

Colgate University

Hot Work Permit Program



Colgate University

13 Oak Drive

Hamilton, New York 13346

Revised: July 2015

Colgate University Department of Environmental Health and Safety
Hot Work Program

Hot Work Program

TABLE OF CONTENTS

PROGRAM ADMINISTRATION

Purpose	3
Applicability	3
Hot Work Program Administrator	3
Hot Work Program Evaluation	3
Hot Work Recordkeeping	4

GENERAL REQUIREMENTS

Prohibited Hot Work Areas / Activities	4
Pre-Hot Work Check	5
Designated Hot Work Areas	6
Non-Designated Hot Work Areas	7

APPENDICES

Appendix A: OSHA 29 CFR 1910.252 Welding, Cutting, and Brazing General Requirements	
Appendix B: New York State Fire Code Chapter 26 Welding and Other Hot Work	
Appendix C: National Fire Protection Association 51B Fire Prevention During Welding, Cutting, and Other Hot Work	
Appendix D: Hot Work Permit	
Appendix E: Hot Work In Progress Signage	
Appendix F: Hot Work Program Amendments	

PROGRAM ADMINISTRATION

Purpose (NYSFC F-2601)

(A) Colgate University has established a Hot Work Program to (1) minimize the potential for a fire incident due to hot work on campus and (2) comply with the Occupational Safety and Health Administration (OSHA) 29 CFR 1910.252 *Welding, Cutting and Brazing* standard, New York State (NYS) Fire Code Chapter 26 *Welding and Other Hot Work*, and National Fire Protection Association (NFPA) 51B *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work* (See Appendix A – C).

Applicability (NYSFC F-2601.1)

(A) The Hot Work Program (HWP) will be followed whenever work at any Colgate University owned or leased building or property involves welding, cutting, open torches and/or other hot work operations. The HWP applies to all Colgate University employees, property managers, and outside contractors.

Hot Work Program Administrator (NYSFC F-2603.1)

(A) In accordance with 29 CFR 1910.252(a)(xiii), Colgate University has designated the following individual to serve as the HWP Administrator:

Daniel B. Gough
Assistant Vice President Campus Safety, Environmental Health, and Emergency Management
13 Oak Drive
Hamilton, New York 13346

Phone: (Work) 315-228-7994
(Cell) 315-825-8550
E-mail: dgough@colgate.edu

Hot Work Program Evaluation (NYSFC F-2603.4)

(A) EHS shall conduct an annual review of the HWP. This review should encompass all aspects of the program, including but not limited to:

- Areas approved by the Program Administrator and Authority Having Jurisdiction (AHJ), based on fire potentials, as a *Designated Hot Work Areas*
- Areas not approved by the Program Administrator and AHJ, based on fire potentials, as a Designated Hot Work Area

Hot Work Program

- A survey of hot work equipment
- A review of all Colgate University employee hot work training records
- A survey of hot work supervisors, operators, and fire watch personnel to ensure adequate employee understanding of primary program components
- A review of the written plan, making changes and amendments as necessary

(B) Annual reviews shall be documented in HWP Amendments (see Appendix F) for tracking purposes, even if no changes are made to the written plan.

(C) Additionally, EHS shall conduct an immediate HWP review and evaluation any time that a hot work related fire incident occurs, hot work related injury occurs, or any time a Hot Work Permit was warranted but was not obtained.

Hot Work Recordkeeping (NYSFC F-2603.5)

(A) Upon completion of hot work and fire watch requirements, Hot Work Permits will be turned in to the Campus Safety dispatcher. Completed Hot Work Permits are reviewed by the Fire Safety Manager on a weekly basis and retained for one month after hot work is completed. Upon review, the Fire Safety Manager will immediately present any improperly filled out Hot Work Permit and/or any Hot Work Permit with discrepancies to the Program Administrator.

(B) HWP training records shall be tracked online via the University's automated training management system (Traincaster), as well as via a paper hardcopy kept in the EHS office.

(C) A written copy of the HWP shall be maintained in the EHS office and also online via the EHS webpages (www.colgate.edu/ehs). These materials will be available to all Colgate University employees and local, state, and federal officials upon request.

GENERAL REQUIREMENTS

Prohibited Hot Work Areas / Activities (NYSFC F-2601.3)

(A) Hot work may not be performed under the following circumstances:

1. In areas where the fire alarm system and/or sprinkler system is impaired
2. In areas where the potential for explosive atmospheres exists
3. In areas with readily ignitable materials, such as storage of large quantities of bulk sulfur, baled paper, cotton, lint, or loose combustible materials

Hot Work Program

4. Inside or upon tanks or confined spaces which have the potential to hold an explosive atmosphere
5. At other hot work restricted areas as specified by the Program Administrator and/or Code Enforcement Officer.

Pre-Hot Work Check (NYSFC F-2604.3)

(A) Before hot work is permitted in either a Designated Hot Work Area or a Non-Designated Hot Work Area, a Pre-Hot Work Check must be performed to ensure that all equipment is safe and hazards are recognized and protected. For hot work performed by either a university employee or an outside contractor, a *pre-hot work check* must be performed by the Program Administrator, Fire Safety Manager, or a hot work trained Colgate University employee (Note: Colgate University Preventative Maintenance, Plumbing, Heating Plant, Auto Mechanic, and Campus Safety personnel are training annually on the Colgate University Hot Work Permit Program). A report of the check will be documented on the Hot Work Permit side of the combination Hot Work in Progress Sign (front side) / Hot Work Permit (back side) and remain at the work site during the work (and available upon request).

(B) The Pre-Hot Work Check shall determine all of the following:

1. Hot work equipment to be used shall be in satisfactory operating condition
2. Hot work site is clear of combustibles or combustibles are protected
3. Exposed construction is of noncombustible materials or, if combustible, then protected
4. Openings are protected
5. Floors are kept clean
6. No exposed combustibles are located on the opposite side of partitions, walls, ceilings, or floors
7. Fire watches, where required, are assigned
8. Approved actions have been taken to prevent the accidental activation of fire suppression and fire detection equipment
 - (a) Automatic sprinkler protection and fire alarm supervision systems shall not be shut off while hot work is performed
 - (b) Where hot work is performed close to automatic sprinklers and/or fire detection devices, noncombustible barriers or damp cloth guards shall shield individual sprinkler heads and/or detection devices and shall be removed when the work is done

Hot Work Program

- (c) If the work extends over several days, the shields shall be removed at the end of each workday
 - (d) The code enforcement officer shall approve hot work where sprinkler protection is impaired
9. Fire extinguishers and fire hoses (where provided) are operable and available

Designated Hot Work Areas (NYSFC F-2601.3)

(A) Designated Hot Work Areas are locations approved by the Program Administrator and Code Enforcement Officer as specifically designated for hot work.

(B) Fire watch requirements are not required for routine hot work operations in Designated Hot Work Areas provided the following conditions are met:

- Appreciable combustible material must not be located within 35 feet of the Safe Hot Work Area. Where relocation is not practicable, combustibles must be protected with flameproof covers or shielded
- Work floors or surfaces must be of a noncombustible construction (concrete) or suitable noncombustible outdoor environment (soil / stone)
- Floor surfaces must be clean of dust, debris, etc
- Flammable materials and containers formerly holding flammable materials must not be stored in the immediate work area
- Walls and partitions in the Designated Hot Work Area must be noncombustible construction. Any holes or openings through the partitions must be tightly covered, shielded, or guarded to prevent the passage of sparks or slag to adjacent areas. Fire curtains may be employed to meet this requirement.
- Mechanical local exhaust ventilation must be provided during all hot work operations in the Safe Hot Work Area
- Visible signage displaying the following warning (see Appendix E):

**CAUTION
HOT WORK IN PROGRESS
STAY CLEAR**

- Properly maintained safety equipment including a fire blanket and appropriately sized / rated fire extinguishers must be at the Designated Hot Work Area

Colgate University Department of Environmental Health and Safety
Hot Work Program

Hot Work Program

- A *pre-hot work check* must be performed by a hot work trained Colgate University employee and/or contractor

(C) The following areas have been approved by the Program Administrator and Code Enforcement Officer as Designated Hot Work Areas:

1. Facilities Building Mechanics Garage (Note: this only includes the area that can be enclosed by the fire curtain)
2. Heating Plant Hot Work Area (Note: this only includes the area that can be enclosed by the fire curtain)
3. McGregory Hall Machine Shop (Note: this only includes the area that can be enclosed by the fire curtain)
4. Preventative Maintenance (PM) Shop Hot Work Area (Note: this only includes the area that can be enclosed by the fire curtain)
5. Plumbing Shop Hot Work Area (Note: this only includes the area that can be enclosed by the fire curtain)
6. Ryan Art Studio Welding Shop (Note: this only includes the area that can be enclosed by the fire curtain)
7. Schupf Studio Garage Hot Work Area (Note: this only includes the area that can be enclosed by the fire curtain)
8. Outdoor areas where there is no flammable or combustible material within 35 feet of the immediate hot work area

Non-Designated Hot Work Areas (NYSFC F-2604)

(A) All locations not specifically approved as a Designated Hot Work Area are considered a Non-Designated Hot Work Area. The purpose of a Hot Work Permit is to assess the occupational and structural hazards posed by the hot work and to establish necessary precautions and control measures to minimize those hazards. Unlike Designated Hot Work Area operations, hot work performed in Non-Designated Hot Work Areas generally have some risks that cannot be engineered out and therefore must be procedurally managed with administrative controls.

(B) Whenever possible, hot work operations (welding, cutting, brazing, etc) should be avoided or moved to a Designated Hot Work Area.

Hot Work Program

(C) If hot work must be performed in a Non-Designated Hot Work Area, the following procedures will be performed:

1. A combination Hot Work in Progress Sign (front side) / Hot Work Permit (back side) must be obtained from Campus Safety by the individual conducting the hot work. Upon issue, the Campus Safety dispatcher will sign the Hot Work Permit and make a log entry and radio announcement with the hot work location.
2. The Hot Work Permit shall be filled out in its entirety, with all applicable safety measures taken as listed, and signed by the hot work operator (see Appendix D). The Hot Work Permit listed requirements include the following:
 - (a) General Requirements
 - (1) Available sprinklers, hose streams, and extinguishers are in service and operable
 - (2) Hot work equipment is in good working condition in accordance with manufacturer's specifications
 - (3) Special permission obtained from the Program Administrator to conduct hot work on metal lined with rubber or plastic
 - (b) Requirements within 35 feet of hot work
 - (1) Flammable liquid, dust, lint, and oily deposits removed
 - (2) Explosive atmosphere in area eliminated
 - (3) Floors swept clean and trash removed
 - (4) Combustible floors wet down or covered with damp sand or fire resistive / noncombustible materials or equivalent
 - (5) Available sprinklers, hose streams, and extinguishers are in service and operable
 - (6) Personnel protected from electrical shock when floors are wet
 - (7) Other combustible storage material removed or covered with listed or approved materials (welding pads, blankets, or curtains; fire resistive tarpaulins), metal shields, or noncombustible materials
 - (8) All wall and floor openings covered
 - (9) Ducts and conveyers that might carry sparks to distant combustible material covered, protected, or shut down
 - (c) Requirements for hot work on walls, ceilings, or roofs
 - (1) Construction is noncombustible and without combustible coverings or insulation
 - (2) Combustible material on other side of walls, ceilings, or roofs is moved away
 - (d) Requirements for hot work on enclosed equipment
 - (1) Enclosed equipment is cleaned of all combustibles

Hot Work Program

- (2) Containers are purged of flammable liquid / vapor
- (3) Pressurized vessels, piping, and equipment removed from service, isolated, and vented
- (e) Requirements for hot work fire watch and fire monitoring
 - (1) Fire watch is provided during and for a minimum of 30 minutes after hot work, including any break activity
 - (2) Fire watch is provided with suitable extinguishers and where practical, a charged small hose
 - (3) Fire watch is trained in use of equipment and in sounding alarm
 - (4) Fire watch can be required in adjoining areas, above and below
- 3. The permit authorizing supervisor will conduct a Pre-Hot Work Check verifying that all safety precautions marked on the Hot Work Permit have been completed and sign the Hot Work Permit.
- 4. The combination Hot Work Permit / Hot Work in Progress Sign will be posted in a conspicuous area to warn others before they enter the hot work area.
- 5. As per the Hot Work Permit safety requirements, a fire watch will be posted during the hot work (including during any break activity) and shall continue for a minimum of 30 minutes after the conclusion of the work.
 - (a) The hot work operator and fire watch shall both be trained in the use of portable fire extinguishers.
 - (b) A minimum of one portable fire extinguisher with a 2-A:20-B-C rating shall be readily accessible within 30 feet of the location where the hot work is being performed.
- 6. Upon completion of the hot work, the Hot Work Permit will be returned to Campus Safety by the individual that conducted the hot work. Upon receipt, the Campus Safety dispatcher will make a log entry and radio announcement that hot work in that location has been completed.