

**SUNY OSWEGO FACILITIES SERVICES
ENVIRONMENTAL HEALTH AND SAFETY MANUAL**

HOT WORK PROGRAM

Program Number	Original Effective Date	Revision Date
EHS-HWP-01	October 01, 2018	October 01, 2018

1.0 PURPOSE

The purpose of this procedure is to establish a safe working environment during hot work operations. This includes, but is not limited to, brazing, cutting, grinding, soldering, and/or welding. A Hot Work Permit (Attachment 1) shall be issued prior to performing any hot work.

2.0 APPLICABILITY

- 2.1 This procedure applies to all employees or contractors whose work requires them to use brazing, cutting, grinding, soldering and/or welding processes involving hot work activities in existing buildings, new construction in existing buildings, and new construction attached to existing buildings.
- 2.2 This procedure does not apply to designated welding areas.

3.0 REFERENCES

- 3.1 29CFR 1910.252 Welding, Cutting and Brazing
- 3.2 ANSI Z49.1-1994 Safety in Welding, Cutting and Allied Processes
- 3.3 ANZI/NFPA 51B-1994 Fire Protection in Use of Cutting and Welding Processes
- 3.4 ANZI/AWS F4.1-94 Recommended Safe Practices for the Preparation for Welding and Cutting of Containers and Piping
- 3.5 Fire Code of New York State, Chapter 35 Welding and Other Hot Work

4.0 RESPONSIBILITIES

4.1 Department/Contractor

- 4.1.1 Ensure provisions of this procedure are understood and practiced by employees.
- 4.1.2 Protect combustibles in the hot work area.
- 4.1.3 Provide employees with the proper personal protective equipment and fire extinguisher.
- 4.1.4 Designate a Fire Watch.

4.2 Environmental Health and Safety Department (EHS)

- 4.2.1 Periodically inspect designated welding areas to ensure conditions have not become unsafe for hot work operations.
- 4.2.2 Inspect hot work areas outside of the designated welding areas.
- 4.2.3 The Fire Marshal or designee will issue Hot Work Permits for hot work areas outside of the designated welding areas.
- 4.2.4 Provide Fire Watch training.
- 4.2.5 Suspend hot work operations if conditions become unsafe for the work environment.

4.3 Fire Watch

- 4.3.1 Maintain training in the use of portable fire fighting equipment and the proper method for reporting an emergency. A list is available in EHS.
- 4.3.2 Stop hot work operations which may lead to a fire.

5.0 PROCEDURE

If conditions change from the original job scope, all hot work shall stop immediately. Contact Environmental Health and Safety to re-evaluate the area.

5.1 Employee/Contractor

- 5.1.1 When practical, move objects to be welded, heated, or cut to a designated welding area.

- 5.1.2 Obtain a Hot Work Permit from Environmental Health and Safety the same day that work starts. 24 hour notice is required except in emergency. Off shift will request at start of shift or call CHP x-3117 for a call in.
- 5.1.3 Have the proper sized ABC portable fire extinguisher. Contractors will supply their own fire extinguisher.
- 5.1.4 Designate a Fire Watch.
- 5.1.5 Notify University Police at 312.5555 or X-5555.
- 5.1.6 Notify the Electrical Safety Department at 312.3200. EHS will determine if deactivation of the fire alarm system is necessary.
- 5.1.7 EHS shall inspect personal protective equipment to ensure proper condition and working order prior to starting hot work operations.
- 5.1.8 EHS will complete section 1 of the Hot Work Permit to document that a safe work environment has been prepared. All Special Conditions identified on the Hot Work Permit shall be met prior to performing any hot work operations.
- 5.1.9 Post a copy of the Hot Work Permit at the work location until the hot work operations is completed.

5.2 Fire Watch

- 5.2.1 The Fire Watch shall remain at the job location during hot work operations. If the Fire Watch must leave the job location, all hot work shall stop - immediately!
- 5.2.2 Inspect both sides of the walls and floors for fire during hot work operations.
- 5.2.3 Remain at the hot work location at least 30 minutes following completion of hot work operations.
- 5.2.4 Notify the Electrical Safety Department at 312.3200 to re-enable any fire detection equipment that was disabled.
- 5.2.5 Notify University Police at 312.5555 or x-5555 that hot work operations are complete.
- 5.2.6 Complete Section 3 of the Hot Work Permit and return the form to the Environmental Health and Safety Office - 110 Lee Hall.

5.3 Special Procedures for Hot Work Permit Required Areas

- 5.3.1 Environmental Health and Safety shall document any special conditions in Section 2 of the Hot Work Permit.
- 5.3.2 Combustible materials within 35 feet of the hot work operations shall be removed, shielded or covered with a fire retardant material. Edges of the cover shall be tight to the floor and any overlap properly secured.
- 5.3.3 Take precautions when using an arc welder to prevent electrical shock due to a wet floor.
- 5.3.4 Isolate air ducts that may transport sparks to prevent the spread of fire.
- 5.3.5 Use fire retardant shields on walls, blankets, partitions, ceilings or roof constructed of combustible material.
- 5.3.6 Temporary exhaust fans may be utilized to minimize fumes, if necessary.

5.4 Special Conditions

- 5.4.1 If hot work is stopped for an extended period of time (i.e., lunch break, overnight, etc.) the equipment must be shut down and secured to prevent accidental sparking.
- 5.4.2 The Fire Watch shall remain at the hot work location at least 30 minutes following work stoppage.
- 5.4.3 Any hot work that is to be performed in a confined space shall be done so in accordance with EHS-CSP-01 (Confined Space Permit).
- 5.4.4 Absolutely no hot work operations are allowed that involve drums, barrels, tanks, or other containers that may contain flammable materials, greases, tars, acids, or may produce toxic vapors when heated.
- 5.4.5 Vent hollow spaces or containers to permit the escape of air or gases prior to any hot work.

5.5 Personal Protective Equipment

- 5.5.1 Personal protective equipment shall be utilized and maintained in a sanitary and reliable condition.

- 5.5.2 Safety glasses, or goggles and face shields, shall be worn by welders. Spectacles without side shields, with suitable filter lenses, are permitted for use during gas welding operations on light work, torching, brazing or inspections. Fire Watch personnel shall wear eye and face protection as appropriate.
- 5.5.3 Helmets which protect the face, neck, and ears from direct radiant energy shall be worn during all hot work operations.
- 5.5.4 The size, nature, and location of hot work operations will be a factor in determining the extent of the leather protective clothing required.
- 5.5.5 Welders shall wear flameproof gauntlet gloves except when engaged in light work.
- 5.5.6 Hearing and/or respiratory protection may be required when performing work in a confined space area or overhead.
- 5.5.7 During production work, a sheet metal screen shall be provided in front of the welder's legs to provide protection against sparks and molten metal.
- 5.5.8 Where work permits the welder should be enclosed in an individual booth painted with a low reflectivity finish or enclosed with non-combustible screens.

6.0 DEFINITIONS

6.1 Designated Welding Area - A safe area where hot work is authorized without requiring a Hot Work Permit. The following are designated welding areas at SUNY Oswego:

- Building 12 Garage only (Not The Pole Barn)
- Central Heating Plant
- Lee Hall Welding Shop
- Park Hall Transportation Lab
- Hewitt Union Fabrication / Forging Shop (Basement Room 7A)
- Tyler Hall Forging and Scene Fabrication Shop Areas
- Wilber Hall Room 163 Welding and Forging Areas

6.2 Fire Watch - Trained personnel who are in attendance during the entire hot work operation and are immediately available to extinguish a fire. Fire watch personnel shall remain on the job for 30 minutes after completion of work to monitor the area for fire safety.

- 6.2 Hot Work - Any process involving electric arcs, open flames, or sparks.
- 6.3 Hot Work Permit - A permit approved by Environmental Health and Safety which authorizes specific hot work operations at a specific location and time. The permit documents that critical departments have been notified, safe work practices were followed, and the area has been monitored to assure no fire will start after works have left the job.

7.0 **ATTACHMENTS**

Attachment 1 - Hot Work Permit

ATTACHMENT 1 HOT WORK PERMIT

SECTION 1 - Employee / Contractor

Start Date	Start Time	Complete Date	Complete Time
Building	Floor	Room	Area
Work to be Performed			
Type of Process	<input type="checkbox"/> Welding <input type="checkbox"/> Cutting <input type="checkbox"/> Grinding <input type="checkbox"/> Other _____		

NOTE: Check the box before each item below to verify completion prior to commencing hot work.

- Submit Hot Work Permit 24-hours prior to commencing hot work.
- Appropriate portable ABC fire extinguisher is on site.
- Floors, walls, and ceilings are clear of combustible materials within 35 feet of work area or the surfaces are covered with fire retardant covers.
- There are no flammable lint, dust, vapors, liquids, or containers or equipment that contain these materials in the hot work area.
- Floor/walls/ceiling openings within 35 feet of hot work area are tightly covered.
- All equipment has been inspected and is in good repair.
- The sprinkler system is in service and, if working in close proximity, heat or sparks are directed away from sprinkler head.
- Electrical Safety Dept. at 312.3200 has been notified to determine if deactivation of the fire alarm system is required.
- University Police has been notified at 312.5555 of hot work.
- The nearest manual fire alarm pull station has been located and all workers know how to operate it.
Location _____.
- A fire watch has been assigned to watch for any event that may cause fire in the area to make use of portable fire protection equipment.

NOTE: Post a copy of the Hot Work Permit at the work location until the hot work is completed.

Employee Name (<i>print name</i>)	Employee Signature
FDC Project Coordinator (<i>print name</i>)	FDC Project Coordinator (<i>phone number</i>)

SECTION 2 - Environmental Health and Safety

Special Conditions	
EH&S Staff (<i>print name</i>)	Date
Attach Copy of Area Floor Plan (<i>circle one</i>)	Yes / No / Not applicable

SECTION 3 - Fire Watch (*check box*)

<input type="checkbox"/> Fire Watch Completed	<input type="checkbox"/> Notified Electrical Safety Dept.	<input type="checkbox"/> Notified University Police
Fire Watch Signature	Date	Time

Return original Hot Work Permit to EHS Office (110 Lee Hall)