



Electrician I/II

Class Code:
700

DEFINITION

Under supervision (Electrician I) or general supervision (Electrician II) of the Facilities Maintenance Supervisor, repairs, maintains, inspects, troubleshoots, tests, fabricates, and installs high and low voltage circuits, motors, controls, and electrical equipment used in the District's water production, treatment, and distribution systems and administrative facilities; may direct the work of sub-journey level employees, ensuring that proper safety precautions are observed; and performs related work as required.

DISTINGUISHING CHARACTERISTICS

Electrician I is the entry-level class in the Electrician series. Under close to general supervision, within a framework of established policies and procedures, incumbents learn and perform a variety of duties concerned with the maintenance, inspection, troubleshooting, testing, repair, and installation of electrical equipment and systems. As experience and proficiency are gained, assignments become more varied and complex and the level of independent action increases within established guidelines. Assignments are given in specific terms and are subject to frequent review while in progress and upon completion by the Facilities Maintenance Supervisor, except where tasks are well defined by established standards, policies, and procedures. There is limited latitude for independent judgment and action in well-defined areas of work.

The classification is distinguished from the experienced, journey-level Electrician II class by the routine nature and limited complexity of work assignments and the level of supervision received. The Electrician I and II classifications are flexibly staffed. Upon recommendation of the immediate supervisor and approval by the department manager, incumbents in this class may advance to the Electrician II after a minimum of two (2) years at the first level and with demonstrated proficiency to meet the job requirements of the Electrician II classification.

Electrician II is the experienced, journey-level class in the Electrician series. Under general supervision, within a framework of established policies and procedures, incumbents perform the full range of difficult and complex duties, exercising discretion and independent judgment within established guidelines. Assignments are given in general terms and are subject to review upon completion by the Facilities Maintenance Supervisor. There is significant latitude for independent judgment and action in well-defined areas of work.

The Electrician II classification is distinguished from the Facilities Maintenance Supervisor classification which supervises preventive, predictive, corrective, and emergency maintenance activities including the repair and installation of equipment and materials used in the production, treatment, and distribution of water.

TYPICAL DUTIES

TYPICAL EXAMPLES OF DUTIES MAY INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

- Maintains, repairs, installs, tests, troubleshoots low, medium, and high voltage electrical equipment, circuits, transformer switches, lighting fixtures, motors, outlets, control panels, electrical components of process control telemetry, cathodic protection systems, emergency power generation, life safety systems, fiber optic and Ethernet communications equipment, and related equipment.

- Installs, inspects, troubleshoots, cleans, lubricates, replaces bearings, brushes, and makes other repairs to electrical motors, including VFD drives using a variety of shop equipment.
- Installs conduit and pulls wire for motors, control panels, lighting fixtures, outlets, and other purposes; makes cable splices of various sizes and difficulty as required.
- Inspects and tests equipment and electrical devices for proper operation, control, and safety; oversees preparation, shutdown, lock-out, and tag-out of equipment to ensure safety protocols are enforced.
- Installs and programs instrumentation (flowmeters, pressure transmitters, level sensors, etc.) used for process and data capture.
- Performs trouble shooting and diagnostic work on a variety of electrical equipment and determines needed repairs or modifications that may require the use of a lap top and understanding of PLC logic.
- Coordinates with District employees and contractors to locate District electrical equipment or hazards to avoid interruption of electrical services and ensure safety protocols.
- Interprets diagrams and schematics, performs work according to drawings, and creates as-built drawings of electrical installations.
- Reviews and makes recommendations of new facilities electrical systems and components; designs and builds control panels and electrical panels.
- Keeps records and makes oral and written reports of work performed.
- May direct the work of sub-journey level employees, ensuring that proper safety precautions are observed
- Estimates labor, materials, and supplies required to perform specific assignments.
- Researches new equipment and technologies, as necessary.
- Performs other related work as required.

REQUIREMENTS

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

Education and Experience:

Possession of a high school diploma or equivalent; and.

Electrician I: Three (3) years of experience in general and industrial electrical installation and repair work, with work experience sufficient to handle District assignments.

Electrician II: Five (5) years of full-time journey-level experience as an electrician, including two (2) years of full-time electrical experience equivalent that of an Electrician I within the District.

Knowledge, Skills, and Abilities:

Knowledge of: codes, standard terms, practices, and modern methods common to the electrical trade; the use and safe operation of measuring and testing devices, hand tools, and equipment of the trade; industrial controls and equipment; the National Electrical Code and the National Fire Protection Association NFPA 70E, Standard for Electrical Safety in the Workplace; the principles of low, medium, and high voltage electrical safety, installation, maintenance, operation, and testing; pertinent federal, state and local codes, laws, and regulations; modern office practices, methods, and computer equipment and applications related to the work, including word processing, database, and spreadsheet software.

Skill and Ability to: plan, lay out, and safely execute general and industrial electrical work; install, maintain, and repair electrical wiring, motors, motor control centers, transformers, switch gear, and other electrical equipment; read and interpret wiring diagrams and specifications; safely and skillfully operate hand and power tools and equipment common to the trade; keep records and make reports; make estimates of labor and materials; train and direct the work of sub-journey level employees; perform the essential functions of the job without causing harm to self or others; operate modern office equipment including computer equipment and specialized software applications programs; communicate clearly and concisely, both orally and in writing; establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Additional Requirements:

- Must possess a valid California driver's license and have a satisfactory driving record.
- Possession of a valid journey level electrical certification issued by the State of California is desirable.
- Electrician I – must possess a Water Distribution Operator Grade 1 certificate within 18 months of hire.
- Electrician 2 – must possess a Water Distribution Operator Grade 2 upon hire.

Working Conditions/Physical Requirements:

The essential duties of this classification are primarily performed outdoors under various climatic and geographic conditions and occasionally in a shop environment and require the ability to work after hours in response to emergencies and on a stand-by schedule on a rotation basis; to remain clean shaven as required to wear respiratory equipment; to work in an environment with exposure to high frequency and constant noise, dust, allergens, chemicals, solvents, fumes, smoke, gases, grease, and oil; to regularly perform duties in water, on uneven and slippery surfaces, below ground, in confined spaces, on ladders and/or scaffolding, around moving vehicles and equipment and on equipment with moving parts and subject to continuous vibration.

The essential duties of this classification require repetitive use of feet and hands to operate vehicles, equipment and tools; the ability to wear, don, and doff a self-contained breathing apparatus; to feel the attributes of objects by touch; to verbally exchange ideas and information; to hear to receive verbal detailed information and instruction; to see at arms length to twenty feet with a good field of vision and to distinguish basic colors; to maintain body equilibrium to

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prevent falling when walking, standing or crouching on narrow, slippery or moving surfaces; to climb stoop, kneel, crouch, reach, stand, and walk on a sustained basis; to lift and carry tools and equipment and to push and pull objects weighing between 25 to 75 pounds; and finger dexterity and hand strength to operate and grasp tools and equipment.

Revised: 07/12, 11/21

Approved: _____
Human Resources/Risk Manager