

City of South San Francisco
Human Resources Department

Plant Electrician I
Class Description

Definition

Under close supervision, learns to perform a variety of semi-skilled and skilled mechanical and electrical duties in the maintenance, installation and repair of water quality control plant equipment, remote pumping and stormwater stations, programmable logic controller (PLC's), supervisory control and data acquisition systems (SCADA), and alarm system communication; and performs related work as required.

Distinguishing Characteristics

This class represents the entry level for the Plant Electrician series where incumbents may be assigned increasingly responsible duties with the expectation of eventually promoting to the journey level class of Plant Electrician II. This class is distinguished from the Plant Electrician II by the performance of the more routine tasks and duties assigned to positions. Since this class is typically used as a training class, employees may have limited or no directly related work experience.

Typical and Important Duties

1. Learns to repair, maintain, install, and inspect electrical systems, equipment, and fixtures, such as motors, transformers, wiring circuits, switches, generators, alarm systems, lighting systems, electrical pump control equipment, meters, and outlets.
2. Learns to locate and determine electrical malfunctions using test instruments, such as ammeters, voltmeters, and test lamps.
3. Repairs malfunctions by such methods as replacing burnt-out elements and fuses, bypassing or replacing defective wiring, filing switch contact points, and cleaning or repairing motors.
4. Tests electrical equipment for safety and efficiency using standard testing instruments.
5. Performs minor mechanical repairs on pumps, valves, and other mechanical equipment.
6. Assists in making periodic inspections of plant and pump station equipment and facilities to locate problems.
7. Keeps maintenance repair records.
8. Works in confined spaces and at elevated locations.
9. Responds to emergency conditions.
10. Operates a forklift safely.
11. Installs and troubleshoots a variety of liquid-level controllers.
12. Builds and maintains positive working relationships with co-workers, other City employees and the public using principles of good customer service.
13. Performs related duties and responsibilities as assigned.

Job-related Qualifications

Knowledge of:

- Methods, tools, and equipment used in electrical system maintenance, testing, repairing, and installation.
- Methods, tools, and equipment used in mechanical equipment maintenance and repair.
- Safety principles, practices, regulations, and procedures related to the work, including OSHA
- regulations.
- Occupational hazards and safety practices and procedures related to the work.
- Techniques for dealing with the public, City staff, and representatives of contractors in an effective manner.
- Confined space entry and rescue requirements.
- English usage, spelling, grammar, and punctuation used in report writing.
- Safety principles, practices, regulations, and procedures related to the work, including OSHA regulations.
- Principles and practices of customer service.
- Modern office equipment, methods, procedures, and computer hardware and software.

Ability to:

- Read and interpret blueprints, diagrams, and color-coded schematics.
- Examine, detect, and repair electrical and mechanical faults and failures. Perform basic shop math.
- Demonstrate electrical aptitude.
- Keep basic maintenance repair records.
- Acquire a general knowledge of division policies and procedures as related to plant operations.
- Make process improvement changes to streamline procedures.
- Observe proper safety precautions and procedures.
- Take a proactive approach to customer service issues.
- Understand and carry out oral and written directions.
- Work in a safe manner, following City safety practices and procedures; safely handle hazardous materials; identify, correct, and report safety hazards; and administer first aid.
- Organize own work, set priorities, meet critical deadlines, and follow-up on assignments with minimal supervision.
- Communicate effectively in writing and orally, and with others to assimilate, understand and convey information, in a manner consistent with job functions.
- Establish and maintain cooperative working relationships with those contacted in the course of work.
- Maintain confidentiality regarding sensitive information.

Skill in:

- Using tools and instruments properly and safely.
- Operating light power-driven equipment.

- Driving a truck and forklift safely and competently.
- Performing heavy manual labor.
- Operating a personal computer and a variety of software applications.

Experience and Training

Any combination of experience and training that would provide the required knowledge, skills, and abilities would be qualifying. A typical way to obtain the knowledge, skills, and abilities would be:

Experience:

One year of electrical and mechanical maintenance and repair experience.

Training:

Equivalent to graduation from high school.

Licenses and Certificates

All licenses and certificates must be maintained as a condition of employment.

- Possession of, or the ability to obtain and maintain within the probationary period, an appropriate, valid California driver's license and a satisfactory driving record.
- Ability to obtain and maintain a Grade I Electrical and Instrumentation Technologist Certificate issued by the California Water Environment Association by the end of the probationary period.
- Possession of, or ability to obtain and maintain, a Confined Space Certification by the end of the probationary period.
- Possession of, or ability to obtain and maintain, a Forklift certification by the end of the probationary period.
- Ability to obtain and maintain CPR/First Aid certification.
- Ability to obtain and maintain a Hazardous Materials First Responder Certification by the end of the probationary period.

Special Requirements

Essential duties require the following

Physical Skills:

Able to sit, stand, walk, kneel, crouch, stoop, squat, crawl, twist, and climb stairs and ladders; lift and carry 75 pounds; maintain sustained posture for prolonged periods of time; distinguish among various colors; distinguish various computer generated auditory signals; use common hand tools; vision to read printed materials and a computer screen; hearing and speech to communicate in person and over the telephone; smell to distinguish odors.

Work Environment:

Work in a standard office, shop, or field setting; exposure to cold, heat, noise, outdoors, inclement weather, dust, dirt, vibration, chemicals, traffic, traffic hazards, confining workspace, odors, mechanical hazards, electrical hazards explosive hazards.

Ability to:

Travel to different sites and locations; drive safely to different sites and locations; maintain a safe driving record; maintain a clean and neat appearance; work shifts including weekends, nights, and holidays; work protracted and irregular hours; respond to a pager; take 24-hour call and stand-by; available for unusual hours in emergencies.

Additional Information:

- Approved: September 2013
- Revised Date: July 1997, December 1998, September 2002, December 2002, June 2003
- Former Title: Assistant Electrician, Assistant Plant Electrician
- Abolished:
- Bargaining Unit: Operating Engineers
- DOT: No
- Status: Classified/Non-exempt
- Job Code: D105