

ELECTRICAL MAINTENANCE TECHNICIAN

DEFINITION

Under general supervision, performs a variety of skilled electrician duties in the installation, maintenance, repair and extension of electrically controlled and/or operated equipment and of electrical wiring in city buildings, facilities and grounds; performs maintenance, installation and repair of building heating, ventilation, and air conditioning systems and controls; performs a variety of semi-skilled work in the cleaning, maintenance, repair and operation of City infrastructure; and performs other related work as required.

SUPERVISION RECEIVED AND EXERCISED

General supervision is given by the Public Works Superintendent. No direct supervision of staff is exercised.

CLASS CHARACTERISTICS

The Electrical Maintenance Technician is a journey-level class in the electrical trade, capable of performing a wide variety of electrical and some maintenance work to ensure that the public facilities and infrastructure of the City are maintained in a safe and effective working condition. Responsibilities include performing difficult and specialized electrical maintenance and repair operations as well as some line construction work in connection with lighting, heating, ventilation, and air conditioning equipment. This class is distinguished from the Public Works Maintenance Worker series in that the latter only performs unskilled and semi-skilled work and does not specialize in a skilled craft.

EXAMPLES OF DUTIES (Illustrative Only)

- Installs, maintains, and makes repairs to motors, lighting circuits, electrical control equipment, transformers, conduit and duct systems, and other types of electrical lighting and power equipment.
- Removes and replaces light fixtures; installs, maintains and adjusts lighting equipment, replacing burned lamps, defective wiring and damaged receptacles.
- Installs, maintains and repairs heating, air conditioning and ventilation systems and equipment, including but not limited to compressors, evaporators, dryers, thermal expansion, valves, fans and strainers.
- Maintains heat pumps, electric heating systems, refrigerators and freezers.
- Inspects and tests heating systems, repairs pneumatic, electric or electronic control systems.
- Overhauls pumps, motors, fans and related air handling and distribution equipment.
- Repairs thermostats, temperature control valves, damper operating devices, boiler controls, and safety devices.
- Runs underground cables and strings overhead wires.
- Makes periodic checks on the operation of electrical equipment and locates and repairs defects.
- Tests and splices wires and cables.

- Wires buildings and makes additions to existing wiring.
- Installs and repairs florescent, industrial and general lighting fixtures and connections.
- Installs and maintains electrically operated machinery in city-owned buildings.
- Repairs appliances in various departments.
- Determines time, materials and equipment required for repair and new construction; may purchase materials and supplies from established suppliers with appropriate authorization.
- Interprets electrical plans and specifications, and checks for conformity with codes, regulations, and safety orders.
- Lays out work, interprets blueprints and updates blueprints as necessary.
- May procure electrical parts and accessories as needed.
- Maintains logs and records of work performed and materials and equipment used.
- Reports the need for major contract repair or maintenance of facilities and equipment.
- May perform the full range of public works maintenance work in the cleaning, maintenance, repair and operation of City infrastructure, including streets, sidewalks, storm drains, landscaping, irrigation systems and trees.
- Performs other duties as assigned.

QUALIFICATIONS:

Knowledge of:

- Principles, practices, tools and materials for maintaining and repairing electrical motors, lighting circuits, electrical control equipment, transformers, conduit and duct systems, and other types of electrical lighting and power equipment.
- Maintenance principles, practices, tools and materials for maintaining and repairing streets, including traffic signs, street marking, and asphalt and concrete repair.
- The tools, materials, and standard practices and procedures of the electrical trade.
- Basic electrical theory.
- Safe work practices including OSHA regulations, as they relate to the position.
- Building and electrical codes and regulations as they relate to the position.
- Design, construction, installation, and maintenance of electrical apparatus and equipment.
- The proper operation of tools, materials, and equipment used in the HVAC trades.
- Procedures used in the maintenance and repair of heating and ventilation equipment, water systems and drains.
- The operation and minor maintenance of a variety of hand and power tools, vehicles and power equipment.
- Applicable codes and regulations.
- Shop arithmetic.
- Safe driving rules and practices.
- Basic traffic control procedures and traffic sign regulations.
- Techniques for dealing effectively with the public, vendors and City staff, in person and over the telephone.

Skill in:

- Performing a wide variety of skilled electrical tasks.
- Performing semi-skilled construction, modification, maintenance and repair work on facilities, streets, grounds, buildings and equipment such as found in the City.
- Use electrical tools and equipment skillfully and safely.
- Read and follow plans, blueprints, and specifications for electrical work.

- Estimating the scope of each work assignment and securing the necessary tools and equipment to complete the assignment.
- Troubleshooting electrical and maintenance problems and determining materials and supplies required for repair.
- Using and maintaining tools and equipment related to the work skillfully and safely.
- Making accurate arithmetic calculations.
- Maintaining accurate logs, records and basic written records of work performed.
- Using English effectively to communicate in person, over the telephone and in writing.
- Understanding and following oral and written directions.
- Working independently or in a team situation.
- Establishing and maintaining effective working relationships with those contacted in the course of the work.
- Providing exceptional customer service to coworkers, internal customers and the public.

Education and Experience:

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

Equivalent to graduation from high school, two years experience installing, maintaining, inspecting and repairing standard electrical equipment and one year of experience installing, maintaining, inspecting and repairing standard heating, ventilation and air-conditioning equipment.

Licenses and Certificates:

Must possess and maintain a valid California class C driver's license and have a satisfactory driving record.

Physical Demands:

Must possess strength, stamina and mobility to perform heavy physical work, use varied hand and power tools, drive a motor vehicle and heavy construction equipment and lift and move materials and equipment weighing up to 100 pounds and heavier weights with the use of proper equipment; visions to read printed materials and a computer screen; and hearing and speech to communicate in person and over the telephone or radio.

Working Conditions:

Must be available for regular and emergency standby and weekend assignments and to be called-back and work emergency overtime as required. Must be willing to work out of doors in all weather conditions and with exposure to traffic and potentially hazardous conditions.