

**MAJOR FUNCTION**

This is skilled electrical work at the journeyman level in the maintenance, installation, alteration and repair of electrical systems, fixtures, motors and equipment. The work involves the performance of skilled tasks in accordance with standard trade practices. Assignments are made in the form of written and oral instructions and may be accompanied by sketches and blue prints, although much work arises out of inspections and troubleshooting. Work is ordinarily performed independently, and is reviewed by inspection while in progress, upon completion, and through conferences.

**ESSENTIAL AND OTHER IMPORTANT JOB DUTIES****Essential Duties**

**Water Utilities:** Troubleshoots, repairs, calibrates and performs preventative maintenance on the Distributed Computer Control system and all associated equipment. Installs, repairs, and modifies a variety of plant equipment at all of the Water Utilities facilities consisting of treatment plants, pumping stations, water wells and reuse and irrigation facilities. This includes, but is not limited to, emergency generators, motor control centers/switchgear, motors, grinders, conveyors of different types, fans, blowers, compressors, pumps of different types, logic controllers, solid state motor starters, variable frequency drives, reduced voltage motor starters, rotary screw presses, rotary drum thickeners, large capacity gas fired rotary drum sludge dryers, gas fired thermal oil heaters, ejectors/scrubbers, electrically actuated valves, transformers, gas fired heat exchangers and all types of lighting and general electrical circuits. Maintains accurate and up to date instrumentation preventative maintenance schedules and calibration data on instrumentation, control systems and equipment. Maintains and repairs dryer and boiler, fuel, burner and safety management system devices and equipment. Plans, engineers and implements various improvement projects to treatment plant, water well, pump station and irrigation facility controls and power systems. Troubleshoots, repairs, calibrates and performs preventative maintenance on the Water Utilities Systems Control and Data Acquisition System (SCADA). Performs preliminary assessment on pumps, fans, blowers, compressors, motors and electrically actuated valves. Perform related duties as required.

**Airport:** Installs, maintains, and repairs electrical and electronic airport equipment. Installs, monitors, inspects, tests, and repairs electrical transfer switches, transformers, low and medium high voltage switchgear and a variety of airport equipment, including heating and air-conditioning systems. Installs, inspects, and repairs electrical power and grounding cable systems using equipment that measures the resistance of electricity or the amount of electricity flowing through cables, and cable tracer to find short-circuit faulty insulation and breaks in low, medium, and high voltage cables and high voltage isolation transformers. Installs, monitors, and repairs high voltage, constant current regulators, trouble shooting problems identified by testing equipment, and diagnosing and installing new electrical or electronic parts. Installs and repairs all general light and power systems, adding new components and circuits as necessary. Installs, inspects and repairs a variety of specialized airport equipment, lights, approach and navigational aids, and power distribution control equipment. Locates and repairs electrical faults and faulty components in low, medium, and high voltage circuits of runway lights, security systems, air-conditioning, heating, and paging system. Designs and builds circuits and apparatuses to fulfill airport requirements. Designs and installs light power and control circuits necessary to accommodate growth. Locates and repairs electrical faults or faulty components in the public address and music system, diagnosing problems, installing new electronic parts, and adding components and circuits as necessary. Monitors, inspects and repairs emergency generators as necessary. Performs other related work as required.

**Facility Maintenance:** Repairs and installs fluorescent lighting fixtures and ballasts. Calculates load factor and wattage requirements that relate back to the main breaker for operation. Repairs and installs electrical outlets and switches by code and in accordance with amperage and voltage

requirements. Uses knowledge of control circuitry to troubleshoot, identify and repair electrical malfunctions on associated HVAC equipment, water pumps, motors, and fire control systems. Plans work to meet OSHA and National Electrical Code (NEC) codes and regulations and to ensure the safety of employees and citizens who may work in or have occasion to visit the work area. Identifies electrical circuits, inspects distribution centers, and identify circuits that are in trouble or determines to what they are connected to facilitate repair. Installs electrical wiring, piping and switches, according to the NEC requirements. Reviews plans for code compliance. Purchases electrical supplies such as conduit, wire, switches, connectors and fittings for use in each specific job. Performs related work as required.

#### Other Important Duties

Performs related work as required, including on-call status.

Facility Maintenance: Repairs plumbing fixtures as appropriate for styles of plumbing fixtures and in accordance with basic code requirements. Performs carpentry, masonry and drywall repair or replacement and painting. Builds and powers up work stations with modular furniture and equipment. Performs related work as required.

### **DESIRABLE QUALIFICATIONS**

#### Knowledge, Abilities and Skills

Water Utilities: Considerable knowledge of standard practices, materials, tools and equipment of the electrical trade. Knowledge of occupational hazards and safety precautions of the trade. Knowledge of local and national electrical codes. Knowledge in the installation, set-up and calibration of different types of instrumentation used in water and wastewater utilities. Ability to maintain effective working relationships as necessitated by the work. Ability to understand and follow oral and written instructions, and to read and interpret blueprints, sketches and diagrams. Skill in locating and adjusting defects in electrical systems and equipment. Skill in the use and care of tools and equipment of the electrical trade.

Airport: Considerable knowledge of the standard practices, materials, equipment and tools of the electrical trade. Considerable knowledge of airport electrical schematics. Knowledge of local and national electrical codes. Knowledge of the installation, maintenance, and repair of high voltage airport runway lighting systems. Knowledge of occupational hazards and safety precautions of the trade. Ability to maintain effective working relations as necessitated by the work. Ability to understand and follow oral and written instructions, and to read and interpret blueprints, sketches, and diagrams. Ability to design and build special airport circuitry as the need arises. Ability to troubleshoot and repair fire alarm system. Skill in locating and adjusting defects in electrical systems and equipment. Skill in the use and care of tools and equipment of the electrical trade.

Facility Maintenance: Considerable knowledge of the standard practices, materials, equipment and tools of the electrical trade. Knowledge of local and national electrical codes. General knowledge of how pumps and motors operate. Knowledge of amperage and voltage requirements. Knowledge of occupational hazards and safety precautions of the trade. Knowledge of the electric requirements for the size and gauge of wire that will be required for specific repair or new installation. General knowledge of the building trade. Ability to maintain effective working relations as necessitated by the work. Ability to understand and follow oral and written instructions, and to read and interpret blueprints, sketches, and diagrams. Ability to make installations according to specifications. Ability to troubleshoot and repair fire alarm system. Ability to determine the products and material required for each specific job. Skill in locating and adjusting defects in electrical systems and equipment. Skill in the use and care of tools and equipment of the electrical trade.

Minimum Training and Experience

Water Utility: Possession of a high school diploma or an equivalent recognized certificate and completion of a recognized electrical apprenticeship program and three years experience at the journey level in the installation, maintenance and repair of industrial and commercial electrical systems and equipment; or an equivalent combination of training and experience.

Airport: Possession of a high school diploma or an equivalent recognized certificate and three years of journey level experience that includes the installation, maintenance and repair of commercial or residential electrical systems and equipment; or an equivalent combination of training and experience.

Facility Maintenance: Possession of a high school diploma or an equivalent recognized certificate and completion of a recognized electrical apprenticeship program and three years of journey level experience that includes all phases of electrical power sources and mechanical equipment (HVAC, pumps and fire systems) maintenance and repair; or an equivalent combination of training and experience.

Necessary Special Requirements

Designated positions allocated to this class require possession of a City of Tallahassee Journeyman or higher electrician's license.

Must possess a valid Class E State driver's license at the time of appointment.

Designated positions allocated to this class require possession of the appropriate State Commercial Driver License (CDL) and endorsement(s) at the time of appointment, or must have passed the appropriate written CDL test/endorsement(s) and obtained a CDL permit at the time of appointment and obtain the appropriate CDL licensure within 60 calendar days from date of employment as a condition for continued employment.

Aviation: In accordance with 49 CFR Part 1542, employees must successfully complete a fingerprint-based criminal history records check and personal background check prior to employment.

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