



# MARIN MUNICIPAL WATER DISTRICT

## Mechanical and Electrical Maintenance Planner

### **DEFINITION**

Under general supervision plans, schedules, and coordinates a broad spectrum of preventive, routine and emergency maintenance activities at the District's water treatment and distribution facilities, using the computerized maintenance management system as a primary tool. Also may serve in M & E 4 role: under general supervision, repairs, maintains, and installs electrical circuits, pumps, motors, controls, regulators, and related equipment; and to do related work as required.

### **DISTINGUISHING CHARACTERISTICS**

The incumbent in this classification plans and schedules maintenance activities at District water treatment and distribution facilities. Planning and scheduling of maintenance work requires a broad knowledge of multi-craft skills, such as mechanical, electrical, controls and corrosion control. This is a specialized position within the highest classification level in the Mechanical and Electrical Maintenance Worker series. This classification also performs a wide variety of advanced-journey level tasks related to electrical work, involving both low and medium voltage circuits. In addition the incumbent performs work that may involve all specialties of the trade, including supervisory controls and telemetering functions. The employee works independently and may train others, or perform as lead-workers on specific projects and assignments.

### **EXAMPLES OF DUTIES**

Primary responsibilities and duties include, but are not limited to, the following:

- Plans and schedules maintenance work based on demand, workload, skill sets, and available parts using District computer application as the primary planning tools;
- researches and purchases parts or equipment needed to perform maintenance tasks, repairs or modifications at the District facilities;
- develops technical specifications for equipment purchases and outside services;
- recommends, coordinates and participates in the gathering, researching and cataloging of maintenance data at District facilities;
- determines reporting and analysis needs, sets up and prepares special and periodic reports of maintenance activities, produces weekly schedules, charts, backlog reports for maintenance supervisors, and participates in weekly meetings for planning, scheduling, and coordinating;
- uses Microsoft Office computer applications to develop reports, training programs and presentations;
- advises supervisors and Operations Manager of critical and continuing maintenance problems or issues;
- develops, recommends and implements changes to mechanical, electrical, controls and corrosion control preventive and corrective maintenance programs;
- develops, recommends and maintains a warehouse plan for maintenance supplies and emergency spare parts;

- assists in identifying and recommending training needs, equipment, specifications, and standards to help maintain consistent maintenance practices for the District's mechanical and electrical equipment, control systems and corrosion control programs;
- insures all computerized maintenance plans, data and information is current and accurate;
- serves as a technical resource for other maintenance personnel;
- performs maintenance activities when required;
- performs other duties as required.

In addition, may perform standard M&E 4 duties:

- Performs routine inspection and maintenance to mechanical and electrical equipment; including pumps, tanks and regulators;
- records readings and findings of pumping plants;
- installs and repairs mechanical, electrical, pneumatic and hydraulic equipment;
- performs minor repair and adjustment to malfunctioning parts;
- troubleshoots and repairs electrical circuits and related equipment;
- dismantles, cleans, lubricates and assembles pumps and motors in shop or in field;
- installs new pumping equipment wiring, valves and controls;
- inspects pumps and tanks for proper operation;
- inspects, adjusts and makes repairs to regulators and relief valves;
- repair malfunctioning parts, such as diaphragms, seats and control pilots;
- installs recording instruments used in gathering data for system studies;
- inspects, maintains, repairs, installs, and tests electrical, mechanical and pneumatic equipment, including circuits, transformers, switches, lighting fixtures, motor starters, motors, outlets and control panels;
- performs the more difficult assignments and uses the tools and testing equipment common to the electrical and electromechanical trades;
- installs conduit and pulls wire for motors, control panels, lighting fixtures, outlets and other related work;
- installs power poles, cross-arms, braces and supporting fixtures;
- directs the work of sub-journeymen and sees that proper safety precautions are observed, with particular emphasis on work performed on energized circuits;
- makes rough estimates of labor, materials, and supplies required to perform specific assignments and keeps records of time, materials and equipment used;
- makes as-built drawings of electrical circuits;
- maintains, repairs, and installs a variety of mechanical equipment, including pumps, motors, regulators and relief valves;
- performs troubleshooting and diagnostic work on a variety of equipment;
- installs and maintains high voltage (2400 Volt AC) to low voltage (4-20 milliamp) circuitry;
- may design electrical system for new installation or upgrading existing equipment, or to modify a system for safety or efficiency;
- troubleshoots equipment operation and makes minor adjustments to PLC ladder logic or setpoints using laptop computer;
- may make minor electronic repairs;
- may train and direct the work of others;
- follows applicable safety rules and regulations.

## **QUALIFICATIONS FOR EMPLOYMENT**

### Knowledge of:

- Technical aspects of the Operations Department work units;
- applicable policies, procedures, codes and regulations;
- personal computers and software commonly used for word processing, spreadsheets, presentations, maintenance and inventory recordkeeping;
- proper English usage, spelling, grammar, and punctuation;
- the methods, practices, tools, material and safety procedures used in the repair and maintenance of mechanical, electrical, control and corrosion control equipment used at water treatment and distribution facilities;
- principles and practices of preventative maintenance and repairs;
- planning methods and tools, including maintenance management software;
- reading and interpreting plans, specifications, drawings, diagrams and schematics;
- scheduling maintenance work and estimating materials, labor and equipment costs;
- use of a computer to enter, manipulate, analyze and extract data to design and prepare reports.

### Ability To:

- Communicate orally and in writing in a clear, concise and effective manner;
- analyze work problems and develop effective solutions;
- establish and maintain effective working relationships with those contacted in the course of work;
- drive a work vehicle and travel to other work locations and off-site meetings;
- work effectively and strive for continuous improvement of the District's maintenance systems and processes;
- ask for input, accept suggestions and work with others to solve problems;
- maintain attention to detail and follow through amid interruptions and changing priorities, and demonstrate flexibility and adapt effectively to changing conditions.

## **TRAINING AND EXPERIENCE**

Any combination equivalent to experience and education that could likely provide the required knowledge and abilities would be qualifying. A typical way to obtain the knowledge and abilities would be:

- Completion of the twelfth grade or its equivalent; and,
- five years of experience performing advanced journey level mechanical and electrical maintenance equivalent to that of an Mechanical and Electrical Maintenance Worker IV.

## **LICENSES AND/OR CERTIFICATIONS**

- Possession of an appropriate California driver's license issued by the State Department of Motor Vehicles and satisfactory driving record;
- Possession of a valid "D1" Distribution Operators Certificate issued by the California Department of Health services prior to completion of probationary period.

### **OTHER REQUIREMENTS**

- Per California Government Code, Title 1, Division 4, Chapter 8, Section 3100 “all public employees are hereby declared to be disaster service workers subject to such disaster service activities as may be assigned to them by their superiors or by law.”
- Work on an "on call" basis for emergency situations.

### **PHYSICAL DEMANDS**

During the course of performing job duties the employee will need the mobility to operate equipment, which may include office and/or field equipment, or specialized instruments or tools requiring repetitive arm/hand movement and/or the coordinated movement of more than one limb simultaneously. The employee frequently stands, walks, bends at neck and waists, twists at neck and waist, uses simple and power grasping with both hands, uses fine manipulation of both hands and fingers, and may require use of the arms above the shoulder, climb or balance; stoop, kneel or crouch. While working in the field the employee may walk on uneven or un-level ground surfaces such as hills, slopes, ditches or trenches, on or in tanks, and may work at heights up to fifty feet climbing ladders or stairs. The employee must use small mechanical hand tools, handle small parts, hold and operate heavy tools, pull cable and wire and performs manual labor for extended periods such as frequently lifting 10 to 25 pounds and carrying equipment, and occasionally lift 50 to 75 pounds. This position requires that the employee demonstrate adequate hearing and speech to detect warning alarms, converse in person and over the telephone or radio, and vision to read printed materials, see small parts and color coded wiring, and use a computer screen.

The noise level in the work environment ranges from moderate to loud noise. The employee is exposed to moving vehicles and other moving equipment and machinery, excessive noise, extremes in temperature, humidity, wetness and dust, and must work around high, medium and low voltage circuitry using normal and specialized protective equipment. In order to drive, individuals must be physically capable of operating the vehicles and equipment safely. The position requires the ability to work overtime and weekends as needed.

### **ADDITIONAL PHYSICAL DEMANDS**

- A self contained breathing apparatus must be worn when working in some confined spaces and
- employee must be capable of obtaining and maintaining a proper facial seal for District respiratory equipment.
- Exposure to potentially hazardous materials, low to medium voltage, solvents, odors and fumes.

*To be successful in this job, an individual must be able to satisfactorily perform each of the listed duties. These duties are representative of the knowledge, skill and/or ability required for the position. Reasonable accommodations may be made to enable individuals with disabilities to perform the duties and functions of the position. Requests for reasonable accommodation should be directed to the Human Resources Manager.*

Established: June, 2008

Revised:

Approved by: Human Resources Manager