

WATER AGENCY SENIOR ELECTRICIAN/INSTRUMENTATION TECHNICIAN

Definition

Under direction, performs work associated with the installation, maintenance, and repair of water and wastewater systems process control and monitoring equipment, up to and including the most complex related assignments; leads, plans, assigns, reviews, and participates in the work of Electrician/Instrumentation Technicians.

Distinguishing Characteristics

This is the advanced-journey level classification in the Electrician/Instrumentation Technician series allocate solely to the Sonoma County Water Agency (Water Agency) responsible for performing the most complex work assigned to the series. Incumbents regularly work on tasks which are varied and complex, requiring considerable discretion and independent judgment. Incumbents serve as subject matter experts for lower level staff; coordinate and review work performed on large and/or complex projects; actively participate in the planning, design, documentation and phasing of new or enhanced systems for capital projects; and troubleshoot and resolve complicated automated control system operating issues.

Positions in the classification rely on experience and judgment to perform assigned duties, and ensure the effective maintenance, repair, and reliability of equipment. Assignments are given with general guidelines and incumbents are responsible for establishing objectives, timelines, and methods to complete assignments and deliver services. Work is typically reviewed upon completion for soundness, appropriateness, and conformity to policy and requirements.

The Senior Electrician-Instrumentation Technician class is distinguished from the Electrician-Instrumentation Technician II in that the latter is the journey-level classification and does not have responsibility for providing lead direction to staff or for working with the same level of independence on more complex projects.

This class is exempt from the Civil Service Rules of the County of Sonoma as stated in Section 5 of Ordinance No. 305-A, as amended.

Typical Duties

Duties include, but are not limited to, the following:

Leads, plans, assigns, reviews, and participates in the work of staff performing technical duties in the installation, troubleshooting, maintenance, and repair of water and wastewater systems process control and monitoring equipment.

Reviews staff work for quality and timeliness; trains staff in work procedures; provides feedback to staff on work performance; assists in the evaluation of employee performance and provides input into annual performance reviews for assigned staff.

Works with supervisor to determine optimal staff schedules to ensure coverage for all service areas and emergency situations.

Provides in-service training to new staff; conducts a periodic review of training manuals or standard operating procedures and revises as needed; identifies staff skill gaps and recommends additional staff training needs.

Coordinates and conducts safety training for assigned staff; ensure that staff comply with all Water Agency and mandated safety rules, regulations, procedures, and protocols.

Conducts ongoing inspections on equipment to ensure proper operation and to note any signs of impending equipment failure; works with supervisor to determine actions needed and scheduling options.

Recommends, and upon supervisor approval implements, best practices in maintenance processes and procedures for equipment that ensures optimization and safety; determines proper operation and practices for new equipment; prepares written policies and procedures relating to safe and proper operations, maintenance, repair, and preventative maintenance standards of electrical equipment, machinery, and testing equipment; oversees the placement of information into the Computerized Maintenance Management System (CMMS).

Actively participates in the planning, design, documentation, and phasing of new or enhanced systems for capital projects which involve electrical, instrumentation, and process control equipment or systems; participates in the design process; reviews contractor and vendor proposals; recommends equipment procurement and vendor selection; determines new equipment's compatibility with existing systems and designs component interfaces; conducts periodic inspections; coordinates system commissioning within assigned areas of responsibility.

Oversees the work of outside contractors performing work on the Water Agency's specialized equipment; inspects work performed to ensure compliance with specifications and Water Agency quality standards.

Performs the more complex tasks in the installation, maintenance, troubleshooting, programming, and repair of electrical, electronic, and automated process control systems, programmable logic controllers (PLC's) and associated measurement and control devices used in water treatment and distribution, and wastewater treatment systems; integrates equipment with Supervisory Control and Data Acquisition (SCADA) systems; ensures all work performed conforms to drawings and specifications.

Troubleshoots and diagnoses automation and process control system issues and malfunctions; works with vendors to obtain proper components; modifies equipment per engineering or manufacturer drawings and specifications; repairs and tests to ensure system is functioning properly prior to returning to service; coordinates system repairs with operations staff, Water Agency departments, vendors and external agencies to minimize service disruptions.

Performs preventative maintenance program tasks on electrical and electronic generation, distribution and control equipment which include, but are not limited to, cleaning, lubrication, adjustments, visual inspections, and minor repairs; performs proper lock-out of retired equipment.

Calibrates equipment, machinery, instruments, testing equipment, wiring, and associated hardware to ensure equipment performs within required specifications and tolerances; solders and replaces components, component wiring, indicators, and wiring harnesses.

Researches replacement parts; calculates load and environmental requirements based on physical placement of equipment and any hazards; obtains vendor quotes; orders equipment, replacement parts and services from vendors and manufacturers.

Maintains written records, logs, and other documentation required for preventative maintenance activities, and purchasing records for parts and related material.

Responds to after hours and extended work day emergencies.

Performs related duties as assigned.

Knowledge and Abilities

Considerable knowledge of: methods and techniques of staff scheduling; best management principles in the operation, maintenance, and repair of process control and monitoring equipment systems; operations and services of a comprehensive water treatment and distribution, and wastewater treatment agency; operational characteristics of SCADA systems and devices including PLC's as they relate to work performed; the principles, methods, tools and equipment used in installing, troubleshooting, maintaining, calibrating, programming repairing, and replacing electrical and electronic equipment, including PLC's, machinery, and related equipment; methods and techniques of troubleshooting a diverse range of equipment; electrical principles of medium voltage, and AC/DC circuits; principles and practices of lockout-tagout and energy isolation; electronic and electric theory, specifically as it relates to decision making for designing, purchasing, and maintaining system components; operational characteristics of pump and motor control systems; methods and techniques used in the installation and mounting of industrial equipment; methods and techniques of performing electrical load and wire calculations; safety and preventative maintenance requirements for electronic and electrical equipment; the use of electric and electronic testing equipment; occupational safety standards, practices, and procedures required by federal, state, and related laws related to electronic equipment maintenance.

Working knowledge of: principles of providing functional direction and training; principles and practices of leadership; techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and Water Agency staff; modern equipment and communication tools used for business functions and program, project, and task coordination, including computers and software programs relevant to work performed.

Ability to: plan, organize, and coordinate the work of assigned staff; effectively provide staff leadership and work direction; develop and deliver training programs on work processes and safety; install, maintain, calibrate, repair, and replace electronic and electrical equipment; interpret and work from technical sketches, drawings, and diagrams for electrical and electronic equipment and machinery; navigate control and logic diagrams; troubleshoot a diverse range of equipment and devices through the use of diagnostic tools; read and interpret construction drawings and related equipment specifications; prepare written policies and procedures; train other employees; perform mathematic calculations as required by the job; independently organize work, set priorities, meet critical deadlines, and follow-up on assignments; effectively use computer systems, software applications relevant to work performed, and modern business equipment to perform a variety of work tasks; establish, maintain, and foster effective working relationships with those contacted in the course of work.

Minimum Qualifications

Education and Experience: Any combination of education and work experience that would provide an opportunity to acquire the knowledge and abilities listed herein. Normally, this would include completion of an academic or vocational program leading to an Associate's degree, or equivalent, in electronic technology or electrical industry, and two years of journey level experience equivalent to that of a Water Agency Electrician/Instrumentation Technician II performing installation, maintenance, repair, calibration, and replacement of electrical equipment and machinery used in water distribution and/or wastewater treatment systems, with at least one year working on complex projects.

License: Possession of a valid driver's license at the appropriate level including special endorsements, as required by the State of California, may be required depending upon assignment to perform the essential job functions of the position.

Certificates: California Water Treatment Plant Operator T2, ~~and~~ California Water Distribution Operator Grade D1, ~~certificates are required within two years of employment in this classification and, once obtained, must be maintained as a condition of employment in this classification. A~~ and California Water Environmental Association Electrical Instrumentation Grade 2 certification ~~s~~ is/are highly desirable.