

# Hot Work Safety Policy

## Description

## OBJECTIVE

To establish minimum health and safety requirements for performing hot work during maintenance, construction, fabrication or other activities meeting the definition of hot work.

## POLICY

All employees, students, volunteers and contractors working under University of Florida supervision shall comply with the elements of the UF Hot Work Safety Program.

## AUTHORITY

By authority delegated from the University President, the Vice-President of Business Affairs is responsible for the safety of all University facilities. Under this authority, policies are developed to provide a safe teaching, research, service, housing and recreational environmental  
[su\_spoiler style="fancy" icon="chevron" title=" Reference "] OSHA 29 CFR 1910 Subpart Q (Welding, cutting and brazing)

Governor's Executive Order 2000-292

NFPA 51B (Fire Prevention During Welding, Cutting and Other Hot Work)  
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## GENERAL RESPONSIBILITIES

[su\_spoiler style="fancy" icon="chevron" title=" Environmental Health and Safety Division (EH&S) "]  
EH&S is responsible for the development and review of health and safety policies covering faculty, staff, students and other UF affiliated individuals.

EH&S provides consultative and technical assistance to all UF departments and affiliates with respect to working in a safe manner and for maintaining UF compliance with any applicable Federal, State or local regulations.

Representatives of EH&S have the authority and responsibility to order work to stop if imminently dangerous or unsafe procedures are observed involving hot work operations or any other health and safety issue.

EH&S is available to assist with technical training and to review specific or proposed work procedures.  
[/su\_spoiler] [su\_spoiler style="fancy" icon="chevron" title=" University Maintenance

Divisions/Departments, Shops, Laboratories and other entities “] UF affiliated departments conducting hot work are expected to follow the provisions of the hot work safety policy and to ensure that all individuals conducting hot work operations have received the training necessary to perform hot work procedures in a safe manner.

[/su\_spoiler] [su\_spoiler style="fancy" icon="chevron" title=" Contractors “] Contractors are expected to follow all applicable health and safety regulations as well as any specific requirements set forth by University policy.

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## PROCEDURES

[su\_spoiler style="fancy" icon="chevron" title=" Scope and Application “] This program is designed to prevent injury and loss of property from fire or explosion as a result of hot work in all UF spaces and activities.

It covers: welding, brazing, soldering, heat treating, grinding, powder-actuated tools, hot riveting and all other similar applications producing a spark, flame, or heat.

This program does not cover the use of candles, the use of small, non-portable flames in a laboratory setting (if their operation is addressed in the laboratory SOP documentation), pyrotechnics or special effects, cooking equipment, electric soldering irons or torch-applied roofing (See NFPA 241).

All hot work performed by outside contractors shall be in conformance with OSHA and NFPA 51B at a minimum. Contractors are expected to maintain a written hot work program that outlines their procedures and safety precautions. Proof of employee training in hot work procedures must be available for review.

Hot work operations in confined spaces require additional safeguards and are addressed in the current UF Confined Spaces Policy.

Hot work on and near building systems and piping may require additional safeguards and are addressed in current UF Control of Hazardous Energy – Lockout/Tagout Policy.

[/su\_spoiler] [su\_spoiler style="fancy" icon="chevron" title=" Definitions “] **Competent Hot Work Supervisor (CHWS)** For UF employees the CHWS shall have successfully completed competent person training and examination to be considered competent. For outside contractors the hot work supervisor shall be identified and the name provided to the project manager. The CHWS cannot be the hot work operator. Failure to properly adhere to UF Hot Work Procedures shall result in suspension of competent person authority and possible disciplinary action.

**Designated Area** Permanent location designed for or approved by a CHWS for hot work operations to be performed regularly. No permit is needed for a designated hot work area.

**Hot Work** Any work involving welding, brazing, soldering, heat treating, grinding, powder-actuated tools, hot riveting and all other similar applications producing a spark, flame, or heat, or similar operations that are capable of initiating fires or explosions.

**Hot Work Permit** A document issued by the CHWS for the purpose of authorizing a specified activity in a non-designated hot work area.

**Hot Work Operator** An individual designated by UF to perform hot work under the authorization of a CHWS.

**Small, non-portable flames** Refers to the use of a device such as a Bunson Burner or small 16 oz. torch in a fixed position.

**Welding and Allied Processes** Those processes such as arc welding, oxy-fuel gas welding, open-flame soldering, brazing, thermal spraying, oxygen cutting, and arc cutting.

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## HOT WORK ASSIGNMENTS AND RESPONSIBILITIES

[su\_spoiler style="fancy" icon="chevron" title=" Competent Hot Work Supervisor (CHWS) "] The CHWS is responsible for the safe operations of hot work activity under their supervision. These duties include:

- Conducting a hazard assessment in the proposed hot work area to determine any potential fire risks.

Approve and issue hot work permits to hot work operators.

- Determine that fire protection and extinguishing equipment are properly located and readily available.
- Ensure combustibles are protected from ignition by the following means:
  - Move the work to a location free from combustibles.
  - If the work cannot be moved, ensure the combustibles are moved to a safe distance or have the combustibles properly shielded against ignition.
  - Ensure hot work is scheduled such that operations that could expose flammables or combustibles to ignition do not occur during hot work operations.
  - If any of these conditions cannot be met, then hot work must not be performed.
- Determine site-specific flammable materials, hazardous processes, or other potential fire hazards present or likely to be present in the work location.
- Ensure that all individuals involved in the hot work operations are trained in the safe operation of their equipment and the safe use of the process. These individuals must have an awareness of the risks involved and understand the emergency procedures in the event of a fire.
- Ensure that all individuals involved in the hot work operations are trained in and are familiar with UF Hot Work requirements.
- Ensure that only approved apparatus, such as torches, manifolds, regulators and pressure reducing valves, are used.
- Ensure sufficient local exhaust ventilation is provided to prevent accumulation of any smoke and fume.
- Ensure that a fire watch is posted at the site when:
  - Hot work is performed in a location where other than a minor fire might develop, or where the following conditions exist.
  - Combustible materials in building construction or contents are closer than 35 ft to the point

of hot work.

- Combustible materials are more than 35 ft away but are easily ignited by sparks.
- Wall or floor openings are within 35 feet and expose combustible materials in adjacent areas. This includes combustible materials concealed in walls or floors.
- Combustible materials are adjacent to the opposite side of partitions, walls, ceilings, or roofs and are likely to be ignited.
- Where a fire watch is not required, the CHWS shall make a final inspection 1/2 hour after the completion of hot work operations to detect and extinguish possible smoldering fires.

[/su\_spoiler] [su\_spoiler style="fancy" icon="chevron" title=" Hot Work Operator (HWO) "] The hot work operator shall handle the equipment safely and perform work so as not to endanger lives and property. Specific duties include:

- Complete required hot work training prior to conducting any hot work activities.
- Inspect all equipment for defects or damage prior to each use.
- Properly use any required personal protective equipment

**No hot work shall be conducted without specific written authorization from the CHWS via completion of the Hot Work Permit.**

The operator must cease hot work operations if unsafe conditions develop.

The operator must notify the CHWS for reassessment of the situation in the event of suspected unsafe conditions or concerns expressed by affected persons.

[/su\_spoiler] [su\_spoiler style="fancy" icon="chevron" title=" Fire Watch "] The fire watch is an individual, other than the hot work operator, posted in specific circumstances, as described above. The function of the fire watch is to observe the hot work and monitor conditions to ensure that a fire or explosion does not occur as a result of the work performed. The fire watch is authorized to stop any unsafe operation or activity. Specific duties and responsibilities include:

- Watch for fires, smoldering material or other signs of combustion.
- Be aware of the inherent hazards of the work site and of the hot work.
- Ensure that safe conditions are maintained during hot work operations and stop the hot work operations if unsafe conditions develop.
- Have fire-extinguishing equipment readily available and be trained in its use.
- Extinguish fires when the fires are obviously within the capacity of the equipment available. If the fire is beyond the capacity of the equipment, sound the alarm immediately.
- Be familiar with the facilities and procedures for sounding an alarm in the event of a fire.
- A fire watch shall be maintained for at least 30 minutes after completion of hot work operations in order to detect and extinguish smoldering fires.
- More than one fire watch shall be required if combustible materials that could be ignited by the hot work operation cannot be directly observed by a single fire watch (e.g. in adjacent rooms where hot work is done on a common wall).

[/su\_spoiler] [su\_spoiler style="fancy" icon="chevron" title=" Hot Work Operational Requirements "] Hot work is allowed only in areas that are or have been made fire-safe. Hot work may only be performed in either designated areas or permit-required areas.

A designated area is a specific area designed or approved for such work, such as a maintenance shop or a detached outside location that is of noncombustible or fire-resistive construction, essentially free of

combustible and flammable contents, and suitably segregated from adjacent areas.

A permit-required area is an area made fire-safe by removing or protecting combustibles from ignition sources.

Hot work is not allowed:

- In sprinklered buildings if the fire protection system is impaired
- In the presence of explosive atmospheres or potentially explosive atmospheres (e.g. on drums previously containing solvents)
- In explosive atmospheres that can develop in areas with an accumulation of combustible dusts (e.g. grain silos).

[/su\_spoiler] [su\_spoiler style="fancy" icon="chevron" title=" Hot Work Permit "] Before hot work operations begin in a non-designated location, a completed hot work permit prepared by the CHWS is required. (See Appendix I). Based on local conditions, the CHWS must determine the length of the period, not to exceed 24 hours, for which the hot work permit is valid.

The following conditions must be confirmed by the CHWS before permitting the hot work to commence:

- Equipment to be used (e.g. welding equipment, shields, personal protective equipment, fire extinguishers) must be in satisfactory operating condition and in good repair.
- The floor must be swept clean for a radius of 35 ft if combustible materials, such as paper or wood shavings are on the floor,
- Combustible floors (except wood on concrete) must be
  - kept wet or be covered with damp sand ( note: where floors have been wet down, personnel operating arc welding or cutting equipment shall be protected from possible shock)., or
  - be protected by noncombustible or fire-retardant shields.
- All combustible materials must be moved at least 35 ft away from the hot work operation. If relocation is impractical, combustibles must be protected with fire-retardant covers, shields or curtains. Edges of covers at the floor must be tight to prevent sparks from going under them, including where several covers overlap when protecting a large pile.
- Openings or cracks in walls, floors, or ducts within 35 ft of the site must be tightly covered with fire-retardant or noncombustible material to prevent the passage of sparks to adjacent areas.
- If hot work is done near walls, partitions, ceilings, or roofs of combustible construction, fire-retardant shields or guards must be provided to prevent ignition.
- If hot work is to be done on a wall, partition, ceiling, or roof, precautions shall be taken to prevent ignition of combustibles on the other side by relocating combustibles. If it is impractical to relocate combustibles, a fire watch on the opposite side from the work must be posted.
- Hot work must not be attempted on a partition, wall, ceiling, or roof that has a combustible covering or insulation, or on walls or partitions of combustible sandwich-type panel construction.
- Hot work that is performed on pipes or other metal that is in contact with combustible walls, partitions, ceilings, roofs, or other combustibles must not be undertaken if the work is close enough to cause ignition by conduction.
- Fully charged and operable fire extinguishers that are appropriate for the type of possible fire shall be available immediately at the work area. These extinguishers should be supplied by the group performing the hot work. The fire extinguishers normally located in a building are not

considered to fulfill this requirement.

- If hot work is done in proximity to a sprinkler head, a wet rag shall be laid over the head and then removed at the conclusion of the welding or cutting operation. During hot work, special precautions shall be taken to avoid accidental operation of automatic fire detection or suppression systems (for example, special extinguishing systems or sprinklers).
- Nearby personnel must be suitably protected against heat, sparks, and slag.

[/su\_spoiler] [su\_spoiler style="fancy" icon="chevron" title=" Work Closeout "]

- A fire watch shall be maintained for at least 30 minutes after completion of hot work operations in order to detect and extinguish smoldering fires.
- The CHWS shall inspect the job site 30 minutes following completion of hot work and close out the permit with the time and date of the final check.
- The completed Hot Work Permit shall be retained for 6 months following completion of the project.

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No welding, cutting or other hot work shall be performed on used drums, barrels, tanks or other containers until they have been cleaned to make absolutely certain that there are no flammable materials present or any substances such as grease, tars, acids or other materials which when subjected to heat, might produce flammable or toxic vapors.

[/su\_spoiler] [su\_spoiler style="fancy" icon="chevron" title=" Hazard Communication "]

Individuals supervising or conducting hot work are responsible for complying with the University's Hazard Communication program. Training must include information on the potential hazards of any materials used in the hot work processes such as fluxes, coatings, coverings and filler materials, as well as methods to use to protect yourself from the hazards and how to recognize when an over exposure is occurring. Direct access to product labels and safety data sheets (SDS) must be provided.

[/su\_spoiler] [su\_spoiler style="fancy" icon="chevron" title=" Training "]

All hot work supervisors and operators must receive hot work training before starting any hot work activities. The training must include the requirements of the UF hot work policy as well as safe practices for hot work, required personal protection equipment and fire extinguisher use.

Hot work program training must be repeated at least every two years.

The completion of additional training (i.e. confined space, respiratory protection) may also be required based on the job specific hazards.

**All training completed must be documented in writing.**

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