PURPOSE OF THE POLICY
To ensure a safe work environment and minimize the potential incidence of property damage from hot work processes.

SCOPE OF THIS POLICY
Hot Work may only be conducted by persons holding a valid NYC Fire Department issued certificate of fitness for such activity. Additionally during hot work operation a fire watch must be conducted by a person holding a valid NYC Fire Department issued certificate of fitness issued for that purpose.

A Hot Work Permit must be issued to University operators and/or outside contractors prior to the commencement of any welding, flame cutting, brazing and soldering* processes, by the Facility/Building Manager. The Facility or Project Manager shall be responsible for the safe practice of all hot work performed by the operators under their management. Applicable regulations shall be followed.

The Art Departments conducting hot work associated with academic programming shall not be required to obtain a hot work permit, however all regulatory requirements and safety practices outlined in this policy shall be followed.

*Benchtop soldering associated with soldering irons shall not require a certificate of fitness or related fire watch.

WHO NEEDS TO KNOW THIS POLICY
All facility managers, project managers, building engineer/operators, and any New York University personnel or vendors who will engage in hot work operations.

PROCEDURES FOR IMPLEMENTATION
Responsibilities:

Department of Environmental Health and Safety
Ensure that the most current NYC fire code requirements are conveyed to personnel & complied with.

Directors or Department Chairs
Ensure that faculty is aware of this policy and properly trained to conduct and supervise hot work operations associated with their programs.
Facilities Manager, Department Manager, Project Manager and Supervisors

1. Prior to the decision to conduct hot work operations including, but not limited to cutting, brazing, grinding, soldering, welding, pipe thawing and torch applied roofing the Facility/Building Manager shall review the project in order to determine if there is a practical and safe way to complete the project without hot work.

2. The Project Manager shall inform the Facility Manager whenever welding, flame cutting and soldering operations are planned in conjunction with a project, and coordinate with the Building Manager to insure that all safety procedures are followed.

3. The Building Engineer/Operator shall inspect the proposed work area so that they or vendors performing hot work familiarize themselves with the conditions and potential hazards.

4. Facility Manager, Project Manager and/or Building Operator shall inspect all University or outside contractor equipment in order to determine that it is in proper working order and in a fire safe condition. Any equipment deemed to be unsafe will not be used and removed from the building.

5. Faculty supervising such operations associated with their programs shall inspect all equipment in order to determine that it is in proper working order and in a fire safe condition. Any equipment deemed to be unsafe will not be used and removed from service.

Maintenance and Housekeeping Personnel

Shall immediately notify NYU personnel (Public Safety, Building Engineer/Operator or Facility/Project Manager) any unsafe conditions or actions associated with hot work, welding or soldering operations.

Complaint Response

NYU personnel with concerns regarding welding, flame cutting and soldering operations shall notify Facility or Project Manager regarding the conditions of concern. If the concerns have not been satisfactorily addressed EHS should be contacted. EHS will determine if additional actions are required.
PROCEDURE DEFINITIONS

HOT WORK: Cutting, welding, thermite welding, brazing, soldering, grinding, thermal spraying, thawing pipe, cad welding, installation of torch-applied roof systems or any other similar operation or activity.

HOT WORK PROGRAM: A program, implemented by a responsible person designated by the owner of a building or structure in or on which hot work is being performed, to oversee and issue authorizations for such hot work for the purpose of preventing fire and fire spread.

HOT WORK PERMIT AUTHORIZATIONS: Authorizations issued by the responsible person under a hot work program allowing welding or other hot work to be performed at the premises.

HOT WORK AREA: The area exposed to sparks, hot slag, radiant heat, or convective heat as a result of hot work.

RESPONSIBLE PERSON: A person trained in the fire safety hazards associated with hot work and in the necessary and appropriate measures to minimize those hazards, who is designated by the owner of a premises to authorize the performance of hot work at the premises.
UNIVERSITY PROCEDURE

Training

- Welding, flame cutting and soldering shall be performed by or under the direct supervision of personnel trained in the use of equipment and procedures associated with such work.

- All manufacturers’ recommendations shall be followed with regard to equipment operations and maintenance.

- Facility/Building Managers, and/or their designees will be responsible for conducting training as follows:
  - Before an employee is first assigned duties covered by this policy;
  - Whenever there is a change in the Hot Work Permit Policy procedures;
  - Whenever there are deviations from the Hot Work Permit Policy or there are inadequacies in an employee’s knowledge or use of these procedures.

Operators and fire guards shall have Certificates of Fitness issued by the New York City Fire Department in their possession during welding, cutting and soldering operations.

Personal Protective Equipment (PPE)

- Goggles and face shields that give maximum eye protection for each welding, flame cutting and soldering process shall be worn by operators performing these operations and helpers assisting the operators.

- Flame resistant gloves and aprons shall be worn during welding, flame cutting, brazing and soldering processes.

- Should protective hard hats be worn, they shall be made of a flame resistant material.

- Safety shoes with protected tops should be worn to protect the operator from spark hazard.

Area Conditions for Hot Work

Prior to hot work operations, the following fire safety precautions should be taken within 35 feet of the proposed Hot Work area:

- Floors should be swept clean. Grease and oils cleaned up and removed from the area. Floors of combustible construction should be covered with fire-resistant tarpaulins or other non-combustible material.

- Flammable liquids like paint, oils and lacquers should be removed from the work area, not just sealed.

- Combustibles that cannot be moved should be protected with fire-resistant tarpaulins or metal shields. This includes machinery containing grease or lint deposits.
- Explosive atmospheres should be eliminated. Operations that may produce explosive atmospheres should be halted, and the area monitored for accumulation of combustible gases continuously before, during and after Hot Work.

- All wall and floor openings should be covered. Ductwork and duct openings should be sealed with metal covers or fire-resistant tarpaulins.

- All doors and fire doors should be closed to prevent sparks from escaping the work area.

- An ABC rated multipurpose dry chemical fire extinguisher shall be placed within five feet of the point of operation.

- Appropriate warning signs shall be posted during welding, flame cutting and soldering processes. Once work has been completed, a warning sign shall be posted to prevent accidental contact.

- Areas where welding, flame cutting, brazing or soldering processes are occurring should be well ventilated.

- Hot work operations shall not be permitted if any of the following conditions are present:
  - Authorization from the Facility/Building Manager has not been given to the University employee or outside contractor to perform such processes;
  - Automatic sprinkler protection, if provided, is not in service in the work area (determined on an individual job basis).
    - Explosive atmospheres (e.g., mixtures of flammable gases, vapors, liquids or dusts in air) are present;
    - There is the storage of large quantities of readily ignitable materials; or
    - There are unprotected personnel in the vicinity of the work area.
  - Any hot work equipment or materials that must be stored in the building overnight, must be safely secured in an area designated by the Facility/Building Manager.
  - Where torch operations are conducted One fireguard is required for each torch operator and an additional fireguard shall be provided on the floor or level below when operations are near a floor opening, or other location where sparks and slag may travel to one or more lower floors or levels. An inspection of the work area and the floor/level below the work area must be made by the fire guards one-half hour following the completion of welding, cutting and soldering operations.
  - Welding, flame cutting and soldering shall not be conducted unless persons in the vicinity of the work area are segregated from the activities. Appropriate guarding and barricades shall be erected.

**Hot Work Permit**

- A Hot Work Permit must be completed by the operator and signed by the Facility/Building Manager, or their designee, prior to the initiation of any hot work.

- The Hot Work Permit is a two part pre-numbered form. Part 1 shall be removed and retained by the
Facility/Building Manager or designee and Part 2 shall be displayed at the work area by the University operator or outside contractor.

- The Hot Work Permit shall be valid for a maximum of one shift, or eight hours, whichever is shorter; or the work is completed; or there is an emergency involving or affecting the work area; or at the time specified on the Hot Work Permit.

- Appropriate warning signs shall be posted during hot work operations. Once work has been completed, a warning sign shall be posted to prevent accidental contact with hot surfaces.

- Areas where welding, flame cutting, brazing or soldering processes are occurring should be well ventilated.

- One hour after the Hot Work has been completed, the Facility/Building Manager or designee shall inspect the work area and sign the appropriate space on the Hot Work Permit indicating that the area was found in a safe condition. The Hot Work Permit shall then be then removed from the work area and retained by the Facility/Building Manager for their records.

Guarding

Welding, flame cutting and soldering shall not be conducted unless persons in the vicinity of the work area are segregated from the activities. Appropriate guarding and barricades shall be erected.

Welding, Flame Cutting and Soldering

- Where required a City-Wide permit shall be obtained from the New York City Fire Department prior to any welding, flame cutting and soldering operations. The permit shall be posted in the work area.

- Where required a City-Wide Permit for the storage and handling of oxygen and combustible gases shall be obtained from the New York City Fire Department.

- Torches
  - Follow all manufacturer recommendations for equipment in use including hoses, pressure-reducing regulators, cylinders and burn tips.
  - To light torches, use a friction lighter, stationary pilot flame or other suitable source of ignition. Never light a torch with a match. When lighting a torch, always point the tip in a direction so no one will be exposed to injury when the gas is ignited.

- Arc Welding
  - Follow all manufacturer recommendations for equipment in use including grounding & insulation procedures, inspection procedures, overcurrent protection, compatible materials and precautions.
  - The work area shall be barricaded such that workers other than the operator(s) do not enter the work area.

Benchtop Soldering

- When not in use, soldering irons should always be placed in an insulated non-combustible holder. The holder
shall be such that the operator cannot accidentally touch it when reaching for it without looking.

- A hot soldering iron shall never be left unattended.
- All electric soldering irons should be stored in a dry storage area.
- Before each use, check the equipment for defects in the iron and power cord and check the equipment to see if it is dry. Should the equipment be defective or wet, do not use and report it to the supervisor.
- Face shields and gloves should be worn in the event that the solder or flux might splatter.
- Areas where soldering processes are occurring should be well ventilated or provided with a means to extract fumes from the area of work.

**Fire Watch**

No Hot Work shall be permitted without a designated Fire Watch. If unsafe conditions are observed or develop during the Hot Work operations, work will be stopped until the hazardous condition is resolved.

An inspection of the work area and the floor/level below the work area must be made by the Facility/Building Manager or designee one-half hour following the completion of hot work operations.

**Certificates of Fitness**

Torch operators and Fire Watches shall have Certificates of Fitness issued by the New York City Fire Department in their possession during hot work operations.

**Outside Contractors**

- Outside contractors shall comply with all the requirements of the New York University Policy for Hot Work operations and all applicable New York City Fire Department and/or Building Code regulations.
- The Facility/Building Manager and/or their designee shall be given copies of all Permits and Certificates of Fitness, prior to the start of work.
- The outside contractor shall notify the Facility/Building Manager and/or designee upon arrival at the work area for the inspection of their equipment and the issuance of the Hot Work Permit.
- Once the work has been completed, the outside contractor shall contact the Facility/Building Manager or designee for final inspection of the work area before leaving the building.
RELATED POLICIES
NYU Environmental Health and Safety Policy
Fire Protection System Impairment

RELEVANT RESOURCES
NFPA 101
NYC Fire Code Chapter 26
FDNY G-60 Certificate of Fitness
FDNY F-60 Certificate of Fitness