



## ENVIRONMENTAL HEALTH AND SAFETY STANDARD OPERATING PROCEDURES

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**SOP No. 24.01.99.W1.49AR Hot Work**

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Environmental Health and Safety at WTAMU is composed of three distinct but integrated environmental safety departments that report to the Vice President of Research and Compliance. Academic and Research Environmental Health and Safety (AR-EHS) is responsible for research and academic related compliance, which includes laboratory and academic research and the associated compliance committees. Fire and Life Safety (FLS-EHS) is responsible for fire related compliance and conducts fire and life safety inspections of campus buildings and assists with the testing all fire detection and suppression systems. General Safety (GHS-EHS) promotes safe work and health practices, to all faculty, staff, students, and visitors. Examples of General Health and Safety components include: office safety, proper lifting techniques, trip and fall prevention.

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### 1. Purpose

The purpose of the Hot Work Program is to provide guidance for West Texas A&M University (WTAMU) faculty, staff, and students who manage, supervise, or perform hot work operations.

## 2. Scope

Affected departments of WTAMU are expected to establish and follow the Hot Work Program as described in this document.

## 3. Responsibility

Any person conducting hot work activities on property owned or operated by WTAMU must follow the procedures outlined in this SOP.

It is the responsibility of supervisors, managers, or principal investigators (PIs) to ensure proper training and equipment is provided. Additionally, it is the responsibility of supervisors, managers, or PIs to ensure work is conducted safely and that Hot Work Permits are obtained (if required).

## 4. Definitions

Designated Area – a work area that has been identified by WTAMU to be an acceptable location to conduct hot work activities.

Hot Work Activities – any process that can be a source of ignition when flammable material is present or can be a fire hazard regardless of the presence of flammable material. The following have been identified by WTAMU as hot work activities:

- a. Welding
- b. Soldering (including electric soldering)
- c. Brazing
- d. Metal Cutting (when a flame is used or when sparks are produced)
- e. Metal Grinding
- f. Use of a Torch (ex: roofing applications, pipe thawing, or weed control)

Responsible Official – a supervisor, manager, or PI who has been delegated authority to issue Hot Work Permits.

## 5. General Procedure

**No person shall perform hot work unless suitably trained in the safe use of the process and the safe operation of equipment.**

### 5.1. Designated Areas

Hot work activities conducted in designated areas are authorized as long as all of the following criteria are met.

- a. The person(s) conducting the work must be properly trained.
  1. Training must cover (at a minimum):
    - (a) Safe use of technique.
    - (b) Equipment selection and handling.
    - (c) Hazard identification.
    - (d) Personal protective equipment.
    - (e) Fire prevention.
- b. All potential physical and chemical hazards have been identified and removed.
  1. At least 35 feet must separate hot work activities and any combustible materials. This includes but is not limited to:
    - (a) Wood (including shavings or sawdust).
      - i. Sweep the floors clean to meet the distance requirement.
    - (b) Paper.
    - (c) Cardboard.
    - (d) Cotton bales.
    - (e) Tires.
    - (f) Plastics.
    - (g) Flammable or combustible chemicals.
  2. All equipment must be in good repair and in safe working condition.
  3. If welding is to be conducted, proper shielding must be used to protect other people in the area.
  4. Ensure proper ventilation is present.
  5. Workers should position themselves in a manner to reduce exposure to produced fumes.
  6. Be aware of other work being conducted in the vicinity of the hot work activity. Ensure enough distance separates the hot work area from other equipment. Also, never run fuel lines or electrical lines over other equipment. Equipment likely to be found near designated hot work areas include:

- (a) Lathes.
  - (b) Saws.
  - (c) Drills.
  - (d) Presses.
  - (e) Lifts.
- c. The supervisor, manager, or PI responsible for the designated area has been notified of the type of hot work activity to be conducted and the approximate duration that hot work will be performed.
- d. Hot work activity is conducted between the hours of 8:00 am and 5:00 pm.
- 1. Work conducted by UL is exempt from condition 5.1.d.

## 5.2. Hot Work Permit

Any hot work activities not conducted in designated areas or those instances which fail to meet all of the criteria listed in Section 5.1 of this SOP require issuance of a hot work permit.

- a. Hot Work Permits are issued by EHS or by a responsible official.
- 1. To become a responsible official, departments must submit written request to the Director of AR-EHS. The request must include:
    - (a) The name, office location, and telephone number of the supervisor, manager, or PI requesting approval as a responsible official.
    - (b) File location where current and completed hot work permits will be maintained.
      - i. Files are subject to compliance audits.
    - (c) The clients, students, or employees the responsible official reasonably expects to support via the hot work program.
      - i. This list is intended to remain broad. Examples include: Engineering students, third party contractors, graduate employees, etc.
  - 2. For a hot work permit to be issued, the following criteria must be met.
    - (a) The person issuing the hot work permit must understand the scope of work to be conducted.

- (b) A job safety analysis must be conducted prior to requesting a hot work permit. All hazards identified during the safety analysis must be discussed with the person issuing the hot work permit. The person issuing the hot work permit must make a reasonable effort to remove or minimize the identified hazards prior to permit issuance.
- (c) The person conducting the hot work activities must be properly trained. Training must include:
  - i. Safe use of technique.
  - ii. Equipment selection and handling.
  - iii. Hazard identification.
  - iv. Personal protective equipment.
  - v. Fire prevention.
- (d) A fire watch attendant must be identified.
  - i. The fire watch attendant must be trained in use of fire-fighting and alarm equipment and supplied with suitable extinguishers.
  - ii. Fire watch must be present through the duration of the hot work activity and 1 hour beyond completion of the hot work activity.
  - iii. Fire watch must also monitor the work area for an additional 3 hours beyond the 1 hour post hot work observation period.
  - iv. The fire watch attendant's job is to watch for potential fires. The fire watch attendant must not be distracted from this job function.

### 5.3. Hazard Identification

#### 1. Fire and Explosion

- a. Ensure combustibles are located at least 35 feet from the area where hot work is to be conducted.
  - i. Sweep the floor to meet the distance requirement (35 feet).
  - ii. Areas that have large amounts of suspended dusts can be a flash hazard.
- b. Hot work must not be conducted in or near explosive atmospheres.
- c. Wet down combustible floors or cover with wet sand or fire resistive sheets.
- d. For work conducted on walls, ceilings, or roofs, remove combustible materials on other side of the walls/ceilings/roofs. Ensure insulation and building construction is non-combustible.
- e. Hot work must not be conducted on, or adjacent to, live gas transmission lines.

#### 2. Shock Hazards

- a. Ensure electrical cord, electrode holder, and cables are free from defects.
  - b. Wear proper PPE that is free of defect.
    - i. Gloves.
    - ii. Rubber soled boots/shoes.
    - iii. Apron.
  - c. Ensure proper grounding.
  - d. Follow proper lockout/tagout procedures.
  - e. Do not weld in wet conditions.
  - f. Do not wrap welding cables around any portion of the human body.
3. Inhalation Hazards
- a. Ensure proper ventilation and position so as to minimize exposure to fumes.
  - b. Respiratory protection may be required based on ventilation and material involved in the hot work activities.
  - c. Clean surfaces of any coating that could potentially create toxic fumes.
    - i. Paints.
    - ii. Solvents
  - d. Hot work activities conducted in confined spaces are especially dangerous. Always ensure proper ventilation.
4. Misc. Hazards
- a. Wear a welding helmet and select the appropriate lens shade for the expected work.
  - b. Many hot work activities occur in areas of high noise, wear appropriate hearing protection.
  - c. Wear appropriate clothing and PPE to protect against burns.

## **6. Investigation**

This SOP is effective upon the date of approval and is subject to periodic review and revision.

## **7. Training**

West Texas A & M University Environmental Health and Safety will follow the Texas A & M University System Policy [33.05.02 Required Employee Training](#). Staff and faculty whose required training is delinquent more than 90 days will have their access to the Internet terminated until all trainings are completed. Only Blackboard and Single Sign-on will be accessible. Internet access will be restored once training has been completed. Student workers whose required training is delinquent more than 90 days will need to be terminated by their manager through Student Employment.

## **8. Record Retention**

No official state records may be destroyed without permission from the Texas State Library as outlined in [Texas Government Code, Section 441.187](#) and [13 Texas Administrative Code, Title 13, Part 1, Chapter 6, Subchapter A, Rule 6.7](#). The Texas State Library certifies Agency retention schedules as a means of granting permission to destroy official state records.

West Texas A & M University Records Retention Schedule is certified by the Texas State Library and Archives Commission. West Texas A & M University Environmental Health and Safety will follow [Texas A & M University Records Retention Schedule](#) as stated in the Standard Operating Procedure [61.99.01.W0.01 Records Management](#). All official state records (paper, microform, electronic, or any other media) must be retained for the minimum period designated.

## **9. References**

29 CFR 1910, Subpart Q

29 CFR 1926, Subpart J

NFPA 51B

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## **Contact Office**

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