

IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES ▼  
HUMAN RESOURCES ENTERPRISE  
POWER PLANT ENGINEER 4

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**DEFINITION**

Performs advanced journey level and leads two or more employees, volunteers, inmates or residents in the operation, maintenance and repair of steam generating boilers, electrical generating equipment and auxiliary systems, and centralized air-conditioning systems; performs related work as required.

**The Work Examples and Competencies listed are for illustrative purposes only and not intended to be the primary basis for position classification decisions.**

**WORK EXAMPLES**

Assists a supervisor by performing such duties as instructing employees, answering questions, distributing and balancing the workload and checking work; may make suggestions on selection, promotions and reassignments.

Oversees the operation, maintenance and repair of plant equipment and auxiliary systems; recommends changes in operational methods and procedures.

Diagnoses problems relating to equipment malfunctions and makes mechanical, electrical and plumbing repairs to power plant equipment or auxiliary systems.

Operates steam and electrical generating turbines and/or generators to provide emergency electrical power; synchronizes turbine or generator with an outside power source or operates independently.

Performs routine preventive maintenance on equipment and auxiliary systems; oils and lubricates fans, motors, pumps and generators and cleans screens, strainers, burners and automatic controls; rotates turbine shaft.

Blows down the boilers, checks low water cut off and automatic controls and manually opens/closes the valves.

Makes chemical tests of boiler feed water for alkalinity, chlorides, hardness and pH level and adds required chemical to water.

Repairs steam turbines, boilers, water pumps, fans and motors and replaces defective parts.

Analyzes operational data and fuel consumption averages and projects expenditures for new equipment, parts and materials.

Maintains inventory control records of parts, supplies and materials for maintenance and emergency repairs.

**COMPETENCIES REQUIRED**

Knowledge of the principles, methods, manufacturers manuals, and procedures; fuel and equipment used in the operation, maintenance and repair of steam generating boilers, electrical generating turbines and generators, centralized air-conditioners and auxiliary equipment.

Knowledge of plant safety and accident prevention measures required for operating, maintaining and repairing all power plant equipment.

Knowledge of chemical water testing and treatment methods and procedures used to prevent scaling, pitting of boiler tubes and buildup of sludge deposits.

Skill in operating and controlling steam generating systems.

Skill in regulating and/or synchronizing steam and electrical power generating systems.

Ability to analyze and diagnose equipment malfunctions, isolate the defective components and make necessary repairs or replacements.

Ability to physically operate, adjust and control steam and electrical generating systems requiring climbing, lifting, bending and walking.

Ability to withstand constant high noise, fumes, poor lighting and ventilation and high temperature levels.

Ability to learn the repair, maintenance and installation of fire protection systems.

Displays high standards of ethical conduct. Refrains from dishonest behavior.

Works and communicates with all clients and customers providing polite, quality professional service.

Displays a high level of initiative, effort, attention to detail and commitment by completing assignments efficiently with minimal supervision.

Follows policy, cooperates with supervisors and aligns behavior with the goals of the organization.

Fosters and facilitates cooperation, pride, trust, group identity and team spirit throughout the organization.

Exchanges information with individuals or groups effectively by listening and responding appropriately.

#### **EDUCATION, EXPERIENCE, AND SPECIAL REQUIREMENTS**

Experience equal to four years of full-time work in the operation, maintenance and repair of steam generating boilers, centralized air-conditioning or electrical power generating equipment and auxiliary systems;

OR

an equivalent combination of education and experience, substituting 30 semester hours of accredited coursework in the operation, maintenance and repair of steam boilers from a military school or a recognized trade or vocational school or an area college for each year of the required experience to a maximum substitution of one year;

OR

employees with current continuous experience in the state Executive Branch that includes experience equal to two years of full-time work as a Power Plant Engineer 3.

#### **SPECIAL REQUIREMENTS**

Within a period of time as determined by the appointing authority, certain employees in this class may be required to obtain a Fire Sprinkler Installer and Maintenance License in accordance with Chapter 100D, Iowa Code.

Designated positions in this class require applicants to obtain the required certification, license and endorsements within a period of time as determined by the appointing authority at the time of hire.

Effective Date: 04/10 DDF