshoots, and repairs power and control systems.
4. Installs, calibrates, maintains, and repairs a variety of flow and pressure instruments.
5. Prepares drawings of completed work.
6. Performs industrial electrician duties, primarily on a back-up basis to other staff.

SPECIAL REQUIREMENTS

Employees in this classification may be called upon to respond to District emergencies, including chemical releases or events caused by extreme weather conditions or natural disasters.

EMPLOYMENT STANDARDS

Knowledge of:

- Electrical theory, including alternating current and direct current;
- National Electrical Code;
- Methods, materials, and tools used in electrical construction;
- Principles of electrical and electronic systems;
- Analog and digital electronics;
- Programmable Logic Controllers;
- Safety practices related to electrical work, construction and tool usage, chemical use, and industrial worksites;
- Mathematics, up to and including algebra;
- Standard written English sufficient to: read and understand written instructions, manuals, and procedures; document procedures and designs; and keep a variety of records.

Ability to:

- Collect data, and troubleshoot and repair electrical and electronic equipment and fixtures;
- Learn to write programs in language(s) used for District's power and control systems;
- Follow written and verbal instructions;
- Read and interpret drawings, diagrams, and specifications;
- Learn to use computer-aided design and drafting software;
- Interpret SCADA system data;
- Use hand and power tools for electrical construction;
- Operate a vehicle to travel between District facilities;
- Maintain complete and accurate records;
- Establish and maintain effective working relationships with colleagues, customers, contractors, and vendors;
- Work independently or as part of a team.

Education

Possession of a high school diploma or equivalent is required. A bachelor's in electronics or electrical systems is highly desirable. Completion of vocational education or training in electrical or electronic technology, or of a recognized apprenticeship program as an electrician, is desirable.

Experience

At least three years of experience as a journey-level industrial electrician, supplemented by experience in installation, maintenance, and repair of instrumentation, with an emphasis on industrial applications. Experience should have provided familiarity with PLC programming and SCADA systems.

Certificates and Licenses

Possession of a valid California Class C Driver’s License is required upon hire.

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Work is performed both indoors and outdoors. Outdoor conditions may include rain, high winds, and unusually high or low regional temperatures and exposure to outside elements. While performing the duties of this job, the employee may also be occasionally exposed to moving mechanical parts and high, confined spaces, precarious places and swift moving water. The following are additional requirements of the position:

- Mobility: Job tasks are varied and require standing; walking (sometimes on uneven terrain); sitting; climbing, bending, stooping, kneeling, and crawling.
- Lifting: frequent lifting up to 10 pounds; occasional lifting up to 75 pounds.
- Vision: constant use of overall vision, including near vision, distance vision, color vision, and ability to adjust focus.
- Dexterity: occasional grasping, fine manipulation, reaching, pushing, and pulling; occasional use of touch to distinguish or identify objects.
- Hearing/talking: frequent hearing and talking, in person and on the phone.
- Emotional/Psychological: frequent contact with coworkers and others; depending on assignment, may also frequently work alone. The employee is also expected to respond in emergency situations.
- Environmental: exposure to moderate noise levels, but hearing protection must be worn in certain areas; frequent exposure to chemicals; occasionally uses smell to distinguish or identify objects.

Accepted By: _____	_____
Instrument & Electrical Technician	Date

Approved By: _____	_____
Operations & Maintenance Manager	Date

Approved By: _____	_____
General Manager	Date

