



**ENVIRONMENTAL HEALTH
AND SAFETY**

**SAFETY GUIDELINE
Hot Works**

PURPOSE:

The purpose of this guideline is to ensure all “hot work” will be planned and completed in a manner to minimize the risk of injuries and property damage. This applies to all employees and contractors working for UNMC or the Hospital. Hot works includes operations that are capable of initiating smoke, fumes, spark, flame, explosion or producing heat such as:

- heat treating
- welding
- torch applied roofing
- thawing frozen pipes
- cutting
- acetylene generators
- grinding
- soldering
- calcium carbide systems
- brazing
- temporary heating
- electric arc hot work

This policy is required to comply with NFPA 1, NFPA 51B, to meet The Joint Commission standards, and to meet the requirements of the insurance provider. This policy is based upon NFPA51B, “Standard for Fire Prevention During Welding, Cutting, and Other Hot Work”, 2009 edition. Note: If the hot work requires an impairment of fire detection and/or fire suppression system for four or more hours in a 24-hour period, additional Interim Life Safety Measures are to be defined and followed (normally a separate fire watch) per the UNMC Hot Works Guidelines.

PROCESS:

Contractors & Project Related Work

A Hot Work Permit (Attachment 1) must be issued for all hot work that will take place. A copy of this policy will be provided to the contractor before any hot work begins.

1. A Construction Risk Assessment must be done prior to any project with hot work. As part of the Construction Risk Assessments, necessity of Hot Work Permits will be identified.
2. Permit Authorizing Individual (PAI), Contractor and Owner assure every opportunity has been taken to seek alternate locations/ methods before a permit is issued.
3. Hot work permits and fire watch procedures do not need to be completed in those shop areas that have been specifically designed for hot work. (UNMC Central Utilities, UNMC 4230 Welding Area, CT South Chiller plant Welding area). The precaution checklist is to be posted in these areas and reviewed prior to beginning the hot work. Work shall not begin if all applicable items on the checklist are not met.
4. The fire watch procedures spelled out in NFPA 51B -2009 Section 5.5 shall be maintained in order to detect and extinguish smoldering fires. The watch will be maintained during all hot work activity, throughout all break and lunch periods, and for at least 60 minutes (30 minutes longer than the standard requires) after completion of hot work operations. Fire Watch is an individual assigned to work with the hot work operators for the purpose of watching for fire that could result from the hot work. (This fire watch is

not the same as the fire watch that is required when a fire alarm or fire suppression system is impaired for four or more hours). Additional fire watch individuals are required when combustible material could be ignited by hot work operations that cannot be directly observed by the initial fire watch (i.e., combustibles on opposite sides of a wall, etc.).

5. The Facilities Manager, Project Leader, Quality Control Senior Associate or the Building Services Lead specialized in fire protection shall be designated as the PAI. The PAI is a NM representative. Separated free-standing buildings may utilize a different PAI such as a contractor or vendor as designated by a Director of Facilities.
6. Subject to the approval of the PAI, the Contractor shall request a Hot Work Permit and designate the Permit Requestor. Requestor shall complete a Hot Work Permit form (See Attachment 1). The Contractor shall not substitute or change the Permit Requestor without prior approval of PAI.
7. Unless otherwise approved by the PAI, the Permit Requestor shall not request a Hot Work Permit in excess of 24 hours. Hot Work Permits issued for more than 24 hours require the Permit Requestor to use the Hot Work Permit Daily Log. The Log requires complete re-review of all of the hot work precautions, and signatures (See Attachment 2). The log must be used for each Hot Work session as it pertains to the original Permit. If the operator or fire watch personnel change, another review and signature is required at the time of each change, before hot work proceeds.
8. PAI to review checklist to assure all precautions have been met.
9. If any of the items on the pre-conditions checklist cannot be met, the PAI, project manager and safety assure the risk assessment includes this review or a new CRA is to be conducted to determine if the work can proceed and/or develop an action plan.
10. The fire watch is responsible to stop hot work operations if unsafe conditions develop or are observed; initiate alarms / notify emergency personnel in the event of a fire, and attempt to extinguish the fires when the fire is within the capacity of the available extinguisher. Therefore, fire watchers must meet the following qualifications:
 - a. Understand the hazards posed by the hot work process'
 - b. Understand the hazards of the work site including adjacent areas / rooms.
 - c. Trained in the use of portable fire extinguishers, fire alarm initiation for that area, and communication devices
 - d. Familiar with NFPA 51B and this policy.
11. The area shall be inspected at least once per day while the hot work permit is in effect to ensure that it is a fire safe area), and shall assure that fire protection, fire extinguishing equipment and fire watch is at the site.
12. The original executed Hot Work Permit, and the Hot Work Daily Log, with all required signatures and checks shall be furnished to the PAI and the project leader when Hot Work is completed, and final checks have been made by the Permit Requestor. A copy shall be provided by the PAI to Safety Operations by filing it electronically on the company server at the following location: R:\NHS\Hot Works Permits
13. The Contractor shall assume full responsibility and liability for compliance with all applicable codes, standards and regulations pertaining to health and safety of personnel and protection of property during the execution of the Hot Work and shall hold Nebraska Medicine and UNMC harmless for any action on the Contractor's part or that of the Contractor's employees or subcontractors, that result in illness, injury, death, or property damage.
14. If Contractor fails to comply promptly with any part of the Hot Work Permit Policy and Procedures, the Facilities Project Leader or any manager or director of Facilities Management shall issue a stop work notice to the Contractor. When, in the opinion of and by notice given by Facilities Management, satisfactory corrective action has been taken

by the Contractor, work shall resume. The Contractor shall not be allowed any time extension or compensation for damages in connection with the stop work notice.

Owner Routine (Non-Project) Work

A Hot Work Permit (Attachment 1) must be issued for all hot work that will take place. A copy of this policy will be provided to the contractor before any hot work begins.

1. All requirements for the contracted/ project work shall be followed for owner Routine / Non-project work, with the exception that
 - a. The Quality Control Senior Associate, the Building Services Lead specialized in fire protection or Facilities Manager is the PAI.
 - b. Emergency repairs that require urgent work involving Hot Work shall be done in accordance with NFPA 51B. In the instance where a previously designated Permit Authorizing Individual (PAI) is not available to issue a Hot Work Permit, the Engineer, Lower Clarkson Tower will act as the PAI until such time that the normally designated person is present to resume responsibilities as the PAI. If a proper Fire Watcher is not available, the PAI will contact the campus Security Dispatch Center (402-559-5111) to request an approved Fire Watcher to be present as required
2. PAI to have been through UNMC/Nebraska Medicine's orientation and training, and to ensure hot work operator has been through UNMC/Nebraska Medicine's training and orientation prior to doing any hot work.

References:

NFPA 51B, 2009 Edition
NFPA 1, 2012 Edition
UNMC Fire Watch Guidelines

HOT WORK PERMIT

Project Name TNMC WORK ORDER NUMBER Contractor / Sub / In-House Shop: Building: Department: Description of Work: Special Precautions:	Project Number UNMC WORK ORDER NUMBER Permit Number: - Address: Room(s)
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The Permit Authorizing Individual (PAI), as shown below, is accepted by TNMC/UNMC and shall inspect the Work Area listed above and confirm that precautions have been taken to prevent fire in accordance with 'NFPA 51B -

The location where work is being done has been examined, necessary precautions taken as noted below, and permission is granted for this work to proceed.

Permit Authorizing Individual (PAI)	
Name: _____	Signature: _____
Facilities Management Planning Representative	
Name: _____	Signature: _____
Permit Effective Date: _____	Permit Expiration Date: _____

NOTE: Daily Log required if period exceeds 23 hours.

***** PRECAUTIONS CHECKLIST *****

GENERAL

- [Y] [N] Has Fire Detection Equipment been Disarmed (if needed)?
North Campus Buildings - contact Upper Operator at 402-552-3347 or 402-559-5111 (After Hours and Weekends)
South Campus Buildings - Contact Electrician On-Call at 402-290-4056 or 402-559-5111 (After Hours and Weekends)

Time: _____ Upper Operator or Electrician Signature: _____

- [Y] [N] Sprinklers are in Service
- [Y] [N] Hot Work equipment is in good repair
- WITHIN 35 FEET OF WOR**
- [Y] [N] Floors have been swept clean of combustible
- [Y] [N] Combustible floors have been wet down, covered with damp sand, metal, or other shield
- [Y] [N] All wall and floor openings have been covered
- [Y] [N] Covers have been suspended beneath work to collect sparks

WORK ON WALLS OR CEILING

- [Y] [N] Construction is noncombustible and is without combustible covering
- [Y] [N] Combustibles have been moved away form opposite side of wall

WORK ON ENCLOSED EQUIPMENT

- [Y] [N] Equipment has been cleaned of all combustibles
- [Y] [N] Containers have been purged of all flammable vapors

FIRE WATCH *In case of an EMERGENCY call 402-559-5555*

- [N] is to be provided during Hot Work and for 60 minutes after Hot Work Operations cease
- [Y] [N] Has been supplied with one or more fully charged and operable Fire Extinguisher
- [Y] [N] Has been trianed in use of equipment and in sounding Fire Alarm

***** FINAL CHECK and SIGNOFF *****

- [Y] [N] 60 minutes after completion of any Hot Work Operations, the work area and all adjacent areas to which sparks and heat might have spread (including floors above and below and on the opposite side of the walls) were inspected and found to be safe
- [Y] [N] Has Fire Detection Equipment been Rearmed (if needed)

North Campus Buildings - contact Upper Operator at 402-552-3347 or 402-559-5111 (After Hours and Weekends)
South Campus Buildings - Contact Electrician On-Call at 402-290-4056 or 402-559-5111 (After Hours and Weekends)

ime: _____ Upper Operator or Electrician Signature: _____

PAI Signature: _____ FMP Signature: _____

HOT WORK PERMIT DAILY LOG (For Hot Work Permits issued in excess of 24 hours. NOT TO EXCEED 7 DAYS)

Project Name:

Project Number:

Contractor/ Sub/ In-House Shop:

Permit Number:

Building:

Room(s):

Address:

----- MINIMUM OF ONE LINE ENTRY IS REQUIRED FOR EVERY 8 HOUR SHIFT -----

SHIFT	DATE	HOT WORK 'PAI' SIGNATURE	START TIME	STOP TIME	FIRE WATCHER SIGNATURE	START TIME	STOP TIME
1							
2							
3							
4							
5							
6							
7							
8							
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