



Position: Electrician / Instrumentation Technician

Reports to: Water Operations Supervisor

Definition: Under general supervision, operates, maintains and performs repairs to facilities and equipment used in the treatment, storage, and distribution of potable and non-potable water; performs a variety of journey level skilled electrical and instrumentation work in the maintenance, installation, inspection, testing, troubleshooting, and repair of electrical equipment and systems found in water treatment and distribution system, and related administrative facilities; operate hand tools, power tools and equipment; perform a variety of technical tasks relative to assigned area of responsibility complex water utility field and treatment maintenance work; ensures compliance with District safety program; represents the District on construction and maintenance activities conducted by contractors; performs related duties as required. Incumbents perform the full range of skilled tasks and complex assignments under supervision, while exercising broader discretion and independent judgment within established guidelines. Certain duties may be assigned only when the incumbent has obtained dual certifications as described in the minimum qualifications below.

Supervision: Reports to the Water Operations Supervisor; receives direction from the Operations Manager in the absence of the Water Operations Supervisor

Typical Duties: Duties may include, but are not limited to, the following: operate and maintain potable and non-potable water production, distribution and storage systems including pumping equipment, valves and related equipment; Installs, tests, calibrates, and maintains all electrical systems and equipment such as electrical motors; high, medium, and low voltage manual and automatic motor control centers; panel boards and switch gears; automatic safety controls; pneumatic- electric controls for valve operations; liquid level control indicators, recorders, and alarms; electronic and impulse telemetering transmitters, transmission lines, rectifiers, receivers, indicators, and recorders for pump control, liquid level control and remote meter recording. Troubleshoots, maintains, and repairs high, medium, and low voltage electrical equipment and systems and hydro generator, solar, and emergency power systems. Performs emergency repairs to a variety of equipment as necessary. Prepares reports and maintains records, such as preventive maintenance tests and repairs. Operates a variety of test equipment and uses small hand tools in the maintenance and repair of electronic and related equipment and systems. Troubleshoots and repairs Remote Terminal Units (RTU'S). Programs and installs Programmable Logic Controllers (PLC'S). Uses portable computers to troubleshoot and repair instrumentation/equipment. Participates in and provides lead work direction to small crews of maintenance workers in maintenance work assignments; may train new personnel as required. Participates and leads in skills and safety training programs; learns and implements safety rules, regulations, and emergency procedures. Read blueprints, schematics, and construction design drawings. Order and maintain inventory control of parts and materials. Wire or re-wire new or existing facilities, structures, or equipment for service as required. Design electronic and electrical system components.

Interpret gauges, meters, and charts including reading meters; performs preventative maintenance program tasks on production and distribution system equipment and treatment facilities; places safety signage and traffic control devices to maintain a safe work environment; isolates main breaks by operating distribution system valves and makes emergency shut-downs; responds to emergency situations as necessary for both treatment and distribution problems; responds in person to inquiries; investigates and resolves customer complaints; notifies customers of system shut downs, coordinates work with other District staff and other agencies, as required to minimize disruptions; plans and prepares jobs from verbal instruction as well as from blue prints, plans and specifications for water work equipment and machinery. May be required to perform duties related to confined space entry and rescue.

Employees in this classification are subject to on-call, which may include a rotating duty schedule, weekends and 24-hour emergency call out with little or no notice.

Minimum Qualifications:

Knowledge: Theory and practice of electrical design, installation, repair, overhaul, maintenance, testing and troubleshooting of high, medium, and low voltage systems and equipment and electrical motors. Electronic and electro-mechanical systems. Operating characteristics of a variety of water treatment processes. Safety regulations and aspects of water utility maintenance work

Ability: Learn pneumatic and hydraulic systems. Troubleshoot, maintain and repair electrical equipment and systems, solar systems, and emergency power systems. Follow written and verbal directions. Read blueprints, schematics, and construction design drawings. Complete and maintain thorough and accurate records. Use software applications related to PLC programming and electrical schematics. Troubleshoot and repair Remote Terminal Units (RTU'S). Program and install PLC's. Effectively organize assigned tasks and work assignments. Use portable computers to troubleshoot and repair instrumentation/equipment. Recognize unusual or dangerous operating conditions and make sound judgments within established guidelines. Perform mathematical calculations. Communicate effectively orally and in writing. Work effectively as a member of a crew. Lead a small crew of employees. Act in a courteous and tactful manner with members of the public. Observe safety principles and work in a safe manner. Safely handle hazardous materials.

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

Experience: Four years of experience performing electrician responsibilities in an industrial, manufacturing, utility, and/or large commercial setting including a minimum of one year at the journey level experience performing high and low voltage electrical work in an industrial setting.

Education: Completion of high school or its equivalent supplemented by industrial or vocational training in electrical theory or practices. Two years of college in a related field is highly desirable. Additional related education may be substituted for experience or experience may be substituted for education.

License or Certification: Must obtain both a Grade I Water Treatment Operator (TI) and

Grade 2 Water Distribution Operator (D2) Certifications within 18 months from the date of hire. Must possess a California Driver License and have a clean driving record.

Other Requirements: Willingness and ability to work outside in a variety of weather conditions. Must be available for scheduled “on-call” shift and “call-back” emergency work, which may include holidays, weekends and evenings. Willingness to perform emergency repairs on electrical and treatment systems as required and to take part in all safety and training programs for operations staff. Must reside within a 30-minute response time by the end of probationary period.

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