

**MIDDLESEX COUNTY UTILITIES AUTHORITY
JOB DESCRIPTION**

JOB TITLE: Instrumentation Technician

DEPARTMENT: Maintenance	DIVISION: Wastewater
LOCATION: Central Treatment Plant/ As assigned	EXEMPT: No
SALARY LEVEL: N-6 (\$38,320-\$90,260)	SHIFT: No
REPORTS TO: Electrical Foreman/ As assigned	REVISED: 6/07/2021
OTHER REQUIREMENTS: Must be available to work "on-call" and overtime	

SUMMARY: Inspect, install, calibrate, repair, troubleshoot, and maintain all types of digital and analog instruments, process control systems, alarm systems, chart recorders, and other data acquisition and control equipment in use throughout wastewater treatment plant, pump stations, meter chambers and other locations by performing the following duties.

ESSENTIAL DUTIES & RESPONSIBILITIES: Include the following and others as assigned.

Visually inspect, observe, and test instrumentation apparatus, machinery, wiring, equipment, and systems including pneumatic, digital, electro-hydraulic, computer/PLC driven equipment, variable frequency drives, and related instrumentation devices.

Using volt or ohm meters, computer diagnostic tools, or other equipment, perform tests to detect malfunctions and discuss variations with supervisor or other workers to diagnose problem and make repairs.

Dismantle defective instrumentation, systems, and controls and install new or repaired parts.

Troubleshoot and repair industrial electrical apparatus including, but not limited to, rotating equipment and control systems using schematics, diagrams, and drawings.

Test electronic circuitry and electrical components.

Adjust controls and equipment to manufacturers specifications.

Inspect and make repairs to microprocessors, printer circuit board components, digital or human/machine interfaces, and related wiring, including removal and installation of electrical boards.

Install and test new equipment to provide feedback on how well the apparatus complies with the plans and specifications.

Conduct periodic testing and calibration of fire alarms, chemical alarms, gas detectors, and other safety equipment used to alert employees of hazards in the workplace.

Perform testing, maintenance, repairs, and adjustments to telemetry equipment used throughout the CTP or within the Authority's collection system.

Execute requirements of preventive maintenance programs, including calibrations and the preparation of records and documentation.

Comply with applicable safety and health policies and procedures.

QUALIFICATION REQUIREMENTS: To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION and/or EXPERIENCE: Associate of Arts Degree (A.A.) with a concentration in instrumentation, electronics, computer science, or related field; and two (2) years of experience involving the installation, maintenance, and repair of electrical or electronic components, equipment, or systems. Substitution clause: High School Diploma or General Equivalency Diploma (GED) with completion of a four (4) year vocational or technical school electrical/electronic education/training or apprentice certificate.

MATHEMATICAL SKILLS: Ability to calculate figures and amounts such as ratio, proportions, percentages, area, circumference, weight, and volume.

REASONING ABILITY: Ability to define problems, collect data, establish facts, and draw valid conclusions. Ability to interpret technical instructions in mathematical or diagram form.

OTHER SKILLS and ABILITIES: Thorough knowledge of and ability to repair, maintain, and troubleshoot industrial electrical equipment and apparatus, including rotating equipment, instrumentation, and control systems. Working knowledge of and ability to implement approved methods, code requirements, and accepted standards and safety practices for industrial and Authority electrical maintenance. Ability to utilize computerized diagnostic equipment. Knowledge of and ability to use hand and power tools of the trade as well as specialized tools and equipment such as digital meters, Transmission and/or instrument calibration test equipment or procedures. Working knowledge of low voltage circuitry, circuit boards, and microprocessors. Basic knowledge of layout and Solid State control theory and loop testing. Ability to read blueprints and make diagrams. Ability to understand and follow instructions and be knowledgeable of plant safety procedures, rules, and regulations. Ability to work alone or harmoniously with associates and supervisors. Ability to receive and give oral or written instructions and training. Must be able and willing to utilize appropriate respirators or other safety equipment/PPE required in the performance of maintenance duties. Confined space training and certification required.

LICENSES: Must possess valid State of residence Driver's License and meet Authority insurance requirements.

PHYSICAL DEMANDS: While performing the duties of this job, the employee is frequently required to stand; walk; have manual dexterity; reach with hands and arms; climb or balance; stoop, kneel, crouch, or crawl, talk, hear and smell. The employee is occasionally required to sit. The

employee must regularly lift and/or move up to 10 pounds, frequently lift and/or move up to 25 pounds, and occasionally lift and/or move up to 75 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT: While performing the duties of this job, the employee regularly works near moving mechanical parts, around high temperatures, and in outside weather conditions. The employee frequently works in high, precarious places, confined spaces, manholes and open pits, and channels. The employee is occasionally exposed to fumes, noxious odors or airborne particles, industrial strength chemicals, risk of electrical shock, and vibration. The noise level in the work environment is usually moderate.

INSTRUCTIONS TO APPLY FOR THIS POSITION:

Anyone interested in applying for this position should submit a current resume and a letter of interest explaining how the candidate meets the job requirements to mwwiater@mcua.com. Employees who are newly hired or accept a new position within the Authority, those who are promoted to a new job classification or have been transferred to a new assignment, and former employees who have been rehired, are classified as Conditional Employees for a period of six (6) months beginning with the first day on the new job. Any current employee who accepts and begins working in this position may not be able to return to their old position, or to any other position within the Authority, because of withdrawal or removal from, or inability to perform in this position. Qualified employees are encouraged to apply for posted positions as they occur.

The MCUA is an Equal Opportunity Employer (EEO/AA)