Lamar University

Hot Work Program

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Contact: Office of EHS & Risk Management
(409) 880-7115

LAMAR UNIVERSITY
MEMBER THE TEXAS STATE UNIVERSITY SYSTEM™

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Hot Work Program

Purpose

To provide written procedures which protect employees from hazards associated with hot work operations and to comply with all regulatory requirements for the safe operation of such equipment. Thisprogram establishes guidelines to guard against fires from heat-producing operations performed by usingportable equipment away from the shop area. Employees and contractors must be aware of procedures to follow when welding, grinding, cutting or conducting other hot work operations.

Definitions

Brazing and Soldering: Soldering and brazing use molten metal to join two pieces of metal. The metal added during both processes has a melting point lower than that of the work piece, so only the added metal is melted, not the work piece. Brazing produces a stronger joint than does soldering, and often is used to join metals other than steel, such as brass. Brazing can also be used to apply coatings to parts to reduce wear and protect against corrosion.

Cutting/Grinding: Any process which produces sparks capable of igniting combustible or flammable materials and transmits heat to the work material from a hot gas.

Designated Area: A permanent location designed for or approved for hot work operations to be performed regularly.

Fire Watch: Trained personnel who are in attendance during the entire hot work operation and are immediately available to extinguish a fire or take other effective action if needed.

Hot Work: Any process that can be a source of ignition when flammable material is present or can be a fire hazard regardless of the presence of flammable material in the workplace. Common hot work processes are welding, soldering, cutting and brazing.

Hot Work Permit: A document issued for the purpose of authorizing a specified activity.

Welding: Joining together (metal pieces or parts) by heating the surfaces to the point of melting using a blowtorch, electric arc, or other means, and uniting them by pressing, hammering, etc.

Responsibilities

EHS & Risk Management

EHS & Risk Management has the primary responsibility for the implementation and enforcement of the Hot Work Program and is responsible for the following:

- Developing, implementing, and evaluating the Hot Work Program to ensure compliance.

- Issuing hot work permits for work areas.
- Reviewing hazards and incidents associated with hot work on campus.
- Periodically reviewing and monitoring the work areas to ensure compliance and equipmentsafety.
- Developing training programs for hot work operations.

Supervisor

Supervisors in support and administrative areas are responsible for providing the necessary directionand support to ensure the effective implementation of the Hot Work Program for their work areas. Supervisors are responsible for the following:

- Making sure that employees who will be performing Hot Work operations are properly trainedon work procedures before performing work on campus.
- Selecting suitable employees that are trained in the safe operations of their equipment, safe useof the process, and in emergency procedures.
- Coordinating hot work activities with EHS & Risk Management so a hot work permit can be issued.
- Having trained employees to monitor the hot work area for changing conditions, watching forfires, and extinguishing fires, if possible.
- Returning all permits to EHS & Risk Management.

Employee

Participating employees are responsible for the following:

- Before use of welding equipment, the employee must read and understand all safety practicesoutlined in the manufacture instruction manual for the specific type(s) of welding equipment used for the work process. Read and understand Safety Data Sheets (SDS) and safety requirements of this Policy.
- Attend and complete all required hot work training.
- Inspect all welding equipment daily prior to use.
- Perform a hazard assessment before work or during non-welding operations.
- Follow all required safety requirements as stated in the program.
- Use all required personal protective equipment.
- Report any unsafe working conditions to the supervisor.

Fire Watch Employee

A fire watch shall be required whenever hot work is performed on campus unless otherwise stated. Thefire watch employees are responsible for the following:

- Shall be trained to understand the inherent hazards of the work site and the hot work beingperformed.
- Be aware of inherent hazards of the work site or of any hot work taking place.
- Have the ability to stop all work should work conditions become unsafe.
- Have a fire extinguisher readily available and be trained on how to use it.

- Ability to sound the building's fire alarm system should a fire occur which is out of control.
- Shall remain in the work area and monitor for a minimum of 30 minutes and up to 3 hours following completion of work.
- Shall not perform other additional tasks that would cause a distraction from their fire watchresponsibilities.

Contractors

Affected contractors are responsible for the following:

- Before starting any hot work contractors shall discuss the planned project with the Lamar University Project Manager and EHS & Risk Management.
- Obtain a hot work permit from the EHS & Risk Management.
- Follow all guidelines as stated on the hot work permit. Return completed hot work permitsto the Lamar University Project Manager, who submits it to the EHS & Risk Management.

Hot Work Permitted Locations

Hot work shall be permitted in the following locations:

- In areas that are designated for hot work operations (example: welding shop)
- Areas approved by permit

Hot work shall not be permitted in the following locations:

- In areas not authorized by the hot work permit.
- In sprinkler buildings where the sprinkler system is impaired.
- In the presence of an explosive atmosphere (examples: flammable gasses, vapors, liquids, ordust).
- In the presence of stored combustible materials or uncleaned (cluttered) areas which coulddevelop a fire.
- In close proximity to drums, tanks, containers, or any vessel that contains or may havecontained a flammable, explosive, or toxic chemical.

Fire Prevention Precautions

Fire Hazard Prevention Guidelines

- Whenever possible, relocate the work from the work site to the welding/maintenance shop area. Welding and cutting operations shall ideally be conducted in a separate, well-ventilatedroom with a fire-retardant floor.
- When not possible to relocate work to the welding shop: remove combustible materials for a minimum radius of 35 feet around the work area

or move the work to a location well away fromcombustible materials.

- Protect combustibles with covers made of fire-resistant materials.
- If possible, enclose the work area with portable, fire-resistant screens.
- Cover or block all openings, such as doorways, windows, cracks, or other openings with fireresistant material.
- Have a qualified firewatcher in the work area during and for a minimum of 30 minutes and up to 3 hours after the hot work is completed.
- Do not dispose of hot slag in containers holding combustible material.
- Fire extinguishers shall be maintained in a state of readiness for instant use.
- Welding or cutting is not permitted in or near rooms containing flammable or combustible liquids, vapors, or combustible dusts. Do not weld or cut in atmospheres containing reactive,toxic, or flammable gases, vapors, liquids, or dust.
- Do not apply heat to a work piece covered by an unknown substance or coating that can produce flammable, toxic, or reactive vapors when heated.
- Provide safety supervision for outside contractors conducting hot work. Inform contractors about site-specific hazards including the presence of flammable materials.
- Cylinders must be secured to prevent tipping; valves are closed with protection caps in place.
- Oxygen and fuel cylinders are separated and away from combustible fuel, flammable fuels, andheat sources.

Personal Protective Equipment

All employees must wear required personal protective clothing and equipment as prescribed while preforming any hot work operations. Personal protective equipment must protect against hazards suchas burns, sparks, spatter, electric shock, and optical radiation.

Training

Employees will be trained to perform hot work activities as outlined in this program and according tothe requirements contained in 29. CFR. 1910.252.

Hot Work Permit Procedure

A hot work permit must be submitted to and approved by EHS & Risk Management prior to the commencement of any hot work operations.

1. Access the Lamar University EHS & Risk Management website.
2. Click on the Permit button located on top right of the web page.
3. Scroll down the page and locate Hot Work Permit and click on the link (https://lamar.campusoptics.com/pr/hot-work).

4. Complete the Hot Work Request form.
5. EHS & Risk Management will receive the request and follow up with requester with any questions.
6. EHS & Risk Management will issue or deny the permit and notify the requester of the decision.

Hot Work Permit Valid

The duration of a hot work permit depends upon the type of project and the type of hot work being performed. Normally hot work permits are only issued for an 8-hour period unless otherwise stated on the hot work permit.

APPENDIX A – Hot Work Checklist

Fire Protection

1. Sprinklers and smoke detectors have been covered/disabled. ☐
2. A trained person not directly involved with the work will provide a continuous fire watch during the period of hot work and for at least one hour after it ceases, in the work area and those adjoining areas to which sparks and heat may spread. ☐
3. At least two suitable extinguishers are immediately available. Both the personnel undertaking the work and providing the fire watch are trained in their use ☐
4. Personnel involved with the work and providing the fire watch are familiar with the means of escape and method of initiating an alarm/calling the Fire Department (911 or LUPD (409) 880-7777) ☐

Precautions within 35 feet (minimum) of the work

5. Combustible materials have been cleaned from the area. Where materials cannot be removed, protection has been provided by fire retardant tarps or metal shields. ☐
6. Flammable liquids have been removed from the area ☐
7. Floors and surfaces have been swept clean of combustible dust or debris. ☐
8. Combustible floors have been covered with overlapping sheets of non-combustible material or wetted and liberally covered with sand. All openings and gaps (combustible floors or otherwise) are adequately covered.
9. Protection (metal shields or fire retardant tarps) has been provided for:
   - Walls, partitions, and ceilings of combustible construction or surface finish ☐
   - All holes and other openings in walls, partitions, and ceilings through which sparks could pass. ☐
10. Combustible materials have been moved away from the far side of walls or partitions where heat could be conducted, especially where these incorporate metal. ☐
11. Enclosed equipment (tanks, containers, dust collectors, etc.) has been emptied and tested, or is known to be free of flammable concentration of vapor or dust ☐

Equipment

12. Equipment for hot work has been checked and found to be in good repair. ☐
13. Gas cylinders are kept at least 10 feet from the burner and have been secured in a vertical position and fitted with a regulator and flashback arrester. ☐
14. Hazardous materials will be removed from the hot work location as soon as work is completed. ☐
15. Any lit tar boilers will not be left unattended. ☐