

CITY OF ANN ARBOR, MICHIGAN
JOB DESCRIPTION

JOB TITLE: Electrical and Control Systems Technician

Job Number: 116234

Date Finalized: 10/7/2021

Service Area: Public Services Service Unit: Wastewater/Water Treatment	Accountable To Service Unit Manager (or his/her designee)
Mission Statement The City of Ann Arbor is committed to providing excellent municipal services that enhance the quality of life for all through the intelligent use of resources while valuing an open environment that fosters fair, sensitive, and respectful treatment of all employees and the community served.	
Role Summary To inspect, install, upgrade, maintain, and repair electrical and electronic equipment and systems for water treatment and wastewater treatment facilities and associated collection and distribution equipment, systems and components. Water treatment facilities also include city dams and hydroelectric generation equipment. This role has two tracks, and electrician track and an instrument technician track. While a technician may work on duties associated with both tracks, they will have primary responsibility as either an electrician role or an instrument technician role. This role will be clearly identified as part of the hiring process.	
Duties Incumbent may be responsible for, but not limited to, the following duties: <u>Essential Duties</u> <ul style="list-style-type: none">• Installs, monitors, troubleshoots and repairs electrical distribution systems, switch gear, electrical conduit, motors, pumps and other electrical equipment and systems found in the City's water and wastewater treatment plants and related facilities• Maintains emergency power generation equipment• Installs, tests, repairs, upgrades and replaces electrical circuits and equipment using appropriate tools and testing instruments• Installs, tests, trouble shoots, upgrades, repairs and replaces instrumentation and process controls• Programs, monitors, adjusts and repairs programmable logic controllers• Ensures compliance with electrical code and other technical standards• Plans and manages process improvement projects• Completes work process documentation <u>Related Work</u> <ul style="list-style-type: none">• Assists in moving or placement of heavy equipment• Completes work process demonstration• Performs related work as assigned	
Knowledge of: <ul style="list-style-type: none">• General operating principles, practices and procedures of a water utilities plant• Basic hazard, work safety and water safety precautions for electrical work and the water utilities industry including relevant electrical code• Basic wiring• DC circuits and batteries• AC Circuits and transformers	

- Electrical and electronic systems and components documentation
- Basic circuit analysis
- Computers and programmable logic controllers
- Commercial and industrial electrical print reading
- City of Ann Arbor procurement policies and procedures
- Industry and professional terminology and concepts
- Emergency power management

Skills and Ability to:

- Communicate through oral and written instruction
- Function as part of a Self-Directed Work Team
- Repair equipment and systems using necessary tools
- Read, interpret, and follow manuals, plans and technical drawings
- Identify problems and finding solutions
- Select and use appropriate tools and diagnostic equipment for conducting tests to determine functionality of water utility components and make necessary repairs
- Use computers and related software applications
- Install, startup and turnover plant electrical equipment and systems
- Demonstrate the use of project management methods and techniques

Equipment

Basic hand tools, electrical and electronic testing equipment, power tools, shop equipment, safety and personal protective equipment (PPE) and computer. May also include forklifts and other heavy equipment.

Training and Experience

- Determined by the Electrical and Control systems Technician Job Progression Chart (attached)

Licensing Requirements (requirement at entry)

- Journeyman Electrician (State of Michigan license within 1 year)
or
- ISA CCST 1 Certification or relevant Associate's degree (electronics) or 7,000 hours of relevant experience (serving as an Instrument Technician in an industrial facility). ISA CCST 1 Certification is required within 2 years.

Physical Requirements

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential duties of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential duties.

The physical ability to perform climbing, balancing, stooping, kneeling, crouching, crawling, reaching, standing, walking, pushing, pulling, lifting, fingering, grasping, feeling, talking, hearing, seeing, and repetitive motions.

Incumbent may be exposed to hazardous physical conditions (i.e., confined spaces, heights, mechanical parts, electrical currents, vibration, etc.), poor atmospheric conditions (i.e., fumes, odors, dusts, gases, and poor ventilation), extreme temperatures, inadequate lighting, and intense noise. More specifically, incumbents must have the ability to perform confined space activities including, but not limited to; ascending and descending ladders to access work areas, enter into and exit from manholes, use of safety retrieval harness, retrieving coworkers weighing up to 300 pounds with a winch assisted retrieval unit, and wearing respiratory protection and all PPE required to perform safe work tasks. Incumbents must have the ability to lift tools, supplies and equipment weighing up to 50 pounds. The incumbent may be required to use respiratory protection equipment and be subject to a Fit Test and Pulmonary Function test.

The incumbent may be expected to walk on rough, uneven terrain, as well as wet and slippery surfaces. The work requires the ability to distinguish colors and to hear audible alarms.

Medium Work: Exerting up to 50 pounds of force occasionally, and/or up to 20 pounds of force frequently, and/or up to 10 pounds of force constantly to move objects.

Description Prepared By

Sumedh Bahl and Earl Kenzie, February 2004dkl –Revised 5/2004rmm / Revised 6/09 S. Bahl and E. Kenzie and RMM/Earl Kenzie, Keith Sanders/HR Review- JC, AW 12/3/2019/Legal Approved by MR 12/3/2019/Union Reviewed and approved by Robert Sloan 10/7/2021