



## **HOT WORK PROGRAM**

### **October 2016**

#### **A. SCOPE AND APPLICATION**

The UNLV Hot Work Program is established in accordance with the standards listed in Section H and specifies the requirements and procedures necessary to prevent fires, injuries and property damage.

#### **B. COMPLIANCE WITH PROGRAM**

This program applies to all UNLV employees and students who perform hot work at UNLV.

#### **C. DEFINITIONS**

- (1) **Hot Work** – Work involving burning, welding, cutting, brazing, grinding or any similar operation that is capable of initiating fires and/or explosions.
- (2) **Fire Watch** – Trained personnel who are in attendance during the entire hot work and are immediately available to extinguish a fire or take other effective action, if needed.
- (3) **Permanently Established Welding Area** – A specific location designed and approved for hot work operations that is maintained fire-safe, such as maintenance shop or detached outside locations.

#### **D. DUTIES AND RESPONSIBILITIES**

- (1) **Risk Management and Safety (RMS)**
  - a. Establish the Hot Work Program for UNLV.
  - b. Offer training on Hot Work Program requirements.
  - c. Provide a system for departments to complete and return hot work permits and hot work permit checklists.
  - d. Serve as a resource to departments who are planning hot work and 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.

**(2) Departments**

- a. Define hot work areas and abide by all requirements of this program.
- b. Authorize hot work and provide approved equipment.
- c. Contact RMS to evaluate areas that are to be designated as permanently established welding areas (Appendix A)
- d. Designate individuals to serve as Hot Work Operators, Fire Watch Attendants and Hot Work Operation Supervisors.
- e. Verify that as Hot Work Operators, Fire Watch Attendants and Hot Work Operation Supervisors have completed the Hot Work Safety and Fire Extinguisher Training courses.
- f. Contact their respective maintenance staff to arrange for the covering of sprinkler heads and smoke detectors prior to the start of work for those in close proximity to where the hot work will take place and removal of covers when 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 condition.
  - ii. All hazards are recognized and protected.
  - iii. All combustibles are removed from the vicinity of the hot work or adequately covered.

- c. Use appropriate personal protective equipment (PPE) at all times while performing hot work.
- d. Notify people in the area that hot work is in progress.
- e. Cease hot work if unsafe conditions develop and request a re-assessment by the Hot Work Operation Supervisor.
- f. Follow the requirements specified in Section I.

**(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. Have fire extinguishing equipment readily available to extinguish spot fires.
- 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. Ensure safe conditions are maintained during and after hot work.
- f. Maintain fire watch for at least 30 minutes following the completion of hot work (or longer if necessary) to detect and extinguish possible smoldering flames.
- g. Extend fire watch for a longer period when directed by the Hot Work Operation Supervisor.
- h. Stop hot work if unforeseen or unsafe conditions develop.
- i. After fire watch has ended, conduct a final inspection of the hot work area for any signs of smoke or fire.
- j. Sign and date the hot work permit and complete action items shown on the "Following Hot Work" section of the hot work permit checklist.
- k. Provide the completed hot work permit and hot work permit checklist to the Hot Work Operation Supervisor.
- l. Wear appropriate personal protective equipment for the hazards present.

**(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.
- 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).
- e. Post the hot work permit and hot work permit checklist at the site.
- f. Inspect areas where hot work will take place using the hot work permit checklist. Complete the “During Hot Work” section of the hot work permit checklist.
- g. Verify that appropriate equipment and supplies are on-hand to include:
  - i. Fully charged and operable fire extinguishers appropriate for the possible types of fire.
  - ii. Welding equipment, shields, and personal protective equipment (PPE) for all hazards.
  - iii. Communication equipment.
- h. Check equipment for proper operation prior to the start of the hot work.
- i. Remove defective equipment from service. Have it tagged out to prevent use until equipment has been repaired by qualified personnel or replaced.
- j. 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.

- k. Instruct Fire Watch Attendant to stop hot work immediately if unsafe conditions develop.
- l. 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.
- m. Request additional fire watch attendants for areas with vertical or horizontal fire exposures and combustible materials that are not observable by a single individual.
- n. At the conclusion of work, receive the hot work permit and hot work permit checklist from the Fire Watch Attendant and verify that the site is safe.
- o. Sign and date the hot work permit and submits the hot work permit and hot work permit checklist to RMS for review and filing.
- p. Identify and eliminate any hazardous conditions that may have developed during work stoppage before hot work is resumed.

**E. PROHIBITED HOT WORK AREAS**

- (1) In sprinklered buildings while such protection is impaired. (OSHA 1910.252(a)(2)(vi)[B])
- (2) In the presence of explosive atmospheres (mixtures of flammable gases, vapors, liquids, or dusts with air), or explosive atmospheres that may develop inside un-cleaned or improperly prepared tanks or equipment which have previously contained such materials, or that may develop in areas with an accumulation of combustible dusts. (OSHA 1910.252(a)(2)(vi)[C])
- (3) 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))
- (4) 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))

**F. PERMANENTLY ESTABLISHED WELDING AREA**

- (1) Permanently established welding areas on campus should:
  - a. Conform to the definition shown in Section C.
  - b. Meet the following criteria:
    - i. Noncombustible or fire-resistant construction.
    - ii. Free of combustible and flammable contents.
    - iii. Suitable 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 for a hot work permitted site.

**G. TRAINING**

- (1) Training shall be provided on-line or in the classroom to employees and students who are required to complete tasks that require hot work.
- (2) Employees and students 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 of the position indicated.
- (3) Refresher training will be required when:
  - a. The written program has been updated.
  - b. Individual is not familiar with responsibilities.
  - c. Individual improperly performs assigned tasks.

**H. STANDARDS**

The UNLV Hot Work Program is based upon the program requirements specified in the following standards:

- (1) 29 CFR 1910 Subpart Q - Welding, Cutting and Brazing
- (2) 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

**I. APPENDICES**

- (1) Appendix A – “Permanently Established Welding Areas” List
- (2) Appendix B – “Hot Work Permit” Form
- (3) Appendix C – “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	168A	Model Shop
Department of Art	HFA	159	Metal Studio
Judy Bayley Theatre	JBT	50	Loading Dock
Mechanical Engineering	SEB	1128	Machine Shop
Mechanical Engineering	TBE B	168	Lab
Campus Life Facilities & Operations	SAM	Yard Area	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 Management Administration	FMA	131	Outside Welding Area – Grounds Shop
Facilities Management Administration	FMA	124	Motor Pool



## Appendix B How Work Permit Form

<b>HOT WORK PERMIT</b>	No <span style="font-size: 24px; margin-left: 20px;">16-482876</span>
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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	WORKER ROLE
PERMIT DATE	WORK START TIME
REQUESTOR'S NAME	REQUESTOR'S PHONE NUMBER

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

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

WHEN THE WORK HAS BEEN COMPLETED, PLEASE RETURN THE SIGNED COPY 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).