UNIVERSITY OF SOUTHERN CALIFORNIA
Engineer Journeyman- Module B
Job Code: 180251

Grade: TA
OT Eligible: Yes
Comp Approval: 12/1/2004

JOB SUMMARY:
Performs standard engineering procedures for all boilers and related equipment on heating and ventilation systems. Determines need to repair and/or replace equipment. Estimates materials required for specific job components. Participates in the Engineer Pay for Knowledge and Skills Program including on-the-job training. Performs all appropriate module tasks and demonstrates proficiency as outlined in the Engineer Pay for Skills section, independently or as part of a team, as assigned by the supervisor. May perform tasks in higher-level modules. Trains journeymen and other employees specific skills and tasks as required.

JOB ACCOUNTABILITIES:

*E/M/NA % TIME

Repairs, replaces and adjusts pumps, fans, motors, steam valves, heat exchangers, mechanical seals, and building stationary equipment. Works from blueprints, specifications and schematic diagrams.

Inspects exhaust fans and motors, chemical fume hoods, sump pumps, sewage ejectors, air compressors, condensate pumps, circulating pumps, cooling water system, furnaces, heat exchangers and reverse osmosis units (distilled water system).

Performs routine safety check on boilers, heating furnaces and all heating and ventilating equipment.

Monitors and maintains emergency generators, fountains, water softeners and swimming pool equipment. Conducts analysis of water system (boiler water, condensate water, cooling water, soft water system, heating and hot water system, lab equipment and city water) and adjusts chemical levels as required.

Identifies and resolves operational and safety problems pertaining to heating and ventilating system.

Installs equipment and fabricates components for system and equipment.

Estimates materials required for specific job components.

Maintains clean job site throughout duration and cleans up job site following work completion. Maintains safe working conditions for self and others. Stores and maintains supplies, tools and equipment.

Trains other journeymen, Zone Maintenance Technicians, or other employees specific skills and tasks, as required.

Prepares reports and/or maintenance records, as needed.

Responds to on-call emergencies.

*Select E (ESSENTIAL), M (MARGINAL) or NA (NON-APPLICABLE) to denote importance of each job function to position.
EMERGENCY RESPONSE/RECOVERY:

Yes  In the event of an emergency, the employee holding this position is required to "report to duty" in accordance with the university’s Emergency Operations Plan and/or the employee’s department’s emergency response and/or recovery plans. Familiarity with those plans and regular training to implement those plans is required. During or immediately following an emergency, the employee will be notified to assist in the emergency response efforts, and mobilize other staff members if needed.

JOB QUALIFICATIONS:

Minimum Education:
High School Diploma or equivalent and completion of four year apprenticeship program

Minimum Experience:
4 Years

Minimum Field of Expertise:
Four years experience as a trade-related trainee may substitute for completion of a four year apprenticeship program. Additional four years minimum experience must be as a journeyman. Experience performing standard trade-related procedures. General knowledge of trade-related methods, materials, tools, and equipment. Familiar with city and state building codes, OSHA rules and regulations, standard safety practices and equipment, and other requirements for workplace safety. 500 (HP) License (HSC Engineers).

Preferred Education:
Related Undergraduate Study

Skills: Administrative:
Compute totals
Gather data
Input data
Prioritize different projects
Read handwritten text
Understand and apply policies and procedures
Use computerized spreadsheets
Use database and/or word processing software
Verify calculations

Skills: Other:
Communication -- written and oral skills
Knowledge of applicable laws/policies/principles/etc.
Planning
Scheduling

Skills: Machine:
Calculator
Personal Computer

Skills: Trade/Auxiliary:
Calculate measurements
Identify technical and equipment problems related to trade
Supervises: Level:

Trains journeymen and other employees on specific skills and tasks as required

Comments:

Valid California Driver’s License required. Must own designated hand tools.

Pay for Skills:

- Prepare reports and/or maintenance records
- Read, interpret, and comprehend design drawings, blueprints, plans, specifications, and/or sketches
- Use and/or operate various stationary machinery, hand held power tools, and/or non power tools
- Perform daily water analysis of boiler
- Perform compressor/vacuum annual pm
- Diagnose electric/pneumatic motor malfunction
- Check/repair cooling tower/boiler treatment chemical injection pump
- Perform bi-weekly preventive maintenance on emergency generator
- Perform monthly preventive maintenance on boiler
- Repair/replace electric boiler heating coil bundle
- Replace an activator motor on a boiler feed line
- Inspect/repair main steam distribution man hole
- Repair/replace motor starter
- Align motor and pump shaft
- Replace pump coupling
- Service main pool sand filters
- Troubleshoot battery charger failure on generator
- Replace belts on generator/fire pump engine
- Replace water pump and thermostat on generator
- Replace hoses on generator/fire pump engine
- Perform quarterly preventive maintenance on compressor/vacuum
- Perform quarterly preventive maintenance on emergency generator
- Check boiler safety control daily
- Repair/replace high temperature or pressure limit
- Repair/replace high pressure gas switch
- Repair/replace air flow switch
- Repair/replace boiler float switch control
- Repair/replace gas valve
- Repair/replace pilot igniter
- Repair/replace low pressure gas switch
- Replace fan shaft
- Repair/replace air pressure switch
- Repair/replace unloader and check valve
- Replace fuel pump
- Coordinate work with other crafts or areas
SIGNATURES:

Employee: ____________________________ Date:______________________________

Supervisor: __________________________ Date:______________________________

The above statements are intended to describe the general nature and level of work being performed. They are not intended to be construed as an exhaustive list of all responsibilities, duties and skills required of personnel so classified.

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