

BUILDING ENGINEER

DEFINITION

Conducts preventive maintenance, adjusts, and makes minor repairs to heating, ventilating, and air-conditioning equipment that include steam and hot water boilers, cooling and evaporative condensers, chillers, direct cooling expansion systems, thermal storage systems, controls, supply and exhaust fans, hot and chilled water pumps, and associated piping.

TYPICAL DUTIES

Servicing heating, ventilating, and air-conditioning equipment by performing preventive maintenance tasks that include: oiling, greasing, changing air filters, testing water for proper chemical balances, adjusting chemical feed equipment to control scale and corrosion, adjusting belt tensions on drives, and checking alignments on blowers and motors.

Calibrates thermostats, adjusts floats, checks operating and safety controls for proper set points, insures that adequate combustion air is available to gas burning appliances by maintaining clean outside air screens.

Read and record temperatures, pressures, gas and water usage on boilers and other equipment located in the physical plant.

Conducts minor repairs on components of the heating and air-conditioning systems, such as electric, electronic, pneumatic, operating and safety controls, damper controls, fire dampers, supply and exhaust fans, pressure cookers, jacketed kettles, water circulating pumps, boiler feed pumps, hot and chilled water coil control valves and steam control valves.

Makes emergency repairs in connection with routine maintenance while the plant is operating and may assist Heating and Air Conditioning Fitters while the plant is shut down.

Instructs Building and Grounds Workers, Plant Managers, and Maintenance Workers in the operation of heating plants.

Operates complicated heating and cooling mechanical equipment of various types, such as: steam boilers, hot water boilers, steam-to-hot water converters, fluid coolers, evaporative condensers, cooling towers, centrifugal circulating pumps, heating coils, cooling coils, chillers, and other equipment in emergencies to maintain comfortable classroom conditions.

Performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS AMONG RELATED CLASSES

A Building Engineer services and maintains low-pressure heating systems, ventilating and air-conditioning systems and related equipment, tests water used in closed loop water systems and boilers, and adjusts chemical feeding equipment to control scale and corrosion on pressure vessels and cooling towers.

A Senior Building Engineer schedules work projects, instructs, and supervises Building Engineers in the operation and maintenance of heating, ventilating and air-conditioning equipment.

SUPERVISION

General supervision is received from an Area Heating and Air Conditioning Supervisor. Technical supervision is received from a Heating and Air Conditioning Technical Supervisor.

CLASS QUALIFICATIONS

Knowledge of:

Operation and preventive maintenance of various types of natural gas fired hot water and steam boilers, chillers, direct expansion refrigerant systems, thermal storage systems, cooling towers, fluid coolers, evaporative condensers, pumps, controls, and air filters found in heating and air-conditioning systems

Instruments such as thermometers, manometers, natural gas meters, water meters, ammeters, voltmeters, watt-meters, airflow-meters, and other meters found in heating and air-conditioning systems

Operation, calibration, and maintenance of thermostats and other sensitive instruments used to control heating, ventilating, and air-conditioning systems

Safety procedures related to the operation and preventive maintenance of heating, ventilating, and air-conditioning equipment, and the use of water treatment chemicals

Ability to:

Perform chemical testing of water and adjust chemical feed equipment as used for corrosion and scale control

Instruct others on the operation of heating plants

Work effectively with District personnel and without immediate supervision

Special Physical Requirements:

Ability to stand, walk, bend, crawl, reach overhead, crouch, kneel, balance, push, pull, and lift up to 100 pounds

Ability to work safely at heights including the use of ladders, scaffolds, and other related equipment

Ability to work in confined spaces

Ability to do physical work under conditions involving temperature extremes

ENTRANCE QUALIFICATIONS

Education:

Graduation from high school or evidence of equivalent educational proficiency and nine semester units of college level courses in heating and air conditioning or related fields.

Experience:

Three years of experience in the operation and maintenance of cooling towers, hot water or steam boilers, chillers, and air handling systems, as found in hospitals, schools, industrial and power plants, Army, Air Force, and Navy bases including ships.

Special:

Possession of a Universal License in accordance with Environmental Protection Agency (EPA) Rule 608 of the Clean Air Act is preferable.

Possession of a Boiler Program Certificate is preferable.

A valid driver's license to legally operate a motor vehicle in the State of California and use of a motor vehicle.

SPECIAL NOTES

1. Requires wearing a negative pressure respirator.
2. Employment is subject to medical clearance which meets pertinent provisions of the General Industry Safety Orders of the California Code of Regulations regarding protective equipment when exposed to hazardous materials including, but not limited to, asbestos or lead.

This class description is not a complete statement of essential functions, responsibilities, or requirements. Requirements are representative of the minimum level of knowledge, skill and/or abilities. Management retains the discretion to add or to change typical duties of the position at any time.

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