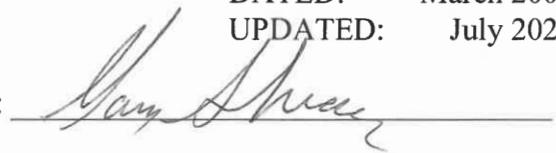


POLICY: I: 27 Hot Work
Procedure Review: Annually

DATED: March 2009
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APPROVED: Executive Director of Facilities and Construction:



I. INTRODUCTION

The safe use of hot work equipment is crucial to the safety of the JMU community and the integrity of operations of the university. Proper hot work procedures and techniques greatly reduce the risk of personal injury and the loss of property.

II. PURPOSE

To ensure the safety of the JMU community and to comply with OSHA and insurance carrier regulations in regards to hot work.

III. RESPONSIBILITIES

- A. Executive Director of Facilities and Construction - Responsible for overall implementation of this procedure.
- B. Directors, Managers, and Supervisors - Responsible for ensuring employees in their department who perform hot work follow the procedure.
- C. Risk Management Safety and Training Coordinator – Provides training for employees performing hot work.
- D. Risk Management Fire/Safety Engineer – Evaluates hot work compliance to ensure policies are adhered to.
- E. Employees performing hot work - Responsible for following the procedures listed in this policy and complying with regulations in regards to hot work. Employees who are performing hot work cannot be Fire Watch staff.
- F. Fire Watch Employee – An employee designated to observe the hot work who is equipped to extinguish fires in the event of an emergency.

IV. DEFINITIONS

Competent Hot Work Supervisor (CHWS) - Individual responsible for inspecting the permit-required area and issuing the hot work permit. The CHWS cannot be the hot work operator, however, the CHWS can be the fire watch staff. The CHWS can be a manager, supervisor or other employee designated by a manager or supervisor.

Designated Area - Location designed for hot work operations where a permit or fire watch is not required. These areas meet the criteria on the hot work permit.

Fire Watch Personnel - An individual posted in specific circumstances to observe the hot work and monitor conditions to ensure a fire or explosion does not occur as a result of the work performed.

Hot Work - Work involving welding, brazing, soldering, grinding and other similar applications producing a spark or flame capable of initiating fires or explosions.

Hot Work Permit - A document issued by the CHWS for the purpose of authorizing a specified activity.

Hot Work Operator - An individual designated to perform hot work under the authorization of a CHWS.

Welding and Allied Processes - Those processes such as arc welding, oxy-fuel gas welding, open-flame soldering, brazing, thermal spraying, oxygen cutting, and arc cutting.

V. PROCEDURE

- A. Before hot work operations begin in a non-designated location, a completed hot work permit prepared by the CHWS is required. Based on local conditions, the CHWS must determine the length of the period (not to exceed 24 hours) for which the hot work permit is valid. Permits are located in USB 1st floor mailbox. Permits can also be obtained by contacting the Risk Management office.
- B. The following conditions must be confirmed by the CHWS before permitting the hot work to commence:
 - Atmospheric testing must be performed before work may begin in confined spaces or other areas where a combustible atmosphere may exist. If combustible elements in the atmosphere cannot be eliminated, then hot work may not take place.
 - Atmospheric testing equipment is available as needed at the university Power plants.
 - Equipment to be used (e.g., welding equipment, shields, personal protective equipment, fire extinguishers) must be in operating condition and in good repair.
 - The floor must be swept clean for a radius of 35 ft. if combustible materials, such as paper or wood shavings, are on the floor.
 - Combustible floors (except wood on concrete) must be:
 - kept wet or be covered with damp sand (note: where floors have been wet down, personnel operating arc welding or cutting equipment shall be protected from possible shock), or
 - be protected by noncombustible or fire-retardant shields.
 - All combustible materials must be moved at least 35 feet away from the hot work operation. If relocation is impractical, combustibles must be protected with fire-retardant covers, shields or curtains. Edges of covers at the floor must be tight to prevent sparks from going under them, including where several covers overlap when protecting a large pile.
 - Openings or cracks in walls, floors, or ducts within 35 feet of the site must be tightly covered with fire-retardant or noncombustible material to prevent the passage of sparks to adjacent areas.
 - If hot work is done near walls, partitions, ceilings, or roofs of combustible construction, fire-retardant shields or guards must be provided to prevent ignition.

- If hot work is to be performed on a wall, partition, ceiling, or roof, precautions shall be taken to prevent ignition of combustibles on the other side by relocating combustibles. If it is impractical to relocate combustibles, a fire watch on the opposite side from the work must be posted.
- Hot work must not be attempted on a partition, wall, ceiling, or roof that has a combustible covering or insulation, or on walls or partitions of combustible sandwich-type panel construction.
- Hot work performed on pipes or other metal which is in contact with combustible walls, partitions, ceilings, roofs, or other combustibles must not be undertaken if the work is close enough to cause ignition by conduction.
- Fully charged and operable fire extinguishers that are appropriate for the type of possible fire shall be available immediately at the work area. Extinguishers should be supplied by the group performing the hot work. The fire extinguishers normally located in a building are not considered to fulfill this requirement.
- If hot work is done in proximity to a sprinkler head, a wet rag shall be laid over the head and then removed at the end of the welding or cutting operation. During hot work, special precautions shall be taken to avoid accidental operation of automatic fire detection or suppression systems (for example, special extinguishing systems or sprinklers).
- Nearby personnel must be suitably protected against heat, sparks, and slag.

C. FIRE WATCH

- A fire watch shall be maintained during all phases of the hot work and for 30 minutes after completion per OSHA regulations. If hot work is being performed in an area with large amounts of combustible material, then a three-hour intermittent watch is required following the 30-minute watch. The area should be checked every 30 minutes during the three-hour intermittent watch.
 - The fire watch personnel's sole responsibility is to observe the work area where the hot work is being performed. The fire watch shall not perform any other tasks during this time.
 - Depending on the situation, multiple fire watch personnel may be needed for one job adjacent to and below the work area.
- The CHWS shall inspect the job site following completion of the intermittent fire watch and close out the permit with the time and date of the final check.

D. The completed hot work permit shall be given to the Risk Management/Safety Engineer and shall be retained for six months following completion of the project. The Fire/Safety Engineer will be responsible for maintaining a hot work log listing the permits that have been issued.

E. DESIGNATED AREAS

- Listed below are areas on campus where hot work can be performed without obtaining a hot work permit. However, conditions may change where designated areas no longer meet the criteria to be considered a non-permit required space. For example, a parking lot may be a designated area but if a car is parked next to where work is performed, then it no longer meets the criteria as a non-permit required space. Employees should always assess an area to make sure that it meets the criteria as a designated area.
 - Designated areas on campus include:
 - USB Garage (Including parking lot areas outside of bay doors)

- North and East Campus Power Plant welding shop
- Plumbing Shop
- HVAC Shop
- Alternative fuels welding area
- Parking lots A, F C4, R1, C5, C11

F. AFTER HOURS

- The same procedures need to be followed for after hours and emergency call-in situations.
- Contact Work Control at 568-6101 for individuals available after hours to issue a permit.
- The second and third shift supervisors from the Utility shop and Housekeeping may be available at certain times after normal hours. Contact Work Control (568-6101) for assistance in arranging after hours fire watch.

G. CONTRACTORS

- Contractors shall provide their own fire watch and equipment.

VI. TRAINING

- All employees who are required to complete hot work or issue hot work permits as part of their employment will be trained in the proper procedure regarding hot work.