UD HOT WORK PERMIT PROGRAM

A. PROGRAM ADMINISTRATION

Per State and National Fire Regulations, the Hot Work Permit Program is implemented to prevent fires during welding, cutting, and other associated hot work. The Department of Environmental Health and Safety is responsible for program administration. Construction Project Managers, General Contractors, Operations and Maintenance Supervisors should oversee the issue of Hot Work Permits for projects and jobs they are supervising or managing. All others performing hot work will report to the Environmental Health and Safety Fire Protection Staff to obtain Hot Work Permits.

B. DEFINITIONS AND TERMS

Hot Work: Any work that involves burning, welding, cutting, brazing, soldering, grinding, using fire- or spark-producing tools, or other work that produces a source of ignition. Welding and cutting operations are common to drilling and servicing operations.

Fire Safety Supervisor: Construction Managers, Operations and Maintenance Supervisors, and EHS/Fire Protection Representative who complete the Hot Work Permit Form and issue the Hot Work Permit. The Part 2 section of the form is to be displayed at the location of hot work. FM Global Hot Work Permit Form to be utilized for all permitted hot work authorizations.

Fire Watch: Person or persons who are responsible to standby during hot work operations to prevent unwanted ignition, or heating of materials. The fire watch will have a serviceable fire extinguisher nearby and immediately stop work in the event of unwanted ignition; signs off on the Hot Work Permit Form at start of hot work. Persons performing fire watch shall meet the following qualifications:

A. The fire watch shall be trained to understand the inherent hazards of the work site and of the hot work.
B. The fire watch shall ensure that safe conditions are maintained during hot work operations.
C. The fire watch shall have the authority to stop the hot work operations if unsafe conditions develop.
D. The fire watch shall have fire-extinguishing equipment readily available and shall be trained in its use.
E. The fire watch shall be familiar with the facilities and procedures for sounding an alarm in the event of a fire.
F. The fire watch shall watch for fires in all exposed areas and try to extinguish them only when the fires are obviously within the capacity of the equipment available. If the fire watch determines
that the fire is not within the capacity of the equipment, the fire watch shall sound the alarm immediately.

**Hot Work Permit Request:** Online form located on Environmental Health & Safety’s website that must be completed prior to any hot work taking place (link: [https://www.formstack.com/forms/?3686669-X3bdLDM5ZN](https://www.formstack.com/forms/?3686669-X3bdLDM5ZN)). The form is required to be completed at least (5) business days prior to the work taking place unless work is emergent. Work shall not take place until Hot Work Permit Request has been approved by EHS Fire Safety Staff.

**Hot Work Permit:** FM Global Hot Work Permit Form issued by a Fire Safety Supervisor to person or persons when performing hot work in Permit Required Hot Work Areas. Permit is typically valid for a single days work period but can be extended to longer periods when conditions warrant. The checklist and precautions appearing on the form will act as a worksite checklist.

**Hot Work Permit Monitor:** Person who performed the hot work or fire watch and is responsible for monitoring of welding area for up to 3 hours upon completion of hot work, and signs off the Final Check-up section of the Hot Work Permit Form. The duration of the monitoring period will be established by the Fire Safety Supervisor.

**Non-Permit Required Hot Work Area:** Spaces within buildings designated as non-permit required due hot work typically being conducted in the space, construction features allowing the work, and fire protection systems provided. Examples include sheet metal shops and similar industrial locations. Areas exterior to the buildings when greater than 50 feet from structures or other exposures such as cylinder storage and propane tanks, etc.

**Permit Required Hot Work Area:** Spaces and areas within and around structures on campus that are not declared Non-Permit Required Work Areas. The area around structures includes a radius of 40 feet and closer at the exterior of structures, unless declared otherwise.

### C. PROGRAM PROCEDURES

1. **Construction Projects:**
   
   a. Preconstruction Meeting with DEHS/Fire Protection Representative and proposed contractors will be conducted to outline Hot Work Permit Program.
   
   b. Fire Safety Supervisor will complete the online Hot Work Permit Request Form at least (5) business days prior to the start of hot work.
   
   c. Once the Hot Work Permit Request has been approved by UD EHS the hot work permit work site is to be inspected by PPD Project Manager or General Contractor acting as the job Fire Safety Supervisor. Upon declaring the work site acceptable, the written permit form will be completed by the Fire Safety Supervisor with Part A being sent to DEHS and Part B displayed at the Hot Work Permit Site.
   
   d. An assigned Fire Watch will sign off on Part 2 at the start of the hot work and will remain at permit site for duration of hot work. The fire watch will have a serviceable fire extinguisher
and a means of communication. They will readily stop work and extinguish spot fires should they occur. In the event of a fire beyond their capability to extinguish, the fire watch will call 9-1-1 and initiate an evacuation of the job site.

E. Upon completion of hot work, the fire watch or person conducting the hot work will monitor the work site for up to 3-hours to ensure no smoldering or hidden fire conditions exist. Upon completion of the monitoring period, the monitor will sign-off the final check-up section of the permit form and return to the Fire Safety Supervisor for filing at the work site.

F. A copy of the completed Hot Work Permit should be sent to Environmental Health & Safety via email at Fire-Safe@udel.edu or dropped off at the General Services Building Room 132 222 S. Chapel Street, Newark, DE 19716.

2. Facilities Operations and Maintenance Hot Work:

   A. Operations and Maintenance Supervisors will evaluate proposed work sites and determine if the location is Hot Work Permit or Non Hot Work Permit required.

   B. If the site is deemed permit required, the Fire Safety Supervisor (O&M Supervisor or designee) will complete the online Hot Work Permit Request Form at least (5) business days prior to the start of hot work. If work is emergent, EHS should also be contacted by phone at (302) 831-8475.

   C. Once the Hot Work Permit Request has been approved and the Fire Safety Supervisor has declared the work site acceptable, the written permit form will be completed by the Fire Safety Supervisor. Part 2 of the form must be displayed at the Hot Work site.

   D. An assigned Fire Watch will sign off on Part 2 at the start of the hot work and will remain at permit site for duration of hot work. The fire watch will have a serviceable fire extinguisher and a means of communication. They will readily stop work and extinguish spot fires should they occur. In the event of a fire beyond their capability to extinguish, the fire watch will call 9-1-1 and initiate an evacuation of the job site.

   E. Upon completion of hot work, the fire watch or person conducting the hot work will monitor the work site for up to 3-hours to ensure no smoldering or hidden fire conditions exist. Upon completion of the monitoring period, the monitor will sign-off the final check-up section of the permit form and return to the Fire Safety Supervisor for filing with EHS/Fire Protection.

   F. A copy of the completed Hot Work Permit should be sent to Environmental Health & Safety via email at Fire-Safe@udel.edu or dropped off at the General Services Building Room 132 222 S. Chapel Street, Newark, DE 19716.

3. All Other Requested Hot Work Permits:
A. Requester will complete the online Hot Work Permit Request Form at least (5) business days prior to the start of hot work.

B. UD Fire Protection Staff will evaluate the proposed work site and determine if the location is Hot Work Permit or Non Hot Work Permit required.

C. When Hot Work Permit is required, the Fire Protection Staff will act as Fire Safety Supervisor. Upon declaring the work site acceptable, the written permit form will be completed by the Fire Safety Supervisor. Part 2 of the form must be displayed at the Hot Work site. An assigned Fire Watch will sign off on Part 2 at the start of the hot work and will remain at permit site for duration of hot work. The fire watch will have a serviceable fire extinguisher and a means of communication. They will readily stop work and extinguish spot fires should they occur. In the event of a fire beyond their capability to extinguish, the fire watch will call 9-1-1 and initiate an evacuation of the job site.

D. Upon completion of hot work, the fire watch or person conducting the hot work will monitor the work site for up to 3-hours to ensure no smoldering or hidden fire conditions exist. Upon completion of the monitoring period, the monitor will sign-off the final check-up section of the permit form and return to the Fire Safety Supervisor via email at Fire-Safe@udel.edu or dropped off at the General Services Building Room 132 222 S. Chapel Street, Newark, DE 19716.

4. **Equipment:** All equipment used for hot work shall be chosen for safe application to the work and shall be properly installed. Proper shielding and eye protection to prevent exposure to personnel from hot work hazards shall be provided and used.

5. **Training:** Workers designated to operate welding, soldering, cutting and other hot work equipment shall be trained in the use of the equipment. Additionally, workers who operate welding equipment shall be properly instructed and qualified to operate the equipment.

6. **Fire Prevention:** Precautions for fire prevention in areas where hot work is being done shall include isolating hot work activities, removing hazards from the vicinity and providing a fire watch.
   - Provisions for isolating smoke detectors shall be coordinated with the Facilities O&M Fire Alarm Senior Technician.
   - All Hot Work shall be **suspended** during SPRINKLER SYSTEM OUTAGES.

7. **Ventilation:** Mechanical ventilation shall be provided when welding or cutting:
   - beryllium, cadmium, lead, zinc, stainless steel or mercury;
   - fluxes, metal coatings or other material containing fluorine components;
   - where there is less than 10,000 cubic feet per welder;
• in confined spaces;
• where there is a possibility of fumes spreading in an occupied building

Questions regarding the Hot Work Permit Program may be addressed to Kevin McSweeney or call 831-8475

D. APPENDIX
1. FM Global Hot Work Permit form (F2630)

**WARNING**

**HOT WORK IN PROGRESS! Watch for fire!**

### Instructions

**Person performing hot work:** Record time started and display permit at hot work area. After hot work is completed, record time and leave permit displayed for fire watch.

**Fire watch:** Watch area during hot work and after work completion. Prior to leaving area, perform final inspection, sign, and leave permit displayed and notify Fire Monitor or Permit Authority.

**Fire Monitor:** Monitor area after post-work fire watch completion. Perform final inspection, sign, and return to Permit Authority.

### HOT WORK BY

- Employee
- Contractor

### DATE

<table>
<thead>
<tr>
<th>JOB NUMBER</th>
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</table>

### LOCATION OF WORK (BUILDING/FLOOR/PROJECT)

### WORK TO BE PERFORMED

### NAME OF PERSON PERFORMING HOT WORK

### NAME OF PERSON PERFORMING FIRE WATCH

I verify the above location has been examined, the Required Precautions have been taken, and permission is authorized for this work.

**PERMIT AUTHORIZER (PRINT AND SIGN)**

### THIS PERMIT EXPIRES ON (LIMIT AUTHORIZATION TO ONE SHIFT):

<table>
<thead>
<tr>
<th>Date:</th>
<th>Time:</th>
<th>AM/PM</th>
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<tbody>
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</table>

**Hot Work Date:**

- Start Time: am/pm
- Finish Time: am/pm

**Post-Work Fire Watch**

- Finish Time: am/pm

### Name

**Fire Monitor:**

- Permit
- Other

**Name/Other**

**Final Check:**

- Time: am/pm

**Name**

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**Required Precautions**

- The fire pump is in operation and switched to automatic.
- Control valves to water supply for sprinkler system are open.
- Extinguishers are in service/operable.
- Hot work equipment is in good working condition.

**Requirements within 36 ft. (10 m) of hot work**

- Shield combustible construction using listed (e.g., FM Approved) welding pads, blankets, and curtains.
- Remove or shield nonremovable combustibles using listed (e.g., FM Approved) welding pads, blankets, and curtains.
- Isolate potential sources of flammable gas, ignitable liquid, or combustible dust/dirt (e.g., shut down equipment).
- Remove ignitable liquid, combustible dust/dirt, and combustible residues.
- Shut down ventilation and conveying systems.
- Remove combustibles and consider a second fire watch on opposite sides of floor, wall, ceiling or roof where openings exist or thermally conductive materials pass through.

**Is work on a combustible building assembly (e.g., Torch Applied Roofing)?**

- If yes, provide ADDITIONAL REQUIRED PRECAUTIONS below.

**Hot work on closed equipment, ductwork or piping**

- Isolate equipment from service.
- Remove ignitable liquid and purge flammable gas/vapor.
- Prior to work, and/or during work, monitor for flammable gas/vapor (LEL reading(s)):
- Remove combustible dust/dirt or other combustible materials.

**Is work on equipment with nonremovable combustible linings or parts?**

- If yes, provide ADDITIONAL REQUIRED PRECAUTIONS below.

**Fire watch/fire monitoring the hot work area**

- Times listed are sufficient for majority. Use Table at back of permit for guidance for combustible concealed eves, roof work or favorable factors.

- Perform continuous fire watch during hot work.
- Perform continuous fire watch post work for
  - 1 hour or Other ___ hours.
  - Perform fire monitoring for
  - 1 hour or Other ___ hours.

**ADDITIONAL REQUIRED PRECAUTIONS:**

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HOT WORK PERMIT

STOP!
Avoid hot work when possible! Consider using an alternative cold work method.

Instructions for Permit Authorizer
1. Specify the precautions to take.
2. Fill out and keep Part 1 during the hot work process.
3. Issue Part 2 to the person doing the job.
4. Keep Part 2 on file for future reference, including signed confirmation that the post-work fire watch and monitoring have been completed.
5. Sign off the final check on Part 2.

Part 1

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ADDITIONAL REQUIRED PRECAUTIONS:

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Jan-2020 Hot Work Permit Program