

Oro Loma Sanitary District
2655 Grant Avenue
San Lorenzo, CA 94580
(510) 276-4700

ELECTRICAL & MECHANICAL TECHNICIAN

DEFINITION

Under general direction of the Maintenance Manager, to perform professional work involving all electrical and mechanical systems at the District's Water Pollution Control Plant and pumping stations, including troubleshooting, preventive and corrective maintenance, installation, and repair of electrical and mechanical equipment.

SUPERVISION EXERCISED

Exercises technical and functional direction over lower classifications in the department.

IMPORTANT AND ESSENTIAL DUTIES

1. Repair and maintain various electronic, pneumatic and mechanical process control system components.
2. Prepare plans and make modifications to existing system(s) where such modifications would be desirable for the improvement of the system(s).
3. Maintain automatic speed control equipment at the wastewater treatment plant, and various lift stations throughout the District.
4. Maintain and repair the electrical, pneumatic or hydraulic equipment throughout the treatment plant, pump stations, and the administrative buildings.
5. Perform and update electrical Computerized Maintenance Management System preventative maintenance duties as required.
6. Service and adjust engines, motors, pumps, valves, control systems, boilers, heat exchangers and chemical feed systems.
7. Operate, clean, service, maintain and paint equipment, machinery, vehicles, structures, buildings, pipelines, storage tanks and any additional items found in a wastewater treatment facility and lift stations.
8. Coordinate, monitor, and perform electrical installation and repair with District staff and/or service vendors.
9. Perform work on and around 480-volt power systems and multi-phase motors.
10. Respond to emergency situations.

11. Operate and maintain radio equipment.
12. Perform other related duties as assigned, including all duties contained in the Mechanic II job description.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Knowledge of:

- Principles, theory and practices of electricity, pneumatics, hydraulics, and mechanics used in the maintenance and repair of equipment in a wastewater treatment facility.
- Tools, materials, methods and practices of electrical and mechanical repair and maintenance.
- Applicable provisions of the National Electric code; related plans, specifications and standard industry practices.
- Operational characteristics of mechanical and hydraulic equipment found in wastewater treatment and pumping facilities.
- Repair and preventative maintenance techniques and procedures.
- Proper safety precautions related to and electrical maintenance and repair.
- Safety methods and procedures for tools, supplies and equipment.

Skill to:

- Operate a motor vehicle safely.
- Operate tools and materials involved in the installation, maintenance and repair of mechanical and electrical equipment.
- Operate a wide variety of tools and equipment including electronic testing equipment, meters, hand tools and related tools and equipment.

Ability to:

- Install, operate and repair pumps, motors, generators, engines and related equipment.
- Troubleshoot a variety of complex electrical and mechanical problems.
- Read, draw and interpret electrical schematics.
- Design and install control systems.

- Perform the full range of skilled maintenance and repair work related to wastewater treatment and pumping equipment and facilities.
- Diagnose and repair mechanical and electrical defects.
- Interpret and apply a wide variety of technical information from manuals, drawings, specifications, layouts, blueprints, and schematics for electrical and mechanical systems and components.
- Estimate time, materials, and supplies required for assigned work.
- Work independently in the absence of supervision.
- Understand and follow oral and written instructions.
- Establish, maintain, and foster positive and harmonious working relationships with those contacted in the course of work.

EXPERIENCE AND EDUCATION GUIDELINES

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

Experience:

Three years recent journey-level experience in electrical circuitry, methods, materials, tools and equipment used in maintaining, repairing, testing, and installing electro-mechanical equipment used in a treatment plant, pump station or similar facility.

Training:

Equivalent to the completion of the twelfth grade, supplemented by training in plant mechanics. Two years of college level course work covering technical material necessary for this type of work is desirable.

License or Certificate:

Possession of, or ability to obtain, a valid California driver's license from the California Department of Motor Vehicles; and a DMV record which meets the District's Driving Standards.

Possession of, or ability to obtain within two years of appointment, a California Water Environment Association (CWEA) Mechanical Technology Grade II certificate. Additionally, the incumbent must meet the requirements of the District's "qualified electrical worker" designation upon employment.

WORK ENVIRONMENT/PHYSICAL DEMANDS

The work environment characteristics are representative of those an employee encounters while performing the essential functions of this job. The physical demands are representative of those that must be met by an employee to successfully perform the essential functions of the job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is frequently required to stand; sit; use hands to finger, handle, or feel; reach with hands and arms; walk, climb or balance; stoop, squat, twist, kneel, crouch, or crawl; and talk or hear. The employee must frequently lift and/or move up to 50 pounds and occasionally lift and/or move up to 75 pounds. Specific vision abilities required by this job include close vision, distance vision, and depth perception, adjust focus and distinguish colors.

Additionally, the employee is frequently exposed to outside weather conditions. The employee is occasionally exposed to confined spaces; fumes or airborne particles; fumes, dust, toxic or caustic chemicals; extreme cold; extreme heat; vibration and risk of electrical or mechanical hazards. Employees in this classification may perform duties that involve a potential risk of exposure to blood borne pathogens. In addition, employees use power and noise producing tools and equipment. The noise level in the work environment is usually loud.

Effective Date: December 2017

Written by A. Simion on 12/07/17
Approved by Board: 01/03/17