

Nothing in this job description restricts management's right to assign or reassign duties and responsibilities to this job at any time.

DUTIES Serves as Operator-in-Charge (OIC) in the Heating/Cooling Section of the Utilities Branch of the Engineering and Maintenance Department at Ronald Reagan Washington National Airport, Metropolitan Washington Airports Authority, (Airports Authority). Ensures safe and efficient operation of the central boiler and chiller plant during the day, evening, night and weekend shifts to provide heating and cooling for the Airport facilities. The central plant serves the terminal buildings, hangar lines, parking structures and other Airport facilities. Major equipment in the central plant includes a central computer-based control system, 3 high temperature water generators (200 MBTUH), five 1150 ton electrical centrifugal chillers, one 2.2 million gallon chilled water storage tank, 5 cooling tower cells, pumps, valves and auxiliary equipment and controls. Satellite systems, which work in conjunction with the central plant include local boilers, chillers, conversion equipment and heat exchangers. Typically works with one subordinate operator, providing directions as needed. Performs related functions.

Operates central plant equipment, and monitors performance through the Foxboro Distributed Control System (DCS), making critical decisions and adjusting operating parameters to improve performance and efficiency of the central plant during normal operations. Gives instructions to subordinate operator and coordinates actions. Monitors heating and cooling at all facilities served by the central plant via computers, and executes computer commands to open and or close valves, start and/or stop motor, etc., as needed. Interacts with operators at the terminal buildings and other facilities, investigates problems and takes corrective actions, as needed. Periodically records readings of meters and gauges on hot water generators, chillers, chilled water storage tanks and control panels. Based on readings, adjusts controls as needed. For example, adjusts temperature controls to heat water to 380° F and opens valves to add nitrogen or relieve excessive pressure. After receiving notification from the gas company to curtail gas usage, switches hot water generators from gas to oil; switches back to gas, when advised. Notifies the supervisor of such actions.

Records hourly readings of temperatures, pressures, flow, etc. for water, fuel oil, gas, as needed to ensure proper performance of all plant system equipment and piping. Identifies abnormalities by various indicators, such as color of flame, pressure, temperature, overheated bearings, sulfur odors and excessive vibration or noise from pumps, etc. Monitors plant status through the DCS, or at plant floor, to verify normal operating conditions. Responds to malfunctions or deviations in the normal operations of the central plant, such as high or low water levels, pressures or temperatures, thick smoke in stack, air compressor problem, pump failure, power outage, etc., or any complex problems involving multiple equipment or symptoms; works with other plant personnel to restore systems or equipment to normal operational status. Adjusts plant controls in automatic or manual mode to bring equipment into operating ranges, switch to back up equipment, shut down or warm up equipment.

Responds to heating and cooling problems by evaluating their type and level, takes action(s) needed to limit disruption to services and/or damages to equipment or personnel. Corrects the problem(s) with help as needed from supervisor(s) and fellow employee(s). In a major emergency, shuts down the plant or selected equipment in a safe and systematic manner; restarts it

after the emergency is resolved.

Ensures recording of shift operations in the daily log. Oversees the Division's after-hours work order desk on evening, night, and weekend shifts, or on day shift (when Maintenance Service Representatives are on leave or away from phones). Receives and logs incoming calls reporting any service problems (e.g., broken water mains, frozen pipes, major equipment failure, hot or cold complaints, or any emergencies, etc.), takes or directs action according to the situation and established procedures such as preparing work order(s) or calling in appropriate off-duty personnel to make repairs.

Uses specifications, drawings, vendor data, etc., to identify source(s) of malfunctions, formulate solutions, make repairs and/or adjustments, and verify correction of the problem. Fabricates piping and metal parts as needed for assigned tasks, such as parts for valves, pipe support brackets, etc. Performs routine maintenance tasks to ensure proper equipment performance, for example, inspects, cleans and changes burners and oil strainers, checks impellers for wear, replaces seals and changes bearings and filters on pumps, tests safety relief valves, packs valves and expansion joints on hot or chilled water piping, tightens packing glands, and cleans tubes annually. Uses amp meters, tachometers, gear and bearing pullers, oxygen and acetylene torches, pipe cutters and threaders and grinders to troubleshoot and make repairs.

Trains subordinate operators on plant operations and maintenance. Advises the supervisor of major malfunctions in safety controls or other operational areas. Supports the Airport Operations Duty Officer and public safety personnel in their work during after-hours (and during regular work hours for the Fire Department) on heating/cooling or other facility-based emergencies.

Signs for receipt of oil deliveries, ensuring that delivery amount is accurately recorded. Drives a vehicle to perform routine work or respond to trouble calls or emergencies, airside or landside. Helps keep the central plant clean.

Communicates and interacts effectively with internal and external business contacts including, but not limited to, other members of the unit/team, other Airports Authority employees (such as managers, supervisors, professionals, and support staff), vendors/suppliers/tenants, and Airport users.

Uses a computer and (a) modern office suite software (such as MS Office) to communicate (email); plan; schedule, word process (light word processing); manipulate data; and research (includes Internet use to search out new products); (b) enterprise system/software for requisitioning, and other functions, and (c) special systems/software such as Foxboro DGS used in the performance of DUTIES.

May drive a motor vehicle landside and airside in the performance of DUTIES or for snow removal.

Performs other duties as assigned.

Critical features of this job are described under the headings below. They may be subject to

change through reasonable accommodation or otherwise.

MINIMUM QUALIFICATIONS (MQs)

To be rated qualified for this job, an applicant must meet all of the MQs listed below at the time of vacancy announcement closure.

1. A high school diploma, or a Certificate of General Educational Development (GED), or an equivalent combination of education, experience and training.
2. Five years of progressively responsible experience (post high school) in operating, monitoring and/or maintaining central plant heating and cooling systems using high temperature hot water generators (or similar type), industrial chillers and chilled water storage tanks and their relation to hot and chilled water production. This includes (a) chillers, water levels, water pressure, cooling temperatures, refrigerant pressure-temperature relationship, refrigerant levels and temperatures and refrigerant cycles to maintain safe and efficient operation of cooling equipment and systems; (b) diagnostics for operating deviations and corrective steps; (c) knowledge of hot water generators, e.g., nitrogen pressurization system, maintaining proper temperature by making adjustments for varying weather conditions, taking equipment on or off line, distribution network of pumps, tanks and piping, etc.; (d) knowledge of energy conservation measures; (e) knowledge of refrigerant R-123 and precautions required in handling; and (f) experience using tools and equipment such as wrenches, gage manifold, power tools, test equipment for water analysis and related instruments, gauges and refrigeration leak analyzer, to monitor systems, perform preventive maintenance and troubleshoot problems.

Two of the five years of experience must have involved interpreting and applying schematics, diagrams and manuals to troubleshoot and isolate system malfunctions.

A License as a Master HVAC Mechanic is evidence of five years of progressively responsible HVAC trade experience, but is not, by itself, evidence of the two years of specialized experience in the operation, testing, diagnosing, maintenance, and repair of a range of HVAC equipment and systems as specified.

3. Education, experience, or training indicating the ability to make decisions, take action, or direct the actions of others to maintain or restore service until relieved; and to perform related Operator-In-Charge functions.
4. Environmental Protection Agency (EPA) Universal Certification (Section 608) to service HVAC/Refrigeration Equipment or ability to obtain certification within 90 days from the date of the Final Offer Letter. A qualified candidate who is selected, but lacks certification, must obtain certification within 90 days of the date of the Final Offer Letter.

PREFERRED QUALIFICATIONS

The qualifications listed below (if any) are preferred and may be considered in the selection

process, but they are not required to be rated qualified for this job.

1. A License as a Master HVAC Mechanic.
2. EPA Universal Certification (Section 608) to service HVAC/Refrigeration Equipment.
3. Experience working safely in a trade on a busy airfield or in an equivalent work environment such as, but not limited to, working in a trade requiring prolonged concentration and attention to detail amid maritime or motor freight cargo loading/unloading or other types of near-constant movements/operations that require continuous situational awareness and alertness to continually changing circumstances and events.

KNOWLEDGE, SKILLS, ABILITIES, AND OTHER FACTORS (KSAOs)

The following KSAOs are required for successful performance of this job and are a basis for rating and ranking applicants who are found to meet the MQs. *Local, Federal, airport industry, or Airports Authority specific bodies of knowledge listed below may be acquired on the job, typically; ability to rapidly acquire them is required at the time of vacancy announcement closure.*

1. Knowledge of the principles and operating characteristics of central plant heating and air conditioning systems to perform journey-level work including, using high temperature hot water generators, industrial chillers and chilled water storage tanks and their relation to hot and chilled water production. Knowledge on energy conservation concepts and practices for central heating and cooling systems, and ability to recognize operating deviations and make necessary corrections. This includes, but is not limited to:
 - a. Knowledge of chillers, water levels, water pressures, cooling temperatures, refrigerant pressure-temperature relationships, refrigerant levels and temperatures and refrigerant cycles to maintain safe and efficient operation of cooling equipment/systems; and
 - b. Knowledge of hot water generators, e.g., nitrogen pressurizing, maintaining temperature through varying weather conditions, taking equipment on or off line, switching burners from natural gas to oil, etc.
2. Knowledge of Airport HVAC systems and equipment to be able to relate operations of the central plant chillers to the HVAC distribution. Knowledge of refrigerant R-123 and the precautions required in handling it.
3. Knowledge of Airport priorities for service and emergency procedures to make decisions and take or direct action(s) to maintain or restore service until relieved.
4. Knowledge of the layout of heating and cooling systems, machine rooms, water, gas and sewer lines and related gauges, pumps, valves and controls throughout the Airport complex to respond quickly and effectively to problems, service calls and emergencies.

5. Skill in using a computer and (a) modern office suite software (such as MS Office) to communicate (email); plan; schedule; word process (light word processing); manipulate data and develop reports; and perform research (Internet use, to search out new products); (b) enterprise systems/software for requisitioning and other functions; and (c) special systems/software such as Foxboro DGS semi-automated computer-based instrumentation and distributed control systems for heating/cooling systems to verify normal operating performances, adjust controls and identify and isolate operational problems.
6. Skill in oral communication to understand verbal information (including instructions, descriptions, and ideas) and to express such information verbally so that others will understand. This includes the ability to encourage oral communication by others. Examples include exchanging routine and non-routine operational and procedural information with co-workers, workers from other areas, and, as necessary, Airport Operations Duty Officers, public safety personnel and other personal contacts, especially concerning corrective actions needed for after-hours service problems or other facility-based emergencies.
7. Interpersonal skills to interact with contacts in a businesslike, customer service-oriented manner.
8. Ability to interpret and apply schematics, diagrams and manuals to troubleshoot and isolate system malfunctions.
9. Skill in using tools and equipment, such as hammers, wrenches, amp probe, pH meter, gauges and refrigeration leak analyzer to monitor systems, perform preventive maintenance and troubleshoot problems.
10. Skill in written communication to understand written information (including instructions, descriptions, and ideas) and to express such information in writing so that others will understand. Examples include reading technical-operational materials (such as technical manuals, maintenance schedules, and work orders) and writing briefly about similar types of matters, such as closing out work orders.
11. Ability to work safely and knowledge of the safety rules and procedures needed to do so.

RESPONSIBILITY Is responsible for safe, efficient, and continuous operation of hot water generators, chillers, chilled water storage tank and related equipment and controls in accordance with procedures, instructions and accepted trade practices. Works under the direction of the Heating and Cooling Plant Supervisor when he/she is on the same shift (typically the day shift); works independently as OIC at all other times. As OIC, exercises authority, within guidelines, to take or direct actions needed to maintain or restore service, typically providing direction to and receiving assistance from one subordinate operator. Dispatches subordinate operator to trouble calls regarding utility systems and other maintenance problems throughout Airport. Performs corrective actions at the central plant via operator console, and/or, in the absence of the Supervisor, dispatches personnel to the scene. Advises the Supervisor or Branch Manager of irregularities or conflicts. Advises Supervisor on effectiveness of subordinate operators, tardiness and other disciplinary criteria, as well as significant accomplishments of the

subordinate operators. The Supervisor reviews completed work for quality, quantity, timeliness, and customer service through logs, reports, spot checks and other means.

EFFORT Work typically requires walking, standing, stooping, kneeling, crouching, reaching or other positioning of self to access and monitor heating and cooling equipment. Ascends stairs and vertical ladders to monitor equipment and diagnose problems. Lifts, pushes/pulls or otherwise moves items weighing up to 50 pounds. Typically identifies potential problems by visible/audible symptoms, for example, makes diagnosis and determines effectiveness of repair by displays and read-outs of dials, gauges and monitors, distinguishes shade of boiler feed water testing materials, detects overheating motors by excess heat given off and detects leaks by odors given off. Exchanges work information by telephone and two-way radio. In driving, operates vehicle using judgment in consideration of weather, traffic and other factors.

WORKING CONDITIONS Works primarily inside with near-constant exposure to noise from boilers and compressors. Is subject to dust, grease and dirt; possible burns from chemicals or hot piping; potential falls from slippery surfaces or ladders; injury from blown gaskets on high pressure lines; and high temperatures of plant. Is exposed to all kinds of weather when responding to trouble calls. Works at a computer console for extended periods. Annually, may work inside the hot water generators for periods ranging up to most of the shift. Takes care, follows safety procedures and wears goggles, insulated and rubber gloves, safety shoes, hard hat and other personal protective gear, as appropriate.

OTHER SIGNIFICANT JOB ASPECTS Subject to hold-over or recall on a 24-hour basis for essential services and emergencies such as snow removal.