

Environmental Health and Safety
Title: Hot Work Safety SOP
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I. Purpose

This procedure is designed to prevent fires caused by construction or maintenance activities such as welding, soldering, and grinding, or any activity which may create a spark or a hazardous condition which could develop into a fire, by ensuring the necessary training and safeguards are in place prior to the work being done.

II. Scope

This procedure applies to any employee or contractor engaged in installation, renovation, or maintenance activities of any campus building, system, or component which will result in the creation of sparks, flame, or heat. Employees and contractors performing “hot work” operations are required to be suitably trained in the use and safe operation of all required equipment, including safety equipment necessary for the proper protection of the area from an accidental fire.

For the purpose of this policy, authorized employees of the Environmental Health and Safety (EHS) Fire Safety program and Facilities Management shall be considered Permit Authorizing Individuals (PAI).

III. Procedure

A Hot Work Permit shall be issued for any construction or maintenance activity which could produce sparks, flame, heat, or have the capability of initiating fires or explosions. The permit will be specific to a particular person, location, and job (multiple jobs require multiple permits).

Permit requests must be submitted at least 24 hours before work is started. Permits will be issued during normal UNT Health working hours. After hours and weekend permits shall be scheduled and approved by Facilities Management. Emergency Hot Works Permits will be issued, in select situations, for immediate repairs to critical building infrastructure systems on an “as needed” basis.

All required precautions listed on the permit, including fire watch, must be implemented prior to initiating any hot work. The PAI representative shall ensure all proper precautions are in place prior to the issuance of a permit. The employee or contractor conducting the

work is responsible for making sure that all necessary precautions remain in place for the duration of the work.

Any PAI is authorized to temporarily stop any Hot Work based upon conditions or unacceptable risks that he/she deem violate the requirements set forth in the permit or good safe work practices until such times as those conditions are made satisfactory.

IV. Permit Requirements

- All required precautions listed on the permit must be implemented prior to commencing any hot work.
- Facilities personnel will review the equipment and outline proper pre-cautions that will need to be in place prior to the hot work.
- The person performing the hot work is responsible for ensuring that these precautions are implemented and remain in place for the duration of the work.
- Hot Work Permit will NOT be issued unless the individual performing the work is on site.
- The person receiving the Hot Work Permit must clearly display the permit for the duration of the work.
- Hot work permits are good for one day only. Once a Hot Work Permit has expired, it may not be used again.

V. Fire Hazard Assessment

A fire hazard assessment shall be conducted of the work area prior to starting any work which will produce sparks, or open flame. The assessment shall include the following:

- An evaluation of the work, to determine if it can be moved to an area where there is less of a hazard or a designated "Hot Work" station. If not, appropriate guards shall be implemented to prevent the spread of heat, sparks, and slag and other combustible hazards.
- An evaluation of the area to ensure that the "Hot Work" is not conducted in areas where there is a potentially flammable or explosive atmosphere.
- The area shall be free of all combustible items; items which cannot be moved shall be sufficiently protected by non-flammable material, i.e. grated floors shall be sufficiently covered to prevent falling slag dropping through to lower levels.
- Isolation/shutdown of the HVAC as necessary to prevent the spread of fire.
- Identification and protection of fire suppression devices such as smoke/heat detectors and fire sprinklers.

VI. Personal Protective Equipment

Proper personal protective equipment (PPE) must be in use while performing hot work. This includes, but is not limited to items such as: welding helmets, gloves, and jackets. If hazards due to inhalation of metal fumes, vapors or dusts exist, appropriate respiratory protection must be used.

VII. Fire Extinguishers

Extinguishers shall be located where they will be readily accessible and immediately available in the event of fire.

VIII. Welding Equipment

- All welding equipment must comply with the following, as well as all manufacturers' requirements:
 - Must have operable gauges.
 - Must be secured in a non-combustible container.
 - Must have a shut-off wrench attached and available for use.
 - Hoses cannot have tape applied to them.
 - No quick couplers will be used.
 - No Teflon tape will be used to assist in sealing connection threads
 - Be appropriate for the type of environmental conditions the work is being conducted in.
 - Be properly connected to the electrical/ fuel source without creating additional hazards.
- Arc welders must be properly grounded.
- At a minimum, one (1) 24 oz. (medium duty) 6' X 6' fire blanket, that meets NFPA 701, must be on site to have a Hot Work Permit issued.

IX. Building Fire Protection Systems

Fire sprinkler heads must be protected when hot work locations are situated within four (4) feet of a sprinkler head. Fire Alarm Devices in the proximity of the work shall be protected from accidental activation using a plastic bag labeled with date, name, and phone number.

X. Fire Watch Requirements

Hot Work Permits can be issued if fire suppression systems are not functional or installed. In this case, a fire watch may be required depending on the hazard. When fire suppressions are functional, a 30- minute watch is required on every hot work. However, the time may be adjusted depending on the type of hazard that is involved in the hot work. Hot work roofing activities require a minimum 1-hour fire watch.

A fire watch must include the following requirements:

- Watch out for fire hazards in the workplace while work is performed by other employees
- Maintain the conditions and requirements stated on the Hot Work Permit
- Maintain constant means of communication (i.e. visual or voice.)
- Keep flammable materials from ignition sources and stop operations if you find any hazardous condition

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- In the event of a small fire, extinguish it immediately. If the fire cannot be extinguished, activate the emergency pull station to alert building occupants
- Do not leave the worksite for an additional 30 minutes, to ensure there are no fire hazards
- Provide documentation of the fire watch to EHS at the completion of the work along with the completed Hot work permit

XI. Containers

Welding and cutting on containers shall not occur unless atmospheric testing has been completed by EHS and there are no flammable or explosive gases or the interior of the vessel has been purged with an inert gas.

XII. Confined Spaces

Work in confined spaces shall comply with the UNT Health Confined Space Policy (located XXXX) and this policy:

- All UNT Health Confined Space Entry Program policies shall apply
- Electrodes shall be removed in the case of long rest periods
- Torches shall be turned off to prevent the accumulation of gases during long rest period
- Hot Work in any confined space automatically makes the confined space Permit Required due to the generation of hazardous atmospheric conditions.

XIII. Responsibility

A Supervisor/Manager shall ensure all heat generating, open flame, and cutting equipment is operated by qualified and properly trained employees.

XIV. Employees

- Acquire the proper equipment for the operation and verify that all equipment is in working condition
- Acquire a fire extinguisher for fire watch personnel and know procedures for reporting emergency situations
 - Fire Emergency: Call UNT Health Police at 817-735-2600
 - Non-Emergency: Call UNT Health Police at 817-735-2210
- Verify flammable level using a LEL meter or similar device, where appropriate
- Remove combustibles from work area or protect combustibles that cannot be removed
- Be in possession of a hot work permit prior to start of operation

XV. Fire Watch

- Watch out for fire hazards in the workplace while work is performed by other employees
- Maintain the conditions and requirements stated on the Hot Work Permit

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- Maintain constant means of communication (i.e. visual or voice.)
- Keep flammable materials from ignition sources and stop operations if you find any hazardous condition
- In the event of a small fire, extinguish it immediately. If the fire cannot be extinguished, activate the emergency pull station to alert building occupants

Do not leave the worksite for an additional 30 minutes, to ensure there are no fire hazards

XVI. References

- Fire Safety Manual EHS 100-05
- 2015 ed. of NFPA 1: The Fire Code
- 2015 ed. of NFPA 101: Life Safety Code

XVII. Version revisions

Initial approval April 2022

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