

ELECTRICIAN I/II

DEFINITION

Under immediate to general supervision, Electricians perform a variety of skilled entry to journey level tasks involving electrical system construction installation, remodeling, repair, alteration, and maintenance.

DISTINGUISHING CHARACTERISTICS

Electrician I - This is the entry level classification in the electrician job series within the City of Hayward, required to perform the full range of regular maintenance, testing and troubleshooting expected of a qualified electrician who has completed a four year apprentice.

Electrician II - This is the full journey level classification in the electrician job series within the City of Hayward, required to have two years prior electrician experience performing the full range of regular maintenance, testing and troubleshooting expected of a journey electrician. Positions in this class are flexibly staffed and may be filled by advancement from the Electrician I level. To be appointed as an Electrician II requires prior electrician experience performing the more complex electrical/electronic problem-solving, electrical system construction, installation, remodeling, maintenance, inspection and repair tasks including experience with electrical/instrumentation equipment used to repair and maintain lift stations, the wastewater treatment facility, raw water pumping stations, reservoirs and City buildings, as well as meeting the qualification standards for the Electrician II classification.

SUPERVISION RECEIVED

A division or unit supervisor will provide immediate supervision to Electrician I's and general supervision to Electrician II's.

SUPERVISION EXERCISED

Upon appointment or advancement to a journey level Electrician II classification, assignments may require the technical supervision of Electrician I's, and other crafts workers and/or service workers, on a project by project basis.

ESSENTIAL DUTIES

Depending upon assignment, duties may include but are not limited to the following:

ESSENTIAL DUTIES (continued)

Performs electrical/instrumentation equipment checks and maintenance on all sewage lift stations, wastewater treatment facility, raw water pumping stations, reservoirs and City buildings; checks motors, starters, pumps, distribution panels, telemetry, Energy Management Control & Systems, and all control circuits for wear, proper voltage, amperes, rotation, and contact wear; and programs and troubleshoots Programmable Logic Controls (PLC's).

Tests emergency generators, co-generation electrical distribution systems, and checks for proper oil level, water, batteries, proper frequency, voltage, amperes, protective relay, and A.T.S. operations.

Installs, repairs and replaces outlets, lighting fixtures, light switches, conduit runs, and distribution panels; relamps and repairs high intensity discharge light fixtures; changes lights and ballast at all City buildings; performs all electrical work associated with remodeling of offices.

Troubleshoots electrical problems on motors, motor controls, switch-gear panels, distribution panels, telemetry systems, lawn sprinkler controllers, generators, and City electrical appliances as required by assignment.

Tests, installs, and repairs City fire, burglar, and evacuation alarm systems; operates test equipment using meggers, voltmeter, ampmeter, oscilloscope and instrumentation calibration devices; inspects and adjusts cathodic protection equipment.

Inspects, installs, adjusts, repairs and calibrates telemetry systems and associated equipment; checks and adjusts the starting and stopping of the telemetry system's (remotely operated) water, sewage and air systems.

Repairs and replaces broken equipment, as required by electrical and safety codes.

Develops and implements maintenance programs for new systems and equipment; organizes and implements divisional in-house projects; assists in developing project budgets; and monitors contractor installation of new electrical projects.

Responsible for making procurement recommendations of electrical, electronic, and instrumentation systems equipment; and evaluating new electrical plans, specifications and equipment.

OTHER JOB RELATED DUTIES

Performs related duties as assigned.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Knowledge of:

Electrician I:

The tools, test equipment and other devices, materials and standard practices required in the electrical trade.

Federal, state, county, and municipal electrical and associated codes.

Occupational Safety and Health Act safety requirements, services, and equipment.

Electrician II:

Basic electronics and solid state equipment.

Installation, repair and calibration of supervisory control and data acquisition systems, and related instrumentation.

Programmable Logic Controls.

Ability to:

Electrician I:

Demonstrate skill in performing electrical installation, functional testing and repair work.

Work from blueprints, sketches, plans, specifications and instruction manuals, and independently make necessary corrections.

Follow complex verbal and written directions.

Independently evaluate and make recommendations on electrical repairs, installations or adjustments as needed.

Prepare bill of materials for all work and repair, including parts, trade descriptions, and prices.

Inspect, adjust, and repair telemetry equipment.

Prepare drawings, schematics and sketches on modifications and proposed work.

JOB RELATED AND ESSENTIAL QUALIFICATIONS (continued)

Ability to: (continued)

Electrician II:

Analyze and solve a wide variety of complex electrical system problems.

Use computers, job related software and program programmable logic controllers (PLC'S).

Maintain and program AC/DC variable speed drives.

EXPERIENCE AND EDUCATION

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

ELECTRICIAN I

Experience: Completion of a four year apprenticeship program described below working directly under the supervision of a qualified Journey Electrician.

Education: Equivalent to completion of the twelfth grade.

Training: Completion of a four year apprenticeship program which has included: AC & DC electrical systems; electrical drafting; electrical circuit Construction; 460V, 480V, 220V, and low voltage circuits; transformer theory; induction motors and universal motors; conduit bending and installation; installing and pulling wire; power distribution panels; motor control and electrical switch devices; and the National Electrical Building Code.

License: Possession and maintenance of a valid Class C California Driver License.

ELECTRICIAN II

Experience: Two years of experience comparable to that of an Electrician I in the City of Hayward.

Education: Equivalent to completion of the twelfth grade.

EXPERIENCE AND EDUCATION (continued)

ELECTRICIAN II (continued)

Training: Completion of a four year apprenticeship program which has included: AC & DC electrical systems; electrical drafting; electrical circuit Construction; 460V, 480V, 220V, and low voltage circuits; transformer theory; induction motors and universal motors; conduit bending and installation; installing and pulling wire; power distribution panels; motor control and electrical switch devices; and the National Electrical Building Code.

License: Possession and maintenance of a valid Class C California Driver License.

SPECIAL REQUIREMENTS

Essential duties require the mental and/or physical ability to: sit, stand, walk, kneel, squat, and climb; lift up to 50 pounds; work indoors and outdoors in various weather conditions; work in confined workspaces; and withstand exposure to noise, vibration, chemicals, mechanical and electrical hazards. Essential functions must be performed with or without reasonable accommodation.

Probationary Period: One Year

328-329CS83

April 1959

Revised July 1983

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AAP GROUP: 17

FPPC STATUS: Non-Designated

FLSA STATUS: Non-Exempt