



Hot Work Program

GENERAL

The UNCW Environmental Health & Safety Department (EH&S) is authorized by UNCW Policy 05.600 (http://uncw.edu/policies/documents/05_600_EHandSPolicy_5Feb2010.pdf) to develop and manage comprehensive environmental, health and safety programs. Additionally, they are tasked to identify and address regulatory requirements. In that spirit, this Hot Work Program has been developed to protect employees by ensuring that all employees understand Hot Work use and practice before employees perform servicing and maintenance activities. This policy is intended to meet the Occupational Safety and Health Requirements for General Industry outlined in 29 CFR 1910 Subpart Q.

SCOPE

This policy applies to all university employees regardless of status or type of employment. It may be used as minimum guidelines for contractors and/or vendors that are expected to maintain their own safety program.

APPLICATION

This written policy outlines responsibilities, training and specific requirements with regard to Hot Work.

RESPONSIBILITIES

This program establishes guidelines to guard against fires from heat-producing operations performed by using portable equipment away from the shop area. Employees must be aware of procedures to follow when welding, grinding, cutting or conducting other hot work operations. Each Department shall be responsible for following of Hot Work procedures. Employees shall have training in understanding the significance of implementing the procedures. Employees will use the Hot Work procedures when performing servicing or maintenance activities, etc. Department Supervisors shall be responsible for training record keeping and record retention.

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 workpiece, so only the added metal is melted, not the workpiece. 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 that 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 present 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 authorizing a specified activity (e.g., soldering, brazing, etc.) in a specific location for a specified amount of time.

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.

TRAINING

The department shall provide general training so employees understand the purpose and function of the program (knowledge, skills, application, use, removal). Job specific training (hazards, etc.) shall be provided before each assignment.

Retraining:

Retraining shall reestablish proficiency and introduce new or revised control methods

1. There shall be retraining with any change in job assignments, change in machines, equipment or process that presents a new hazard or a change in procedures
2. Retrain when inspection reveals a need, or whenever the employer sees a need

SPECIFIC REQUIREMENTS

Inspection

Plant Operations staff will inspect the area to identify the fire hazards, safety precautions or special equipment needed to perform the job safely.

Hot Work Permit

A Hot Work Permit must be issued by EH&S prior to the commencement of any hot work.

- EH&S will issue the Hot Work Permit after site inspection (*see Appendix A*).
- Hot work permits will not be approved unless 12-hour notice is given on regular workdays and 24-hour notice on weekends and holidays, except for emergency, security, health or safety reasons.
- Permits are conditionally approved in buildings with inoperable fire alarms or sprinkler fire system; or when flammable or highly combustible material cannot be relocated or effectively guarded against sparks or heat (radiant, conductive or convective).
- Permits are not required when welding in a designated hot work area or when working outside of the Physical Plant facility.
- Facilities must ensure that all contractors are aware of this permit system.

Fire Hazards

If the object to be welded or cut cannot readily be moved, all movable fire hazards in the vicinity will be relocated away from the work site.

Guards

If the object to be welded or cut cannot be moved and if all the fire hazards cannot be removed, then guards must be used to protect the immovable fire hazards.

Safety Screen

If there is welding where ultraviolet light radiation could harm the eyes of anyone passing by, workers shall install an approved noncombustible or flameproof screen or shield to protect by-standers.

Combustible materials

Wherever there are floor openings or cracks in the flooring that cannot be closed, precautions shall be taken so that no readily combustible materials on the floor below will be exposed to sparks that might drop through the floor. The same precautions shall be observed regarding cracks or holes in walls, open doorways and open or broken windows.

Fire extinguishers

Suitable fire extinguishing equipment shall be maintained in a state of readiness for instant use. Selection of equipment depends upon the nature and quantity of the combustible material exposed. Such equipment may consist of:

- Portable fire extinguisher(s)
- Pail of water
- Bucket of sand
- Water hose

Personal Protective Equipment

All employees must wear required personal protective clothing and equipment as prescribed by codes and standards while performing any hot work operations, including welding helmets, goggles, filter lenses, and properly fitting protective clothing.

Ventilation

Two thousand cubic feet/per welder of mechanical ventilation is provided when in a space less than 10000 cubic feet per minute per welder or in a room with a ceiling less than 16 feet or in a confined space.

Compressed Gas Cylinders

- 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 and heat sources.

Fire Watch

A fire watch will be maintained for 30 minutes following hot work activity.



University of North Carolina Wilmington
Environmental Health & Safety - Workplace Safety

In case of emergency:
• Dial 911
• Call UNCW Police Dept.: 910-962-2222
• Call EH&S Emergency Pager: 910-254-5830

Appendix A HOT WORK PERMIT

Date: _____ Time: _____
Name of Person(s) Performing Work: _____
Specific Location of Work: _____

This permit is good for ____ hours only unless otherwise noted.

A FIRE WATCH MUST BE MAINTAINED FOR AT LEAST 30 MINUTES AFTER WORK IS COMPLETED.

Evaluate the following and check all that apply to this specific job and permit:

- Welding, cutting & grinding, etc. only performed in areas defined and authorized in this permit.
Fire Sprinklers and fire extinguisher are in service, operable and immediately available for use.
Fire Alarm "test mode" procedure followed if system must be put into test.
All movable fire hazards in the vicinity have been removed or located to a safe area.
Guards used to contain the heat, sparks and slag if fire hazards cannot be removed.
Floor or wall openings or cracks, open doorways and windows protected or closed.
Floors swept clean of combustible material for a radius of at least 10'.
Combustible floors have been kept wet, covered or protected by fire resistant shields.
Ventilation systems that might carry sparks to distant combustibles protected or shutdown.
Lockout Tagout performed per Federal OSHA, NC Labor and UNCW guidelines
On-site contractors advised about flammable material or hazardous conditions that may exist in the work area.
Fire watch in areas where fire might develop (e.g., combustible material)
PPE used as needed (e.g., eye protection, protective clothing, respirator, gloves, etc.).
Warning sign posted to warn others of hot metal, etc.
When working in confined spaces, a permit has been issued by EH&S (910-962-4287).
Appropriate ventilation, monitoring and rescue equipment available and used as required if working in confined space.
Additional Requirements or Comments:

Authorized Signature - UNCW EH&S Department