



**HOT WORK PROGRAM
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Summary of Changes

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<u>Section</u>	<u>Change</u>
A	Re-worded 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 conditions 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

A. SCOPE

The UNLV Hot Work Program is established in accordance with the standards listed in Section G and specifies the requirements for the submittal and approval of hot work operations.

This 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 all UNLV employees and student workers who perform hot work at UNLV.

C. DUTIES AND RESPONSIBILITIES

(1) 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 complete and return hot work permits and hot work permit checklists.
- d. Provide assistance, as needed, to departments who are processing hot work permits and hot work permit checklists.
- e. Perform periodic inspections of hot work sites.
- f. Maintain a file of completed hot work permits and hot work permit checklists for two years.
- g. Approve or deny hot work permits.

(2) Departments

- a. Identify areas where hot work will be completed.
- b. Authorize hot work and provide necessary equipment to complete hot work projects safely.
- c. Contact RMS to evaluate areas that are to be designated as permanently established welding areas (Appendix A).

- d. Assign individuals to fulfill duties as Hot Work Operators, Fire Watch Attendants and Hot Work Operation Supervisors.
- e. Verify Hot Work Operators, Fire Watch Attendants and Hot Work Operation Supervisors have completed Hot Work Safety and Fire Extinguisher Training courses.
- f. Arrange for the covering of sprinkler heads and smoke detectors prior to the start of hot work (for those in close proximity to where the work will take place) and removal of covers once work has been completed.

(3) Authorized Alarm Personnel

- a. Review submitted hot work permits pertaining to their area of responsibility.
- b. Contact the appropriate maintenance technician concerning the placement and removal of covers for sprinkler heads and smoke detectors.

(4) Hot Work Operator

- a. Complete the Hot Work Safety and Fire Extinguisher Training courses.
- b. Perform a hot work check prior to commencing work to ensure 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. Approved action has been taken to prevent accidental activation of the fire suppression and detection equipment in accordance with 2018 IFC 3504.1.9.
 - v. The automatic sprinkler protection system shall not be shut off while hot work is being performed unless otherwise approved by the fire code official.
- c. For work in progress that is stopped because a hazardous condition has developed, request a re-assessment by the Hot Work Operation Supervisor.

- d. Eliminate or control the hazardous conditions before work is resumed.
- e. Use appropriate personal protective equipment (PPE) while performing hot work.
- f. Notify people in the area that hot work is in progress.
- g. If hot work is accessible to anyone other than the operator of hot work equipment, warning sign (s) stating “CAUTION – HOT WORK IN PROGRESS – STAY CLEAR” must be displayed.

(5) Fire Watch Attendant

- a. Complete the 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 physically capable and willing to walk the building during the duration of the shift. The area should be walked in a time period not to exceed 5 minutes, with the entire area being toured every 15 minutes.
- e. Walk the designated hot work areas and other fire exposures during the entire hot work operation and continue fire watch 30 minutes after the conclusion of the work.
- f. Have a fire extinguisher readily available. Must be a minimum 2A 20-B:C extinguisher and must be within 30 feet of hot work operations.
- g. Be familiar with the facilities where hot work will be accomplished and the methods for sounding the alarm in the event of a fire.
- h. Ensure safe conditions are maintained during and after hot work.
- i. Maintain fire watch for at least 30 minutes following the completion of hot work to detect and extinguish possible smoldering flames.
- j. Extend fire watch for a longer period when directed by the Hot Work Operation Supervisor.

- k. Stop hot work if unsafe conditions develop.
- l. After fire watch has ended, conduct a final inspection of the hot work area for any signs of smoke or fire.
- m. Sign and date the hot work permit and complete action items shown on the “Following Hot Work” section of the hot work permit checklist.
- n. Provide the completed hot work permit and hot work permit checklist to the Hot Work Operation Supervisor.

(6) Hot Work Operation Supervisor

- a. Complete the Hot Work Safety and Fire Extinguisher Training courses.
- b. Determine the location and types of combustible/flammable materials that are present or likely to be present in the area where hot work is to take place.
- c. Submit hot work permit (Appendix B) at least one work day in advance (if possible) to RMS prior to the start of hot work.
- d. Complete the “Before Hot Work Begins” section of the hot work permit checklist (Appendix C), immediately prior to starting the job.
- e. Post the hot work permit and hot work permit checklist at the site.
- f. Inspect hot work areas during the job and initial the box next to the “During Hot Work” section of the checklist.
- g. Confirm with the Fire Watch Attendant that appropriate 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.
- h. Remove defective equipment from service. Have it locked out to prevent use until equipment has been repaired by qualified personnel or replaced.

- i. 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.
- j. Instruct Fire Watch Attendant to stop hot work immediately if unsafe conditions develop.
- k. 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.
- l. Request additional fire watch attendants for areas with vertical or horizontal fire exposures and combustible materials that are not observable by a single individual.
- m. At the conclusion of work, receive the permit checklist from the Fire Watch Attendant and verify that the site is safe.
- n. Submit the completed hot work permit checklist to RMS for review and filing.

D. RESTRICTED HOT WORK AREAS

- (1) Areas where the sprinkler system is impaired. (2018 IFC 3501.3)
- (2) 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)
- (3) 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)
- (4) At other locations as specified by the fire code official. (2018 IFC 3501.3)
- (5) 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))
- (6) 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 H3.
 - b. Meet the following criteria:
 - i. Noncombustible or fire-resistant construction.
 - ii. Free of combustible and flammable contents.
 - iii. Suitable segregation 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 on-line or in the classroom to employees and student workers who are required to complete tasks that require hot work.
- (2) The names of those whose names are shown on the hot work permit (any position) should have completed the Hot Work Safety and Fire Extinguisher Training courses prior to assuming responsibilities 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

- (1) Appendix A – “Permanently Established Welding Areas” Listing
- (2) Appendix B – “Hot Work Permit” Form
- (3) Appendix D – “Hot Work Permit Checklist”

Appendix A Permanently Established Welding Areas

<u>Department/Location</u>	<u>Building</u>	<u>Room/Location</u>	<u>Type of Location</u>
School of Architecture	ARC	159	Model Shop
Department of Art	HFA	159	Metal Studio
Judy Bayley Theatre	JBT	Dock	Scene Shop
Mechanical Engineering	SEB	1128	Machine Shop
Mechanical Engineering	TBE B	168	Lab
Campus Life Fac. & Oper	SAM	106	Outside Welding Area
Sam Boyd Stadium	SBW	First Floor	Maintenance Shop
Thomas & Mack Center	TMW	#1	Maintenance Shop
Facilities Maintenance	OM3	106	Structures Shop
Facilities Maintenance	SLC C	100	Maintenance Shop
Facilities Maintenance	SEP	109	Maintenance Shop
Facilities Management Administration	FMA	131	Outside Welding Area – Grounds Shop
Facilities Management Administration	FMA	124	Motor Pool

Appendix B How Work Permit Form

HOT WORK PERMIT

№

19-874072

THIS PERMIT IS REQUIRED for any temporary operation involving open flames or producing heat and/or sparks. This includes, but is not limited to: brazing, cutting, grinding, soldering, torch applied roofing, and welding.

ABOUT THE JOB



IN CASE OF EMERGENCY, DIAL **9-1-1**

WORK TO BE DONE	HOT WORK OPERATOR
HOT WORK SITE	DEPARTMENT
PERMIT DATE	WORK START TIME
REQUESTOR'S NAME	REQUESTOR'S PHONE NUMBER 702-

FIRE WATCH ATTENDANT NAME	SIGNATURE	DATE
HOT WORK SUPERVISOR NAME	SIGNATURE	DATE
TRAINING VERIFIED BY:	SIGNATURE	DATE

FILL IN THE TOP SECTION OF THE HOT WORK PERMIT CHECKLIST (LOCATED AT: [HOT WORKS PERMIT CHECKLIST](#)) AND HOT WORK PERMIT, PRINT A COPY AND POST AT THE JOB SITE.

WHEN THE WORK HAS BEEN COMPLETED, COMPLETE THE BOTTOM SECTION OF THE HOT WORK PERMIT CHECKLIST AND SEND THE CHECKLIST AND THE SIGNED COPY OF THE HOT WORK PERMIT TO RMS, CSB 119, VIA UNLV MAILSTOP 1042 OR BY FAX: (702)895-4690.

Appendix C Hot Work Permit Checklist

Hot Work Permit Checklist	
Project Location: _____	Date: _____
Before Hot Work Begins	
Initials	Action Items
<input type="checkbox"/>	Hot work equipment is in satisfactory operating condition and in good repair.
<input type="checkbox"/>	At hot work site floors swept clean for a radius of 35 feet.
<input type="checkbox"/>	Combustible floors kept wet; covered with damp sand or welding blanket or pad.
<input type="checkbox"/>	Openings or cracks in walls, floors or ducts within 35 feet of the site shall be covered or sealed.
<input type="checkbox"/>	Precautions to prevent ignition of combustibles on other side of walls by relocating combustibles.
<input type="checkbox"/>	Fully charged/operable fire extinguishers (appropriate for type of fire) are immediately available.
<input type="checkbox"/>	Sprinkler heads and smoke detectors in close proximity to the hot work are covered.
<input type="checkbox"/>	Combustibles relocated at least 35 feet in all directions from the site. If not possible, combustibles shall be covered by an approved welding curtain, blanket or pad.
<input type="checkbox"/>	Hot work near walls, partitions, ceilings or roofs of combustible material shall be protected by an approved welding curtain, blanket or pad.
<input type="checkbox"/>	Site checked by Hot Work Operations Supervisor. Create hot work permit and complete this section of the checklist. Post the hot work permit and checklist at the site.
<input type="checkbox"/>	Fire Watch Attendant assigned/in-place at site and in adjoining areas not visible from the site.
During Hot Work	
Initials	Action Items
<input type="checkbox"/>	Hot Work Operations Supervisor checks site (at least once a day) while work is in progress to ensure it is fire safe.
Following Hot Work	
Initials	Action Items
<input type="checkbox"/>	Fire Watch Attendant provided for 30 minutes following the completion of hot work.
<input type="checkbox"/>	Fire Watch Attendant to look for and extinguish smoldering fires.
<input type="checkbox"/>	Fire Watch Attendant checks the site for safety, completes this section of the checklist, signs and dates the hot work permit, then provides to the Hot Work Operation Supervisor.
<input type="checkbox"/>	Hot Work Operation Supervisor signs and dates the bottom of the form and submits completed hot work permit and checklist to RMS (CSB 119), via UNLV mail (stop 1042), or by fax (702-895-4690).