

ENVIRONMENTAL CONTROL SYSTEM TECHNICIAN

Nature of Work: Under general supervision, performs experienced level work in the operation of a computerized building heating, ventilation and air conditioning system (HVAC). Monitors and controls the automation system which receives information from zone sensors in various locations in a building complex. The technician also monitors building security and fire protection information and notifies emergency personnel as required. Uses a microcomputer to schedule preventive maintenance. Performs related work as required.

Examples of Work

- Operates a building automation system which uses software and interfaces with the maintenance microcomputer.
- Monitors a color VDT to determine the temperature of the supply and return air, outside temperature and humidity, outside wall mass temperature and zone temperatures. Ensures proper operation of boilers, air handlers, chillers, heating coils, louvers and the pneumatic control system; locates problems or equipment failures such as dirty filters, broken belts, overheated bearings or burned-out motors and detects fire alarm and building security location information.
- Uses the computer provided information to decide when to alter temperatures and/or set and change the parameters allowing the computer to make the necessary adjustments automatically.
- Locates the proper building plans and schematics for the zone in which the problem exists; reads and interprets plans and schematics in the troubleshooting procedure to identify the exact location of the problem. Informs maintenance crew as to which component has failed or when preventive maintenance is due.
- Studies printout daily to determine problems which have occurred within the last 24 hours and informs maintenance where repairs are needed.
- Operates a microcomputer using a specialized program for maintenance management and for an inventory of parts and equipment in the building complex.
- Obtains scheduled preventive maintenance assignments on a calendar basis from the microcomputer; passes on the assignments to the preventive maintenance crew.
- Generates work orders for reported repair problems.
- Generates reports using the microcomputer which show energy consumption such as kilowatt hours, BTU's and the cost; compares cost and usage between years to monitor the efficiency of the system over a period of time.

ENVIRONMENTAL CONTROL SYSTEM TECHNICIAN (CONT'D)**Knowledge, Skills and Abilities**

- Knowledge of heating, ventilation and air conditioning operating characteristics.
- Knowledge of basic repair procedures used for HVAC, electrical and plumbing systems.
- Knowledge of computer programming and operation at the level necessary to set parameters and give the computer alternatives.
- Ability to type accurately at a speed of 20 to 25 words per minute for long periods of time at a computer console.
- Ability to detect unusual heating and cooling characteristics and problems.
- Ability to read building plans, schematics and electrical circuits and diagrams to troubleshoot problems.
- Ability to manually control temperatures by entering commands into the computer.
- Ability to change the parameters of control for the computer so it can automatically set or change the temperature in the various zones.
- Ability to generate reports which indicate overall efficiency and operating costs of the system using the microcomputer.
- Ability to work effectively with superiors, co-workers and maintenance workers.
- Ability to use the microcomputer to schedule preventive maintenance and the work orders for repairs.
- Ability to interpret and use the technical operation manuals.

Minimum Qualifications

Training: Completion of a program in heating and air conditioning, electronics, computer repair, or HVAC mechanics from a military or an approved trade school plus a course in computer programming or operation.

Substitution: Two years of full-time or equivalent part-time paid experience working as a heating, ventilation and air conditioning mechanic, electronics technician, or as a building equipment mechanic using building plans and reading schematics to repair heating and cooling systems. Use of a microcomputer or larger model at home or on the job may be substituted for the computer course.

Special Requirement: Specific positions may require certification from a federal EPA approved testing organization as a certified technician required by the Clean Air Act on refrigerant recycling.

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