

**MAJOR FUNCTION**

This is complex technical work as part of an apprentice program designed to provide the knowledge, skill and experience needed to advance to the Relay Technician, a journey level position. Work includes troubleshooting, installing, programming, wiring, and testing documentation and upgrades to all relay equipment and related peripherals at System Control, the power plants and substations in the City's electrical power system. Work is performed under the general supervision of the Supervising Engineer-Relay And Communications, with a Relay Technician providing direction as needed. The work is reviewed through inspections, observations and by results attained.

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

Performs maintenance, repair, programming, documentation, upgrades and calibration on all distribution and transmission system protective, monitoring, control and communications equipment. Performs maintenance, repair, programming, documentation, upgrades and calibration of computer based relay protective systems, new Schweitzer Engineering Laboratories 2030's (SEL) and old Remote Terminal Unit's (RTU), computer Internet Protocol (IP) based giga bit fiber optic communications systems and analog microwave base band and multiplex equipment, Radio Frequency Link (RFL) tone equipment, station batteries and chargers, tower lighting and control circuits, IP voice communications, power circuit breakers at 12kv, 115kv and 230kv, 12kv reclosers, 12kv and 115kv capacitor banks, transformers, and generators. Inspects and repairs computerized control equipment at the City's Central Dispatch Center, electric substations and power plants. Uses computerized technology to accurately monitor all electric power system operating parameters, event reports, and alarms. Programs, installs, wires, tests, repairs and makes documentation on/for microprocessor relays, Program Logic Controllers (PLC), RTUs, network switches, network routers, as well as electric and electronic circuit boards. Installs, documents, trouble shoots, maintains and repairs aerial and underground fiber optic cable and splices and patch panels at the City's Dispatch Center, electric substations and power plants. Assists and works with substations workers on problems of high voltage circuit breakers, reclosers, power transformers, coupling capacitors, current transformers and other substation equipment. Works with contractors while new equipment is installed. Assists customers in reducing or eliminating electrical interference. Performs quality assurance testing of new equipment installed. Works with contractors while new equipment is installed. Requires that a vehicle be driven to perform essential duties. Performs related work as required.

**Other Important Duties**

Red marks drawings or makes drawings from scratch. Repairs and calibrates volt meters, amp meters, phase rotation indicators, OHM meters, continuity testers used by line crews, service crews, and substation crews. Maintains and adjust voltage regulators, pole mount and pad mount. Maintains and repairs air conditioning units in microwave buildings and substations. Performs related work as required.

**DESIRABLE QUALIFICATIONS****Knowledge, Abilities and Skills**

Knowledge of electric power protective schemes, IP communications, and Computer Added Drafting (CAD) documentation. Knowledge of the SEL and Cisco programming languages, electrical power high voltage standards, methods, practices, tools and materials. Knowledge of computer application concerning supervisory control equipment. Knowledge of all associated substation equipment. Ability to read and understand alternating current (AC) and direct current (DC) control schematics, blueprints, and service manuals. Ability to maintain and repair shop equipment and tools. Ability to test and calibrate fiber optic cable and telecommunications system equipment. Ability to understand battery and charger functions and to locate battery grounds. Ability to prepare various reports. Ability

to follow and understand complex oral and written instructions. Ability to communicate effectively, orally and in writing. Ability to maintain and establish effective working relationships as necessitated by the work.

Minimum Training and Experience

Possession of a high school diploma or an equivalent recognized certificate supplemented by course work in electronics or electrical engineering and three years of technical experience that includes the maintenance and repair of electronic and electrical equipment relating to the transmission and distribution of electrical power; or an equivalent combination of training and experience.

Necessary Special Requirements

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

Established: 04-01-17