

WNC Policies and Procedures Manual

Procedure: Hot Work Permit Program
Policy No.: 11-19-1
Department: Environmental Health & Safety
Contact: EH&S Officer

Policy: The purpose of this policy is to prevent any fires that may result from “hot work” processes. This “hot work” can occur as a result of construction or maintenance and applies to contractors and outside agents as well as WNC personnel.

Combustible Material
Cutting
Grinding
Fire Extinguisher
Fire Watch
Flammable Material
Hot Work

Section 1. Scope

A. For the purpose of this policy, “hot work” is defined as any temporary operation involving open flames or producing heat and/or sparks. This includes, but is not limited to: grinding, cutting, brazing, soldering, thawing frozen pipes by torch, torch applied roofing and welding.

B. This policy applies to all personnel on campus including contractors, outside agents and volunteers, who are involved within construction and maintenance activities and/or who may be involved in “hot work” activities.

C. Contractors doing hot work shall have an equivalent hot work permit program or may comply with this program.

D. This program does not apply to normal routine supervised activities in classrooms, laboratories and academic vocational shops that are designed and equipped for “hot work” operations.

Section 2. Responsibilities

Division Chair or Department Division

A. The ultimate responsibility for the hot work permit program rest with the Chair or Director of the Division/Department. It is their responsibility to ensure that the program is carried out within their area of authority.

Supervisors, Laboratory Supervisors, Project Leaders

A. Individuals who have a supervisory responsibility play a key role in the hot work permit program. They have responsibility for:

- Ensuring that their subordinates are trained and understand the applicable provisions of the program.
- Ensuring that their subordinates fulfill all requirements before any hot work is performed, including:
 - Ensuring that the Facilities Department is contacted and that they approve the Hot Work Permit.
 - Ensuring that, where installed, the building fire alarm system is in working order.
 - Ensuring that, where installed, the building fire sprinkler system is operational.
- Completing and approving each “Hot Work Permit” issued.
- Ensuring that properly trained fire watches are assigned when necessary.
- Ensuring that all Hot Work Permit required precautions are in place.

Individuals Performing Hot Work

A. Individuals performing the hot work play what is perhaps the most important role in the program. They are responsible for:

- Obtaining written approval from the Facilities Supervisor for the hot work.
- Ensuring that conditions are safe before commencing the hot work including that all permit required precautions are in place.
- Being prepared to contact their Facilities Supervisor should conditions change or warrant reassessment during the hot work project.
- Using appropriate personal protective equipment (PPE) while performing hot work (welding helmets, gloves, jackets, etc.).
- Completing the appropriate section(s) of the hot work permit.
- Making arrangements for trained fire watch.

Firewatchers

A. Firewatchers are responsible for:

- Being aware of the inherent hazards involved in the hot work.
- Ensuring that safe conditions are maintained during the hot work.
- Ensuring that appropriate fire extinguishers are readily available and in good working order.
- Knowing how to report a fire or other emergency situation.
- Maintaining the watch for at least 30 minutes after the work is completed.
- Using the appropriate PPE
- Completing the appropriate section of the hot work permit.

- Returning the completed hot work permit to their supervisor.

Facilities Management

A. Facilities Management shall recognize its responsibility for safe usage of welding, cutting and other spark or flame producing equipment during hot work operations under their control or under department of public works control and shall be responsible for:

- Establishing designated areas for welding, cutting, brazing, torch soldering and grinding operation where the potential fire danger is limited. At the Facilities Management Department's discretion, hot work conducted in these areas may occur under a general hot work permit, which is reissued on a regular basis.
- Establishing procedures for hot work in other areas.
- Designating at least one trained individual responsible for authorizing hot work permits in areas not specifically designated for hot work.
- Requiring employees performing hot work and their supervisors to be suitably trained in the safe operation of the equipment.
- Advising all contractors about flammable materials or hazardous conditions in areas where they will be working.

Facilities Supervisors

A. Facilities supervisors are responsible for:

- Maintaining cutting or welding equipment in safe operating condition.
- Issuing hot work permits for any cutting, welding, brazing, torch soldering, grinding or open flame, heat or spark producing operations outside of the designated area(s).
- Ensuring the precautions listed on the Hot Work Permit are understood and followed by the individual performing the hot work.
- Informing outside contractors and service personnel of the expectations of this policy.
- Verifying that contractor personnel have the necessary hot work permits required for their work.

Environmental Health and Safety Department (EH&S)

A. The EH&S Department is responsible for:

- Monitoring compliance with this Hot Work Policy
- Providing training for all involved in hot work at WNC.

Section 3. Hot Work Procedures

Hot Work Permit Forms

A. The Hot Work Permits [see Appendix A] shall be the permit system of choice.

Prior To Hot Work

A. Several tasks must be performed before hot work begins. These include, but are not limited to:

- Inspect the hot work area to identify any fire hazards.
- Remove all flammable or combustible materials within a thirty five-foot radius of the hot work.
- Properly shield combustibles that cannot be removed from the area with non-combustible blankets or other non-combustible materials.
- Seal all cracks and openings through which hot sparks or slag may enter. As an alternate means, a fire resistant shield may be used to block the openings.
- Sweep floor of all loose combustible debris.
- Placing non-combustible or flame resistant screens so as to protect personnel in adjacent work areas from heat, flames, radiant energy and welding splatter.
- Protect conveyer systems that may carry sparks of slag to other parts of the building.
- Mark the area so as to warn nearby personnel of the danger.
- Cover sprinkler heads directly above the hot work area with wet rags or other non-combustible materials so they will not be triggered during the work.
- Cover smoke detectors located in close proximity of the work area

During Hot Work

A. During the hot work there are other precautions that must be taken:

- Appropriate fire extinguishing equipment shall be maintained in close proximity to the hot work for its entire duration, plus 30 minutes.
- Combustible floors shall be kept wet during the hot work.
- Store acetylene and other fuel cylinders in a secure and upright position.
- Place hoses so that they will not be crushed or damaged.

After Hot Work

A. There are some responsibilities that must be undertaken after hot work is completed:

- The fire watch shall be maintained for at least 30 minutes following the completion of the hot work. If circumstances

require, fire watches shall be maintained for periods longer than 30 minutes.

- Fire extinguishing equipment must remain accessible in the area until the fire watch is secured.
- Remove any covers from sprinkler heads immediately upon completion of the hot work.
- Remove covers from any smoke detectors immediately upon completion of the hot work.
- Completion of the appropriate section(s) of the hot work permit and the return of the completed form to the supervisor.

Prohibited Hot Work Areas

- A. Hot work activities are prohibited in the following areas:
- Occupied areas equipped with sprinkler systems that are out of order.
 - Areas, including those with confined spaces, where atmospheres of explosive gases, vapors, or dusts exist or could accumulate.
 - On metal walls, ceilings or roofs built of composite, combustible, and sandwich-type panel construction or having combustible coverings.
 - On containers where flammable liquids, solids or vapors may be present.
 - On pipes that are in contact with combustible walls, ceilings, roofs or partitions where heat by conduction can cause ignition.

Section 4. Record Keeping

Hot Work Permits

A. All hot work permits shall be returned to the issuing facilities supervisor for record retention. Records of hot work permits should be maintained for one calendar year. Hot work permits on record should be reviewed for program improvement or modification purposes prior to disposal.

Training

A. Copies of records of all program related training should be maintained in the department personnel files. Copies of training records should be sent the EH&S Officer.

Section 5. References

A. Title 29 Code of Federal Regulations Part 1910, Subpart Q

B. State of Nevada Occupational Safety and Health Standards for General Industry (1910, Subpart Q)

C. Article 105.8.h.3, Uniform Fire Code

D. NFPA 51b, “Standard for Fire Prevention during Welding, Cutting, And other Hot Work”

Appendix A. (see next page)

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Appendix A. WNC HOT WORK PERMIT Number _____

BEFORE INITIATING HOT WORK, CAN THIS JOB BE AVOIDED?

This Hot Work 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

INSTRUCTIONS

1. Fire Safety Supervisor:

- A. Verify precautions listed at right (or do not proceed with the work)
- B. Complete and post in work area until the work is completed
- C. Completed permits should go to the Facilities Department

Date: _____

Building: _____

Floor: _____

Nature of Job _____

Contractor: _____

The above location has been examined. The precautions checked (✓) on reverse of card have been taken to prevent fire. Permission is granted for this work.

Signed: _____

Permit Expires: Date _____ Time _____

Time _____ Time _____

Started: _____ Finished _____

Final checkup Work area and all adjacent areas to which sparks and heat might have spread (such as floors above and below and on opposite side of walls) were inspected for at least 30 minutes after the work was completed and found fire safe.

Signed: _____

After signing, return to Facilities person responsible for Hot Work safety to file for review by Environmental Health & Safety and our Insurance Company.

REQUIRED PRECAUTIONS CHECKLIST

Before signing this card authorizing the job, the person responsible for Hot Work Safety should inspect

the proposed work area and check (✓) below the precautions taken.

(✓) Available sprinklers, hose streams and extinguishers are in service/operable.

(✓) Hot Work equipment in good repair

Requirements within 35 ft (11m) of work

() Flammable liquids, dust, lint & oily deposits removed

() Explosive atmosphere in area eliminated
Floors swept clean

() Combustible floors wet down, covered with damp sand or fire-resistive sheets

() Remove other combustibles where possible. Otherwise protect with fire-resistive tarpaulins or metal shields.

() All wall & floor openings covered

() Fire-resistive tarpaulins suspended beneath work

() Protect or shut down ducts & conveyors that might carry sparks to distant combustibles.

Work on walls, ceilings or roofs

() Construction is noncombustible & without combustible coverings or insulation

() Combustibles on other side of walls, ceilings or roofs are moved away

Work on enclosed equipment

() Equipment cleaned of all combustibles

() Containers purged of flammable liquids/vapors

() Pressurized vessels, piping & equipment removed from service, isolated & vented

Fire watch/Hot Work area monitoring

() Fire watch will be provided during & for 30 minutes after work, including any coffee or lunch breaks

() Fire watch is supplied with suitable extinguishers & where practical a charged small hose

() Fire watch is trained in use of equipment & in sounding alarm

() Fire watch may be required in adjoining areas, above & below

() Monitor Hot Work area for 4 hours after job is completed (contact Public Safety)

Other precautions

Taken: _____