

## **GAS CATHODIC PROTECTION TECHNICIAN**

### **JOB DESCRIPTION**

**Classification Responsibilities:** A Gas Cathodic Protection Technician locates unprotected sections of the City's gas line system, locates underground gas leaks, and identifies corrective and preventive actions to maintain adequate cathodic protection of the City's gas distribution system. As a Gas Cathodic Protection Technician usually works alone, an employee in this class is expected to exercise considerable initiative in moving efficiently through the day's work assignments. The focus of the work of this class is taking readings of each segment of the gas system to confirm that it is protected from corrosion in compliance with the federal Department of Transportation (DOT) requirements. Considerable independent judgment must be used as short detection and testing results depend heavily on how well the readings from the equipment are interpreted. This position performs related duties as required.

**Distinguishing Features:** This class may be called upon to do some gas line inspection, in the course of daily activities. This class is subject to occasional emergency call-out and must be willing to work overtime as required. An employee in this class is required to use appropriate safety equipment and follow safety procedures in performing assignments. This class is supervised by the Gas Technical Services Supervisor through meetings, conferences, and reports concerning the volume and timeliness of work completed, problems encountered, and overall results achieved. 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.** Graduation from an accredited college or university with a Bachelor of Science Degree in Engineering, Electrical, Chemistry, or related field OR any combination of training, education, and experience equivalent to four years full-time corrosion work or related utility experience.

**Special Requirement.** Must possess a valid Arizona Driver's License by hire or promotion date.

**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.** Completion of corrosion coursework through the National Association of Corrosion Engineers or other comparable courses is highly desirable. National Association of Corrosion Engineers certification is highly desirable.

### **ESSENTIAL FUNCTIONS**

**Communication:** Interacts with coworkers, contractors, and the general public to establish and maintain effective working relationships.

**Manual/Physical:** Operates a motor vehicle requiring a standard Arizona Driver's License to travel to job sites to perform required cathodic protection duties. Locates suspected problems with the cathodic protection system by reviewing segment voltage readings and testing gas lines, using specialized electronic detection equipment and past experience to identify the probable source of the problem. Interprets signals from electronic equipment to determine the precise location of cathodic protection problems and system shorts. Locates and classifies gas leaks. Conducts pressure tests on gas lines using timed pressure recording equipment as required to check for leaks. Inspects exposed gas lines to determine if they are in compliance, can be covered, need to be checked and wrapped, or require an anode or other major repair. Occasionally lifts and installs anodes weighing over 50 pounds.

**Mental:** Identifies general areas of the City's gas line cathodic protection system where the level of protection does not meet federal DOT criteria for a natural gas delivery system by taking voltage readings at established points in the system and recording them for analysis. Interprets and analyzes cathodic protection voltage readings to identify areas not protected in conformance with federal DOT regulations and to determine the probable cause of unacceptable readings. Identifies causes for unacceptable readings from a variety of tests, insufficient numbers of anodes in the section to shorts in the system caused by breaks in the protective coating, improper insulation of meters, contact with water lines or other utility lines, or a number of other related causes. Interprets cathodic protection test data to determine the general location of the problem or short. Prepares scope of corrective action for maintenance projects and inspects work performed by maintenance crews. Conducts regular gas odorization tests at established checkpoints throughout the system to determine that sufficient odorant is present in all parts of the system to meet federal standards. Reads and interprets project plans and blueprints to determine if any additional anodes are needed to maintain an acceptable level of cathodic protection with the addition of gas line extension.

**Knowledge and Abilities:**

Knowledge of:

the principles of cathodic protection;  
math, chemistry, electronics and computers;  
troubleshooting methods and procedures used in short detection;  
federal DOT regulations concerning the protection of gas lines from corrosion;  
the operating procedures for the electronic equipment used in cathodic protection and gas leak survey work;  
the general layout of the City's utilities systems;  
gas line inspection principles and procedures;  
gas system installation, maintenance, and repair procedures and practices; and  
gas leak detection procedures.

Ability to:

independently handle determinations involving no damage or relatively minor damage;  
locate and perform cathodic protection related testing on the City's underground gas lines by reading and interpreting quarter section and plat maps, project plans, blueprints, and using electronic testing equipment as required;

maintain a high volume of work output with minimal supervision;  
prepare clear, concise, thorough written reports;  
prepare the scope and priority of remedial action projects;  
inspect remedial action performed by maintenance crews for compliance; and  
participate in the annual audit by the Arizona Corporation Commission.

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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EEO-Tech

JOB FCTN-TEC

INCREMENTS 48-200

PAY GRADE: 48

IND-7502

SWORN-No