



THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

## OPERATIONS AND MAINTENANCE TECHNICIAN IV MACHINIST (Journey)

<b>Group-Section:</b> Water System Operations - Various	<b>FLSA Status:</b> Non-Exempt <b>Bargaining Unit:</b> AFSCME	<b>Classification:</b> Operations and Maintenance Technician <b>Salary Grade:</b> 42 <b>Job #:</b> T03
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### **JOB SUMMARY**

Utilizes journey level mechanical skills, experience and knowledge in the practices, procedures, and methods, of designing, inspecting, manufacturing, fabricating, repairing and the disassembly and assembly of general and complex machined parts, equipment and tools.

Applies advanced levels of accuracy and precision in fabricating, repairing and improving a wide variety of water utility parts, appurtenances and equipment including pumps, valves, gates, pistons, shafts, bowls, impellers as well as varied motors, generators, compressors and other equipment associated with water movement, treatment and hydroelectric plant processes and facilities. Supports the operational core of water and power reliability by effectively utilizing all types of machine shop tools and equipment and apply skills in machining accuracy to tool varied metals, alloys and other materials into parts, equipment components, machinery and specialized tools.

Provides quality machined and fabricated parts and equipment reliability through a mix of general and advanced preventive and corrective maintenance activities.

### **SUPERVISION:**

#### **Received:**

Work is performed with minimal and at times intermittent on-site supervision. Broad direction is provided in terms of operations and maintenance objectives that may require the planning of work and maintenance staff time, as well as material resources for work completion. Limited detailed guidance and advice is available and the development or modification of procedures by the employee may be necessary. Performance is measured against desired maintenance objectives as well as craftsmanship and quality of task completion.

Receives oversight from the Team, Unit, Section, Assistant Group, or Group Manager.

#### **Given:**

As a lead may exercise technical and/or functional direction over assigned staff.

Specific attention is given to on-the-job training and development of O&M Technician Machinist I, II, and III employees, in order that those employees attain specialized knowledge and skills to advance to Machinist IV.

### **JOB DUTIES**

1. Designs, fabricates, maintains and repairs specialized utility equipment and very large parts (up to 40 tons), including impellers and pump shafts, through the operation of CNC and/or manual lathes,

milling machines, drill presses, grinding and sandblasting tools, punches, taps and dies, hydraulic presses, specialized portable machine tools and related/similar machine shop equipment.

2. Performs advanced milling and lathe work on component parts and equipment such as pumps, valves, gates, pistons, shafts, bowls, impellers, motors, generators, compressors, and other water distribution, treatment and hydroelectric system parts and equipment for emergency and CM work.
3. Ensures accuracy and reduces rework of machined parts and tools through the use of traditional and advanced calculations, and precision measurement tools utilized in a large machine shop and production environment.
4. Accurately diagnosis and assess problems with worn or defective parts and equipment through advanced troubleshooting to determine corrective actions for designing, repairing, fabricating and/or machining new or improved end use part(s) to extend equipment reliability and life.
5. Performs repair of stationary equipment at field locations (MWD, Member Agency, and DWR locations) including a wide variety of water utility parts, appurtenances and equipment including pumps, valves, gates, pistons, shafts, bowls, impellers as well as varied motors, generators and compressors using portable machining equipment.
6. In accordance with district required training safely operates cranes and rigging, forklifts and other equipment to move large parts and heavy equipment within a shop production environment.
7. Performs accurate and appropriate programming to set-up and operate CNC equipment to effectively use materials avoiding waste and rework.
8. Performs routine and/or minor mechanical PMs and CMs on machining equipment utilized in a large machine and utility production shop.

## **EMPLOYMENT STANDARDS**

### **MINIMUM QUALIFICATIONS**

#### **Education and Experience:**

High school diploma or GED in addition to a minimum of 6 years experience working in a large industrial machine shop using CNC and manual machines.

**OR**

High school diploma or GED and attainment of journey level skills through a recognized machinist trade training program and/or applicable related experience within a industrial environment.

Experience and knowledge as demonstrated by practical application of general and advanced techniques and practices specific to the inspection, operation, maintenance and repair of machining equipment.

**Required Knowledge of:** Theories, practices, tools and materials of machining practices and techniques, tools and material of fabrication and welding practices and techniques, safe operating techniques and the occupational hazards of motorized or pneumatic equipment operation, and electrically energized machining and fabrication tools, equipment and components, safe operating techniques and the occupational hazards of motorized equipment operation, and ability safety practices and regulations for maintaining and repairing machining equipment.

**Required Skills and Abilities to:** Ensure a high degree of accuracy and precision in performing work according to instruction and quality specifications, use and maintain electrical/mechanical tools and equipment normally and traditionally utilized in machining operations and maintenance, read and interpret blueprints, manufacturers' manuals and/or develop design sketches, models, diagrams, engineering drawings and specifications to complete machining and fabrication, repair, or modification of repair of complex water utility parts and equipment of varied types and sizes to make fine, skillful and highly controlled muscular movements and manipulations to simultaneously and effectively operate complex equipment such as a milling table or other shop equipment vertically and horizontally, diagnose malfunctions of machine shop equipment and systems (visually and/or aurally) to reduce operator risk and downtime, and to set-up and operate computerized numerical control (CNC) equipment, safe operating techniques and the occupational hazards of motorized or pneumatic equipment operation, and electrically energized machining and fabrication tools, equipment and components.

### **CERTIFICATES, LICENSES and REGISTRATIONS REQUIREMENTS**

Employees in this position may be required to obtain and maintain the following certifications, licensing and registrations:

- Valid Drivers license from state of residency equivalent to a California Class C
- Crane and Rigging Certification
- Forklift Certification
- Manlift Certification

### **PHYSICAL DEMANDS/WORK ENVIRONMENT**

#### **Expectations of Hours of Service, Emergency and Stand-by Service:**

Employees in this position may be required to work off-shift hours and/or stand-by service to address operational needs and emergencies as required. May be required to work extended periods away from the normal reporting location.

**Physical Demands:** Heavy. Tasks may require lifting and carrying items weighing up to 50 pounds, with intermittent need to lift and carry materials and/or equipment weighing up to 100 pounds with assistance. Frequently requires pushing, pulling, turning and positioning parts, assemblies, equipment and tools weighing as much as 100 pounds with assistance. May be required to lift and move heavy items with the assistance of others and with lifting devices such as jacks, hoists and cranes of varied types and capacities. Physical effort includes frequent walking, stooping, bending, reaching, standing, kneeling and sitting for long periods of time. At times may be required to use respiratory filtration devices.

**Work Environment:** Work is performed indoors and outdoors at large pumping, treatment, hydroelectric or control facilities or other locations under all types of conditions, including extreme temperatures, open and confined spaces ranging from crawl spaces to sub-structures as well as varied types of terrains. Job tasks may require working from heights and functioning from lifts, hoists, scaffolds, and cranes over surfaces ranging from earthen materials to concrete, steel and water.

Work may be frequently conducted in close proximity to electrically energized equipment including high voltage systems. The work environment frequently involves exposure to equipment and tools producing high levels of noise, as well as potentially dangerous materials and chemicals that require careful adherence to extensive safety precautions, rules and regulations.