THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

CONVEYANCE AND DISTRIBUTION SPECIALIST (MECHANICAL OR ELECTRICAL)

Group-Section: Water System Operations - Various	**FLSA Status:** Non-Exempt **Bargaining Unit:** AFSCME	**Classification:** Operations and Maintenance Specialist **Salary Grade:** 47 **Job #:** T04

JOB SUMMARY

Utilizes specialized advanced journey level mechanical or electrical skills, experience and knowledge in the practices, procedures, and methods of maintenance for conveyance and distribution structures such as geared drive and rotating equipment, vacuum valves, pumps, reservoir and pipeline level indicators. Conducts evaluations and makes recommendations in conjunction with Managers to ensure that all conveyance and distribution processes are adequately maintained and repaired to meet all maintenance expectations.

Activities also include welding, operating truck cranes and rigging, forklift, and write switching and valving orders and shutdown reports. May be required to ensure system and master clearances for power plants and pipelines during shutdowns. Occasionally serve as a lead person for projects and/or provide functional supervision to other members of the O&M Team at the different water conveyance and distribution Specialist.

Utilizes Specialized in mechanical/electrical skills, experience, and a broad knowledge Conveyance and Distribution Specialist performs the practices and procedures of maintaining and ensuring the operational service necessary to store and distribute water and hydroelectric power effectively.

SUPERVISION:

Received:
The work of a Conveyance and Distribution Specialist is performed with intermittent on-site or self-requested supervision. Broad direction is given in terms of operations and maintenance objectives and may require self-initiated work planning, sequencing and coordination of material and tool resources. Limited detailed guidance and advice is available which may result in the modification of work in varied situations. Performance may be measured by the quantity and quality of work and operations and maintenance objectives.

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.

JOB DUTIES

1. Performs mechanical/electrical maintenance tasks and activities in the conveyance and distribution areas to ensure reliability and compliance with water distribution and environmental regulations.

2. Completes complex preventive and corrective maintenance activities on conveyance and distribution systems, reservoirs, hydroelectric systems, pipelines, feeders and canals, control and pressure-relief structures, and other appurtenances and process related to the effective delivery of water and electric power.

3. Repairs and rebuilds conveyance and distribution equipment, systems, and processes through appropriate steps (e.g. planning, procurement, fabrication, welding, assembly, installation, and testing) to restore the equipment, system, or process to its designed operating condition.

4. Performs predictive and preventive maintenance to determine equipment wear (e.g., laser alignment, vibration analysis, and oil analysis) to anticipate maintenance needs and enhance reliability and useful life of equipment.

5. Inspects tests, calibrates and records readings for more complex systems and equipment to enhance reliability and useful life of equipment including motors, compressors, valves, pumps, flow meters, cranes conveyance and distribution facilities including basins, tanks, and other related equipment.

6. Plans and coordinates scheduled and unscheduled maintenance activities and shutdowns to minimize equipment downtime or interruption of water deliveries.

7. Serves as lead and reviews work for accuracy and completeness. Ensures all appropriate administrative duties, such as maintenance and operations reporting and timekeeping are completed.

8. Responds to chemical releases and cleanup hazardous materials spills according to procedures in Metropolitan's Chemical Response Program.

9. Writes shutdown reports, approves switching and valving orders for power plants. Holds system and master clearances for power plants and distribution facilities.

EMPLOYMENT STANDARDS

MINIMUM QUALIFICATIONS

Education and Experience:

High school diploma or GED in addition to a minimum of 5 years in a journey-level operations and/or maintenance position within the Metropolitan Water District conveyance and distribution system.

Experience and knowledge beyond journey level as demonstrated by practical application of techniques and practices specific to the operation, maintenance, and repair of aqueduct infrastructure, pump plant, power generation systems, and related systems and apparatus. Skills necessary include predictive and diagnostic evaluation of complex utility pump and power equipment using analog and digital test as well as computer equipment. Also requires advanced skills in preventive and corrective maintenance practices related to aqueduct equipment and infrastructure, pump plant and hydroelectric plant maintenance generally obtained through applicable training and experience.

Required Knowledge: Theories and practices of mechanical/electrical equipment, electricity and electronics, and their application to operation and maintenance of large-scale mechanical/electrical

systems and equipment associated with pumping facilities, power plants and key large-scale water conveyance and distribution systems, contemporary large-scale pumping, conveyance and distribution systems, including troubleshooting methods, determination of failure causes, diagnostic analysis through failure mode, and root cause analysis to formulate best maintenance solutions, use of tools and techniques for welding, fabrication and machining to design, set-up and manufacture parts and equipment necessary to repair, modify and improve equipment and other assets as a comprehensive on-site maintenance approach to ensure reliability, and safety practices and regulations for operating mechanical and electrical equipment, low and high voltage systems, hazardous materials, and associated tools and equipment.

Required Skills and Abilities to: Understand and interpret mechanical and electrical engineering data and complex schematic diagrams necessary to implement predictive, preventive, corrective, and improvement activities, interpret complex instructions, manuals, operating and maintenance procedures and specifications related to pump and pumping control, cooling, and lubrication support systems, hydroelectric power systems and equipment as they pertain to the interface with distribution assets such as pumping, water volume, capacity and control, apply methods, practices, and tools to ensure reliable operations for the movement of water, generation of power, and optimization of equipment demands within established limits and standards, utilize tools and diagnostic equipment to test and monitor equipment condition as well as repair, rebuild/overhaul, install and replace equipment necessary to meet water and electrical generation demand and/or capacity, use and maintain mechanical/electrical tools and equipment normally and traditionally used in pump and hydroelectric plants, reservoirs, and within water and power control facilities, use traditional analog and precision digital instruments to ensure critical alignments as part of diagnostic and predictive maintenance, including infrared cameras and monitors, laser alignment equipment, analog and digital micrometers, calipers, and other tools related to close tolerance analysis of work, and apply and guide other in adhering to safety practices and regulations for operating mechanical and electrical equipment, low and high voltage systems, hazardous materials, and associated tools and equipment.

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 A, B, and/or C with appropriate commercial license endorsements
- Water Distribution Certification Grade III
- Water Treatment Certification Grade II
- Crane Operator Certification
- MWD High Voltage Switching Certification
- Welding Certification
- Forklift Certification
- Respirator Certification

PHYSICAL DEMANDS/WORK ENVIRONMENT

Expectations of 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.

Work Environment:
Work is performed indoors and outdoors at large pumping, hydroelectric or control facilities, or associated with other assets, under all types of conditions including extreme temperatures, remote locations, open and confined spaces ranging from crawl spaces to sub-structures as well as varied types of terrains. Job tasks frequently require working from heights and functioning from elevated platforms suspended by lifts, hoists, scaffolds and cranes over surfaces from earthen materials to concrete, steel and water. Work frequently is conducted in close proximity to high volume/pressurized water and electrically energized equipment including high voltage systems. The work environment often involves exposure to equipment and tools producing high levels of noise, as well as potentially dangerous materials, chemicals, and machinery that require careful adherence to extensive safety precautions, rules and regulations.