



HOT WORK PROGRAM
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Summary of Changes

Date: 9/23/2019

<u>Section</u>	<u>Change</u>
A	Reworded to more clearly define type of operations and applicability
B	“Workers” was added after the word “student”
C (1) g	Added RMS authority to approve or deny hot work permits
C (2)	Word changes to clarify responsibilities
C (4) b iii	Added “35 feet” to the requirement for removal or covering of combustibles
C (4) b iv & v	Added to show action required to prevent activation of the fire suppression and detection system
C (4) c	Added to explain action to be taken if a hazardous condition develops while work is in progress
C (4) g	Added to show signage requirement to warn others of hot work in progress
C (5)	Re-ordered sequence of responsibilities and eliminated un-necessary verbiage
C (5) d, e & f	Added to further clarify Fire Watch Attendant duties and show the requirement to have a 2A 20-B:C available at the work site
C (6) f	Re-written to clarify the use and sequence of the Hot Work Permit Checklist
C (6) g i	Added (Minimum 2A 20-B:C) to type of extinguisher needed
C (6) n	Removes the requirement for the Hot Work Supervisor to sign and date the hot work permit at the end of the job
C (6) p	Previous document; transferred responsibility for correcting safety issues while work was in progress to the Hot Work Operator
D (1) – (4)	Added to clarify locations where hot work is restricted and shows current IFC code that applies

G (2)	Added 2018
H (1) & (2)	Re-worded definitions to more accurately describe “Hot Work” and “Fire Watch”
Appendix B	Revised instructions at the bottom of the form
Appendix C	Showed job title of person responsible for each section, reordered sequence, where required and word substitution to clarify responsibilities

Date: 5/20/2020

This edition had significant changes resulting from the conversion of the hard copy hot work permitting process to electronic and clarification of responsibilities with the new system. They are summarized below:

- Hot work permit, checklist and information exchange were converted to an on-line process and completed by using electronic devices. Changes to posting requirements were clarified.
- Contractor/Equipment Provider section was added to the program as well as the requirement of Contractors/Equipment Providers to provide project managers and RMS copies of their hot work program.
- Project Manager section was added to the program with responsibilities defined include walkthrough of hot work job sites before and upon completion.
- Identified the UNLV shops who are responsible for alarms, detection equipment and suppression equipment at UNLV and addressed the requirement to visit hot work job sites at the conclusion to verify the coverings of fire protection equipment have been removed.
- Deleted Appendix B & C, which previously showed hard copy examples of the Hot Work Checklist and UNLV/Contractor Information Exchange.
- Combined, reworded and reordered sections to improve clarify and understanding.

A. SCOPE and APPLICATION

The UNLV Hot Work Program established in accordance with the standards contained herein, specifies the requirements for hot work operations.

The UNLV Hot Work Program covers cutting, welding, open torches, soldering, brazing, grinding, installation of torch applied roof systems and other similar activities.

B. COMPLIANCE

This program applies to contractors, UNLV employees and UNLV student workers who perform hot work at UNLV.

C. DUTIES AND RESPONSIBILITIES

(1) Contractors and Equipment Providers

- a. Have established program that meets the standards specified in Section G and complete all work in accordance with these standards.
- b. Provide copies of their hot work safety program to the project manager and Risk Management and Safety for review.
- c. Provide trained hot work operators, fire watch attendants and hot work supervisors.
- d. Complete the following:
 - i. Hot Work Permit (at least one workday in advance of the job start date), if possible. Accessible at:
 - ii. Place the hot work permit number on the placard and post at the job site.
 - iii. Host Employer/Contractor Information Exchange (prior to the start of the job). Link listed on the bottom of the hot work permit request.
 - iv. Hot Work Checklist (during the job) and can be filled out while the job is in progress, when the checklist is left open on an electronic device. Link listed on the bottom of the hot work permit request.

- e. Walk the immediate area of the job every 5 minutes and the entire area surrounding the job every 15 minutes.
- f. Continue the fire watch 30 minutes after the conclusion of the work to detect and extinguish possible smoldering flames and verify that the job site is safe.

(2) Risk Management and Safety (RMS)

- a. Establish and update the UNLV Hot Work Program.
- b. Provide training on Hot Work Program requirements.
- c. Establish and maintain a system for departments to submit hot work documents specified in this program. Approve or deny hot work permits.
- d. Provide assistance, as needed, to anyone completing and processing hot work documents.
- e. Maintain logs of completed hot work permits and hot work permit checklists.
- f. Perform periodic inspections of hot work sites.
- g. Evaluate and approve permanently established welding areas.
- h. Approve or deny hot work permits.

(3) Departments

- a. Contact RMS to evaluate permanently established welding areas (Appendix A).
- b. Identify other areas where hot work will be done, authorize hot work jobs and provide necessary equipment to complete jobs safely.
- c. Assign individuals (UNLV departments) to fulfill duties in the following positions and verify they have completed Hot Work Safety and Fire Extinguisher Training.
 - i. Hot Work Operators.
 - ii. Fire Watch Attendants.

- iii. Work Operation Supervisors.

(4) Alarm Shop/Maintenance Shops

- a. The alarm shop/maintenance shops listed in C (4) b, have the following responsibility:
 - i. Review submitted hot work permits for buildings for which they are responsible.
 - ii. Ensure that sprinkler heads and smoke detectors in close proximity to where the work will take place are covered prior to the start of work.
 - iii. Visit the job site at the completion of the job to ensure that all covers have been removed.
- b. Responsible alarm shop/maintenance staff include:
 - i. Facilities Maintenance Fire Alarm Shop.
 - ii. Shadow Lane Campus Facilities Maintenance
 - iii. Student Affairs Maintenance.
 - iv. Thomas & Mack Maintenance.
 - v. Sam Boyd Stadium Maintenance

(5) Project Managers

- a. Project Managers and the Occupational Safety and Health (OSH) and Fire and Life Safety (FLS) units of RMS will review the contractor hot work safety program to ensure it is adequate for the type of work being performed.
- b. Ensure Hot Work Permits, Host Employer/Contractor Information Exchange (when required) and Hot Work Checklists are submitted.
- c. Ensure the hot work permit number is posted at the job site.
- d. Check that the appropriate number and types of fire extinguishers are on the job site.

- e. Walk the job site before work begins to ensure necessary precautions are in place.
- f. Walk the job site after work concludes to ensure that the area is rendered safe for reuse.
- g. Contact RMS, or the on-call RMS representative after normal hours, if there are any issues or concerns that need to be resolved.

(6) Hot Work Operator

- a. Complete Hot Work Safety and Fire Extinguisher Training courses.
- b. Perform a hot work check prior to work checking that:
 - i. All equipment is in safe operational condition.
 - ii. All hazards within the hot work area are protected from heat and/or flame.
 - iii. All combustibles within 35 feet are removed from the vicinity of the hot work or adequately covered.
 - iv. Action has been taken to prevent accidental activation of the fire suppression and/or detection equipment in accordance with 2018 IFC 3504.1.9.
 - v. Automatic sprinkler protection system shall not be shut off while hot work is being performed unless otherwise approved by the fire code official.
- c. Request a reassessment by the Hot Work Operation Supervisor when work has been stopped because of hazardous conditions. Then eliminate or control hazardous conditions before work is resumed.
- d. Use appropriate personal protective equipment (PPE) while performing hot work and notify people in the area that hot work is in progress.
- e. Place warning sign (s), wording below, if hot work is accessible to anyone other than the hot work operator.

“CAUTION – HOT WORK IN PROGRESS – STAY CLEAR”

(7) Fire Watch Attendant

- a. Complete Hot Work Safety and Fire Extinguisher Training courses.
- b. Have no other duties other than performing fire watch.
- c. Wear appropriate personal protective equipment for the hazards present.
- d. Be familiar with the facilities where hot work will be accomplished and the methods for sounding the alarm in the event of a fire.
- e. Have a fire extinguisher readily available (must be a minimum 2A 20-B:C extinguisher) within 30 feet of hot work operations.
- f. Be physically capable of walking the building, hot work areas and other fire enclosures during the duration of the shift.
- g. Check to ensure safe conditions are maintained during and after hot work by walking the immediate area of the job every 5 minutes and walking the entire surrounding area every 15 minutes.
- h. Continue the fire watch 30 minutes after the conclusion of the work, to detect and extinguish possible smoldering flames and verify that the job site is safe.
- i. Extend fire watch for a longer period when directed by the Hot Work Operation Supervisor.
- j. Request a reassessment by the Hot Work Operation Supervisor when work has been stopped because of hazardous conditions. Then eliminate or control hazardous conditions before work is resumed.

(8) Hot Work Operation Supervisor

- a. Complete Hot Work Safety and Fire Extinguisher Training courses.
- b. Determine the location & types of combustible/flammable materials that are present, or likely to be present in the area where hot work is to take place.
- c. Complete the following:

- i. Complete a hot work permit by clicking on <http://rms.unlv.edu/forms/hotwork/> at least one workday in advance of the job start date.
 - ii. Place the hot work permit number on the placard and post at the job site.
 - iii. Hot Work Checklist (during the job) and can be filled out while job is in progress, when checklist is left open on electronic
 - iv. device. Link listed on the bottom of the hot work permit request.
- d. Confirm with the Fire Watch Attendant that equipment and supplies are on-hand and checked for proper operation.
- i. Fully charged and operable fire extinguishers appropriate for the possible types of fire. (Minimum 2A 20-B:C)
 - ii. Welding equipment, shields and personal protective equipment (PPE) for all hazards.
 - iii. Communication equipment.
- e. Remove defective equipment from service. Have it locked out to prevent use until equipment has been repaired by qualified personnel or replaced.
- f. Brief Fire Watch Attendant and Hot Work Operator concerning:
- i. Permit conditions.
 - ii. Potential hazards.
 - iii. Protective measures.
 - iv. Other issues related to the job.
- g. Instruct Fire Watch Attendant to stop hot work immediately if unsafe conditions develop.
- h. Ensure a Fire Watch Attendant is available while work is being performed and at least 30 minutes following completion (or longer if necessary) to detect and extinguish possible smoldering fires and verify the job site is safe.

- i. Request additional fire watch attendants for areas with vertical or horizontal fire exposures and combustible materials that are not observable by a single individual.

D. RESTRICTED HOT WORK AREAS

- (1) Areas where the sprinkler system is impaired. (2018 IFC 3501.3)
- (1) Areas where there exists the potential of an explosive atmosphere, such as locations where flammable gases, liquids or vapors are present. (2018 IFC 3501.3)
- (2) Areas with readily ignitable materials, such as storage of large quantities of bulk, sulfur, baled paper, cotton, lint, dust or loose combustible materials. (IFC 3501.3)
- (3) At other locations as specified by the fire code official. (2018 IFC 3501.3)
- (4) Hot work shall 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 construction. (NFPA 51B, Section 5.4.2 (8))
- (5) Hot work that is performed on pipes or other material that is in contact with combustible walls, partitions, ceilings, roofs or other combustibles shall not be undertaken if the work is close enough to cause ignition by conduction. (NFPA 51B, Section 5.4.2 (9))

E. PERMANENTLY ESTABLISHED WELDING AREA

- (1) Permanently established welding areas on campus should:
 - a. Conform to the definition shown in Section H (3).
 - b. Meet the following criteria:
 - i. Noncombustible or of fire-resistant construction.
 - ii. Free of combustible and flammable contents.
 - iii. Suitably segregated from adjacent areas.
- (2) RMS will evaluate proposed permanently established welding areas.
- (3) Permanently established welding areas that meet the criteria, are exempt from hot work permit requirements specified in this program, but must meet

all other criteria required for a hot work permitted site.

F. TRAINING

- (1) Training shall be provided for UNLV employees and UNLV student workers who are required to complete tasks that require hot work.
- (2) The names shown on hot work permits (any position) should have completed the Hot Work Safety and Fire Extinguisher Training courses prior to assuming job duties for the position indicated.
- (3) Refresher training will be required when:
 - a. The written program has been updated.
 - b. Individual is not familiar with hot work program responsibilities.
 - c. Individual improperly performs assigned tasks.

G. STANDARDS

The UNLV Hot Work Program is based upon the following standards:

- (1) 29 CFR 1910 Subpart Q - Welding, Cutting and Brazing
- (2) 2018 International Fire Code Chapter 35, Welding and Other Hot Work
- (3) NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
- (4) Nevada Administrative Code (NAC) 618.5315, Permit for Hot Work

H. DEFINITIONS

- (1) Hot Work – Operations including cutting, welding, thermite welding, brazing, soldering, grinding, thermal spraying, thawing pipe, installation of torch applied roof systems or any other similar activity.
- (2) Fire Watch – A temporary measure intended to ensure continuous and systematic surveillance of a building or portion thereof by one or more qualified individuals for the purpose of identifying and controlling fire hazards, detecting early signs of unwanted fire, raising an alarm of fire and notifying the fire department.

- (3) Permanently Established Welding Area – A specific location designed and approved for hot work operations that is maintained fire-safe, such as a maintenance shop or detached outside locations.

I. APPENDICES

Note: For a listing of “Permanently Established Welding Areas” please contact RMS, OSH.

Appendix A – “Permanently Established Welding Areas” Listing