



ENVIRONMENTAL HEALTH & SAFETY

Standard Operating Procedure for Hot Works Program

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DOCUMENT REVISION LOG

Document: **Hot Works SOP**

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1	6/9/20	Program writing	N/A	JD
2	6/8/22	Updated SRS to EHS on pages 1-3, reclassified the responsibilities of each entity on page 3 and organized them based on who has which responsibilities, explained section 4 part 6 for the 24-hour permit holds and extensions, added Section 6 for how to complete a Hot Works Permit	vii-5	VG
2.1	3/17/23	Updated forms to Monday, updated acronyms page	All	Noah Watson + Ray Benavidez
2.2	3/21/24	SOP Reviewed, no changes made	N/A	Noah Watson + Ray Benavidez
2.3	5/30/24	Changed out Melissa Terry for Scheryl Chinn since Melissa is on leave	iii	TV

ACRONYMS & DEFINITIONS

Affected Personnel	Includes all operators, supervisors, and Fire Watch personnel.
Authorized Safety Representative	An individual who has been trained in accordance with NFPA 51B and OSHA 29 CFR 1910 on the safety aspects of hot work hazards. This individual, who shall be designated in writing, is authorized (under the authority of EHS) to inspect hot work operation sites, ensure safe operation of hot work activities and issue permits.
Combustibles	Gases, liquids, or solid materials that will ignite in the continued presence of an ignition source.
EHS	Environmental Health and Safety
Hazardous Location	<p>- An area, by nature, which presents an unsafe working condition that could result in a catastrophic ignition of material in the area. Such areas include:</p> <ul style="list-style-type: none"> • Explosive material uses or storage areas. • Highly toxic material uses or storage areas. • Flammable storage or handling areas. • Confined Spaces (see "Confined Space Entry Program"). • Any container which contains flammable or combustible liquids. • High angle work performed on scaffolding, roof, or other location over 6 ft, high in which a fall hazard exists. • Any other area, which by nature of the material stored or used, could result in a fire or explosion due to the heat or sparks produced by the welding or cutting operation.
Hot Tap/work	A procedure used in the repair maintenance and service activities involves welding equipment (pipelines, vessels, or tanks) containing natural gas or flammable liquids under pressure, to install connections or accessories. It is commonly used to replace or add sections of pipelines without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.

Hot Work	Work involves gas or electric welding, cutting, burning, brazing, soldering or similar flame or spark-producing operations.
Fire Watch (also known as Fire Guard)	The process of observing an operation for any safety violations, maintaining a constant vigil for a fire caused by sparks or open flame during welding or cutting operations, and the responsibility for emergency extinguishment of any fire caused by the operation. The fire watcher/guard shall not be assigned other duties during the operation and will continue the fire watch for 30 minutes after the operation is completed.
Operator	The person who conducts the welding operation. This person has been trained in welding operations and safety and can provide documentation/certificates of the training by a recognized agency.
Permit (see Attachment A)	A checklist/tracking device used to authorize all Hot Work operations. Permits shall be issued to all Hot Work operations by an Authorized Safety Representative.
Shielding	A non-combustible material, such as a welding curtain or other means of placing a non-combustible barrier between the welding operation and any combustibles/flammables, or other materials with the propensity for burning.
Welding	A general term used to describe the joining of metal by fusing the pieces together utilizing heat. It often is used to describe brazing, cutting, tack-welding and soldering operations.

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1. INTRODUCTION

Welding, cutting, brazing, and other similar operations are referred to as "hot work" operations and can present a significant fire hazard in the workplace. This safety program provides instruction and guidance on permits for safe gas and electrical cutting and welding operations, as well as other "Hot Work" conducted on properties under the jurisdiction of UNM. This program complies with NFPA Standard 51B, "Fire Prevention in use of Cutting and Welding Processes," and OSHA 29 CFR 1910.251-257, subpart Q. This program supersedes any current University departmental procedures and shall be complied with by all faculty, staff, and contract personnel.

2. SCOPE

The Welding, Cutting and Burning Program covers provisions to prevent the loss of life and property caused by fire during cutting and welding operations. This procedure applies to all faculty, staff, students, and contract personnel who perform or are authorized to perform any welding, cutting, brazing or "Hot Work" at UNM outside of machine shops. All work involving welding, cutting, or brazing equipment must have an approved permit on site signed by an Authorized Safety Representative.

3. RESPONSIBILITIES

3.1. State Fire Marshal

The State Fire Marshal (SFM), known as the "Authority Having Jurisdiction," or (AHJ) has jurisdictional authority over the University in compliance issues dealing with the scope of this operation.

3.2. Environmental Health and Safety

UNM Environmental Health and Safety (EHS) has the overall responsibility of ensuring compliance with this program and the overall responsibility of implementing the guidance and technical expertise needed to oversee the program for all facilities under UNM jurisdiction.

EHS Provides training and certification to Authorized Safety Representatives and other affected personnel.

3.3. Facilities Management

Facilities Maintenance, Area Managers and other University management or faculty who supervise students or staff using open flame devices shall be responsible for ensuring all equipment is maintained safely. They shall also ensure that proper safety equipment, checklists and training are made available to each worker involved in welding operations. They shall be responsible for ensuring that the proper safety checklists are complied with and that proper notifications are made before work starts.

3.4. Deans, Directors, and Department Chairs

The Dean, Director or Department Chair of each affected department shall be responsible for ensuring that all persons engaged in hot work operations are provided with the needed equipment and resources to conduct safe operations.

3.5. Employees

Persons using open flame tools for cutting, welding, brazing or heat treating shall have the responsibility to comply with all safety checklists, ensure that their equipment is in proper working order, to ensure that the work site is made fire safe prior to start of work, and that the area is made fire safe prior to leaving the work area.

Any University department responsible for contracting with outside agencies to perform welding, cutting, and burning shall have the responsibility to ensure that the contractors have a welding, cutting, and burning program, or that they must comply with the provisions of this program.

4. PERMITS

1. Hot Work Permit Information should include, at a minimum, the following elements:
 - a. Requested hot work date
 - b. Name of person performing the hot work operation
 - c. Description of hot work to be performed
 - d. Location of hot work
 - e. Fire watch duration (if applicable)
 - f. Fire watch inspector (if applicable)
 - g. Authorized Safety Representative Approval
 - h. A statement declaring that the permit is valid only on the date of issuance
2. All permits for hot work operations by University faculty, staff, and students shall be issued by EHS or an Authorized Safety Representative. Permits for contractors shall be issued by the contractor representative for safety. Requests for contractors to use the UNM permit will be considered case by case by EHS.
3. The permit shall be issued in two parts:
 - a. Part one (original permit) shall be posted at the work site for the operation.
 - b. The second part (copy) may be kept by the Authorized Safety Representative or department for their records, with a copy forwarded to EHS immediately after issuance. At the end of the hot work and upon completion of final check-off of the original permit, it must be returned to the issuer, who immediately forwards a copy to EHS for filing and entry into both the work order system and the Shared Drive.

4. Permit numbers shall be controlled and monitored by EHS and must be associated with a TMA Work Order number created specifically for that hot work. Permit numbers are generated automatically when a service request for a hot work is submitted to EHS. The request number serves as the permit number.
5. Upon completion of the work, the operator shall sign part one of the permit “work completed section” verifying that the work area is fire safe. The white copy of the permit shall be forwarded to EHS immediately after work.
6. Permits shall be valid only for the time noted on the form. Valid time periods are reset each 24 hours, starting at 8:00 am and ending at 8:00 am; however, the following should be noted:
 - a. This is issued with the assumption that one shift may work overtime to complete an emergency work order.
 - b. If a new shift is to work on the same work order, a new checklist and permit must be obtained.
 - c. Permits issued at other times (i.e., permits issued at 2:00 pm) are valid for the full 24 hours starting at the time issued (i.e., 2:00 pm the next day).
 - d. Annual permits for shop use may be issued to education departments or research departments.
 - e. Construction sites may be issued an extended use permit based on the time frame of the project.
7. Authorized Safety Representatives and Operators shall conduct a safety inspection in accordance with the Hot Work Permit Checklist (see Attachment A). These checklists shall be signed and maintained on site during the length of the operation.

5. REQUESTING A HOT WORK PERMIT

To request a hot work permit, operators must first fill out and submit the online Hot Works Notification form (Attachment B), located on the EHS website. The Hot Works Notification should be submitted at least 48 hours (about 2 days) to the start of the hot work. This will expedite the process when EHS or an Authorized Safety Representative issue the permit.

6. ISSUING A HOT WORK PERMIT

6.1. Filling out a Hot Works Permit:

1. Initial Monday Notification:
 - a. Receive the Monday Notification either from the Safety Manager or one of the Safety Specialists; this will have all the information regarding:
 - i. Physical location

- ii. Facilities Management Area
 - iii. Type of Work
 - iv. Start and End Date/Time
 - v. Employee Performing Work
 - vi. POC for the Project
 - b. Open the Hot Work Permit template found: S:\Fire Safety\6) Hot Work Permits
 - c. Using the information in the Monday, fill out the “How Work Being Conducted by” section, including the Employee, Contractor, Issue Date, Location, and Nature of the Task
 - i. Note: only fill out the left-hand side of the Hot Works Permit; THE RIGHT-HAND SIDE IS FOR THE ON SITE PRE-INSPECTION
 - d. Fill out your name under the Name of Person Issuing Permit and write in the Permit Expires Date and Time
 - e. Submit an FM Work Order, assigning the department as EHS, with the information from 1.a filled out. Use the Work Order Number or the Acceptance Number as the Permit Number.
2. Contact the Employee or Contractor to schedule a date/time to review the space; this should be 1-2 days before the work starts.
3. Meet with the Employee or Contractor at the worksite and go over the right-hand side of the Hot Work Permit>Have Employee or Contractor email Filled out Hot Works Permit when job is completed.
 - a. Check off all relevant information depending on the work being performed. An example would be:
 - i. If there are no wall or floor openings, the “All wall and floor openings have been covered” box should not be asked about
 - ii. If there are wall or floor openings that are not covered, the contractor should either remedy the situation at the time, or schedule a time that the openings are covered
 - b. All items that are relevant should be checked before the permit is issued; any issues found must be fixed before signing off on the permit
4. Sign off on the permit under the “Name of Person Issuing Permit” section of the left-hand column; the rest of it will be filled out the day that work is being performed

6.2. Emailing out the Hot Works Permit:

1. After returning to the office, the permit should be checked to make sure that all the information is filled out and scanned into the Shared Drive into the S:\Fire Safety\6) Hot Work Permits folder with the correct year

2. After scanning and checking for accuracy, the permit then needs to be emailed out to the employee performing the work and the POC (if the POC is different than the employee); there should be an email blurb written with the following information:
 - a. The right-hand side of the permit needs to be filled out with all relevant information the day that work is being performed
 - b. The employee performing the Hot Works needs to sign and date the first line on the bottom left column after completing the work, writing the time the work finished
 - c. The employee doing the Fire Watch during the Hot Works needs to sign and date the second line of the bottom left column after completing the Fire Watch; this cannot be the same person as the employee performing the work
 - d. Either the employee listed in b or c, or an employee who oversaw the work, needs to sign off on the third line for the Final Check-Off Completed
3. After everything is signed off on, the employee or contractor will email back the completed form, which will then be sent back to our department to be filed












Hot Works Program R2.3

Final Audit Report

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