

VALLEY CENTER MUNICIPAL WATER DISTRICT
ELECTRICIAN, SENIOR ELECTRICIAN

DEFINITION

Initially under general supervision of the Pumps and Motors Supervisor, and eventually under general direction of the Pumps and Motors Supervisor, Incumbents perform the full range and the most complex duties related to designing, installing, maintaining, inspecting, troubleshooting and repairing electrical and electronic systems and components.

CLASS CHARACTERISTICS

Electrician- Incumbents are fully competent and are expected to perform the full range and the most complex duties related to designing, installing, maintaining, inspecting, troubleshooting and repairing electrical and electronic systems and components. Incumbents are lead workers and may serve as a crew leader.

Senior Electrician- Incumbents are fully competent and are expected to perform the full range and the most complex duties related to designing, installing, maintaining, inspecting, troubleshooting and repairing electrical and electronic systems and components. Incumbents are crew leaders and, as such, are responsible for assigning and monitoring work, ensuring safety standards and procedures are followed, assuming the responsibilities of the supervisor in his/her absence, and maintaining records.

Incumbents may work a varied work week, different shifts, stand duty and must be able to respond to emergencies as deemed necessary by the District.

ESSENTIAL DUTIES

The duties listed below are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related, or a logical assignment to this position.

Positions at the Electrician level may perform some of these duties and responsibilities in a learning capacity.

Serves as a crew lead which includes: assigning and monitoring work; ensuring safety standards and procedures are followed, as defined in the District's qualification requirements for Energized Electrical Work; ensures the use of safety equipment and precautions related to the work being performed, particularly when dealing with live electrical circuits; trains lower level staff on work practices and procedures, and maintains records.

Follows safe work methods as defined in the District's qualification requirements for Energized Electrical Work and ensures the use of safety equipment and precautions related to the work being performed, particularly when dealing with live electrical circuits; training lower level staff on work practices and procedures, and maintaining records.

Performs a variety of pump duties which includes pump pulling and rebuilding, efficiency testing, pump adjustments, packing and alignment, and/or other related activities. Troubleshoots and repairs problems with pump and motor controls to include starters, soft-starts, variable frequency drives and relays, programmable logic controllers, sensors, and/or other related controls.

Repairs and replaces defective parts in motors, generators, storage batteries, solar-generating equipment, switchboards, conductors, switches, and other industrial electrical fixtures in making additions, extensions and

modifications in electrical systems; installs, maintains, and repairs electromechanical and electrical components of equipment and machinery, including transformers.

Tests, troubleshoots, calibrates and performs preventive maintenance on a variety of complex electrical and electronic instruments and devices, such as programmable logic controllers, analog and digital systems, communication systems equipment, software-based control and instrumentation logic, including soft/start, VFD and microprocessor-based controllers.

Plans, purchases and installs various electrical and electronic components and systems in accordance with NEC, local and national codes, and safety requirements. Ensures installed equipment meets all requirements and specifications, schematic drawings, and verbal instructions. Equipment includes motor control panels and systems, PLCs, VFDs, security cameras, lighting and convenience systems, back-up generation systems, level sensors, and/or other related equipment.

Develops and writes ladder logic control programs for pump stations, reservoir sites, and lift stations; makes program modifications to various programmable controllers (PLC's) and their operator interface terminals.

Performs preventive maintenance and new installations on various electrical systems, fan motors, valves, compressors, pump appliances, starter motors, HVAC controls and ventilating equipment.

Creates, modifies, and maintains electrical system drawings, "as-built" drawings and records of electrical work performed by in-house personnel and outside contractors.

Prepares specifications and RFPs; coordinates, inspects and assists with control and electrical work done by outside contractors or other departments.

Designs and acquires parts. Build electrical and electronic systems for improvement in the operation of water systems which includes level control panels, programmable logic controllers, and motor controlling systems.

Inspects, tests, repairs, and maintains the safety of the District's portable electronic tools.

Reviews electrical plans, specifications, and drawings for District projects prior to job approval.

Maintains sites in a clean and orderly condition; prepares and keeps records of all repairs and inventory of parts for electrical equipment; trains and directs the work of less skilled personnel.

Assists in the repair and maintenance of water distribution and wastewater reclamation systems and facilities.

Performs other duties as assigned.

QUALIFICATIONS GUIDELINES

Knowledge of: Electrical circuits, control panels, motor starters, variable frequency drives, programmable logic controllers, photovoltaic systems and distribution systems for various types of pumps; preventive maintenance practices and procedures as applied to electrical systems; operating characteristics of electronic components, including programmable logic controllers, feedback devices, variable frequency drivers, operator interface terminals, and microprocessor controls; methods used in the installation, maintenance, repair and operation of electrical circuits and related equipment; electrical theory and applied mathematics; applicable laws and regulations to include CAL-OSHA, OSHA, District safety regulations and current National Electrical Code; principles, methods and application of electrical theory as used in the installation, maintenance, troubleshooting and repair of electrical systems up to 600 volts; telephone and radio communications; using a computer and related software applications, including Word, Excel, and Email; basic first aid and CPR techniques; and, safe work methods and safety precautions related to the work.

Ability to: Perform varied electrical installations, maintenance and repair work; program soft starters, PV inverters, motor starters, variable frequency drives, and photovoltaic systems and PLC logic; program and modify programmable logic controllers and interface devices; diagnose problems and determine appropriate course of action; interpret and work from sketches, blueprints and specifications; estimate labor and materials; identify and implement effective courses of action to complete assigned work; coordinate crew assignments with those of other departments; instruct and direct the work of less skilled employees; maintain, troubleshoot, repair, inspect, test and install a wide variety of electrical components and equipment; prepare "as-builts" of work performed; determine proper shut-down procedures for pump, motor, and engine operations; perform Lock-Out, Tag-Out procedures for electrical equipment; operate and maintain a wide variety of shop equipment and tools used in the performance of the work; maintain accurate records of work performed; communicate clearly and concisely and be understood while using the District's radio communication system; and establish and maintain effective working relationships with other employees and those contacted in the course of the work.

EDUCATION, EXPERIENCE, LICENSES AND CERTIFICATIONS

Education: Electrician and Senior Electrician- Equivalent to a High School Diploma.

Experience: Electrician- A minimum of five years of experience working with pumps, motors and electrical controls; or an equivalent combination of education and experience sufficient to successfully perform the essential duties of the job such as those listed above.

Senior Electrician - A minimum of two years of equivalent experience at the Electrician level; or an equivalent combination of education and experience sufficient to successfully perform the essential duties of the job such as those listed above.

Licenses and Certifications: Electrician- California Class C Driver's License; Journeyman Electrician's License or Journeyman General Electrician Training Program Certification from an approved California Electrician Certification Program School. *Ability to obtain within two years as a condition of employment:* SWRCB (State Water Resources Control Board) Water Distribution Operator's Certificate, Grade D2.

Senior Electrician- California Class C Driver's License; SWRCB (State Water Resources Control Board) Water Distribution Operator's Certificate, Grade D3; Journeyman Electrician's License; State of California General Electrician Certification.

PHYSICAL DEMANDS AND WORK ENVIRONMENT

The physical demands and work environment described here are representative of those that must be met by an incumbent to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Physical Demands: While performing the duties of this job, the incumbent is regularly required to use hands and fingers to grasp, feel, and reach; climb, balance, stoop, kneel, crouch, crawl, talk, hear, and smell. The incumbent frequently is required to sit, stand and walk. The incumbent must regularly lift and/or move from 25 to 50 pounds and occasionally lift and/or move up to 100 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and ability to adjust focus. May be required to medically qualify and wear a District approved respirator.

Work Environment: While performing the duties of this job, the incumbent is regularly exposed to high, precarious places; fumes or airborne particles; outside weather conditions; and risk of electrical shock. The incumbent is frequently exposed to wet and/or humid conditions and moving mechanical parts. The incumbent is occasionally exposed to vibration. The noise level will range from moderate to very loud.

POSITION DESCRIPTION APPROVED:



General Manager

12/01/2020
Date