



I. Purpose:

This Standard Operating Procedure will govern the requirement for obtaining and using a hot work permit for all hot work on campus, including FO&M and contractors.

Hot work permits are intended to eliminate the risk of fire caused by hot work being performed outside of areas specifically designated for hot work.

Hot work permits provide notice that hot work is being performed on campus and provides the person performing the hot work a checklist to ensure that the work area is free of hazards that could result in a fire due to the use of an open flame or generation of sparks while performing work.

Hot work permits also require documentation to ensure that the hot work area is monitored for one hour following the completion of the hot work (continuous) and for a follow up inspection of the work area every hour for four hours after the hot work is completed (Three hours after the initial one hour fire watch period).

II. Regulatory Background:

Hot work is governed by OSHA Regulation 29CFR1910.252, NFPA Code 51B and by Factory Mutual Insurance Company requirements.

III. Assessment:

Hot work occurs any time an open flame is used, or sparks generated while performing work outside of a specific location where welding or other hot work is specifically designated to be performed.

IV. Assessment Results:

Specific campus locations where hot work is allowed without a hot work permit include:

- FO&M Welding Shop located behind McKenzie Hall,
- The Heat Plant welding shop
- The sculpture studio welding shop located inside the Black Family Visual Arts Center sculpture studio,
- The plasma cutting table/welding area located inside the Thayer School of Engineering Machine Shop,
- The mechanic bay located in the FO&M building on Dewey Field Road.
- The mechanics bay welding area in the Hanover Country Club Maintenance Facility of Lyme Road.
- The welding area located in the Wilder Machine Shop.
- Fixed location bench-top grinding stations located in building shop areas
- Other areas not mentioned can be reviewed for exception status by contacting EHS for a site visit and evaluation.
- Until EHS approves the exception, a hot work permit will be required for locations not specifically mentioned.

Any location, outside of those listed above, where an open flame is being used or sparks are being generated while performing work, a hot work permit is required. Hot work permits are required regardless of whether the work is indoors or outdoors.

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V. Procedures:

FO&M employees will obtain hot work permits daily, as needed, from Work Control.

Contractors will obtain hot work permits daily from the Environmental Health and Safety office located at 37 Dewey Field Road. The hot work permits are located outside of 37 Dewey Field Road, Room 115.

Call in or Emergency hot work, will require the contractor or employee to obtain the hot work permit from the troubleshooters. It is expected that the contractor or troubleshooters complete the 4-hour fire watch. This must be conveyed prior to hot work beginning.

When EHS issues a hot work permit, a copy of the hot work permit will be scanned and emailed to the Project Manager listed on the permit. The project manager will then be responsible for ensuring contractor compliance with the hot work permit program, to include the follow up requirements, collecting and closing out the permit and returning the permit to EHS within three (3) days of Hot Work Completion.

Hot work permits can be issued for up to five continuous days. Hot work permits can NOT be carried over to the following week.

If multiple people will be performing hot work independent of one another at the same job site, each person must obtain a separate hot work permit.

SECTION A (Front page) of the hot work permit is to be completed when the hot work permit is being obtained. Section A is simply notification to either work control or EHS that Hot Work is being performed on campus. The top form with Section A (front page) completed is to be left with work control or placed inside the box located in the EHS office.

SECTION B (Back page) is to be completed at the actual site where the hot work is being performed by the person who will be performing the hot work.

Section B of the permit must be posted in a prominent location at the site where the work is being performed. The permit must remain posted until the four-hour post hot work final check is completed.

Section B of the permit should be returned to the originating office following the closure of the permit (four hours after the completion of the hot work being performed) or the following day at the latest.

It is the responsibility of the person obtaining the hot work permit to perform the one hour follow up and to complete the four-hour final inspection of the work area following the completion of hot work.

This requires the FOM employee or troubleshooter to come back each hour and conduct the post hot work inspection.

If the four-hour post hot work "Final Checkup" is to be completed by the college troubleshooters, a written request must be made to Work control before 3 p.m. on the day when the follow up is required.

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The troubleshooters will document the four-hour post hot work “Final Checkup” in their “troubleshooters report”, as well as by signing off on the “Final Checkup” section of the hot work permit posted at the worksite.

Contractor Follow Up Requirements

It is expected that contractors will perform the one-hour post hot work monitoring. The first hour is continuous monitoring. It is also expected that contractors will conduct the four-hour post hot work inspection of the work area. This requires the contractor to come back each hour and conduct the post hot work inspection.

To facilitate the four-hour hourly follow up, it is expected that contractors will plan work accordingly so that Hot Work is completed by noon each day with the four-hour follow up performed no later than 4 pm on the day the work is being performed.

In the event that hot work must be performed after noon time and it is unreasonable for the contractor to stay on site for four hours following the completion of hot work, the contractor must notify the project manager before initiating the hot work. The project manager will then be responsible for arranging for the four-hour post hot work follow up to be completed.

VI. Special Circumstances:

If the fire sprinkler system is deactivated during or following the hot work (RED TAG) or there is no sprinkler system present in the area where the hot work is being performed, it is expected that a **continuous** (in the immediate area where work was performed) four hour post hot work monitor will be provided by either the FOM supervisor or the project manager for the job. In this type of situation, the monitor must have immediate access to a fire hose or fire extinguisher, as well as means to notify the Hanover Fire Department.

For areas with fire suppression the one-hour fire watch will suffice with written authorization from EHS. Contact EHS for a variance.

The Fire Systems Maintenance Shop will notify the Environmental Health and Safety Office whenever a Red Tag is issued.

VII. Exceptions:

Dartmouth Dining Service and other caterers using open flames in grills for cooking are exempt from the Hot Work Program. Fire extinguishers should be readily available when grills are being used.

VIII. Enforcement:

FO&M supervisors and managers are responsible for enforcing this policy for FO&M employees and any contractors they are over seeing.

Project managers are responsible to ensure compliance with this policy for any contractor they hire to perform hot work on campus.

EHS will audit compliance with this program by reviewing hot work permits and visiting sites on a periodic basis.

IX. Emergency or Call in Hot Work:

FO&M employees who are called in on the weekend for an emergency, shall report to the troubleshooters to obtain the hot work permit and fill out section A, and leave the completed section with the troubleshooters.

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Example #1:

8:00 a.m.	9:00 a.m.	10:00 a.m.	11:00 a.m.	12:00 pm (noon)
Complete hot work leave permit at site of hot work. Begin one-hour continuous fire monitor period. Fill in first part of "Fire Watch Hot Work Monitoring" section.	Complete one-hour continuous fire monitor period. Complete "Fire Watch Hot Work Monitoring" section.	Second hour period inspection required one hour later. Complete first "Time of Follow Up" section.	Third hour period inspection required one hour later. Complete second "Time of Follow Up" section.	Fourth hour period inspection required one hour later. Complete third "Time of Follow Up" section. Return completed permit to EHS for contactors, work control for FO&M.

Example #2:

2:00 p.m.	3:00 p.m.	4:00 p.m.	5:00 p.m.	6:00 pm
Complete hot work leave permit at site of hot work. Begin one-hour continuous fire monitor period. Fill in first part of "Fire Watch Hot Work Monitoring" section.	Complete one-hour continuous fire monitor period. Complete "Fire Watch Hot Work Monitoring" section.	Second hour period inspection required one hour later. Complete first "Time of Follow Up" section.	Third hour period inspection required one hour later. Complete second "Time of Follow Up" section.	Fourth hour period inspection required one hour later. Complete third "Time of Follow Up" section. Return completed permit to EHS for contactors, work control for FO&M.

Example #3

Weekend, call in or after hours for FO&M only:

12:30 AM	1:30 AM	2:30 AM	3:30 AM	4:30 AM
Complete hot work and leave permit at site of hot work. Begin one-hour continuous fire monitor period. Fill in first part of "Fire Watch Hot Work Monitoring" section.	Complete one-hour continuous fire monitor period. Complete "Fire Watch Hot Work Monitoring" section.	Second hour period inspection required one hour later. Complete first "Time of Follow Up" section.	Third hour period inspection required one hour later. Complete second "Time of Follow Up" section.	Fourth hour period inspection required one hour later. Complete third "Time of Follow Up" section. Return <u>troubleshooters</u> completed permit to FO&M.

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HOT WORK PERMIT

IS HOT WORK NECESSARY? CAN IT BE DONE A SAFER WAY?

COMPLETE THE FRONT OF THIS FORM AND LEAVE TOP COPY

COMPLETE THE BACK OF THIS FORM AT THE WORK SITE DAILY

HANG THE CARD STOCK PORTION IN A PROMINENT LOCATION AT THE HOT WORK SITE

Work Control # _____

Person performing the hot work is
Dartmouth Employee Contractor

Date Hot Work begins: _____

Date of Completion: (permit can be good for 5 continuous days, Monday to Friday) _____

Name of Person or Contractor Performing the Work:

Company Name: _____

Phone Number of person performing Hot Work: _____

Location of Work: Building & Room Number:

Description of Work: (Brazing, Grinding, Welding, etc.)

Dartmouth College Project Manager/Supervisor & Phone Number:

Expected time (each day) for Hot Work Completion:

Name of Supervisor / General Contractor at Job Site & Contact Number:

Signature of Person Completing Hot Work Permit/Date:

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**HOT WORK PRECAUTIONS AND FOLLOW UP CHECKLIST
POST IN VISIBLE LOCATION AT WORK LOCATION**

	Mon	Tue	Wed	Thu	Fri
Date of Hot Work					
Time Hot Work Begins					
Time Hot Work Concluded					
Available sprinklers are in service/operational for the full duration of work, if not Fire Department and EHS notified.					
Fire detection system is in service/operational for the full duration of work, if not Fire Department and EHS notified.					
THE FOLLOWING REQUIREMENTS MUST BE MET WITHIN 35 FEET OF WORK AREA					
Flammable liquids removed					
Dust, Lint & Oily Deposits cleaned & Removed					
Floor swept & clean before hot work begins					
Combustible floors wet down, covered with damp sand or fire resistive sheets					
Combustible materials removed where possible. Otherwise they are protected with fire resistive tarpaulins or metal sheets					
All wall and floor openings are covered and Protected					
Fire resistive tarpaulins suspended beneath Work					
Construction is noncombustible & without combustible covering or insulation					
Combustibles on other side of walls, ceilings or roof are moved away					
Enclosed equipment cleaned of Combustibles					
FIRE WATCH HOT WORK MONITORING (performed by contractor or employee)					
Signature of person monitoring for one hour following hot work completion:					
Time One Hour Monitor Begins					
Time One Hour Monitor Ends					
Post Monitoring Follow Up: (Required hourly for 4 hours following end of hot work)					
Person Performing Follow up/Signature					
Time of Follow Up					
Time of Follow Up					
Time of Follow Up					

When completed, this permit must be returned to Dartmouth College Environmental Health & Safety Department

37 Dewey Field Road, Room 120, HB 6216, Hanover, NH 03755, (603) 646-1762,

Environmental.health.safety@dartmouth.edu

Hot Work Permit Closed: Date/Time: _____

Hot Work Permit Closed Signature: _____

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