

## **ELECTRIC SUBSTATION FOREMAN**

### **JOB DESCRIPTION**

**Classification Responsibilities:** An Electric Substation Foreman performs advanced and highly skilled electrical work in the construction, maintenance, operation, and repair of substations, and other electrical equipment and facilities and monitors and operates the Supervisory Control and Data Acquisition (SCADA) System controlling the electric distribution system and switching. Duties include the supervision of Substation Electricians, and other assigned staff in the performance of all maintenance and operations-related activities of substations, SCADA, and/or electric dispatch; performing skilled troubleshooting work; performing emergency energy control operations; monitoring abnormal system conditions, monitoring routine preventative maintenance programs; establishing and maintaining routine operating procedures; establishing and maintaining reporting and recordkeeping systems; and assisting in the development, administration, and monitoring of apprenticeship program for Substation Electricians and Electric Meter Technicians. This class is responsible for performing related duties as required.

**Distinguishing Features:** Employees of this class supervise and participate in electrical work performed at substations and electric dispatch center, and administers apprenticeship training for various electric staff classifications. The Electric Substation Foreman is responsible for managing and directing the activities of all Substation Electricians, and is expected to exercise considerable initiative and independent judgment to ensure that the quality and quantity of work performed is in compliance with applicable safety standards and operating policies. The hazardous conditions of working in close proximity to energized equipment (low-control voltage to high voltages of 12,470 and 69,000 volts) in substations are extremely critical factors of this job. Work is strenuous and requires bending, stooping, and heavy lifting. An Electric Substation Foreman may act as Electric Substation Supervisor in his/her absence. An employee in this class works under the general supervision of the Electric Substation Supervisor who reviews work results through conferences, reports, and inspections. Incumbents are subject to call-out and after-hours stand-by duty for emergency repairs and must be willing to work overtime as required. This class is FLSA nonexempt.

### **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 high school or GED. Successful completion of an apprentice electrician's program. Considerable (3 - 5 years) experience performing journey-level substation electrician, dispatching and/or SCADA system operation, and generation technician duties with an electric utility. Some (6 months - 1 year) lead or supervisory experience.

**Special Requirements.** Must possess a valid Arizona Driver's License by hire date. Must reside within the City of Mesa Electric Utility call-out area (example: within an 18-mile radius of Main Street and Center Street intersection) within one year after hire date.

**Substance Abuse Testing.** Due to the safety and/or security sensitive nature of this classification, individuals shall be subject to pre-employment or pre-placement alcohol, drug and/or controlled substance testing as outlined in City policy and procedures.

**Preferred/Desirable Qualifications.** None.

## **ESSENTIAL FUNCTIONS**

**Communication:** Prepares written documents, such as substation maintenance reports, to record maintenance procedures and troubleshooting results. Administers, monitors, and documents apprenticeship training and progress.

**Manual/Physical:** Operates three-quarter ton and one-ton pickup trucks, requiring a standard Arizona Driver's License to travel to the substation plants in order to perform job duties. Trains personnel in proper work techniques and procedures, safety precautions to be followed, and the proper use of tools and equipment. Supervises the inspection and testing of electrical equipment such as motors, voltage regulators, generators, transformers, exciters, switchgear, and relay logic controls while equipment is operating. Supervises and performs emergency and regular maintenance of electrical equipment. Supervises and participates in the clearing of all system equipment and the issuing of all clearances, both mechanical and electrical for maintenance work performed by other units. Works around or uses potentially hazardous material, requiring the use of specialized protective equipment. Maintains adequate records of maintenance performed in substations and maintains inventory of spare parts and supplies. Consults and cooperates with other departments in the planning and execution of all system maintenance. Prepares detailed functional test procedures requiring involved work in complicated hard wire logic circuits to isolate problems and satisfactorily prove out design changes. Assists other employees performing related work during vacations, sick leaves, or as the work loads vary and are adjusted by supervision. Meets scheduling and attendance requirements. Observes, coaches, and documents the performance of journeyman and apprentice-level Substation Electricians, and other electric classifications progression to journeyman-level status.

**Mental:** Applies knowledge of electronics and electrical systems to diagnose and correct problems. Plans the layout and installation of electrical apparatus and control equipment. Supervises and evaluates the work of Substation Electricians to ensure conformance with department standards. Learns job-related material in on-the-job and classroom settings regarding safety practices and procedures, substation maintenance and repairs, and SCADA equipment installation and maintenance. Prioritizes work assignments. Comprehends and makes inferences from written material in troubleshooting electric and electronic problems.

### **Knowledge and Abilities:**

Knowledge of:

electrical theory, National Electric Code, and National Electric Safety Code;  
the methods, materials, and equipment used in the electrical trade;  
the occupational hazards and safety precautions and procedures related to working around high voltages (69,000; 12,470; 4,160; and 480 volts);  
basic electricity and the application of electrical theory used in the design of substations;

the installation, maintenance, repair, and operation of all types of electrical and mechanical equipment used in substations;  
plant electrical systems, circuits, and control logic with the ability to locate and isolate problems working from blueprints, wiring diagrams, and schematic drawings;  
switchboard operations, equipment, and procedures;  
mechanical operation of a substation;  
the theory of all substation equipment including electrical, mechanical, and control equipment;  
the hazards and applicable safety methods pertaining to the work performed in substations; and  
computerized maintenance management systems.

Ability to:

perform journey-level electrical work in the installation, maintenance, and repair of substations and other electrical equipment;  
follow verbal and written directions;  
perform all the physical requirements of the class;  
use various electrical test equipment and instruments such as: meggers, portable transformer gas analyzers, volt meters, resistivity and conductivity meters, current meters, etc., as maintenance aids in performing troubleshooting and non-destructive testing of substations;  
assign, supervise, document, and evaluate the work and performance of other skilled and unskilled workers;  
compile accurate and concise reports of work performed; and  
establish and maintain effective working relationships with customers, management, and coworkers.

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.

Revised to update Pay Grade and Increments 6/16

MJ/st

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EEO-SCW

JOB FCTN-TRA

INCREMENT 179-200

PAY GRADE: 55

SECURITY-No

IND-7539

SWORN-No