

Campus Safety Policy
HOT WORKS PERMITS
Policy Number: Safety 04
Supersedes: UNMC
Effective Date: September 15, 2007
Revised Date: 1-14-2015
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PURPOSE:

The purpose of this policy is to ensure safety during welding and cutting operations along with the protection of property (including equipment) from Hot Work operations conducted at the University of Nebraska Medical Center. Hot Work is defined as “work involving welding, soldering, brazing, cutting, grinding, thawing frozen pipes, heat treating, temporary heating or similar operations that are capable of initiating smoke, fumes, fires, or explosions.”

This policy is required in order to comply with NFPA 1, "Fire Prevention Code" (2003 edition) and to meet the requirements of the insurance provider. This policy is based upon NFPA 51B, “Standard for Fire Prevention During Welding, Cutting, and Other Hot Work”, 2003 edition.

Note: If the hot work requires the impairment of fire detection and/or fire suppression systems for four or more hours in a 24 hour period additional fire watch requirements must be met. See Policy “EC48 - Fire Watch - Fire Safety Rounds.”

POLICY

The University of Nebraska Medical Center (UNMC) is committed to a workplace free of injuries. It is the policy of UNMC that all Hot Work will be done 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.

DEFINITIONS

1. "Management" shall refer to UNMC Facilities Management & Planning Department.
2. "Hot Work" is any work involving burning, welding, or a similar operation that is capable of initiating fires or explosions.
3. "UNMC" shall refer to the University of Nebraska Medical Center.
4. "PAI" shall refer to the Permit Authorizing Individual. (NFPA 51B-2003 - Section 4.2)
(The PAI is the individual designated by management to authorize hot work. The PAI shall be responsible for the safe operation of hot work operations. (NFPA 51B-2003 - Section 5.3))
5. "Hot Work Operator" is the employee or contractor physically performing the hot work that is capable of initiating a fire or explosion. (NFPA 51B-2003 - Section 4.4)
6. "Fire Watch" is an individual assigned to work with Hot Work Operators for the purpose of watching for fire that could result from the hot work.

PROCEDURE

A Construction Risk Assessment (CRA) must be done prior to any project with hot work that will generate dust, vibration, noise and/or odors.

Designation of a Permit Authorizing Individual (PAI)

Assuming a hot work permit is required, it must be issued by a "Permit Authorizing Individual (PAI)." It is the responsibility of UNMC management and the department employing and supervising the hot work operator to designate a PAI. The PAI shall not be the same person as the hot work operator. Persons designated as a PAI must meet the following qualifications:

- Understand the hazards posed by the hot work process;
- Familiar with applicable regulations. (NFPA 1 – 2003, NFPA 51B-2003, et al.)

Hot work in Hospital buildings must be coordinated by the hospital facilities PAI.

The PAI shall perform the pre-operational review of conditions in per NFPA 51B-2003 - Section 5.4)

The project manager and safety must be contacted to conduct a risk assessment to determine if the work can proceed and/or develop an action plan if any of the items on the pre-conditions checklist cannot be met.

Fire Watch

The PAI will determine to what extent a fire watch is required*, and; if so, the PAI will also determine the number of fire watch individuals required. The fire watch shall not be the same person as the hot work operator. The role of the fire watch is to ensure that safe conditions are maintained during hot work operations and to take appropriate action in the event of a fire or other adverse event. 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 fires only when the fire is obviously within the capacity of the available extinguisher.

(*Note: It recommended that at least one (1) fire watch individual be required under all circumstances. This is not so much for fire watch as is the safety oversight of the hot work operator. Problems could occur if the hot work operator was working alone and passed out due to health issues or environmental conditions.)

Persons designated as a fire watch must meet the following qualifications:

- Understand the hazards posed by the hot work process;
- Understand the hazards of the work site;
- Understand the work area fire alarm initiation/emergency responder notification procedures (including access to alarm pull stations, communication devices, and like equipment, as appropriate);
- Trained in use of portable fire extinguishers

Additional fire watch individuals are required when combustible materials 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.). The fire watch must remain on-site to monitor for potential fires for a minimum of 60 minutes following completion of the hot work operation, and longer as specified by the PAI.

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 employee or contractor before any hot work begins.

1. The need for hot work permits should be identified as a part of the project review.
2. The fire watch procedures spelled out in NFPA 51B -2003 Section 5.4.2 shall be maintained for at least **60** minutes (30 minutes longer than the minimum requirements of NFPA 51B) after completion of hot work operations in order to detect and extinguish smoldering fires.
3. The Contractor shall request a Hot Work Permit by coordinating with the Project Manager. At a minimum, the Contractor shall clearly specify the following:
 - Location: (e.g., UNMC 4230 Data Center 2063)

- Dates: (e.g., Monday 8/4 through Wednesday 8/6)
 - Times: (e.g., 7:00 AM – 5:30 PM)
 - Description of Hot Work: (e.g., Remove existing CRAC 3 unit and install new CRAC 3 unit, extend new chilled water piping to last IRC, minimal soldering of copper piping below access floor)
 - Special Precautions: (e.g., provide smoke eaters and portable fire extinguishers as necessary)
 - Required Impairments: (e.g., Fire alarm system and FM-200 system)
 - PAI: (include full name, cellular phone number, company name, job title, etc.)
 - The Project Manager will enter the data into the Hot Works Permit Database and print out the permit and logs. (Example of Hot Work Permit - Attachment 1). The Contractor shall not substitute or change the PAI without prior approval of the UNMC Project Manager.
4. Based on local conditions, the PAI shall determine the duration for which the Hot Work Permit is valid. However, Hot Work Permits shall not be valid for durations exceeding seven (7) calendar days. Hot Work Permits issued for more than 24 hours require the PAI to use the Hot Work Permit Daily Log. The Log requires the signature of the Hot Work Operator and the Fire Watch designated individual (See Attachment 2). The log must be used for each Hot Work session as it pertains to the original Permit.
 5. The original executed Hot Work Permit, and the Hot Work Daily Log, with all required signatures and checks shall be furnished to the Project Manager when Hot Work is completed and final checks have been made by the PAI. Once completed and final checks have been made by the PAI the completed copy will be filed electronically and a copy placed in the project file.
 6. 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 UNMC and Nebraska Medicine 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.
 7. If Contractor fails to comply promptly with any part of the Hot Work Permit Policy and Procedures, the Project Manager shall issue a stop work notice to the Contractor. When, in the opinion of and by notice given by Facilities Management and 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.

Operations and Maintenance Work

A Hot Work Permit (Attachment 1) must be issued for all hot work that will take place.

1. The fire watch procedures spelled out in NFPA 51B -2003 Section 5.4.2 shall be maintained for at least **60** minutes (30 minutes longer than the standard requires) after completion of hot work operations in order to detect and extinguish smoldering fires.
2. The Zone Manager, Coordinator or other designated facilities operations staff to be determined by Operations Management is the Permit Authorizing Individual (PAI).
3. Based on local conditions, the PAI shall determine the duration for which the Hot Work Permit is valid. However, Hot Work Permits shall not be valid for durations exceeding seven (7) calendar days. Hot Work Permits issued for more than 24 hours require the PAI to use the Hot Work Permit Daily Log. The Log requires the signature of the Hot Work Operator and the Fire Watch designated individual (See Attachment 2). The log must be used for each Hot Work session as it pertains to the original Permit.

4. The original executed Hot Work Permit, and the Hot Work Daily Log, with all required signatures and checks shall be furnished to the Project Manager/Zone Manager when Hot Work is completed and final checks have been made by the PAI. Once completed and final checks have been made by the PAI the completed copy will be filed electronically and a copy placed in the project file.
5. 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 Plant and UNMC Central Shop) The precaution checklist must 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.
6. Emergency repairs that require urgent work involving Hot Work should be done in accordance with NFPA 51B -2003. The Zone Manager or their designee will act as the PAI. When a proper Fire Watcher is not available, the PAI will contact the Zone Manager, Coordinator or their designee to request an approved Fire Watcher to be present as required.

Attachments: Attachment 1 - Hot Work Permits
Attachment 2 - Hot Work Log

HOT WORK PERMIT

ATTACHMENT 1

Project Name

Project Number

NMC WORK ORDER NUMBER

UNMC WORK ORDER NUMBER

Contractor / Sub / In-House Shop:

Permit Number:

Building:

Address:

Department:

Room(s)

Description of Work:

Special Precautions:

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] Does the fire detection and/or fire suppression system need to be impaired (if yes needs impairment form)?

Reviewed by Impairment Coordinator - Signature: _____

[Y] [N] Sprinklers are in Service

[Y] [N] Hot Work equipment is in good repair

WITHIN 35 FEET OF WORK

[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 from 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, or On-Campus 9-5555

[Y] [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 trained 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.

Time Completed: _____

PAI Signature _____

FMP Signature: _____

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HOT WORK PERMIT DAILY LOG (for Hot Work Permits issued in excess of 24 hours. NOT TO EXCEED 7 DAYS) ATTACHMENT 2

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 |
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