

Arkansas State University - Jonesboro

Effective Date: 03/06/2017

Policy Number: 05-90

Section: Safety Operating Procedures

Subject: Safety – Hot Work

1.0 Purpose

This procedure is designed to mitigate or eliminate fire hazards associated with hot work operations, such as welding, grinding or torch cutting.

2.0 Definitions

- 2.1 Fire-Safe – A perimeter or immediate area within 35 feet of hot work that has been cleared of additional fire hazards such as flammables and combustibles, or otherwise protects flammables or combustibles that cannot be moved with fire-resistant shielding.
- 2.2 Fire Watch – A dedicated team with no other responsibilities other than to watch for fire in a building or sections of a building, and verify actual fires versus false alarms to a dedicated person monitoring the fire panel when system components must be offline. Dedicated fire watches are also required where hot work is being performed within 35 feet and within 50 feet of permitted open fires outdoors.
- 2.3 Hot Work – The following activities are considered Hot Work; welding, soldiering, cutting, brazing, grinding, use of asphalt / tar kettle(s), or other work that might create sufficient heat or spark, which could start a fire.

3.0 Scope

This program applies to all persons, including contractors, and Arkansas State University units conducting Hot Work, as defined in the terms, on University owned or leased property. NOTE: Areas permanently established and arranged to conduct ongoing hot work are exempt.

- 3.1 Hot work shall not be conducted in any area other than those specifically intended and designed for conducting said work unless the area has been inspected and a Hot Work Permit (See section 4) has been issued to the person(s) who will be conducting the actual work.

- 3.2 Only approved apparatus such as torches, regulators, pressure reducing valves, acetylene generators, machines, manifolds, cables and hoses in good repair will be used.
- a. Manufacturer's procedures/recommendations will be followed with respect to the sequence of operations for welding, cutting and grinding equipment.
 - b. Only acetylene tanks that have been in the vertical position for a minimum of 2 hours will be used.
 - c. Torches will be pointed away from people and combustible materials when lighting.
 - d. Torches will be lit with a friction lighter or stationary pilot flame. Torches will not be lit from hot metal.
 - e. When equipment is not going to be used for periods of 30 minutes or more or when left unattended the equipment will be shut off.
 - f. Only people who are trained and proficient will conduct hot work. Trainees may perform work only when their trainer or supervisor is in the immediate area.

- 3.3 A Hot Work Permit form will be completed prior to start of hot work. The Hot Work Permit form can be found online: <https://astate.campusoptics.com/pr/hot-work>

By completing this form, employees performing hot work confirm and attest that the following has been completed:

- a. Inspections of the work site have been completed
 - b. The area is deemed fire safe and/or the necessary instructions to ensure such safety is provided.
- 3.4 The online permit form will send an email to the submitter, the Work Order Center and the Life Safety Systems Coordinator, including all safety precautions to be taken and the designated work period timeframe.
- a. Permits must be available at the work site. The email returned to the submitter can be used for this purpose.
 - b. If the email is not available on the employee's mobile device, arrangements should be made with the Work Order Center, supervisor or other A-State employee with access to a printer, in order to print and deliver the permit to the work site.

- 3.5 If in the inspector's opinion the area is not safe, work will be postponed until such time as the area is made safe.
- 3.6 In situations where delaying work to complete the form would allow, or increase damage to University property or critical research project, the individual performing the hot work shall ensure the area is fire safe then proceed.
- 3.7 Open flames are prohibited in University buildings. Open flame devices and materials include but are not limited to; candles, oil burning lamps and incense. Exceptions include:
 - a. Laboratories where flames or burners are used with the proper safety precautions in place.
 - b. Shops where hot work is performed in a fire-safe environment.
- 3.8 Permits for small projects and spot work will generally be issued for a period of twelve hours only. However, in areas where the work will be ongoing for an extended period of time, permits can be issued for periods not to exceed seventy-two hours as long as the work or situational factors do not change.
- 3.9 Permits for closed construction sites with restricted public access can be issued for the duration of the project, provided inspections are conducted to ensure the area where hot work is performed is fire safe. Inspections must be documented and records must be retained on the job site.

4.0 Fire Protection Equipment

- 4.1 Vertical storage may not be stacked within 18 inches of sprinkler heads.
- 4.2 Tampering with or attempting to perform unauthorized maintenance on fire suppression or detection systems is prohibited.
- 4.3 A three foot square of clear space around fire alarm pull stations and fire extinguishers must be maintained. The clear space should extend three feet out from the wall where the station/extinguisher is installed, and 1.5 feet along the wall in each direction from the installed location.
- 4.4 Employees must not use fire extinguishers without prior knowledge of their proper use.
 - a. Learn the basics of fire extinguisher use on the Safety & Emergency Management website: <http://www.astate.edu/a/ehs/emergency-services/files/fire-safety.pdf>

- b. The Safety Office will determine the appropriate staff to receive hands-on fire extinguisher training through job hazard analyses and the Community Emergency Response Team (CERT) training
- 4.5 Any work that produces dust or other particles that may cause the fire alarm system to activate requires prior notification to the University Police Department and the Safety Office.
- 4.6 Failure to follow this procedure, render common practices or courtesies, or follow rules of the road for the State of Arkansas could result in citation, disciplinary action, and/or suspension of operator's SMV driving privileges.

5.0 Restrictions in Fire-Rated Spaces

- 5.1 Storage and displays in stairwells are strictly prohibited
- 5.2 Displays in egress areas must be installed in locations in such a way that a clear and direct path to building exits is maintained at a width of at least five feet.
- 5.3 Storage is prohibited in emergency egress routes; including corridors, hallways and lobbies that lead directly to building exits
 - a. Temporary storage in these spaces, such as chairs removed from rooms for cleaning or tools required for a project, is permitted
 - b. Temporary storage must not be left unattended, and should be confined to one side of an egress area in such a way that a clear and direct path to building exits is maintained at a width of at least five feet.
- 5.4 Penetrations into fire-rated surfaces are prohibited unless fire-stopping systems are in place. Fire-rated surfaces include, but are not limited to, concrete floors, exposed/unfinished ceilings and stairwell walls.
- 5.5 Fire doors must remain closed at all times, unless equipped with an automatic closing device designed to activate in a fire. Devices must meet applicable Arkansas Fire Code requirements.

6.0 Electrical Fire Hazards

- 6.1 Storage of combustible material in electrical closets and mechanical rooms is prohibited.

- 6.2 Use of extension cords as permanent wiring and permanent use of multi-plug adapters are prohibited.
- 6.3 Surge protectors must be plugged directly into a wall outlet. Piggy-backing or sequentially connecting surge protectors to additional surge protectors is prohibited. Contact Facilities Management to request installation of additional outlets.
- 6.4 Personal space heaters must be approved by Facilities Management. Contact Facilities Management to procure an approved space heater through Central Receiving.
- 6.5 Electrical panels must include knockouts or circuits blanks where circuits are not in use.
- 6.6 A three foot square of clear space around electrical panels must be maintained.
 - a. Clearance extends three feet out from the wall where the panel is installed, and 1.5 feet along the wall in each direction from the center of the panel.
 - b. If the panel is wider than three feet, the entire width of the panel will remain clear, with three feet of clear space extending from the installed location, and one foot along the wall in each direction where the sides of the panel end.