Maintenance Technician I/II (Flex)

Agency/Department: Utility Operations

Approved by:
Date Approved:
Date of Last Revision:

Reports to: Maintenance Technician Crew Chief
Supervises: varies

JOB SUMMARY: Under general supervision, performs a wide variety of skilled, journey-level duties in the installation, modification, design, maintenance, and repair of mechanical equipment and machinery used in the operation of large state-of-the-art micro-filtration water treatment plants, reverse osmosis desalination facilities, sewer lift station and reclaimed water pump stations, potable booster stations; operation/maintenance, including: production, storage and distribution facilities, power generation, UV disinfection, and chlorine generation equipment; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS:

Maintenance Technician I is the skilled entry level class in the Maintenance Technician series. Initially under close supervision, incumbents learn and perform a variety of duties in the maintenance and operation of District water distribution and sewer pumping stations, alarm and control systems, and radio telemetry. This class is alternately staffed with Maintenance Technician II, and incumbents may advance to the higher level after gaining experience and demonstrating proficiency which meet the qualifications of the higher level.

Maintenance Technician II is the experienced journey level class in the series, fully competent to independently perform duties. This class is distinguished from the lower classification of Maintenance Technician I by the relative independence with which duties are performed.

EXAMPLES OF ESSENTIAL FUNCTIONS:

Performs a variety of skilled, journey-level duties involved in the inspection, diagnosis, troubleshooting, maintenance, repair and servicing of field and shop equipment, components, facilities and machinery associated with the production, collection, treatment, storage, and distribution of potable water, raw water, wastewater, and reclaimed water and in the collection and transmission of wastewater, such as pipes, tubes, rods, seals, shafts, stuffing boxes, gears, motors, bearings, couplings, chemical production, chemical storage and feed systems, flow stations, pumping stations, sewage lift stations, valves, deep wells and pumps from fractional to 1000 hp (vertical turbine, submersible, split case horizontal, right angle, gears, etc.); tests and monitors equipment and machinery for vibration, bearing temperature and output capacity.

Repairs and maintains settling basin machinery, cross-connections, mixers and hydraulic gates.

Organizes and conducts with outside utilities pump testing using various head and flow instruments for well, horizontal, centrifugal and vertical turbine pumps; plots and evaluates test results and calculates performance data; determines ground water levels using electrical sounders, air lines or transducers.
Installs, maintains, and repairs equipment, including natural gas compressors and microturbines used for power generation, hydraulic and pneumatic systems, booster pumps, disinfection equipment, hydro mechanical systems and related equipment and apparatus used in the production, treatment, storage and distribution of potable, reclaimed water and the collection and transmission of raw sewage and wastewater. Operates and maintains sewer lift station facilities, equipment, and machinery by using manual, electronic and computer control systems (i.e. float, ultrasonic level, or pressurized air control systems).

Maintains and services air compressors; maintains, installs, pulls, services, and aligns all electric motors.

Inspects vehicles in preparation for transit to plants and facilities including preparing class A vehicles, equipment transports and cranes for their respective duties/assignments.

Operates shop bridge, cranes, dump trucks, forklifts, compressors, jackhammers, portable and stationary generators, steam cleaners, pneumatic, hydraulic and electric tools, shop machinery and related tools and equipment.

Operates mobile truck hydraulic (Telescopic) cranes up to 17.5 tons; utilizes lifting/load handling devices (e.g. slings, cable, and spreader bars).

Installs, replaces and repairs chemical storage, feed and distribution system components such as storage tanks, generators, analyzers, evaporators, chlorinators, distribution lines and valves, and eductor or injector pumps.

Responds to emergency leaks in chemical feed systems and makes emergency repairs to storage tanks and feeders; supplies emergency generators for power outages; supplies portable pump stations and fab piping.

Maintains, repairs, and services valves and surge tanks at reservoirs, pumping and flow stations; install and/or replace large water meters and backflows.

Schedules and coordinates activities with other sections and divisions, including construction crews on valve repairs.

Ensures the timely and accurate completion of preventive maintenance activities, utilizing computerized maintenance management systems; maintains detailed record keeping in support of computerized maintenance management system.

Requisitions necessary tools, equipment and supplies.

Researches new operational methods, techniques and equipment and recommends their application.

Plans and lays out jobs from blueprints, drawings, sketches or verbal instructions; maintains records in the form of blueprints, plans and specifications for industrial and waterworks equipment and machinery; makes suggestions for system design and operational improvements.

Designs and fabricates a variety of brackets, supports and other metal structures, using torches, welding equipment and other fabricating equipment; fabricate and install exhaust piping, mufflers, catalytic converters, heat exchangers and associated piping for industrial engines and generators.

Rebuilds existing pumps and valves at lift stations, wells, pumping plants and water
process facilities.

Fabricates and installs piping for new pump installations which may include plumbing, pipe fitting, welding and machine tool operations.

Responds to emergency situations as necessary; extended duties may include confined space entries.

Uses lockout/blockout procedures to block electrical and other energy sources and operates equipment at panel for maintenance purposes.

May assist in training or instructing others in the trade; may lead the work of others as a project leader.

Performs related duties as assigned.

MINIMUM QUALIFICATIONS:

Any Combination of education and/or experience that provides the required knowledge, skills, and abilities to perform the essential functions of the position. A typical combination includes:

EDUCATION: High school graduate or equivalent.

EXPERIENCE:

Maintenance Technician I: Two years of journey level experience.

Maintenance Technician II: Three years related field experience and complete knowledge of all duties listed under Essential Functions.

Typically, a Maintenance Technician I is expected to meet the proficiency criteria within 6-24 month period, depending on an individual’s prior experience and progression in performing the full range of Maintenance Technician II duties.

KNOWLEDGE OF:

- Principles, methods, techniques, tools and equipment used in the installation, maintenance and repair of industrial/mechanical equipment and machinery common to large state-of-the-art micro-filtration water treatment plants, reverse osmosis desalination facilities, waterworks systems, lift stations, and production wells;
- Machine shop procedures and practices;
- Safety practices, safe work methods and safety regulations pertaining to the trade;
- Application of lockout/blockout procedures;
- Shop mathematics;
- Water hydraulics;
- Use and operation of oxyacetylene and electric arc and TIG welding equipment and materials;
- Basic electrical safety;
- Confined space entry procedures, basic first aid, asbestos removal;
- Safe Drinking Water Act and relevant state and federal regulations;
- Cost estimating and basic techniques of engineering and drafting as they apply to assigned responsibilities;
- Computer applications related to the work;
- Codes, ordinances and regulations pertaining to the trade; mechanical maintenance, crane operation, metals identification and welding.
SKILL IN:
- Mechanical ability as related to various job functions and equipment operations.

ABILITY TO:
- Diagnose and repair a wide variety of industrial/mechanical equipment, systems and machinery, such as valves, motors, pumps and other equipment common to the waterworks field;
- Use precision and diagnostic instruments to measure required tolerances of mechanical parts;
- Operate a pump installing rig; arc and TIG weld and oxygen-acetylene cut; identify and implement effective courses of action to complete assigned work;
- Read and interpret plans, specifications, manuals and blueprints;
- Use hand tools, pipe-threaders, taps, dies, measuring instruments and lazer alignment equipment;
- Exercise independent judgment within established guidelines;
- Establish and maintain effective working relationships with those contacted in the course of the work;
- Coordinate work assignments with other sections, divisions or departments;
- Follow and apply written and oral work instructions.

LICENSES:
- Possession of a valid California or Nevada driver’s license with a driving record satisfactory to the District and District’s insurance carrier.
- Acceptable driving record at the time of appointment and throughout employment.

CERTIFICATIONS:
**Maintenance Technician I:**
- Possession of or the ability to obtain within eighteen (18) months from date of hire a California Department Public Health (DPH) Water Distribution Operator Grade 1 (D1) certification.
- Possession of or the ability to obtain within eighteen (18) months from date of hire a California DPH Water Treatment Plant Operator Grade 1 (T1) certification.
- CWEA Collection System Operator Grade 1 certification desirable.

**Maintenance Technician II:**
- Possession of or the ability to obtain within eighteen (18) months from date of hire a California Department Public Health (DPH) Water Distribution Operator Grade 1 (D1) certification.
- Possession of or the ability to obtain within eighteen (18) months from date of hire a California DPH Water Treatment Plant Operator Grade 1 (T1) certification.
- CWEA Collection System Operator Grade 1 certification desirable.

Failure to obtain required certification(s) may result in immediate dismissal from position.

TOOLS AND EQUIPMENT USED:
Trucks, welding and metal fabrication equipment, hand and power tools, scientific instruments, computers, grinders, drills, air compressors, log books, charts, graphs, radios, VFD’s and PLC.’s.

PHYSICAL AND MENTAL DEMANDS:
*The physical and mental demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.*
Physical Demands
While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The employee frequently is required to stand and talk or hear; and walk or sit. The employee is frequently required to climb or balance; stoop, kneel, crouch or crawl; and smell.
The employee must regularly and safely lift and/or move up to 50 pounds and frequently in excess of 75 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception and the ability to adjust focus.
Requires the ability to get and maintain an air tight seal with Self-Contained Breathing Apparatus for confined space entry.

Mental Demands
While performing the duties of this class, the incumbent is regularly required to use written and oral communication skills; read and interpret data, information and documents; analyze and solve problems; use shop mathematics; observe and interpret situations; deal with changing, intensive deadlines; and interact with officials and the public.

WORK ENVIRONMENT:
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Exposure to all weather conditions, including extremely severe weather (blizzards). Works with hazardous chemicals such as sodium hypochlorite, and hydrogen peroxide. Exposed to fumes and odors from sewer wet wells. Frequently works in confined spaces above and below ground, including wet and dry wells, storage tanks, vaults, and manholes. The incumbent works near moving mechanical parts; on slippery and uneven surfaces; and the risk of electric shock. The noise level in the work environment is frequently loud. May be required to wear a confined space breathing apparatus. Works at computer workstation on a regular basis. The incumbent is subject to weekend work and 24-hour call out on a seven-day basis.

FLSA Exemption status: Non-Exempt Classified
Employee Unit: Maintenance and Operations
Job Family: Operations
Class Progression:
- Maintenance Technician I
- Maintenance Technician II
- Maintenance Technician Crew Chief
- Utility Operations Supervisor
- Utility Operations Manager
FLEX REQUIREMENTS
Maintenance Technician I (Flex)
Maintenance Technician II

LENGTH OF TIME REQUIRED

A Maintenance Technician I may advance or flex to the Maintenance Technician II class after **6-24 months** of experience in the Maintenance Technician I class.

PERFORMANCE RATING

The incumbents must receive an overall performance rating of Meets Standards or better on their most recent annual performance evaluation in order to flex to the higher class.

COMMENTS

The Maintenance Technician I must also demonstrate proficiency to perform the full range of duties as described in the Maintenance Technician I/II job description. This includes demonstrating proficiency in the overhaul of pumps, shaft lignments, pump seal maintenance, troubleshooting/repair of lift station operational rotating equipment, use of hot tank and solvent cleaning tank, working with disinfection equipment and chemicals, and working in confined spaces.

LICENSES REQUIRED

- Possession of California Department Public Health (DPH) Water Distribution Operator Grade 1 (D1) certification.
- Possession of California DPH Water Treatment Plant Operator Grade 1 (T1) certification.