

Title: Electrical Technician Water Plant
PG: 45
Status: Civil Service
Position Reports to: Designated Supervisor
Department: Water Utilities

Class Code: 3089
Date: 09/08

GENERAL DESCRIPTION OF CLASS:

This is skilled work at the journey level in the maintenance, operation, and repair of water treatment plants and pumping stations electrical components, switchgear, and instrumentation. An employee in this class performs journeyman level technical work including the installation, calibration, maintenance, operation, and repair of various types of instruments, control equipment, and electrical components used in large water plants and pumping stations. Some independent judgment regarding the maintenance, control, and use of equipment is required. Assignments are given on work orders or verbally and field work is periodically supervised or inspected upon completion. Work is evaluated through completed work orders, direct observation, operating reports, and system performance.

ESSENTIAL FUNCTIONS:

1. Installs, trouble-shoots, and repairs generators, motors, conduit, wiring, electrical components, switchgear, control equipment, and related electrical equipment in water treatment plants and pumping stations.
2. Installs, checks, operates, and inspects for proper operation automatic switching units, switchboards, batteries, and related electrical apparatus and equipment.
3. Performs maintenance and repairs of various types of lighting, and electro-mechanical, analog and digital recorders and electronic recorders. Works on various types of solid state switchgear control equipment and microprocessor controlled components.
4. Trouble-shoots instrumentation systems, loops, and basic equipment associated with electrical motor control.
5. Assists with installation, adjustments, calibration, maintains and repairs various types of hydraulic, electrical, pneumatic, analog and digital control equipment used in water treatment plants and pumping stations.
6. Works in confined spaces or hazardous areas.

ADDITIONAL RESPONSIBILITIES:

1. Assists in compiling data for evaluating water operations. Maintains detailed work orders and reports.
2. Will be trained, assigned and shall be an active participant in the Department's "Chlorine Emergency Response Team."
3. Performs related work as required.

KNOWLEDGE, SKILLS & ABILITIES:

1. Extensive knowledge of the functions and installation of a wide variety of electrical equipment used in industrial facilities such as generators, transformers, breakers, motors, pumps, and related equipment and control systems.
2. Extensive knowledge in the application of a wide variety of electrical testing devices, including voltmeters, ammeters, ohmmeters, watt meters, and related test equipment.
3. Extensive knowledge of occupational hazards, safety practices and procedures of the electrical trade.
4. Knowledge of the procedures used involving transducer calibration, the several types of volt/amp transmitters and primary element installations and the principles of electric and electronic theory.
5. Knowledge in the operation of and practical application of electric/electronic test equipment such as direct current power supplies, milliamp and millivolt calibrators, multimeters, signal sources, function generators, oscilloscopes, frequency generators and counters, etc., as well as standard tools.

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6. Knowledge of the symbols and standard practices used in the preparation of process and electrical diagrams and the use of technical libraries to determine state-of-the-art methods for maintenance, trouble-shooting, and problem analysis.
7. Skill in the use and care of tools and equipment used in the construction and maintenance of electrical facilities.
8. Skill in the use of personal computers and related software applications for testing and records.
9. Ability to understand and follow verbal and written instructions, to read and interpret sketches, schematics, diagrams, ladder logic and blueprints.
10. Ability to establish and maintain effective working relationships with supervisors, co-workers, other City employees, and the general public.

WORKING ENVIRONMENT/CONDITIONS:

Requires sedentary work that involves walking or standing some of the time, exerting up to 10 pounds of force on a recurring basis, and routine keyboard operations. The job risks exposure to chemical, electrical and mechanical hazards. The employee will be required to work in bright/dim light and adverse weather conditions. Frequent exposure to the general hazards of the industrial working environment and construction sites are also possible. The job requires normal visual acuity, and field of vision, hearing, speaking, color perception, sense of taste, sense of smell, depth perception, and texture perception.

QUALIFICATIONS (EDUCATION, TRAINING, AND EXPERIENCE):

1. High school diploma or its equivalent.
2. Two (2) years of experience in journeyman level electrical work.
3. An equivalent combination of education and experience that is determined to be directly related to the foregoing specific requirements may be substituted.

SPECIAL REQUIREMENTS:

1. Must possess and maintain a valid state of Florida driver's license.
2. Must maintain a valid home telephone number.
3. Required to pass and maintain qualification for:
 - a. Respiratory Protection Physical
 - b. Pulmonary Function
 - c. Qualitative and Quantitative Fit Test(s)
4. 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.