

PD Tracking Number - 10273

Series, Title and Grade

5402, Boiler Plant Operator, WG-10

Department - Veterans Affairs

Introduction

The purpose of the position is to operate, maintain, and repair single or multiple fuel power boilers and associated auxiliary and pollution control equipment. The position is located at a Department of Veteran Affairs (VA) medical facility or clinic.

Major Duties

Starts, operates, adjusts, stops, maintains, and performs various operational repairs on single or multiple fuel power boilers and associated auxiliary and pollution control equipment. Maintains boiler efficiency, controls the formation of pollutants, and ensures efficient combustion levels and compliance with air pollution laws or regulations; and monitors, adjusts, and controls all phases of boiler plant operations through the use of automatic or microprocessor controls or control systems.

Determines the treatment to be used to control chemical concentrations, removes impurities and entrapped gases, or stabilizes fluctuating water conditions in the boiler; checks the operation of safety equipment such as flame extinction, low water cut-outs, high pressure cut-outs, and purge type combustion safeties; and performs operational maintenance and repairs on mechanical parts and systems.

Adjusts fuel feeds and the volume and velocity of draft and other fire box variables to achieve maximum combustion efficiency with changing load demands or variations in fuel quality. Regularly observes and notes readings on gauges, meters, detectors, recorders, boiler water level indicators, and computer generated and analog displays to detect danger signals in operations.

Checks the operation of safety equipment such as flame extinction, low water cut-outs, high pressure cut-outs, and purge type combustion safeties; and performs operational maintenance (e.g., lubricate equipment and power clean water tubes) and repairs of limited to moderate complexity (e.g., replace or repair valves, gauges, and pumps) on mechanical parts and systems.

Maintains efficient combustion levels and ensure compliance with air pollution laws or regulations. Through the use of manual, automatic, or microprocessor controls or control systems, the incumbent monitors, adjusts, and controls all phases of boiler plant operations. Utilizes electronic, hydraulic, and pneumatic controls, and zone charts in conjunction with meters, gauges, and computer generated data to determine adjustments or corrections necessary for proper boiler operations or changing load requirements.

Factor

Skill and Knowledge

Comprehensive knowledge of all operational phases of power boiler plant operations (e.g., water treatment, fuel systems, steam generation, and pollution control) and their interrelationships for efficient and economical generation of steam or high temperature hot water (HTHW). Knowledge of the principles and theories pertaining to combustion, heat transfer, and steam or HTHW generation in the operation of power boiler plants; and a thorough knowledge of the structural and operating characteristics of single and multiple fuel power boilers and associated auxiliary and pollution control equipment in order to properly operate, adjust, troubleshoot, and maintain the equipment and systems. Thorough knowledge of water treatment procedures and water analysis; a thorough knowledge of water treatment equipment and systems; a thorough knowledge of chemical and physical aspects of sulfur-containing fuels, the chemical reactions involved in combustion, and the relationship between fuel quality and combustion efficiency; a practical knowledge of environmental law and a thorough knowledge of procedures or adjustments during combustion to control pollutants in flue emissions; a thorough knowledge of the steam or HTHW distribution systems, user requirements, casualty control procedures, and how to bypass a section of the stem to maintain service; and a knowledge of maintenance requirements and procedures in order to perform operational repairs of limited to moderate complexity (e.g., repair or replace valves, gauges, water pipes, and refractory linings); conduct chemical tests; determine the treatment and chemicals to be used to control chemical concentrations, removes impurities and entrapped gases, or stabilizes fluctuating water conditions in the boiler; and comply with air pollution laws or regulations

Responsibility

The supervisor provides written or oral instructions which may be accompanied by diagrams, drawings, operating manuals, or special facility procedures to be followed during emergencies, equipment failure, or system malfunction. The incumbent, who is familiar with the total plant layout including drawings and circuit diagrams of the boilers and auxiliary and pollution control equipment, locates problems and determines appropriate action necessary to maintain adequate steam or high temperature, hot water production. The incumbent has primary responsibility for checking boilers and auxiliary and pollution control equipment to insure the operational efficiency of equipment and safety of personnel; and takes immediate action to prevent interruptions to plant operations. Completed work is checked to insure that it meets accepted practices.

Physical Effort

The work, which is performed frequently in confined areas in and around boilers and support equipment, requires moderate to strenuous effort and long periods of walking, standing, climbing, bending, and crouching. The incumbent must frequently lift and carry boiler parts and chemical supplies weighing up to 40 pounds unassisted and occasionally items weighing over 40 pounds with assistance of other workers or weight handling equipment.

Working Conditions

The work is usually performed indoors in conditions of high temperatures, constant noise, rotating machinery, soot, dirt, grease, chemicals, oil, and fumes. The incumbent is subject to cuts and abrasions from the use of tools and equipment and burns from acids, caustics, hot water, steam, and contact with piping and boilers. In addition, he/she works on catwalks and ladders.

Position Classification Standard Used
Boiler Plant Operating, 5402, TS-60 March 1991