



THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

## OPERATIONS AND MAINTENANCE TECHNICIAN IV HEATING VENTILATION AIR CONDITIONING (HVAC) (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 Service Technician <b>Salary Grade:</b> 42 <b>Job #:</b> T03
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### **JOB SUMMARY**

Utilizes journey level mechanical/electrical skills, experience and knowledge in the practices, procedures, and methods of installing, improving, diagnosing, repairing and maintaining, both general and complex heating, ventilation and air conditioning systems.

Maintains and improves a variety of systems including air distribution systems and machinery, heat exchangers, furnaces, hot/cold deck systems, and pneumatic, digital, VAV controls and energy management systems related to Metropolitan's buildings and facilities systems. Supports the operational core of water and power reliability by effectively maintaining and improving the quality of working and operating environments within treatment plants, ozone plants, conveyance and distribution buildings including shops, offices, occupied and unoccupied structures including communication sites and computer rooms, as well as commercial/industrial systems.

Provides operational reliability, quality, capacity and energy efficiency of HVAC systems and output through a mix of general and advanced preventive and corrective maintenance skills to effectively meet or exceed customer expectations.

### **SUPERVISION:**

#### **Received:**

Work is performed with minimal and at times intermittent on-site supervision. Broad direction is given in terms of operations and maintenance objectives that 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.

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

**JOB DUTIES**

1. Performs preventive and corrective maintenance on a variety of commercial/industrial HVAC equipment, component parts and/or auxiliary units, including pneumatic, digital, VAV controls and energy management systems, electrical, and electronic controls to ensure working and operational environments necessary for effective facility use.
2. Troubleshoots HVAC problems and determines appropriate corrective action to eliminate equipment malfunctions and ensure effective HVAC service, output, and minimize equipment down time.
3. Effectively completes PM, CM and improvements on HVAC equipment such as various refrigerant systems, pneumatic control compressors, pumps, boilers, cooling towers, fan coils, evaporative coolers, louvers, dampers, filters, pneumatic controls, electrical, and electronic controls, blowers, solenoids, humidistats, thermostats.
4. Designs, fabricates and installs sheet metal ducting systems and registers to provide ongoing and necessary working and operating environmental aspects.
5. Performs PM, CM, and improvements on commercial/industrial equipment and systems such as chillers, walk-in refrigerator/freezers to maintain proper equipment operating conditions.
6. Operates heating and air conditioning equipment or auxiliary units according to manuals, directions, specifications or diagnostic indicators to provide HVAC output at desired and acceptable levels.
7. Reads, interprets, and takes the appropriate follow-up steps when monitoring equipment performance readings including energy usage information, control signaling and feedback, as well as a variety of system output measurements.
8. Designs and/or installs new or rebuilt HVAC systems and equipment and perform initial start-up procedures to place into operation, including quality checks of various gauges and instruments, as well as ensure the equipment and systems have the proper levels of power, water, lubricants, refrigerants, and air pressure needed for effective start-up and operation.
9. Provides effective preventive maintenance on a wide range of equipment of varied age, including PM of consumable parts such as filters, belts, fluids and chemicals.
10. Performs electrical and electronic diagnosis, repairs and installation related to HVAC systems such as replacing relays, programmable logic controllers, circuit boards, varied controls, as well as energy conservation related systems to ensure effective operation and equipment life.
11. Identifies, fabricates and procures parts needed to effectively complete PM, CM tasks associated with HVAC systems.

**EMPLOYMENT STANDARDS**

**MINIMUM QUALIFICATIONS**

**Education and Experience:**

High school diploma or GED with a minimum of 6 years experience, one year of which must be in commercial/industrial HVAC.

**OR**

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Job Code: T03

Adopted: 01/29/08

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*Metropolitan Water District of Southern California*

High school diploma or GED and attainment of journey level skills through a recognized HVAC 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, diagnosis, repair and maintenance of HVAC and refrigeration equipment. Skills necessary include mechanical, pneumatic, electrical, welding (brazing) and electronics.

**Required Knowledge of:** Commercial/industrial theories, practices, tools and materials for the maintenance and repair of heating, ventilation, air conditioning and refrigeration systems, plumbing, electricity, electronics and mechanical, sheet metal fabrication, welding, water and lubricant analysis as it applies to the operation and maintenance of HVAC mechanical/electrical systems, controls and equipment, refrigerant recovery and recycling requirements of the Environmental Protection Agency (USEPA) to ensure safe and effective handling of toxic substances to ensure environmental compliance, chemicals associated with parts and HVAC system cleaning such as coil cleaners and solvents, safe operating techniques and the occupational hazards of motorized or pneumatic equipment operation, and electrically energized HVAC components, and safety practices and regulations for maintaining and repairing HVAC equipment.

**Required Skills and Abilities to:** Diagnose malfunctions of HVAC equipment and systems (visually and/or aurally). Ability to use, operate, and troubleshoot system problems through HVAC computerized systems, including equipment and building comfort automation systems, read, interpret and develop sketches, diagrams, manufacturers' manuals, and specifications to complete installations and repair of complex HVAC systems, use and maintain electrical/mechanical tools and equipment normally and traditionally utilized in HVAC operation and maintenance, apply and guide others in adhering to safety practices and regulations for inspecting, maintaining, repairing HVAC 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 C
- EPA Certification to handle refrigerants (CFR 40 part 82, subpart F) (three parts—1,2, as a minimum, or universal)

### **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 assets 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 activity may be frequently conducted in close proximity to exposed, 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.