

*Code: 2770*

*Title: WASTEWATER INSTRUMENTATION AND PROCESS CONTROL SPECIALIST*

**SUMMARY:** Performs installation, calibration, maintenance and repair of all environmental, electronic instruments, automated process control equipment and analytical equipment. Work assignments are performed with wide latitude of independent action. This is distinguished from the Wastewater Instrumentation and Process Control Supervisor classification, which has supervisory responsibility and participates in systems planning.

**DUTIES/RESPONSIBILITIES:** (Work assignments may vary depending on the department's needs and will be communicated to the applicant or incumbent by the supervisor.)

Installs, calibrates, maintains and repairs various flow and measurement equipment such as ultrasonic magnetic flow meters, temperatures, pH, chlorine, dissolved oxygen and air pressure flow meters, sewage flow, air phase and air quality;

Installs, maintains and analyzes malfunctions of computerized control devices, control and instrument loops, instruments for activated sludge systems, water treatment and the Supervisory Control and Data Acquisition (SCADA) systems and performs repairs;

Participates in the improvement of operations, decrease turnaround and streamlines work processes;

Troubleshoots, repairs, maintains and installs process control systems such as programmable logic controllers, chart recorders, direct reading gauges, gas analyzers, density analyzers, differential pressure transmitters, process control valves, chemical additions systems and laboratory analytical equipment;

Performs routine diagnostics and component level repair using specialized electronic, electrical and pneumatic test equipment, including carbon monoxide analyzers, oxides of nitrogen analyzers, sulfur dioxide analyzers, particulate samplers, dichotomous samplers, calibrations systems, data loggers and meteorological equipment;

Calibrates instrumentation components using shop manuals, schematics and ladder and loop diagrams;

Repairs, maintains and installs mechanical, electronic, pneumatic and micro processor based instrumentation such as magnetic and sonic flow meters, bubbler tube level metering systems, pH meters, and turbidity meters;

Sets up and operates traffic control devices to facilitate entry of manholes to install, operate, collect, adjust or service metering equipment;

Maintains monitoring equipment: disassembles, cleans, re-assembles, installs and tests flow sampler and/or air quality parameters;

Modifies process control and laboratory components and prepares schematic diagrams to reflect changes;

Assists in the review of engineering drawings and specifications;

Documents work performed;

May write routine computer programs or modify existing software in the troubleshooting and repair of instrumentation systems.

#### **KNOWLEDGE & SKILLS:**

Knowledge of:

- principles, practices and techniques of mechanics, electricity, pneumatics, hydraulics, electronics and mathematics of industrial process control instrumentation, laboratory analytical equipment and analog, digital control theory, terminology and systems;
- principles, practices and techniques of hazards and safety of chlorine, gas, hydrogen sulphide, raw sewage, pressurized equipment and high voltage;

- equipment and tools used in the repair and maintenance of mechanical, electronic and pneumatic instrumentation components;
- operation, repair, maintenance, installation and calibration of process control systems and components, and laboratory analytical equipment;
- data acquisition systems;
- automated software system applications;
- microcomputer systems as used in an analytical laboratory.

Skill in:

- repairing, maintaining, installing and calibrating process control instrumentation;
- following verbal and written instructions;
- using hand and specialized tools and equipment in the calibration and repair of electronic process control components;
- reading and interpreting shop manual and schematic diagrams;
- repairing, maintaining and calibrating laboratory analytical equipment;
- preparing schematic diagrams;
- troubleshooting and repairing microcomputer systems and components.

MINIMUM QUALIFICATIONS:

EITHER:

(1) An Associate's degree or certificate for Direct Employment from an accredited college or vocational school in electronics technology instrumentation and process control and three years of experience in the maintenance and repair of analog and digital industrial control equipment, industrial electronic and test equipment or computer and peripheral equipment in an industrial, environmental or laboratory setting.

OR:

(2) Five years of experience in the repair, maintenance, installation, operation or calibration of electronic instrumentation or industrial/laboratory process controls and instrumentation.

OTHER REQUIREMENTS:

Licenses and Certificates: A current Arizona Class D driver's license is required at the time of appointment. Failure to obtain/maintain the required licensure shall be grounds for termination.

Physical/Sensory Requirements: Some positions may require: lifting items of significant weight such as batteries and manhole covers, safely operating assigned vehicles and other equipment, working with or in the presence of noxious odors or potentially hazardous chemicals, compounds or wastewater products, ascending and descending ladders and stairs to reach work on elevated or below-grade work platforms and job sites, and differentiating between colors. Safety equipment will be provided by Pima County.

Special Notice: Some positions may carry the risk of exposure to infectious diseases, blood-borne pathogens, asbestos or wastewater products. Special medical screening prior to or during employment may be necessary to assure employee health and safety.

This classification specification is intended to indicate the basic nature of positions allocated to the classification and examples of typical duties that may be assigned. It does not imply that all positions within the classification perform all of the duties listed, nor does it necessarily list all possible duties that may be assigned.