INTRODUCTION AND SCOPE

Northern Arizona University’s (NAU) academic and research laboratories along with other operations including Facilities Management and outside contractors are often involved in welding, cutting, use of open torch, brazing or similar operations of Hot Work during daily activities.

NAU Fire Life Safety (FLS) is responsible for coordinating an effective fire safety management program for university facilities. The primary objective is to protect human health and the environment and ensure compliance with university, local, state, and federal regulations. Hot work (HW) operations may create hazardous conditions and fire danger. To adequately address hazards all personnel involved in HW operations must follow this guideline. This will help ensure compliance of applicable codes and regulations, and promote a safe environment.

REQUIREMENTS

Hot Work Permit
Hot work permits are required and issued - Monday thru Friday 8:00AM – 5:00PM
Building 77 Facility Services, office 105A

Fire Protection and Prevention
It is the responsibility of the welders, cutters, and their supervisors to ensure the following fire protection and prevention procedures are applied to all HW operations.

1. Remove all sources of ignition (combustible and flammable materials) from the work area/hazard zone. If all fire hazards cannot be removed, then appropriate shielding shall be provided to prevent sparks, slag, or heat from igniting the fire hazards.
2. A fire watch shall be provided during HW activities and shall continue for a minimum of 30 minutes after the conclusion of the operation. Individuals designated for the fire watch shall have fire-extinguishing equipment readily available and must be trained in use and capabilities of such equipment.

Hot Work Area
The area that will be exposed to sparks, hot slag, radiant or convective heat as a result of the HW must be inspected prior to starting work to ensure the following:

1. Proper safety precautions/measure are taken to prevent fire danger. Inspection must confirm the HW area is free of debris and that flammable liquids or vapors, lint, dust, or combustible materials/storage are not at risk of ignition from sparks or hot metal.
2. Openings or cracks in walls, floors, ducts or shafts must be tightly covered to prevent passage of sparks or slag.
3. A minimum of 2-A, 20BC fire extinguisher must be readily available (contractors must provide their own fire extinguishers which must be compliant with NFPA standard).
Hot Work Equipment
Hot work equipment includes but not limited to, oxygen/fuel gas welding and cutting, ARC welding and cutting, and metal cutting equipment.

1. Hot Work equipment must be inspected by the operator prior to use.
2. Portable oxygen/fuel gas welding and cutting equipment located inside of a building must be stored in a well-ventilated dry location at least 20 feet from combustible materials and away from elevators, stairs, or means of egress.
3. Emergency disconnects must be provided, e.g., a switch or circuit breaker must be provided to ARC welding equipment (the disconnect shall be labeled “Emergency Disconnect” and must be visible).

Health/Safety Protection and Ventilation
Contamination and exposure provisions must be established to monitor the work area conditions of the following:

1. The material used to perform work has the potential of producing fumes that may pose exposure conditions to personnel. Must read and review Material Safety Data Sheets on products used for operation.
2. The dimension of the space vertically or horizontally confines movement of operation or restricts egress.
3. Number of Hot Work equipment and personnel performing the operation confine movement of operation or limit egress.
4. Inadequate ventilation for work area.
5. Whenever the area is considered a confined space. (Must follow University Policy and Procedure).

This guideline is provided as a general guideline for hot work operations/welding and cutting and does not cover all code compliance issues. If you have any questions or concerns, or need additional information, contact the NAU Fire Marshal at (928) 523-1873 or e-mail at jeff.young@nau.edu.