

## **ELECTRICIAN/INSTRUMENTAL TECHNICIAN**

---

### **DEFINITION**

---

Under direction, performs skilled electrical and instrumentation work in the maintenance, repair, and installation of building electrical systems, signal and street lighting systems and control systems in the water/wastewater facilities; and performs other related duties as required.

### **REPRESENTATIVE DUTIES**

---

*The duties listed below are examples of the work typically performed by employees in this class. And employee may not be assigned all duties listed and may be assigned duties which are not listed below. Marginal duties are those which are **least** likely to be essential functions for any single position in this class.*

1. Designs, installs, tests, calibrates, maintains and repairs process control, telemetry and data acquisition systems used in the water distribution system and wastewater treatment plant; designs and programs programmable logic controllers; designs and installs instrumentation that utilizes existing systems more effectively; installs hardware and software for control systems.
2. Repairs electrical control in pumping facilities; maintains and repairs electrical motors.
3. Troubleshoots problems with intersection control systems; responds to complaints or operational changes requested by staff, citizens and traffic engineering; verifies controller programs upon servicing, upgrading or replacement; makes software changes as requested by traffic engineering.
4. Performs maintenance and repair of street lighting including checking and replacing bulbs, transformers, starter cards and fuses; replaces or repairs electrical wire and conduit from pull box to pole; replaces light ballasts; replaces or repairs streetlight poles and arms; answers emergency calls from the public and other agencies; performs preventive maintenance.
5. Maintains City building electrical systems including lighting, wiring and cabling; adds or repairs electrical circuits; installs and replaces computer cabling; maintains lighting systems in parks and parking lots.
6. Directs and trains field service workers to perform electrical maintenance and repair.
7. Inspects and coordinates work of contractors; checks plans prepared by staff, other agencies and contractors for conformance to codes and standards; prepares job cost estimates; draws electrical schematics.

8. Maintains files and databases related to electrical facilities.

## **EMPLOYMENT STANDARDS**

---

### **Education and/or Experience**

Three (3) years of journey level experience maintaining electrical systems and computer controlled electronics and instrumentation in water/wastewater treatment plant or an industrial setting or any combination of training and/or experience that provides the desired knowledge and abilities.

### **Knowledge of:**

Instrumentation associated with water reclamation plants and water systems; electrical theory; principle, methods, materials, tools, and equipment used in the maintenance, PLC programming; SCADA systems and techniques; water reclamation operational process installation, and repair of lighting systems and electrical equipment; occupational hazards and safety regulations of the electrical trade; electrical code and other related laws and regulations; wiring diagrams and print readings.

### **Ability to:**

Understand and maintain analog, digital and time calibration of electronic systems and components; test, troubleshoot and repair electrical equipment; read, interpret and work from plans, drawings and sketches; draw electrical schematics; establish and maintain working relationships with employees and the public; operate lift truck; dig trenches.

### **Special Requirements**

Possession of or ability to obtain a valid California Driver's License.

### **Physical Demands**

Regularly performs active physical work without prolonged heavy exertion. Occasionally performs strenuous physical work. Physical demands include occasional lifting of objects over 50 lbs., combined with bending, twisting, working above ground or on irregular surfaces.

## **WORKING CONDITIONS**

---

Regular exposure to unpleasant elements such as dust, fumes and odors, dampness, noise levels, or outside weather conditions. Regularly works at heights up to 50 feet.

Date Adopted: July 2, 2002