


<b>JOB DESCRIPTION</b>	
City of Patterson  Human Resources	<b>ELECTRICAL and INSTRUMENTATION CREW LEADER</b>

**JOB SUMMARY**

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are **not** intended to reflect all duties performed within the job.*

Under limited supervision from the Electrical and Instrumentation Manager, this classification performs the most complex duties related to the installation, alteration, maintenance and repair of the Department’s electrical, mechanical and electronic equipment; performs advanced-level technical work involved in troubleshooting electrical, mechanical and electronic equipment associated with the Wastewater Treatment Facility, Water Distribution System, Sewer/Storm Collections pumping stations, Telemetry/SCADA system, Traffic Signal and Street Light Systems, and related facilities; plans, schedules, assigns, coordinates, trains and directs the work of Division employees in a lead capacity; and performs related work as required and/or assigned.

The Electrical and Instrumentation Crew Leader is the lead or advanced-level specialist classification that troubleshoots the more complex problems related to the design, testing, installation, maintenance and repair of electrical, mechanical and electronic equipment and telemetry systems; and provides direction in a lead capacity to Electrical and Instrumentation Technicians I/II and assigned Public Works employees.

**SUPERVISION RECEIVED AND EXERCISED**

Receives limited supervision from the Electrical and Instrumentation Manager

Exercises supervision in a lead capacity of Division employees

**ESSENTIAL DUTIES**

*Typical essential duties may include, but are not limited to, the following:*

- Installs, maintains, repairs, and calibrates digital and analog monitoring and control equipment.
- Designs instrumentation and electrical systems and provides data and calculations on proposed systems.
- Installs, maintains, repairs, and calibrates computer system hardware for a radio-based telemetry system, to control flow, temperature, motion and chemical feed.
- Installs, repairs, and maintains supervisory and sensory control systems.
- Repairs, maintains and calibrates level, pressure and flow equipment.
- Maintains a variety of electronic control instruments used to operate electrical mechanical equipment; records data, indicates equipment status and activates supervisory control.

Plans, schedules, assigns, coordinates, directs and monitors the work of employees within the Division.

Assists in the training and development of less-experienced Division staff.

Maintains and repairs automatic control valves and associated control devices.

Effectively operates a variety of electronic testing equipment to calibrate, repair and maintain systems.

Maintains service records; and participates in the development of specifications for the requisition of parts and electrical equipment.

Efficiently operates a laptop or personal computer to log completed work, establish and maintain records required by state agencies and to retrieve equipment data.

Observes and ensures all safety regulations are followed; including Cal OSHA regulations related to confined space entries.

Monitors and tracks SCADA system functions, including system pressure, tank levels and alarms; adjusts system settings as required to maintain proper function.

Performs related duties as assigned.

## KNOWLEDGE, SKILLS, AND ABILITIES

**Thorough knowledge of:** Principles and practices of electrical and instrumentation advanced-level diagnostics and repair.

**Working knowledge of:** Basic principles and practices of effective supervision and training; principles and practices of electronics/electricity/pneumatic and instrumentation as they apply to sensory controls.

**Knowledge of:** Standard and specialized practices, methods, tools, equipment, and materials used in the installation, repair, and maintenance of supervisory, sensory control systems used in water/waste water/storm and traffic signal systems; principles of radio based telemetry systems and tuning of microwave radios; occupational hazards, and standard safety precautions of the trade.

**Ability to:** Develop and implement a comprehensive preventative maintenance program for instrumentation and electronics equipment; estimate repair costs; plans, schedule, assign, direct and monitor the work of Division employees; read and understand technical drawings, specifications and maintenance manuals; effectively operate electronic/electrical-testing equipment; troubleshoot electrical and instrumentation control circuits; diagnose electrical and electronic failures and take an effective course of action to correct the problem; work safely with high voltage AC/DC wiring; perform mathematical computations as required in the maintenance of electrical and electronic circuits; effectively operate a computer to log completed work, and to establish and maintain records required by state agencies; utilize strong telemetry skills to analyze and retrieve data from equipment; respond to emergency conditions and use good judgment to make appropriate assessments and repairs; speak, read, and comprehend English at a level necessary to understand and execute oral and written instructions; establish and maintain effective working relationships with those contacted in the course of work.

## NECESSARY SPECIAL REQUIREMENTS

Must be 18 years of age or older.

Must successfully pass pre-employment examinations which may include various position related background, fingerprint, reference, medical, physical agility, second language ability, certificate or license verifications.

Must be able to provide proof of U.S. citizenship or legal right to work in the United States.

## **EXPERIENCE and CERTIFICATIONS**

Any combination of education, training and experience that would likely provide the required knowledge, skills, and abilities: Normally this would include:

**Education:** High School Diploma or GED equivalent supplemented by specialized training equivalent to an Associate's Degree in the diagnosis, testing, maintenance and repair of electrical equipment and electronic sensor systems.

**Experience:** Four (4) years of increasingly responsible experience performing electrical maintenance work that includes at least two (2) years of specialized experience involving electrical and electronic telemetry, SCADA and related control systems; or an equivalent combination of education and experience to meet job requirements.

**License or Certificate:** Possession of a valid California Class B driver's license with appropriate endorsements within one year of appointment. Failure to obtain the required license within this period may result in release from probation.

Possession of an Electrical Instrumentation Technology Grade II certification issued by the California Water Environment Association; or a Journeyman Electrician certificate pursuant to certification standards established by the Division of Labor Standards Enforcement.

Possession of a National Fire Protection Agency NFPA 70 Grade I certification issued by the National Fire Protection Agency.

Possession of a Traffic Signal Technician Level I certification is desirable.

## **PHYSICAL REQUIREMENTS**

**Physical Requirements:** Position requires the ability to frequently walk, bend, stand, crouch, or climb for extended periods of time; lift and/or move job related equipment weighing up to 90 pounds; constantly use overall vision and color perception to read, write, and make observations; frequently use hands and fingers to grasp and hold objects and to operate hand and power tools; safely operate vehicles and heavy equipment; hear well enough to converse on the radio, telephone and in person; perform heavy manual labor for extended periods of time; and tolerate extreme fluctuations in temperature while performing essential functions.

**Environmental Conditions:** Work is performed in an office and field environment that may include exposure to loud equipment and machinery and occasional exposure to fumes and/or other environmental substances; essential duties require travel from site to site; with potential exposure to variation in temperatures and weather conditions; frequently exposed to electricity; and occasionally exposed to loud noise. This classification is assigned to the miscellaneous bargaining unit for labor relations purposed and is subject to overtime, callback, and standby assignments.

**FLSA Status:** Non-Exempt

**Revised:** August 2022