

**Title:** Protective Relay Technician  
**PG:** 043  
**Status:** Civil Service  
**Position Reports to:** Chief Electronics/Relay Technician  
**Department:** Lakeland Electric

**Class Code:** 3133  
**Date:** 10/09

### **GENERAL DESCRIPTION OF CLASS:**

This highly specialized technical position works on hardware/software installation and maintenance of microprocessor based electronic systems, electro-mechanical devices used in the control (remote terminals and programmable logic), monitoring and protection of an electric power utility. Maintains a safe, technical and functional continuity between sensitive operational equipment and interfacing with other departments and utilities. Work is performed in accordance with established policies and procedures; however, the incumbent is expected to exercise independent judgment and initiative in the performance of tasks. Work will be reviewed by functional inspection and results obtained.

### **ESSENTIAL FUNCTIONS:**

1. Proficient in all functions required for Relay Apprentice.
2. Installs, tests, calibrates and repairs all types of electronic and electro-mechanical equipment from digital computers used in real time process control applications to analog devices used in the electrical power industry using standardized and specialized test equipment and tools.
3. Uses factory manuals and schematics to repair equipment. Contacts factory engineers for aid in troubleshooting complex problems and seeking solutions to continuing problems in equipment.
4. Researches and constructs devices used to test and assist department engineers in implementing unique monitoring and control systems.
5. Maintain accurate records of all work performed, including repairs and calibration records.
6. Requisition parts and maintains spare parts inventory.
7. Supports other divisions with technical assistance and fieldwork as needed.
8. Proficient with control circuits, potential and current transformers, power transformers, substations annunciators, tone and power line carrier equipment.
9. Performs installation, maintenance, commissioning, functional testing, load or phase angle verification, troubleshooting and in-service tests of all protective relays and associated equipment and control schemes.
10. Performs maintenance, commissioning, functional testing, load or phase angle verification, troubleshooting and in-service test of all line reclosers, network and transfer switches.
11. Ability to comprehend and modify prints for engineering review and application.

### **ADDITIONAL RESPONSIBILITIES:**

1. Participates in training at out-of-town locations that may require overnight stays.
2. Must be able to function in a team to accomplish organizational skills
3. Performs related work as required.

### **SUPERVISORY RESPONSIBILITIES:**

1. No consistent supervisory responsibilities.

### **KNOWLEDGE, SKILLS & ABILITIES:**

1. Must have all qualifications of a Relay Apprentice.
2. Knowledgeable with and understanding of advanced protective relay systems and the instrumentation used in the specialty.
3. Ability to read and comprehend applications of AC/DC schematics, one-line, three-line and panel wiring diagrams.
4. Skilled in three phase power principals as applied to protective relaying and metering.

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5. Skilled in using hand tools and precision soldering/unsoldering devices to make repairs to complex printed circuit boards and other electrical/electronic devices to component level.
6. Skilled in the use and care of electrical and electronic test equipment used in the various areas of the specialty such as oscilloscopes, volt-ohm meters, relay testing systems (both automated and manual), transducer testing and calibration equipment used in the trade.
7. Ability to maintain proficient on new equipment and devices as the technology evolves.
8. Knowledge of Switches/Bridges, router/Hubs/Firewalls used with LANs utilizing Ethernet TCP/IP is required.
9. Proficiency with software such as ProComm, Microsoft Office and other programs used to communication and interrogation for the trade.
10. Ability to interface with customers in resolving protection and control related problems arising from maintenance and construction activities.

**WORKING ENVIRONMENT/CONDITIONS:**

Requires manual labor work that involves waling or standing most of the time, exerting up to 100 pounds of force on a recurring basis, keyboard operations, manipulating tools and wires.

The job requires exposure to heights, toxic/caustic chemicals, traffic, moving machinery, extreme cold or heat, electrical shock, adverse weather conditions, bright/dim light, fume, noxious odors, dusts, pollen, wet humid conditions and extreme noise levels.

The job requires normal visual acuity, good manual dexterity, and field of vision, hearing, speaking, color perceptions, sense of smell, depth perception and texture perception.

An employee in this position must be able to discriminate between the following colors generated by red/blue/green primary colors at full or half intensity: white, green, yellow, orange, magenta, red, cyan and blue. Confirmation will be accomplished by a standard medical test for color blindness.

**QUALIFICATIONS (EDUCATION, TRAINING, AND EXPERIENCE):**

1. High school diploma or its equivalent with supplemental course work in the area of the specialty.
2. Three (3) years of directly related experience.
3. An equivalent combination of education and experience that is determined to be directly related to the foregoing specified requirements might be substituted.
4. Completion of City University Level two (2) or completion within twelve (12) months

**SPECIAL REQUIREMENTS:**

1. Must possess a valid state of Florida driver's license.
2. Must maintain a valid telephone number.
3. May be required to work overtime, or alternate hours, as necessary for the efficient operation of the department. Position may be designated as Mission Critical by Department Director.