

## CITY OF MARGATE, FLORIDA JOB DESCRIPTION

### **JOB TITLE: ELECTRICAL INSTRUMENTATION TECHNICIAN (Job Code 378).**

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#### **GENERAL STATEMENT OF JOB**

Under the direction of the Director of the Department of Environmental and Engineering Services (DEES) or the Director's designee, performs skilled technical work in the maintenance and repair of electrical, electronic, and SCADA circuits, equipment, and instruments.

#### **ESSENTIAL FUNCTIONS**

**The following duties and functions, as outlined herein, are intended to be representative of the type of tasks performed within this position. They are not listed in any order of importance. The omission of specific statements of the duties or functions does not exclude them from the position if the work is similar, related, or a logical assignment for this description. Other duties may be required and assigned.**

Performs preventive maintenance for facilities and equipment on a regular basis to ensure optimal operating condition and safety.

Calibrates transmitters, chart recorders, gauges, load cells, transducers, pressure switches, pH meters, ORP sensors, and other process control monitoring transmitters and equipment etc.,.

Services and maintains all instrumentation equipment, telemetry equipment, and associated peripherals.

Assists in the installation, maintenance, repair, and testing of electrical wiring systems, fixtures, motors, generators, transformers, control systems, and other equipment at lift stations and other department facilities.

Assists in the installation and repair of electric motors, controllers, panels, lighting, and power circuits.

Services and maintains plant operator laboratory equipment, security gates, CCTV, and signal wiring.

Maintains various records of activities performed, materials ordered, and hours worked.

Responds to emergencies, providing the department with 24-hour on-call service.

Maintains lift station and treatment plant telemetry communications through preventive maintenance and repairs.

Maintains and repairs instrumentation related to water and sewer systems including, controlling industrial generators, pump switching systems, measurement devices, and related equipment; troubleshoots electronic equipment and circuits; services and repairs RF communication equipment.

Operates a variety of machinery, equipment, and tools associated with department activities, which may include a forklift, chipping hammer, hot box, tracer, conduit bender, drill, hammer drill, conduit bender, shovel, pick, post hole digger, electrical tester, gauges, meters, electrical tools, mechanic tools, or diagnostic instruments. Fabricates tools and metal components.

Performs general cleaning/maintenance tasks necessary to keep equipment and tools in operable condition, which may include inspecting equipment, checking/replacing fluids, greasing equipment, washing/cleaning equipment, cleaning project work areas, and cleaning shop; monitors equipment operations to maintain efficiency and safety; reports and repairs faulty equipment.

Gathers necessary equipment, tools, parts, or supplies to conduct projects; initiates orders for new or replacement materials; transports, loads and unloads equipment and materials used in projects.

Follows safety procedures, utilizes safety equipment, and monitors work environment to ensure safety of employees and other individuals.

Assists in the preparation to complete various forms, correspondence, reports, work orders, diagnostic reports, purchase requisitions, electrical drawings, statistical analyses, and other documents.

Maintains a current knowledge of applicable laws/regulations; maintains an awareness of new trends and advances in the profession; reads professional literature; attends workshops and training sessions as appropriate.

Conducts a preventive maintenance program for electrical and electronic equipment. Makes visual inspections to determine proper operating condition.

Performs various tasks associated with Utilities systems, including but not limited to maintaining lift stations, well fields and ground storage tanks.

Provides assistance or coverage to other employees as needed, and performs other related duties as required.

## **MINIMUM TRAINING AND EXPERIENCE**

High School Diploma and technical/vocational training/certification in electronics and instrumentation; supplemented by three (3) years of experience working for a water and sewer utility. Must possess and maintain a valid Florida driver's license. Experience working with Programmable Logic Controller (PLC) and Supervisory Control and Data Acquisition systems (SCADA) is preferred.

## **MINIMUM QUALIFICATIONS OR STANDARDS REQUIRED TO PERFORM ESSENTIAL JOB FUNCTIONS**

Physical Requirements: Tasks are essentially sedentary with some walking, standing, bending, and stooping, and some lifting and carrying objects of light to moderate weight (20-50 pounds).

Data Conception: Requires the ability to compare and/or judge the readily observable, functional, or composite characteristics (whether similar to or divergent from obvious standards) of data, people, or things.

Interpersonal Communication: Requires the ability to speak and/or signal people to convey or exchange information including giving and receiving instructions, assignments and/or directions.

Language Ability: Requires the ability to communicate efficiently and effectively in standard English. Requires the ability to comprehend electronic/electrical terminology.

Intelligence: Requires the ability to apply common sense understanding to perform semi-repetitive tasks and principles of rational systems and synthesis functions.

Verbal Aptitude: Must communicate efficiently and effectively in standard English. Must speak with poise, confidence, and voice control. Must communicate in electrical terms.

Numerical Aptitude: Requires the ability to add, subtract, multiply and divide; calculate decimals and percentages; utilize algebraic principles; utilize descriptive statistics.

Form/Spatial Aptitude: Requires the ability to inspect items for proper length, width and shape, and visually read various information.

Motor Coordination: Requires the ability to inspect items for proper length, width and shape. Must be able to visually read various information.

Manual Dexterity: Requires the ability to operate various electrical equipment and manipulate electrical/electronic items. Must have excellent levels of eye/hand/foot coordination for operating equipment.

Color Discrimination: Requires the ability to differentiate between colors or shades of color.

Interpersonal Temperament: Requires the ability to deal effectively with people from a variety of departments in both giving and receiving instructions. Must be able to perform duties when confronted with individuals acting under stress.

Physical Communication: Requires the ability to talk and/or hear: (talking: expressing or exchanging information by means of spoken words: hearing: perceiving nature of sounds by ear).

Environmental Requirements: Tasks are regularly performed without exposure to adverse environmental conditions, i.e. dirt, cold, rain, fumes.

## **KNOWLEDGE, SKILLS, AND ABILITIES**

Knowledge of the practices, processes, materials, and tools of the electrical trade.

Knowledge of the occupational hazards and safety precautions of the trade.

Knowledge and understanding of pneumatic/hydraulic systems.

Knowledge of and the necessary skill to work with the hazards and safety precautions applicable to voltage up to 480v. Knowledge of the hazards and safety precautions necessary when working around high voltage systems.

Knowledge of SCADA, HMI, 4-20 mA devices, VFDs and PLC software and hardware.

Knowledge of RF Communications.

Knowledge of basic Microsoft operating systems and Microsoft Office Suite.

Skilled in locating and adjusting defects in electrical systems and equipment.

Ability to learn and interpret municipal and state and national electrical codes.

Ability to work above or below ground floor level, on ladders, scaffolding, staging, bucket hoists, catwalks, etc. and within confined areas.

Ability to inspect materials and equipment for quality and safety and to estimate time for assigned projects.

Ability to read and interpret blueprints, sketches, ladder diagrams, and schematics.

Ability to establish and maintain effective working relationship with supervisors, fellow employees, and the public.

Ability to coordinate with operations staff and outside vendors with minimal supervision.

Ability to create work orders, order parts and maintain inventory for utility maintenance.

## **EQUAL OPPORTUNITY EMPLOYER**

The City of Margate, Florida, is an Equal Opportunity Employer. In compliance with the Americans with Disabilities Act (42 U.S. C. 12101 et. seq.), the City of Margate will provide reasonable accommodations to qualified individuals with disabilities and encourages both prospective and current employees to discuss potential accommodations with the employer. The physical demands described are representative of those that must be met by an employee to successfully perform the essential functions of this job.

I have read and acknowledge receipt of this Job description.

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Employee Name and Signature

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Date