

ELECTRICAL CONTROLS SUPERVISOR

JOB DESCRIPTION

Classification Responsibilities: The Electrical Controls Supervisor (ECS) is responsible for supervising skilled electrical control specialists engaged in the construction, installation, maintenance and repair of a variety of industrial electrical/electronic controls, telemetering devices and medium voltage electrical equipment up to 15kv, utilized to operate and monitor the City's water, wastewater, and gas systems. The ECS also oversees the following critical functions: assisting in the start-up, commissioning, and troubleshooting of electrical equipment and process control system, including fiber optic networks; providing technical and inspection assistance to City construction inspectors; serving as in-house technical expert for electrical and instrumentation design on new projects by reviewing drawings, plans, specifications, and submittals for gas, water, and wastewater facilities; calibrating and verifying for Arizona Corporation Commission on gas regulator stations; and certifying calibration for Inter-Agency flow meters.

Additionally, the ECS performs the following supervisory and program management functions for the Water Resources Department: evaluating bids and managing contracts for the procurement of electrical services, professional services, materials and equipment; preparing, updating, and enforcing electrical and instrumentation specifications for use by City Engineering Department and consultants; assisting in asset management by overseeing process control data entry; responding to service requests from Water Operations and Gas Engineering groups; verifying and processing invoices related to Electrical Contracts; managing the annual operation and maintenance budget for process control group; participating in Capital Improvement Projects (CIP) planning and developing a replacement program for major electrical equipment; establishing internal standard operating procedures (SOPs), LOTO protocol, and other electrical safety standards; conducting annual performance appraisals; and participating in the hiring process. This class performs related duties as required.

Distinguishing Features: This class may involve hazardous conditions typically associated with high voltage, natural gas, raw sewage, toxic chemicals, laser beams, and confined work areas. Ensures that the work performed by his or her subordinates complies with applicable safety standards and operating procedures, as well as meeting the specifications set forth in the construction plans and/or maintenance specifications. Must be available for scheduled stand-by and overtime as required. This class is FLSA exempt administrative.

QUALIFICATIONS

Employee Values: All employees of the City of Mesa are expected to uphold and exhibit the City's shared employee values of Knowledge, Respect, and Integrity.

Minimum Qualifications Required. Any combination of training, education, and experience equivalent to graduation from an accredited college or university with an Associate's Degree in Electrical Engineering and Electronics. Extensive (5+ years) experience in troubleshooting, maintaining, and repairing electrical equipment and electronics (4,160 volt, 480 volt, and 120 volt) and installing, maintaining, calibrating, and repairing solid-state equipment, controls instrumentation, and related telemetering devices. At least one year of experience as a foreman or in a lead capacity.

Special Requirements. Must possess a valid Arizona Driver's License by hire date. Must successfully complete operator qualification training administered by the Energy Resources Department within 18 months of hire/promotion into the class and must retain qualification throughout employment in order to work on the City of Mesa's natural gas system.

Substance Abuse Testing. This class is subject to DOT Pipeline and Hazardous Materials Safety Administration (PHMSA) drug and alcohol testing as outlined in 49 Code of Federal Regulations (CFR) Part 199.

Preferred/Desirable Qualifications. Experience with medium voltage switchgear, starters and variable frequency drives.

ESSENTIAL FUNCTIONS

Communication: Communicates with City employees, vendors, management, contractors, personnel from other utilities agencies in order to design system requirements; purchases and installs automated systems; and presents information to management. Communicates with subordinates and other City personnel to coordinate construction projects, assign, and evaluate work, etc. Prepares written performance appraisals for subordinate personnel. Prepares a written inventory of supplies and equipment. Assists in and prepares bid specifications for new installations and major renovation projects. Prepares various monthly reports and memos. Communicates with the public, City employees, and vendors in order to identify problems, areas of improvement, and to coordinate solutions. Presents ideas clearly, both verbally and in writing, to share acquired knowledge, negotiate outcomes, discuss alternatives, and address problem/conflict situations. Communicates and coordinates work activities with other work units to ensure timely completion of new installation constructions. Operates a personal computer (PC), and uses software (example: word processing, databases, spreadsheets, graphics packages, and emulation, etc.) to prepare detailed and technical reports for use by others including management, coworkers, vendors, or other City employees. Directs preventive maintenance procedures for facilities. Reads electrical schematics, wiring diagrams, construction plans, and blueprints.

Manual/Physical: Installs electronic and electrical devices, and equipment including medium voltage (up to 12,470 volts) electrical equipment. Conducts and directs field tests of controls and equipment. Diagnoses and repairs equipment failures and malfunctions utilizing schematic diagrams and test equipment, which includes: oscilloscope, frequency counter, and signal micro-component level. Operates a half-ton pickup truck requiring a standard Arizona Driver's License in order to drive to different job sites to inspect equipment and make repairs. Uses common hand tools, such as handsaws, strippers, etc., to install parts and repair equipment. Works in small, cramped areas, at elevated levels, and in a variety of weather conditions while repairing equipment. Works around high voltage and toxic chemicals utilizing specialized non-routine protective equipment in order to complete job assignments (*by assignment*). Meets scheduling and attendance requirements.

Mental: Plans, organizes, and directs the activities related to disaster recovery planning and the design, acquisition, installation, and modification of departmental automation equipment. Plans, supervises, prioritizes, evaluates, and reviews the work of professional and technical personnel. Prioritizes and assigns work to personnel to ensure compliance with division standards. Resolves procedural, operational, and other work related problems including systems security issues by contacting vendors, reviewing procedures, and conducting audits. Reviews the work products of others to ensure compliance

with standard operating procedures, federal or state regulations, or other standards/guidelines. Documents new installations and modifications on "as-built" instrumentation. Applies electrical and solid state electronic theory to the construction, installation, maintenance, and repair of the City's gas, water, and sewer utilities delivery and monitoring facilities. Utilizes complex circuitry and programmable control knowledge to diagnose and correct problems encountered. Develops technical standards and specifications. Determines equipment, materials, supplies, and staff needed to complete assigned projects. Diagnoses cause(s) for malfunction or failure of electronic controls and instruments. Comprehends and makes inferences from written material. Finds creative solutions to multiple complex inter-related systems and departmental needs. Learns job-related material in classroom and on-the-job training settings.

Knowledge and Abilities:

Knowledge of:

basic data processing procedures, operations, data flow, and records maintenance;
electrical theory;
medium voltage electrical equipment;
solid state electronics theory and practice;
installation, maintenance, and repair procedures for telemetering and PLC;
the capabilities and limitations of currently available controls instrumentation and telemetering devices;
the safety procedures and practices related to electronic and electrical work;
the National Electric Code;
the general principles and practices of employee training, evaluation, supervision; and, basic budgeting principles and practices.

Ability to:

supervise workers involved in the construction, installation, maintenance, and repair of electronic and electric controls, telemetering devices, and related components;
test and calibrate electronic equipment;
construct, install, maintain, and repair a variety of electronic and electric controls, telemetering devices, and related components;
configure, and commission variable frequency drives, magnetic flow meters, radios, and solid state electronics;
initiate personnel actions including hiring, terminating, and disciplinary actions;
plan and manage the work of technical personnel through organizing, motivating, and evaluating performance objectively;
logically analyze complex systems, problems, or conflicting requirements, and develop solutions;
think conceptually, observe and evaluate trends, analyze data, draw logical conclusions, and make sound recommendations; and,
establish and maintain effective working relationships with management, coworkers, other utility officials, customers, and subordinates.

The duties listed above are intended only as general illustrations of the various types of work that may be performed. Specific statements of duties not included does not exclude them from the position if the

work is similar, related, or a logical assignment to the position. Job descriptions are subject to change by the City as the needs of the City and requirements of the job change.

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