UNIVERSITY OF SOUTHERN CALIFORNIA
Engineer Journeyman- Module C
Job Code: 180255

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

JOB SUMMARY:
Provides leadership and guidance to journeymen and Zone Maintenance Technicians. 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. Trains journeymen and other employees specific skills and tasks as required.

JOB ACCOUNTABILITIES:

<table>
<thead>
<tr>
<th>*E/M/NA</th>
<th>% TIME</th>
<th>TASK DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>______</td>
<td>_____</td>
<td>Provides leadership and guidance to others who perform similar work. Sets priorities and timelines and monitors the work of others.</td>
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<tr>
<td>______</td>
<td>_____</td>
<td>Repairs, replaces and adjusts pumps, fans, motors, steam valves, heat exchangers, mechanical seals, and building stationary equipment. Works from blueprints, specifications and schematic diagrams.</td>
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<tr>
<td>______</td>
<td>_____</td>
<td>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).</td>
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<tr>
<td>______</td>
<td>_____</td>
<td>Performs routine safety check on boilers, heating furnaces and all heating and ventilating equipment.</td>
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<tr>
<td>______</td>
<td>_____</td>
<td>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.</td>
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<tr>
<td>______</td>
<td>_____</td>
<td>Identifies and resolves operational and safety problems pertaining to heating and ventilating system.</td>
</tr>
<tr>
<td>______</td>
<td>_____</td>
<td>Installs equipment and fabricates components for system and equipment.</td>
</tr>
<tr>
<td>______</td>
<td>_____</td>
<td>Estimates materials required for specific job components.</td>
</tr>
<tr>
<td>______</td>
<td>_____</td>
<td>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.</td>
</tr>
<tr>
<td>______</td>
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<td>Trains other journeymen, Zone Maintenance Technicians, or other employees specific skills and tasks, as required. Identifies additional training or defines needs for new or continuing training which would benefit staff.</td>
</tr>
<tr>
<td>______</td>
<td>_____</td>
<td>Prepares reports and/or maintenance records, as needed.</td>
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<tr>
<td>______</td>
<td>_____</td>
<td>Responds to on-call emergencies.</td>
</tr>
</tbody>
</table>
Performs other related duties as assigned or requested. The University reserves the right to add or change duties at any time.

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

**EMERGENCY RESPONSE/RECOVERY:**

<table>
<thead>
<tr>
<th>Essential:</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
</table>

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:**

5 Years

**Minimum Field of Expertise:**

Four years experience as a trade-related trainee may substitute for completion of a four year apprenticeship program. Additional five 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
- Coordinate work of others
- 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
- Interviewing
- Knowledge of applicable laws/policies/principles/etc.
- Lead/Guidance Skills
- Planning
Scheduling
Teaching/Training

Skills: Machine:
- Calculator
- Personal Computer

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

Supervises: Level:
- Leads one or more employees performing similar work
- 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:
- Diagnose auto transfer switch for emergency generator
- Monthly preventive maintenance on diesel fire pump (UPC) / monthly preventive maintenance on emergency electric fire pump (HSC)
- Analyze boiler burner combustion every six (6) months
- Troubleshoot emergency generator engine malfunction
- Perform annual preventive maintenance on emergency generator
- Repair/replace boiler components
- Repair auto transfer switch for emergency generator
- Perform semi-annual preventive maintenance on boiler
- Hydro test boiler tubes
- Determine causes of safety shutdown on generator/fire pump
- Adjust and set cut-in/out pressures for fire pump and jockey pump
- Troubleshoot fire pump/jockey pump controller malfunction
- Repair/replace speed drive controller
- Repair/replace boiler combustion controller failure
- Diagnose boiler control components failure
- Diagnose electric boiler control and components failure
- Adjust or replace mechanical engine governor
- Rebuild carburetor
- Troubleshoot large pressure relief valve on fire pump system that does not close
- Coordinate work with outside contractors, inspectors, and public utilities
- Interview prospective employees
- Train others on-the-job
- Advise and assist other shops/trades
Develop and distribute on-the-job training materials
Direct, plan, and schedule the work of others

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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