

**MERCED IRRIGATION DISTRICT  
SUBSTATION TECHNICIAN I/II**

FLSA STATUS – Non-Exempt

Bargaining Unit – IBEW, Local 1245

Classification Level – Per IBEW Electric Wage Schedule

**DEFINITION**

Under general supervision, perform various operation, construction and maintenance work on electrical substations and related equipment.

**ESSENTIAL FUNCTIONS OF THE POSITION**

- Perform a variety of skilled electrical and mechanical work involved in construction, maintenance and troubleshooting of electrical power equipment and substation systems.
- Install, maintain, and make repairs on alarm equipment, generators, motors, load-tap-changers (LTC) regulators, and power transformers.
- Test and restore insulating oil and SF gas in high-voltage equipment, such as breakers, transformers, LTCs and regulators.
- Promote safety practices and maintain good housekeeping (i.e. general cleanliness of worksites, vehicles, and equipment) and assure that proper tools are in good working order.
- Coordinate substation activities with other District departments and outside agencies.
- Maintain detailed records both written and in digital form, including required records for equipment testing and calibration necessary for NERC and other regulatory compliance.
- Regularly communicate with the Power Control Center to authorize switching and clearance of transmission circuits; dispatch and switch lines within substations.
- Install, wire, and troubleshoot high voltage capacitors.
- Perform construction and maintenance work on electric generation, transmission and distribution equipment including high and low voltage substation facilities.
- Review drawings for utility acceptability.
- Load, transport and unload materials, tools and equipment.
- Operate aerial lift, digger/derrick, cable pulling, hot washing, oil filtering, trenching and bending equipment, as required.
- Assist in the maintenance, repair and installation of hydro generators, turbines and other equipment.
- Prepare reports, initiate station work orders, keep up with ongoing manufacturing products and assist other staff when needed.
- Prepare switching orders. Dispatch and switch lines within substation.
- Performs related duties and responsibilities as required.

**KNOWLEDGE AND ABILITIES**

**Knowledge of:**

- Knowledge of high-voltage substations, methods, materials, equipment.
- Tools used in the construction, maintenance and switching operations.
- General knowledge of relays and metering equipment.
- Basic electrical and mechanical theory.
- Thorough knowledge of electricity and electronics.
- Terminology and mathematics associated with department functions.
- District Safety Rules.

## SUBSTATION TECHNICIAN I/II

- Department policies and procedures.

### **Ability to:**

- Work with various computer software, including Microsoft Suite, timekeeping systems, and the District's work order system(s).
- Read and interpret plans, schematics and specifications.
- Ability to follow oral and written instructions.
- Ability to establish and maintain cooperative relations, internally and externally, with those contacted in the course of work.
- Ability to analyze and solve a wide variety of electrical as well as mechanical problems.
- Keep accurate and detailed technical records and prepare reports.
- Make estimates of materials and costs.
- Respond to emergency situations and be on call as assigned.
- Operate bucket truck and forklifts, drive Line trucks, or bucket truck.
- Ability to observe District Safety Rules.
- Perform duties within the established MOU (Memorandum of Understanding).
- Climb substation structures.
- Work alone or in a group setting.

### **NECESSARY SPECIAL REQUIREMENTS:**

- Recognized status as a Journey level Electrician –OR– Recognized status as a Journey Level Lineworker.
- Possession of a valid California Class A driver's license within six (6) months of appointment to this position and maintained thereafter.
- A Department of Motor Vehicles "Driver Record Information" print-out will be required at time of hire and throughout employment. Must be enrolled in District's DMV pull-notice program.

### **EDUCATION AND EXPERIENCE – SUBSTATION TECHNICIAN I:**

#### **Education:**

Any combination of training that provides the required knowledge, skills, and abilities is qualifying; typical education would include a high school diploma, or equivalent, and additional vocational school training specific to the Electrician or Lineworker trade.

#### **Experience:**

Two (2) years Journey Level Electrician experience in High-Voltage (12kV+).

### **EDUCATION AND EXPERIENCE – SUBSTATION TECHNICIAN II:**

Progression to Substation Technician II occurs after five (5) of experience, including three (3) years at the District in a Substation Technician role or comparable utility.

#### **Education:**

Any combination of training that provides the required knowledge, skills, and abilities is qualifying; typical education would include a high school diploma, or equivalent, and additional vocational school training specific to the Electrician or Lineworker trade.

## SUBSTATION TECHNICIAN I/II

### **Experience:**

Five (5) years Journey Level Electrician experience in High-Voltage (12kV+).

### **Successful completion of the following training:**

- Certification of Hazardous Waste Operations and Emergency Response (HAZWOPER) 29 CFR 1910.120 (40 hours).
- Forklift certification.
- Eight (8) hours Department of Transportation manifesting and labeling training.
- Control of Hazardous Energy.
- Eight (8) hours of annual HAZWOPER refresher training in compliance with mandated regulations.
- Annual cardiac pulmonary resuscitation, AED, and first aid training and certification.

### **TYPICAL PHYSICAL ACTIVITIES:**

- Travels frequently by motor vehicle in the conduct of District business.
- Communicates orally with District employees and the public in face-to-face, one-on-one and group settings.
- Working at heights, confined spaces, and with live electricity.
- Climb station structures and towers.
- Regularly uses a telephone and radio for communication.
- Uses office equipment such as a desktop computer, laptop, copiers and FAX.
- May sit or walk for extended periods of time.
- May walk in uneven terrain, in an outdoor environment, in varied weather conditions in the conduct of District business.
- Operates District vehicles used in construction, maintenance, and repair work.
- Must be able to push, pull, reach, and lift equipment and parts weighing up to fifty (50) pounds.
- Stoops, kneels, crouches, crawls, and climbs during field maintenance and repair work.
- Works in an environment with exposure to dust, dirt, and/or weed abatement chemicals, and significant temperature changes between heat and cold.
- Hearing and vision within normal limits with coordination sufficient to maintain good awareness during maintenance and construction jobs.

Sitting:	Remains in a seated position for up to eight (8) hours per day.
Standing:	Remains in a standing position for up to eight (8) hours per day.
Hands/Arms:	Operates vehicles and equipment for up to eight (8) hours per day. May require fine finger manipulation.
Lifting:	Raises and lowers supplies and equipment up to fifty (50) pounds.
Stooping:	Bends body downward and forward by bending at the knees or waist
Talking:	Expresses ideas and shares information by means of spoken work in person and by telephone.
Hearing:	Hears well enough to receive communications in person and by telephone.
Vision:	Operates vehicles and office equipment.

## SUBSTATION TECHNICIAN I/II

### **ENVIRONMENTAL FACTORS:**

- Exposure to the sun: 75% or less work time spent outside a building and exposed to the sun.
- Irregular or extended work hours: Per the Memorandum of Understanding (MOU)
- Most work performed in an outside environment with exposure to dust, dirt and significant temperature changes between heat and cold.

### **ESSENTIAL MENTAL ABILITIES:**

- Exercise independent judgment.
- Self-directing and organized.
- Reason objectively.
- Assess, project and plan work activities on a daily and weekly basis.
- Document concisely, accurately and timely.