



San Juan Water District  
9935 Auburn Folsom Road  
Granite Bay, California 95746  
(916) 791-0115  
www.sjwd.org

## Position Description

# Electrical & Instrumentation Technician

**Status:** FLSA Non-Exempt, Safety Sensitive  
**Supervisor:** Maintenance Chief  
**Effective Date:** February 6, 2019

### **Supervision Received and Exercised**

Receives general supervision from the Water Treatment Plant Manager and receives technical and functional supervision from the Water Treatment Plant Maintenance Chief. Does not provide supervision to others.

### **Primary Function**

To perform specialized and technical duties involving troubleshooting, maintaining, and repairing electrical and electronic equipment, instrumentation controls and radio telemetry communications associated with a domestic water treatment plant, distribution system, wholesale meters and solar site components.

### **Essential Duties** - *Duties may include, but are not limited to, the following:*

- Performs skilled duties related to the troubleshooting, maintenance, repair and testing of instrumentation, Programmable Logic Controller's (PLC's), telemetry, electrical and electronic components.
- Plans, installs and maintains sophisticated instrumentation and control systems; develops and uses diagnostic problem solving techniques.
- Inspects, adjusts, and repairs electrical and electronic equipment such as Variable Frequency Drives (VFD's), motors, transducers, motor control centers, switches, wiring, electronic circuits, and related devices.
- Installs, maintains, and troubleshoots control systems and water quality instruments, analyzers and electrical systems as they relate to treatment and distribution systems; maintains hardware and software issues.
- Assists in the design, installation and troubleshooting of electrical systems.
- Troubleshoots and maintains electrical solar site components.
- Meets with operations and engineering staff on new construction and projects and manages/performs design and installation of equipment related to electrical and electronic systems and instrumentation and control systems.
- Purchases and maintains critical inventory.
- Modifies, installs, and supports systems and networks as they relate to the Supervisory Control and Data Acquisition (SCADA) system.

- Complies and participates with the District's safety standards policies (PSM, PHA, IIPP, LOTO, Confined Space, RPP, HMBP, RMP, Heat Stress, ARC Flash, Hearing Protection, PPE, etc.) and all related safety requirements.
- Utilizes Computerized Maintenance Management System (CMMS) to plan, schedule, complete, and document maintenance activities.
- In an employee setting, teaches staff electrical and instrumentation principles and applications.
- Participates and complies with District's Chlorine Program.
- Establishes and maintains effective working relationships with those contacted in the course of work.
- Assists in the development of budgets.
- Conducts safety inspections.
- Performs related duties as assigned.

### **Minimum Qualifications**

#### *Knowledge of:*

- Practices and techniques used in the design, installation, testing, calibration, maintenance, and repair of radio telemetry, solar field, electrical and electronic equipment, instrumentation and controls as they relate to water treatment and distribution systems.
- 480 Volt Arc Flash Safety Gear and the use of that equipment as required by NFPA 70E and Cal OSHA.
- AC/DC voltage controls.
- Principles associated with electrical and electronic circuitry, radio telemetry, plant analytical equipment.
- Treatment plant, pump stations, solar field and distribution facilities.
- Current trends in information technology including hardware, software, and networks.
- Techniques used in the calibration of instrumentation and controls.
- Modern office procedures and computer equipment including systems to update and report work order status.
- Principles and practices of good customer service.

#### *Ability to:*

- Maintain and repair electrical and electronic equipment, radio telemetry, solar field, instrumentation and controls.
- Work on low and high voltage switchgear, motors and electrical equipment.
- Apply mathematics.
- Test, diagnose, troubleshoot, and repair a variety of electrical and electronic equipment, instrumentation and controls.
- Read and comprehend technical manuals and electronic schematics.
- Maintain accurate records of preventative maintenance activities.
- Maintain and update electrical drawings.
- Understand and carry out oral and written instructions.

- Initiate and maintain effective safety practices.
- Communicate effectively.
- Establish and maintain effective working relationships with District staff, outside organizations, and the public.
- Prepare and maintain records.
- Safely use a variety of tools.
- Wear protective equipment.
- Provide training to staff.

*Experience and Education:*

Any combination of training, education, and experience that has led to the acquisition of the knowledge, skills, and abilities as indicated above. A typical qualifying entrance background is:

Experience:

Three years of journey level experience in the design, construction, installation, modification, maintenance, and repair of electrical/electronic equipment and instrument systems and control devices common to an industrial water treatment plant and distribution systems.

Education:

Equivalent to graduation from high school.

*License or Certificate:*

Required: Possession of, or ability to obtain and maintain an appropriate valid California motor vehicle operator's Class C license. Individuals who do not meet this requirement due to a physical disability will be considered on a case-by-case basis.

Preferred: State Water Resources Control Board Division of Drinking Water (SWRCB DDW) Treatment and/or California Water Environment Association (CWEA) license(s).

**Physical Capabilities**

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 functions.

<i>Physical Requirements</i>	<i>Rarely (0-12%)</i>	<i>Occasionally (12-33%)</i>	<i>Frequently (34-66%)</i>	<i>Regularly (67-100%)</i>
Seeing				✓
Hearing				✓
Standing/Walking		✓		✓
Climbing/Stooping/Kneeling			✓	
Lifting/Pulling/Pushing			✓	
Approximate Maximum Weight to Lift			60 Pounds	
Fingering/Grasping/Feeling				✓
Describe Working Conditions	50 Percent Indoors, 50 Percent Outdoors			