



Policy Title:	Hot Work Safety Policy
Policy Number:	UNIV-473
Revision Date:	October 2021
Policies Superseded:	FINA-731
Policy Management Area(s):	Environmental Health and Safety Department of Public Safety

SUMMARY:

The Hot Work Safety policy establishes and prescribes procedures that will assure compliance with all federal, state and local regulations applicable to hot work and reduce the number of incidents and losses associated with hot work fires. Nationwide there are an average of over 12,000 hot work fires with over \$300 million in property damage and 30 deaths per year. The goal of Coastal Carolina University (CCU) is to prevent fires resulting from hot work operations in the construction, repair and maintenance of University property.

POLICY:

I. DEFINITIONS

- A. **Competent Hot Work Supervisor (CHWS)** – For University employees, the CHWS must have successfully completed competent-person training and skills assessment. The CHWS cannot be the hot work operator. Failure to properly adhere to CCU hot work procedures must result in suspension of competent-person authority and possible disciplinary action.

For outside contractors, the hot work supervisor must be identified and the name provided to the CCU project manager. The project manager will be responsible for ensuring that the outside contractor is in compliance with the Hot Work Safety Policy.

- B. **Designated Hot Work Area** – A permanent location designed for or approved by the CCU Fire Marshal for hot work operations to be performed regularly. Normal hot work in these areas does not require a Hot Work Permit.

- C. Hot Work – Any work involving burning, welding, brazing, soldering, heat treating, powder-actuated tools, hot riveting torching cutting, grinding (where sparks are produced) and all other similar application or operation producing a spark, flame or heat that is capable of initiating fires or explosions.
- D. Hot Work Permit (HWP) – A document required to be completed by a Competent Hot Work Supervisor prior to any hot work operations. The HWP is available on the [University forms page](#). It must remain at the worksite until permitted hot work is completed. The original document is to be kept by the CHWS; a copy should be kept by the department in charge of the work; and a copy should be forwarded to the Fire Safety Department. HWPs are to be kept on file for six months following completion of the hot work.
- E. Hot Work Operator - An individual designated by CCU to perform hot work under the authorization of a CHWS.
- F. Hot Work Permit-Exempt Operations – The following normal operations do not require a Hot Work Permit:
 - 1. Bunsen burners used in laboratories
 - 2. Fixed grinder wheels
 - 3. Electric soldering irons
- G. 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.

II. REGULATORY REQUIREMENTS

Occupational Safety and Health Standards for General Industry 29 CFR 1910 .252-254; National Fire Protection Association (NFPA), and **the** International Fire Code

III. RESPONSIBILITIES

- A. Environmental Health and Safety (EHS) Department – Responsible for policy updates and training designated employees on hot work operations.
- B. Fire Safety Department responsible for compliance and policy updates.

- C. Other CCU Departments – Must maintain compliance with the Hot Work Safety Policy and designate hot work employees to EHS Department.
- D. Competent Hot Work Supervisor (CHWS) – The CHWS is responsible for the safe operations of hot work activity under their supervision. The CHWS cannot be a hot work operator or fire watch. CHWS duties include:
1. Notify the CCU Fire Marshal or designee prior to hot work operation and assure that the work location fire safety system is operating properly.
 2. Complete a Hot Work Permit, and post it on site during work. Properly file permit following work completion.
 3. Establish permissible areas for hot work where combustible materials in building construction or contents are not any closer than 35 feet to the point of hot work or the combustible materials are properly shielded from ignition sources. This includes combustible materials concealed in walls, floors, opposite sides of partitions, ceilings or roofs that are likely to be ignited.
 4. Designate and assign the hot work operator(s) and fire watch(es). 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.
 5. Assure that fire watch(es) remain on site at all times during the operation; continue to monitor the area at least 30 minutes past completion of the hot work operation; and perform a work close-out inspection.
- E. Hot Work Operator (HWO) – The hot work operator must handle the equipment safely and perform work so as not to endanger lives and property. Specific duties include:
1. Obtaining specific written authorization for the hot work from the CHWS via completion of the Hot Work Permit. No hot work must be conducted without specific written authorization
 2. The operator must notify the CHWS for reassessment of the situation in the event of suspected unsafe conditions or concerns expressed by affected persons.

F. Fire Watch (FW) – The fire watch is an individual 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:

1. Ensure that safe conditions are maintained during hot work operations while watching for fires, smoldering material or other signs of combustion. Stop the hot work operations if unsafe conditions develop.
2. Be aware of the inherent hazards of the work site and of the hot work.
3. Have fire-extinguishing equipment readily available and be trained in its use. At minimum, one water fire extinguisher and a 2-A:20-B-C rating extinguisher must be within 30 feet of the location where hot work is performed. A normal extinguisher inside the building will not meet this requirement. Extinguish fires within the capacity of the equipment available. If the fire is beyond the capacity of the equipment, then activate the fire safety system of the building.
4. A fire watch must be maintained for at least 30 minutes after completion of hot work operations in order to detect and extinguish smoldering fires.
5. More than one fire watch will 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).

IV. TRAINING

A. Training must be of the type that will introduce and establish proficiency in the safe hot work practices and the requirements of the policy. All hot work designated employees must be trained and become familiar with the following:

1. The skills and techniques necessary to recognize flammable or combustible materials and techniques to remove or properly shield these materials from exposure to flames and sparks from hot work operations.

2. The skills and techniques necessary to properly use fire extinguishers, to activate a fire safety alarm and to notify Public Safety and other emergency services as needed.
 3. The proper use of personal protective equipment, tools and equipment.
- B. Training Frequency – Designated employees will receive initial training at the time of their employment and refresher training annually. Additional retraining will be provided whenever there is a change in the equipment or process that may present a new hazard or when there is a change in procedures. When a periodic inspection reveals that there are inadequacies in an employee’s skill or deviations from use of the hot work practices outlined in this program, retraining will be required. Training will re-establish employee proficiency and introduce new or revised control methods and procedures as necessary.

V. HOT WORK OPERATIONAL REQUIREMENTS

- A. 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 permit-required area is an area made fire-safe by removing or protecting combustibles from ignition sources.
- B. Hot work is not allowed in buildings where the fire protection system is impaired or in the presence of explosive atmospheres or potentially explosive atmospheres (e.g., on drums previously containing solvents).
- C. Before hot work operations begin in a non-designated location, a completed hot work permit prepared by the CHWS is required. 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:
1. Approved special precautions must be taken to avoid accidental activation of automatic fire detection systems. Fire Safety and Public Safety Dispatch need to be put on notice. Fire alarms, sprinkler systems alarms and fire sprinklers cannot be disabled during hot work. A pre-site inspection by Fire/Safety is required before work is started or a permit is issued.

2. Equipment to be used (e.g., welding equipment, shields, personal protective equipment, fire extinguishers) must be in satisfactory operating condition and in good repair.
3. The floor must be swept clean for a radius of 35 feet if combustible materials such as paper or wood shavings are on the floor.
4. Combustible floors (except wood on concrete) must be kept wet or be covered with damp sand.
 - a. Note: where floors have been wet down, personnel operating arc welding or cutting equipment must be protected from possible shock or be protected by noncombustible or fire-retardant shields.
5. All combustible materials must be moved at least 35 feet away from the hot work operation. If relocation is impractical, combustibles must be protected with fire-retardant covers, shields or curtains. Edges of covers must be tight at the floor to prevent sparks from going under them, including where several covers overlap when protecting a large pile.
6. Openings or cracks in walls, floors or ducts within 35 feet of the site must be tightly covered with fire-retardant or noncombustible material to prevent the passage of sparks to adjacent areas.
7. If hot work is to be done on or near a wall, partition, ceiling, or roof, combustibles on the other side must be relocated to prevent ignition. If it is impractical to relocate combustibles, a fire watch on the opposite side of the work must be posted.
8. 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.
9. 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.
10. Fully charged and operable fire extinguishers that are appropriate for the possible type of fire must be available at the work area immediately. These extinguishers should be supplied by the group performing the hot work. The typical fire extinguishers located in a building do not fulfill this requirement. At minimum, one water fire extinguisher and a 2-A:20-B-C rating extinguisher shall be within 30 feet of the location where hot work is performed.

11. If hot work is done in proximity to a sprinkler head, a wet rag must be laid over the head and then removed at the conclusion of the welding or cutting operation. During hot work, special precautions must be taken to avoid accidentally setting off automatic fire detection or suppression systems (e.g., special extinguishing systems or sprinklers).
12. Nearby personnel must be suitably protected against heat, sparks and slag.
13. Signage must be posted to warn others before they enter the hot work area. Such sign shall display the following warning:

CAUTION
HOT WORK IN PROGRESS
STAY CLEAR

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