


<b>JOB DESCRIPTION</b>	
City of Patterson  Human Resources	<b>ELECTRICAL AND INSTRUMENTATION TECHNICIAN I</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 close supervision from the Electrical and Instrumentation Crew Leader or the Electrical and Instrumentation Manager, this classification performs routine electrical and mechanical maintenance work while learning to independently perform a full range of skilled electrical and mechanical work related to the installation, alteration, maintenance, and repair of 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; and performs related work as assigned.

**The Electrical and Instrumentation Technician I** is the entry level classification in the Electrical Instrumentation Technician series. This classification is distinguished from the journey-level Electrical Instrumentation Technician II by performance of less than the full range of duties assigned to the journey level while learning to independently perform the full range of skilled design, diagnostic, installation, alteration maintenance and repair work. These classifications are flexibly staffed. Upon recommendation of the Department manager, positions in this classification advance to the journey level II classification after gaining the required experience, developing the proficiency to independently perform the full range of job duties and consistent exemplary job performance ratings.

**SUPERVISION RECEIVED AND EXERCISED**

Receives close supervision from the Electrical and Instrumentation Crew Leader or Electrical and Instrumentation Manager.

This position does not routinely exercise supervision of others.

**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.

Assists in the design of instrumentation and electrical systems and learn to provide data and calculations on proposed systems.

Learns to install, maintain, repair, and calibrate computer system hardware, for a radio based telemetry system and, for controlling flow, temperatures, motion and chemical feed.

Learns to install, repair, and maintain supervisory and sensory control systems.

Assists in the repair, maintenance, and level calibration of pressure and flow equipment.

Assists in the maintenance of a variety of electronic control instruments used to operate electrical mechanical equipment, record data, indicate equipment status and activate supervisory control.

Learns to maintain and repair automatic control valves and associated control devices.

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

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

Operates a laptop or personal computer to log completed work, record keeping, and to retrieve equipment data; and learns to maintain records required by state agencies.

Abides by and learns to ensure that all safety regulations are followed.

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**

**Knowledge of:** Standard and specialized practices in electrical and instrumentation diagnosis and repair; basic knowledge of the methods, tools, equipment, and materials used in the installation, repair, and maintenance of supervisory, sensor control systems used in water/waste water/storm and traffic signal systems; basic principles and practices of electronic, electricity, pneumatic and instrumentation as it applies to sensor controls; and the occupational hazards and standard safety precautions of the trade.

**Ability to:** Develop and implement a comprehensive preventative maintenance program for instrumentation and electronics equipment; read and understand technical drawings, specifications and maintenance manuals; 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.

**Experience:** One (1) year of increasingly responsible electrical maintenance work that includes specialized experience involving electrical and electronic telemetry, SCADA and related control systems; or an equivalent combination of education and related experience.

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

Possession of an Instrumentation Technology Grade I certification within six (6) months of appointment.

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