

INDUSTRIAL ELECTRICIAN

DEFINITION

To perform industrial level electrical duties including the installation, maintenance, calibration, repair and replacement of digital and analog electrical equipment, machinery, electric motors, switchgear, controllers and associated equipment and assist with instrumentation used in water supply and wastewater treatment facilities; and to provide technical support to an assigned supervisor.

DISTINGUISHING CHARACTERISTICS

This is the journey level in the single level technical Industrial Electrician class. Incumbents initially perform the more routine duties assigned to positions in this class and work under close supervision. However, as experience is gained, incumbents are expected to perform the full range of duties as assigned with increasing independence.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from the assigned supervisor; and may receive technical and functional supervision from more experienced staff.

EXAMPLES OF ESSENTIAL DUTIES - Duties may include, but are not limited to, the following:

Perform industrial level electrician duties including the installation, maintenance, calibration, repair and replacement of digital and analog electrical equipment, machinery, electric motors, switchgear, controllers and associated equipment and assist with instrumentation used in water supply, wastewater treatment facilities, and streets

Work on electrical and mechanical controls, control wiring, instruments, motors, meters, machinery and related test equipment associated with water supply, wastewater treatment, treated effluent disposal and related facilities with line voltage of 600 volts nominal or less.

Identify, prioritize, troubleshoot and correct problems associated with electrical and mechanical equipment, machinery, instrumentation, and motor control panels using visual, sound and infrared sensors to identify problem areas or failed components.

Implement preventative maintenance programs including cleaning, lubricating, adjusting, torquing and tightening, visually inspecting, and load testing of motors; repair and calibrate as necessary to maintain equipment, machinery, instruments, testing equipment, wiring, and associated hardware to required specifications.

Perform visual weekly and monthly checks on City's back-up emergency generators including fluid, hoses and oil and maintain log of inspections; coordinate repairs with outside contractors.

Solder and replace components, component wiring, indicators and wiring harnesses.

Maintain written records, logs, and other documentation required for preventative maintenance activities of equipment, supply parts and related materials; update drawings and one-line diagrams; order materials.

Read and update blueprints and schematics as required to assist in repairs; prioritize and coordinate the appropriate timing to service equipment; estimate labor and materials necessary to complete the needed work; order replacement parts to perform maintenance and repairs as necessary.

Instruct employees in safe procedures related to working with electrical and mechanical devices; assist mechanics, instrumentation and operations personnel in matters related to electrical issues; make recommendations to update City electrical policy and procedures.

Build and maintain positive working relationships with co-workers, other City employees and the public using principles of good customer service.

Foster an environment that embraces diversity, integrity, trust, and respect.

Be an integral team player, which involves flexibility, cooperation, and communication.

Perform related duties as assigned.

## MINIMUM QUALIFICATIONS

### Knowledge of:

Principles, methods, tools and equipment used in installing, maintaining, calibrating, troubleshooting, repairing, testing and replacing electrical equipment, components, systems, machinery and related equipment.

Principles and practices of electronic and electric theory, specifically as it relates to modern electronic equipment.

Methods and procedures of preventative maintenance requirements for electronic and required relevant electrical equipment.

Methods and procedures in the use of electric and electronic testing equipment and of making electrical calculations.

Relevant local, State, and Federal laws, rules and regulations related to area of assignment.

Ability to:

Perform industrial level electrician duties including the installation, maintenance, calibration, repair and replacement of digital and analog electrical equipment, machinery, electric motors, switchgear, controllers and associated equipment and instrumentation used in the City water supply, wastewater treatment facilities, and streets.

Intermittently, review and evaluate documents related to department operations; observe, identify and problem solve office operations and procedures; understand, interpret and explain department policies and procedures; explain operations and problem solve issues for the public and with staff.

On a continuous basis, sit at desk for long periods of time; intermittently twist to reach equipment surrounding desk; perform simple grasping and fine manipulation; use telephone; write or use a keyboard to communicate through written means; and lift or carry weight of 50 pounds or less.

Identify wires for electrical maintenance, appropriately size wires for applied electrical loadings and run distances, install, maintain, calibrate, repair and replace electronic and electrical equipment, including motors and control panels.

Interpret and work from technical sketches, drawings, plans, and diagrams for electrical, and electronic equipment and machinery.

Perform arithmetic calculations as required.

Perform heavy lifting over rough and uneven terrain and access tight areas and confined spaces as necessary to perform maintenance and repair activities and to assemble electrical parts and materials and operate a variety of both manual and power tools.

Instruct and explain other employees in operational and safety issues.

Use sound judgment in recognizing scope of authority.

Operate and use modern office equipment including computers and applicable software including word processing, spreadsheet, basic data entry, and other related software such as SCADA systems, metering and electronic-based controls, equipment, and systems.

Maintain regular attendance and adhere to prescribed work schedule to conduct job responsibilities.

Learn, master and utilize appropriate safety policy, procedures and practices for assigned duties.

Establish and maintain effective working relationships with those contacted in the course of work.

Work with various cultural and ethnic groups in a tactful and effective manner.

Communicate clearly and concisely, both orally and in writing.

### Experience and Training

Any combination of experience and training that would provide the required knowledge and abilities is qualifying. A typical way to obtain the required knowledge and abilities would be:

#### Experience:

Two years of journey level industrial electrician experience that including installing, maintaining, repairing, calibrating, and replacing electrical equipment and machinery.

#### Training:

Equivalent to completion of an academic, vocation, or apprenticeship program leading to an Associate's Degree in Electronic Technology or State approved Journeyman Electrician Certification.

### License and Certificate

Possession of a valid California Class C Driver License may be required at the time of appointment. Failure to obtain or maintain such required license(s) may be cause for disciplinary action. Individuals who do not meet this requirement due to a physical disability will be considered for accommodation on a case-by-case basis.

Possession of California Journeyman Electrician Card.

Possession of a Grade I Electrical/Instrumentation Technologist certificate from the California Water Environment Association within 18 months of employment.

Possession of a Grade II Electrical/Instrumentation Technologist certificate from the California Water Environment Association within 42 months of employment.