



John Jay College of
Criminal Justice

**HOT WORK PERMIT
STANDARD OPERATING
PROCEDURES**

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HOT WORK PERMIT PROCEDURES

A. PURPOSE

This program establishes the minimum safe working procedures and guidelines for the operation, cutting, welding, brazing, grinding and soldering or any other similar operation throughout John Jay College. It also covers the control of ignition sources such as spark-producing tools and devices in hazardous areas. The program meets the basic requirements of the New York City Fire Department and federal regulations.

B. SCOPE

These procedures are intended to protect life, health, and property from fire and the products of combustion, which might result from the use of welding and cutting equipment, open flames and ignition sources. All employees of John Jay College and outside contractors/sellers/service companies involved in the use of flame or spark-producing equipment on the premises are required to conform to these guidelines.

C. POLICIES AND PROCEDURES

1. A facility Hot Work Permit Is Required from FDNY when:

- a. Storing, using, or handling oxygen and a flammable gas; or
- b. Storing, using, or handling any flammable gas in excess of 400 SCF (approximately 47 pounds for Liquefied Petroleum Gas (LPG)); or
- c. Storing, using, or handling any oxidizing gas in excess of 504 SCF.

2. A Certificate of Fitness is required for individuals to be authorized to perform Hot Work:

Certificate of Fitness - It is John Jay policy that anyone performing hot work operations at John Jay College must be FDNY certified in both Certificates of Fitness G-60 and F-60. Links to study materials for these certifications are included in Attachment 4.

3. Individuals must obtain a Hot Work Authorization Permit from the Administrative Superintendent each time before hot work is done:

It is the policy at John Jay College that a Hot Work Authorization Permit shall be issued by Dominick Conte, Facilities Management Administrative Superintendent, before conducting any operation involving welding or cutting, or use of flame or spark-producing equipment. For non-Facilities operations, Facilities Management shall be notified in writing by the Project Manager at least 48 hours in advance of intended torch operation. A copy of these Hot Work Procedures shall be provided to the Project Manager at the time of notification. The Hot Work Authorization Permit shall be valid for the day and the operation for which it is issued. Jobs requiring more than one day shall require a separate permit for each day's work.

When means other than gas or electric arc cutting or welding could provide equal or superior work quality, the least hazardous means of performing the job should be used.

4. Designations and Responsibilities

a. Facilities Management Administrative Superintendent

The Administrative Superintendent shall provide a Hot Work Authorization Permit to authorize hot work to be done at John Jay College. Dominick Conte is the Administrative Superintendent.

b. Responsible Person from Facilities Management

The responsible person will complete the pre-hot work checklist and ensure that the designated Fire Guard completes the Fire Guard Log. He ensures that the hot work being performed is in compliance with the terms and conditions of the permit and that the hot work operations are done in a fire-safe area. He shall periodically monitor the work as it is performed and ensure there are no fire safety hazards. The Responsible Person may also function as a Fire Guard or Torch Operator, but not both.

The Responsible person shall ensure the necessary proper personal protective equipment is used including applicable safety precautions, signage, barricades, etc.

The Responsible Person shall regularly check the gas containers to ensure they are safely stored and operating properly. Any oxygen container has to be separated from any flammable gas container(s) or combustible materials by **20 ft.**

The responsible person will be up to date on both the G-60 and F-60 Certificate of Fitness which ensures understanding of the fire safety hazards associated with hot work and the necessary and appropriate measures to minimize those hazards.

As of March 11 2013, the designated Responsible Person is Anthony Diana, Plumber.

c. Torch Operator

The Torch Operator must have an up-to-date G-60 Certificate of Fitness (COF) from the New York City Fire Department for "Torch Use of Flammable Gases for Hot Work Operations" on persons during operation. The torch operator must follow the rules and procedures outlined in Section C.5. and C.7. of this document. As of March 11, 2013, the torch holder must also hold a Certificate of Fitness F-60 for Fire Guard Torch Operations.

d. Fire Guard

The designated Fire Guard must have a valid F-60 Certificate of Fitness (COF) from the New York City Fire Department for "Fire Guard For Torch Operations And Construction Site" on persons during operation. As of March 11, 2013, the Fire Guard must also hold a Certificate of Fitness G-60.

The Fire Guard shall inspect the exposed areas to ensure the safety of the operation and keep continuous watch of the torch operations to ensure that there is no fire. The Fire Watch person shall have proper fire extinguishing equipment and be trained in its use. The minimum fire extinguish rating required is **2-A:20-B:C** and shall be readily accessible within **30 ft.** of location where work is performed.

The Fire Guard shall inspect the area initially, at one-half hour after completion of work, followed-up by another inspection at one-half hour later, for the purpose of detecting fire. This person shall complete the Fire Guard Inspection Log (Attachment 5) and post a copy of it in the Plumber Shop, L3.79.

Note: One fire guard is required for each torch operator. If the work area is elevated, then a fire guard must also be assigned for the level below. Only one torch can be used at a time in a single hot work area.

5. Rules

a. A Hot Work Authorization Permit will only be issued when the following conditions are met:

- The employee has been authorized by John Jay Facilities Management Administrative Superintendent to perform torch work in a given area.
- A qualified Fire Guard/Fire Watch person (COF holder) is assigned to the operation.
- The sprinkler protection is not impaired.
- Appropriate fire extinguisher equipment is readily available.
- Explosive, flammable or other hazardous vapors, gases or dusts are not present in the area.
- There is no potential for heat transfer along or through walls, pipes, tanks or other metal surfaces that may cause ignition or decomposition of ignitable or toxic substances in contact with the metal.
- There is no potential for production of sparks, slag or molten metal by welding or cutting within **35 feet** of unprotected combustible or flammable substances that may cause fire.
- If hot work is done near walls, partitions, ceilings, or roofs, a fireproof partition shall be used to prevent ignition.
- The area is not a confined space. In confined spaces or other such hazardous areas, use of gas and electric arc welding or cutting equipment shall not be permitted
- The area has appropriate ventilation and the operation will not result in the accumulation of smoke and hazardous gases in that area.
- There are no other hazards of any nature.
- Proper signs and placards are placed to inform people that hot work is being performed in the area.
- Proper engineering controls are in place to prevent exposure to fumes of adjacent area occupants.
- Proper barriers are in place to prevent people from inadvertently entering into the area.
- Any single standard portable LPG container must not exceed 100 lbs. in weight.
- Any single CNG container must not exceed 381 SCF.
- A regulator is installed on the fuel cylinder.
- Indoor storage of oxygen tanks per storage area shall not exceed 1,500 SCF.

(Note: One standard size Oxygen container (9.27 in. x 55.5 in.) is approx. 307 SCF).

b. Specific for Acetylene Use:

- Indoor storage of acetylene tanks per storage area shall not exceed 1000 SCF. (Note: One standard size Acetylene container (12in. x 48.5in.) is approx. 420 SCF).
- Copper tubing should never be used to splice the acetylene hose.
- Use of acetylene generators is prohibited in any hot work operations.
- For use in welding and cutting, the working pressure must be controlled by a regulator. Never set the regulator above 15 psi as the acetylene will decompose explosively.
- The acetylene containers have safety plugs installed on the top and the bottom of the containers.

6. OUTSIDE CONTRACTORS

All contractors involved in the use of flame or spark producing equipment at John Jay College must have a copy of their own city-wide Hot Work Permit and have signage posted when working. Forty-eight hours before starting work, they must notify Facilities Management of the hot work to be done and must provide documentation that their personnel at John Jay have FDNY Fire Guards/Fire Watch CoF. The contractor must adhere to all applicable New York City Fire Department regulations, Federal regulations, John Jay College policy, and obtain the required city permits, when necessary, for such work. A copy of the contractor's written Hot Work Permit Procedures shall be available for the Administrative Superintendent to review.

7. FIRE SAFETY REQUIREMENTS (As per Section 2604 of FDNY Fire Code)

a. Separation from Combustibles.

Hot work areas shall not be less than **35 feet** from combustible materials and combustible waste or shall be provided with appropriate shielding to prevent sparks, slag or heat from igniting exposed combustibles.

b. Openings.

Openings or cracks in walls, floors, ducts or shafts within 35 feet of the hot work area shall be tightly covered (with non-combustible materials or sealed), shielded by metal fire-resistant guards, or provided with curtains to prevent the passage of sparks or slag to adjacent combustible areas.

c. Housekeeping.

Combustible waste shall not be allowed to accumulate on floors and other surfaces within the hot work area. Contractors working in hot work permitted areas must regularly clean and lawfully dispose of combustible waste.

d. Designated Hot Work Areas.

Facilities Management shall develop appropriate standard operating procedures when required. They shall designate areas where a "standing" Hot Work Permit shall be in effect. These areas should be controlled by the Facilities Management, and may include mechanical spaces, metal shops, and heating plants. Designated areas should be free of combustible materials, including stored materials and construction material components. A standing permit shall not be in effect in any areas where gaseous fuels, hazardous vapors and fumes from liquid fuels or other flammable/combustible liquids and gases may be present or there is a potential for accumulation.

(The specific area designed or approved for hot work is the Plumber Shop located on L3.79. Temporary permits for other areas will be considered and granted after the checklists and safety measures in this document have been implemented.)

e. Partitions.

Partitions segregating hot work areas from other areas of the building shall be of non-combustible construction. Partitions shall prevent the passage of sparks, slag, and heat from the hot work area.

f. Precautions in hot work.

Hot work shall not be performed on a container or equipment that contains or has contained flammable liquids, gases or solids.

g. Sprinkler protection.

Sprinkler system protection shall not be shut off or impaired while hot work is performed unless approved by the Building Fire Safety Director. Where hot work is performed close to sprinklers, noncombustible barriers or damp cloth guards shall shield the individual sprinkler heads and shall be removed when the operation is completed or at the end of the workday, whichever is earlier.

h. Construction sites and torch-applied roof systems.

A Fire Guard shall be provided for each torch operation at a construction site and in connection with torch applied roofing system operations. A Fire Guard shall be provided for each torch in operation. An additional Fire Guard shall be provided on the floor or level below the torch operation.

If hot work is done near walls, partitions, ceilings, or roofs, ignition of combustibles on the other side must be prevented.

A minimum 3-A:40-B:C rating fire extinguisher must be readily accessible within **30 feet** of the hot work location and the fire guard in torch-applied roof systems.

i. Fire detection systems.

Special precautions, approved by the Fire Safety Director, shall be taken to avoid accidental operation of automatic fire detection systems.

8. PRE-HOT WORK CHECK

The Pre-Hot Work Checklist available in Attachment 3 of this document, shall be conducted by the Responsible Person prior to commencing hot work to ensure that all equipment is safe and hazards are recognized and removed. The completed log shall be kept at the work site during the work and made available for inspection. The pre-hot work check shall be conducted at least once per day and shall verify the following:

- a. The hot work permit from FDNY and the Hot Work Authorization Permit are posted in the work area.
- b. Fire Guard personnel are present and possess the Certificate of Fitness F-60.
- c. The torch operator possesses the Certificates of Fitness G-60.
- d. Portable fire extinguishers are operable and available.
- e. The hot work equipment is in good working order.
- f. The hot work area is clear of combustibles and flammables or that such material present in the area are at a distance of 35 feet.
- g. Exposed construction is of noncombustible materials or, if combustible, is protected with fire resistant covers or metal shields.
- h. All wall and floor openings are protected.
- i. Hot work area floors are clear of combustibles, including waste accumulation. Combustible floors are wet down or covered with fire-resistant sheet.
- j. Appropriate actions have been taken to prevent accidental operation of automatic fire detection systems.

9. PERSONAL PROTECTIVE EQUIPMENT

The Responsible Person shall ensure that the torch operators wear the following personal protective equipment at all times during torch operations:

- a. Flame resistant gloves
- b. Flame resistant apron
- c. Skull caps or helmets
- d. Safety goggles

The torch operator shall not be wearing clothing that is fraying or that has cuffs or pockets. They should wear dark, flame proof clothing (not synthetics) with long sleeves. A welding helmet with arc flash filter should be worn if necessary. The Administrative Superintendent shall ensure that the appropriate personal protective equipment is available for use.

10. HOT WORK AUTHORIZATION FORM

Attachment 1 is the Hot Work Authorization Permit form which shall be completed and signed by the employee/contractor and the Facilities Management Supervisor. A signed copy shall be posted near the work site.

11. SIGNAGE

Attachment 2 shall be posted so that it is made visible to persons before they enter the hot work area.

12. FIREGUARD INSPECTION LOG

Every "Fire Guard's Log" (Attachment 5) completed by the Fire Guard shall be maintained for 12 months and will be kept posted in the Plumber Shop, L3.79.

Attachment 1: Hot Work Authorization Permit

HOT WORK AUTHORIZATION PERMIT

Note: This authorization applies only to this job, and in the area specified during the date and time noted.

GENERAL INFORMATION

Hot Work Performed By: Employee Contractor | Off-hours Authorization # _____

Employee : _____ Contractors Name: _____

Supervisor / Foreman Name: _____ Supervisor / Foreman - On-site emergency contact phone number: _____

Location: Building address, room # and/or area of work _____

Permit Start Date: _____ Permit Start Time: _____ Permit Stop Date: _____ Permit Stop Time: _____

HOT WORK ACTIVITY

ARC WELDING SOLDERING GRINDING BRAZING USING OXYGEN AND A FLAMMABLE GAS (FDNY PERMIT)

MAPP WELDING WELDING CUTTING NON-FIREWORK OTHER: _____

All hot work activities must be conducted by FDNY Certificate of Fitness holders. Certificate holders shall be responsible for keeping such certificate upon his/her person or otherwise readily available for inspection.

Torch Operator: _____ Certificate #: _____ Exp Date: _____

Fire Guard: _____ Certificate #: _____ Exp Date: _____

ACCEPTANCE BY THE RESPONSIBLE PERSON FOR HOT WORK

I certify that all applicable codes, procedures, regulations, rules, pre-checks and safety precautions will be followed for as long as the hot work authorization is effective.

Name: _____

Signature: _____

Date: _____

Employee Contractor

DESIGNATED TO AUTHORIZE THE PERFORMANCE OF HOT WORK

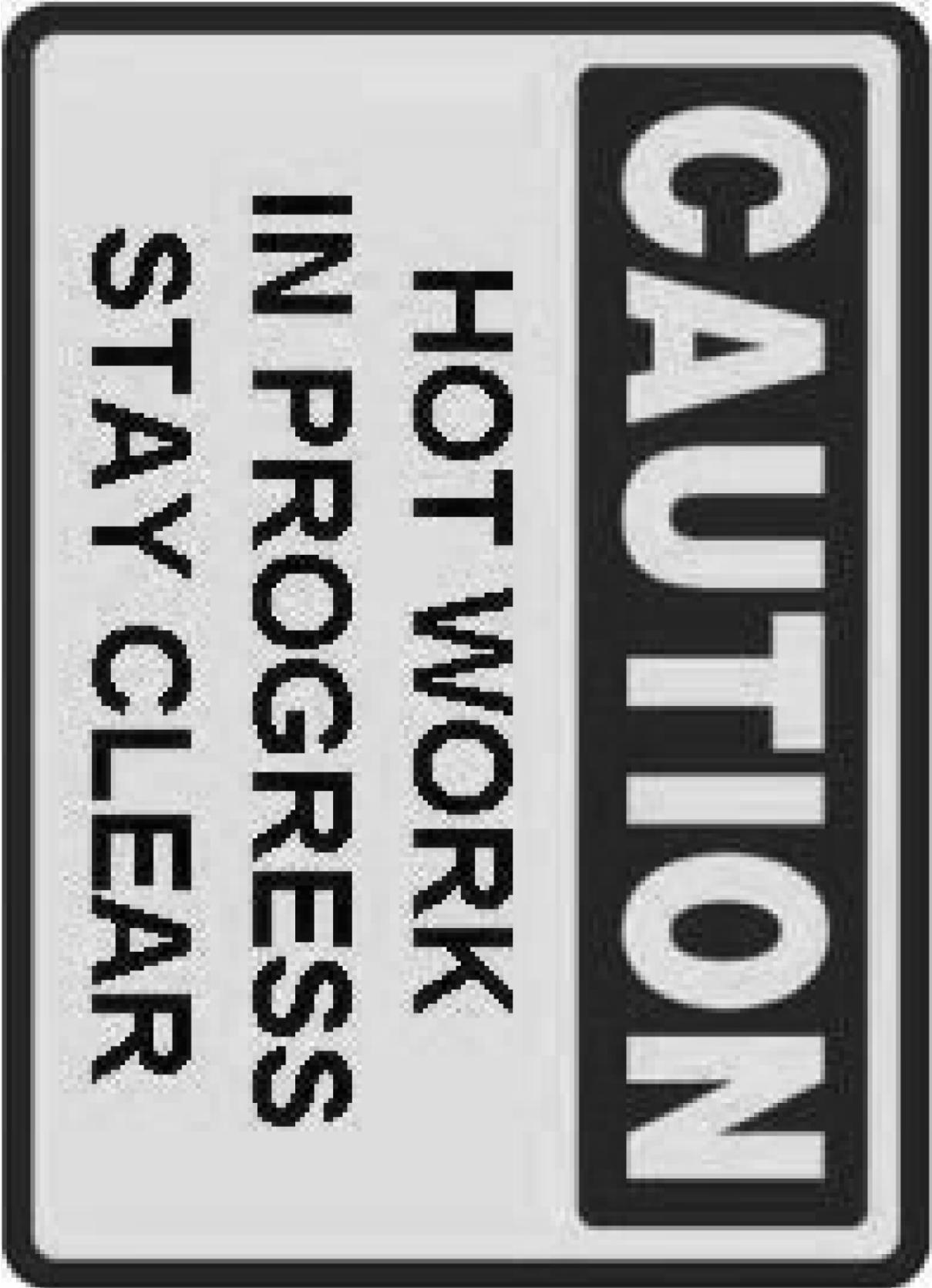
Name: _____ Signature: _____ Time: _____ Date: _____

Fire alarm precautions taken: YES N/A Type: _____

Pre-hot work check completed: YES

FDNY permit required to conduct hot work? YES N/A

This authorization shall be available for inspection by any representative of the fire department during the performance of the work and for 48 hours after the work is complete.



PRE-HOT WORK CHECKLIST must be performed each time before any hot-work operations begin. It consists of:

- FDNY permit, the Hot Work Authorization Permit AND “Hot Work involving a Flame Being Performed” is posted.
- At least **35 ft.** area of operations is clear of combustibile /flammable items and gases.
- Noncombustible partitions, fire resistant covers or metal shields are used if there are exposed construction areas. Combustible floors are wet down or covered with fire-resistant sheet.
- Hot work area floors and walls are clear of combustibles.
- Sprinkler and other fire protection systems are not impaired.
- Work is not in a confined space, such as the tank in the pool room, Haaren Hall.
- Local exhaust ventilation is necessary and being used
- Local exhaust ventilation is not necessary
- Barriers are in place to prevent people from inadvertently entering into the area.
- LPG \leq 100 lbs, CNG \leq 381 SCF. A regulator must be installed.
- Acetylene** \leq 1000 SCF. (Note: One standard size Acetylene container (12in. x 48.5in.) is approx. 420 SCF). No Copper tubing and no acetylene generators allowed. Regulator has to be \leq 15 psi. The acetylene containers should have safety plugs installed on the top and the bottom of the containers.
- Oxygen** storage \leq 1,500 SCF (9.27 in. x 55.5 in cylinder is approx. 307 SCF).
- Regularly check the gas containers to ensure they are safely stored and operating properly. Any oxygen container has to be separated from any flammable gas container(s) or combustibile materials by **20 ft.**
- Only one torch can be used at a time in a single hot work area.

Attachment 4: References

FDNY Study Materials for Certificate of Fitness for Fire Guard for Torch Operations

http://www.nyc.gov/html/fdny/pdf/cof_study_material/f_60_st_mat.pdf

FDNY Study Materials for Certificate of Fitness for Torch Operator

http://www.nyc.gov/html/fdny/pdf/cof_study_material/g_60_st_mat.pdf

The Fire Guard must have both the G-60 and F-60 Certificate of Fitness designations and must have a copy of his certificate on his person during operation, be trained and knowledgeable about the Hot Work Policy, which can be found in the Facilities Management Office located on L2.68 in the SOP binder. The fire guard must:

- a) Inspect the exposed areas to check for combustibles and keep continuous watch of the torch operations and must know how to use an extinguisher if there is a fire.
- b) Inspect the area initially, at one-half hour after completion of work, followed-up by another inspection at one-half hour later.
- c) If the work area is elevated, then a fire guard must also be assigned for the level below.
- d) Complete the Fire Guard Inspection Log below for each operation and post in the Plumber Shop, L3.79.
 - Enter a check for each item after verifying it for compliance in each active hot work area. If an item is not compliant and the competent person designated for this hot work operation or the fire guard cannot correct it, then no hot work may proceed in the area and must be notified.
 - Notify personnel of any and all incidents that occur. Fires of all sizes must be reported, even if they are immediately extinguished. If a fire cannot be extinguished immediately, contact emergency services (e.g. 911) directly.
 - Report any fires related to hot work operations in the comments section of this log.

WORK AREA	<i>Before beginning and while performing hot work</i>						<i>After completing hot work</i>
	PERMIT	INCIDENT REPORTING	FIRE EXTINGUISHER	COMBUSTIBLES	FLAMMABLES	FIRE GUARD	POST-WORK CHECK
Location of active hot work area.	Posted by fire guard at work area?	Radio or phone on-hand to notify personnel in case of incident?	At least a 2-A:20-B:C rating fire extinguisher within 30 ft. from work area? (a minimum 3-A:40-B:C rating fire extinguisher on torch-applied roofing).	Wood, cardboard, & other combustibles within 35' to work area? Blankets protecting gas bottles in use?	Gas, Fuel, and other flammables no closer than 35' to work area?	Fire guard has an unobstructed line of sight?	Area checked 30 minutes after completion of work? Area checked 1 hour after completion of work?

Comments:

Name: _____	Signature: _____
Fire Guard Certificate of Fitness Number: _____	Expiration Date: _____