

PURPOSE

Southern Methodist University (SMU) recognizes that there is a potential for injury to people and damage to property that can result from fire or sparks that arise when hot work is performed outside of a designated safe hot work area. This operating procedure establishes a permit authorization system to ensure that all hazards are evaluated and that appropriate safety measures and controls are taken prior to and during any operation that uses an open-flame or spark-producing apparatus.

This operating procedure is written in accordance with the Occupational Safety & Health Administration's (OSHA) workplace standard, 29 CFR 1910.252, Welding, Cutting and Brazing and chapter 35 of the International Fire Code, Welding and Other Hot Work.

APPLICABILITY

Hot work operating procedures shall apply to all SMU faculty, staff, students, volunteers, visitors, and all contract personnel conducting hot work at, in, and around all University-owned, leased, and/or occupied properties. This procedure does apply to projects and major renovations, where portions of the building are still in use ¹. ***This procedure does not apply to new construction.***

SCOPE

Outlines SMU's approach to controlling fire hazards resulting from work activities that have the potential for producing sparks, flames or significant heat. Provides instruction for obtaining written authorization to perform such work and establishes the minimum hazard controls that must be utilized during the work.

Forms of hot work:

- Welding
- Cutting
- Burning
- Grinding
- Similar activities producing a spark, flame or heat

This procedure ***does not*** apply to the following activities: cooking, electric soldering irons, autoclaves, Bunsen burners, other lab equipment, or outdoor activities (35 feet from buildings of combustible construction.)

¹ General contractors must show proof of compliance with this procedure and are subject to an audit of the program/worksites by the SMU Office of Risk Management

DEFINITIONS

Safe Hot Work Area: A permanent area that has been designated by the local fire code official to be used for hot work operations including, but not limited to, welding, torching, grinding, cutting, etc. This may include areas such as maintenance shops, art facilities, or laboratories and does not require a daily permit to perform hot work.

Hot Work: Any work using an open-flame or spark-producing apparatus. Hot work includes, but is not limited to, welding, cutting, burning, grinding, and any related heat-producing job that could ignite combustible materials or flammable atmospheres.

Hot Work Permit: A permit issued by SMU Office of Risk Management which authorizes specified hot work at a specific location and time, follow procedures set forth by the 2021 International Fire Code.

Fire Watch: Trained personnel who are in attendance during the entire hot work operation and are immediately available to extinguish a fire or take other effective action if needed. The fire watch individual must have attended an SMU sanctioned hot work training session to serve as the individual overseeing the fire watch.

Hot Work Operator: Any individual who operates an open-flame or spark-producing apparatus or performs any type of hot work.

ROLES & RESPONSIBILITIES

A. Departments

Departments and managers/supervisors are responsible for ensuring that the requirements outlined in this operating procedure are understood and practiced by the individual(s) performing hot work. Specific responsibilities of individual departments conducting or coordinating any hot work operations include:

1. Contact the Office of Risk Management for approval of any hot work to be performed.
2. Identify combustible materials and hazardous areas/equipment present or likely to be present in the work location.
3. Protect combustibles in the work location by:
 - Moving hot work to a designated safe hot work area or a location free of combustibles;
 - Moving the combustibles, if the location cannot be changed, to a safe distance (15 feet) from hot work or properly shielding the combustibles against ignition; or
 - Scheduling hot work during a time when combustibles are not likely to be in the area.

4. Ensure that the hot work operator, fire watch and others in the area are provided with and using proper safety equipment, including personal protective equipment and fire extinguishing equipment.
5. If hot work is to be performed in a confined space, laboratory, paint booth, or any area that would be deemed hazardous to perform this activity, consult the EHS Confined Space Entry program to ensure proper protocols are followed.

B. Hot Work Operator

Obtain proper authorization to perform hot work operations from the Office of Risk Management (ORM) via the HOT WORK PERMIT, and shall handle the equipment safely and use it so as not to endanger lives and property. The individual conducting hot work is responsible for the following requirements:

1. Ensure full compliance with the requirements of this procedure.
2. Become fully trained to perform required hot work and verify that equipment and tools are in good working order, including fire suppression equipment.
3. Obtain a signed HOT WORK PERMIT from the Office of Risk Management for any work that is to be performed outside of a designated safe hot work area. The permit must be displayed at the work site.
 - If hot work activities are planned to fall outside of normal business hours, please obtain a HOT WORK PERMIT the prior business day the work is scheduled to occur.
4. Use appropriate safety equipment, including eye and face protection, hand protection, body protection, head protection, hearing protection, and respiratory protection, as needed. Refer to **OSHA Standard 1910.252 – General Requirements** with any questions regarding personal protection equipment (PPE).
5. Designate a responsible person to serve as a fire watch.
6. Avoid hot work operations where conditions ARE NOT SAFE.
7. Stop work when conditions change from those set when work was approved. If the designated fire watch must leave the work site, operations shall cease and the operator shall remain at the work site for at least 30 minutes following job stoppage to monitor for fires.

8. Have a representative, if required, check the hot work area 3 hours after completion of the hot work procedure. In areas where fire alarm actuation devices are within 35 feet of the hot work area the 3-hour visible check will not be required; these devices will act as 3-hour check.
9. Return completed hot work permits to the Office of Risk Management no later than 24 hours following the completion of work for the permit to be closed out.

Emergency Hot Work

If an emergency should arise and require hot work activities, please complete a hot work permit as usual, and contact EmergencyManagement@smu.edu. Please follow the following email format:

- **Subject Line:** HOT WORK + location of work
- **Body of Email:** Location, type of hot work, and expected duration of all hot work activities

Emergency hot work permits should be returned to the Office of Risk Management by 9:00 AM the following day.

C. Office of Risk Management

ORM is responsible for the maintenance and update of this procedure. Additionally, ORM is the central authority in the day-to-day management of the permit process and the application of this procedure.

Responsibilities

1. Administers the Hot Work Program.
2. Assists work units in implementing the provisions of this Program.
3. Develops training materials related to this Program.
4. Assists in providing general training to employees.
5. Maintains records in accordance with this document.
6. Periodically audits and updates the Program as needed.
7. Coordinates implementation of the Program within the work unit.
8. Ensures required training is provided to employees within the work unit.

9. Assists in the investigation of all injuries and incidents.
10. Issue Hot Work Permit.
11. Audit all operations to ensure compliance with this procedure.
12. Periodically inspect designated hot work areas to ensure that conditions have not become unsafe for hot work.
13. Suspend hot work if conditions become unsafe for the work being performed.
14. Document verification of 3 hour check as communicated by the Performing Authority when required.

HOT WORK REQUIREMENTS

A. Permit-Required Areas

In areas where it is not practical to move the work to a designated SAFE HOT WORK AREA, hot work shall only be permitted once the area is made fire safe by removing combustibles or protecting combustibles from ignition sources.

Once the work area has been properly prepared, the department or individual requesting a HOT WORK PERMIT shall obtain final review and approval of permit from ORM.

Unless prior approval has been granted by Office of Risk Management, hot work operations are strictly prohibited under the following conditions:

1. In areas not designated as SAFE HOT WORK AREAS where a proper HOT WORK PERMIT has not been obtained
2. In sprinklered buildings while such protection is impaired or the fire alarm control panel has been red tagged. Check with the Office of Risk Management for confirmation of such areas.
3. Areas where there exists the potential of an explosive atmosphere, such as locations where flammable gasses, liquids or vapors are present
4. Areas with or near the storage or large quantities of flammable or combustible materials that can readily ignite

B. Safe Hot Work Areas

Safe hot work areas include any outdoor location free of combustibles and away from pedestrians or by-standers, and all recognized Departmental Shops identified in the table below.

Please contact ORM for questions or to designate a location a safe hot work area. All safe hot work areas must be approved by ORM and local fire code official.

Safe Hot Work Locations

Building	Location
Dawson Service Center	Welding Shop (inside garage)

TRAINING

The Office of Risk Management will provide hot work training to Hot Work Operators and maintain training records to include the individual's name, training date, and the content of the training. Training will be provided initially upon hire for any SMU employee whose job will require the use of hot work. Refresher hot work training will be provided as required by local or regulatory standards, or as deemed necessary by supervisory personnel.

Those responsible for hot work equipment and tasks will ensure Hot Work Operators receive equipment-specific or task-specific training and maintain a record of such training.

HOT WORK PROCEDURES

A. Preparation of the work area

Before a hot work permit is approved and issued, the department or individual requesting the permit shall verify that:

1. All hot work equipment to be used is in satisfactory condition and in good repair.
2. Any combustible materials such as paper clippings, wood shavings, or textile fibers on the floor are swept clear for a radius of 35 feet. Floors constructed of combustible materials are properly protected by either wetting the surface or are covered by fire-resistant shields.

Where floors have been wetted down, personnel operating arc hot work equipment shall be protected from possible shock.

3. All combustible materials are relocated at least 35 feet horizontally from the work area. Where relocation is not practical, the combustible materials shall be protected with flame-proof covers or otherwise shielded with metal or fire-resistant shields or tarps.
4. Openings or cracks in walls, floors, or ducts within 35 feet of the work area are tightly covered to prevent the passage of sparks to adjacent areas. Where hot work is done near walls, partitions, ceilings, or roofs of combustible construction, fire-resistant shields or guards are provided to prevent ignition.
5. If hot work is to be done on a metal wall, partition, ceiling, or roof, precautions are taken to prevent ignition of combustible materials on the other side, such as relocation or covering the materials, due to conduction or radiation. If the combustible materials cannot be relocated or protected, an additional fire watch shall be provided on the opposite side of the wall where the work is being performed.
6. No hot work is to be attempted on a metal partition, wall, ceiling, or roof having a covering, nor on walls or partitions of combustible sandwich-type panel construction.
7. Hot work is not undertaken on pipes or other metals that are in contact with combustible walls, partitions, ceilings, or roofs if the work is close enough to cause ignition by conduction.
8. Nearby personnel are suitably protected against heat, sparks, slag, etc.
9. If hot work is to be done in close proximity to a sprinkler head, the head is covered by a wet cloth to prevent activation. The cloth must be removed immediately at the conclusion of the hot work.
10. All smoke detectors in the area should be covered or disabled prior to hot work (contact ORM with any questions). The dust covers must be removed immediately or enabled immediately at the conclusion of the hot work.
11. Prior to permit application if a sprinkler head and/or a smoke detector are required to be disabled, this work must be performed by an approved vendor selected by Southern Methodist University. When the devices are returned to normal, it shall be verified by the Office of Risk Management and documented on the permit by the fire watch.

B. Obtaining a Hot Work Permit

1. The Hot Work Operator is to request a HOT WORK PERMIT from the Office of Risk Management. The PERMIT shall only be valid for the time duration identified. Generally, no HOT WORK PERMIT should exceed a 24-hour period. If additional time is needed, the requester must notify ORM for an extension or issuance of a new permit.
2. ORM may require a visual inspection of the area prior to issuing the permit.
3. Once approved, the permit shall be posted at the work area for the duration of the job.

C. Fire Watch

The Hot Work Operator is responsible for designating a fire watch. The fire watch shall be an individual designated on the hot work permit, but shall not be the actual person(s) performing the hot work operation. The fire watch must comply with the following procedures:

1. Make fire extinguishing equipment readily available and be trained in its proper use and limitations.
2. Know how to activate the building's fire alarm system, if applicable, or who to notify in the event of a fire.
3. Watch for fires in all exposed areas, and try to extinguish them first, only when obviously within the capacity of the equipment available, or otherwise sound the alarm immediately.
4. Ensure that the work area is inspected 30 minutes after completion of the job to detect and extinguish possible hot spots or smoldering fires. In addition, the site will be periodically monitored for an additional three hours after dismissal of the fire watch. The fire watch shall be released after the 30-minute initial inspection.
5. Correct or stop any conditions which may lead to a fire and report conditions to SMU ORM at the earliest opportunity.
6. Contact SMU PD at 214-768-3333 if you attempt to extinguish a fire, and only do so if you can appropriately and safely extinguish the fire, otherwise, activate the fire alarm system.
7. If the fire watch must leave the work site, all hot work must stop and the fire watch shall remain in effect for 30 minutes after the work stoppage.

A. Work Stoppage

When work is stopped for an extended period of time the equipment must be shut down and secured to prevent accidental sparking. If the work stoppage will exceed the original duration time of the HOT WORK PERMIT, the requester must notify SMU ORM to have the permit extended or to request issuance of a new permit.

B. Confined Spaces

Any hot work that is to be performed in a confined space shall be conducted in accordance with OSHA and university requirements.

C. Hot Work on Containers

No hot work is to be performed on any drums, tanks, containers or any vessel that may have contained chemicals or materials that when heated may produce flammable, explosive, or toxic atmospheres, if the container has not been thoroughly cleaned and prepared.

D. Hot Tapping

Hot work that must be performed on any utility piping used for the transmission or distribution of flammable gases or liquids shall only be performed by a crew qualified to make hot taps.

E. Outside Containers

Contractors shall perform all hot work procedures in accordance with this operating procedure or be able to demonstrate that they have a comparable procedure that meets or exceeds the requirements of this operating procedure.

RECORD OF CHANGES

Change #	Date	Description	Pages Affected	Person Making Change
1	4/24/2019	Program rewrite	All	Max Richardson
2	7/10/2019	Operational changes	2, 4, 5, 6	MR
3	7/15/2019	Applicability	1	MR
4	4/13/2021	Operational changes/updates	All	MR
5	12/14/2021	Updates	All	Gregory Huffman