

**APPLICATION**

NYU Langone

**PURPOSE**

To protect personnel and property from the hazards posed by hot work.

To comply with all Occupational Safety and Health Administration (OSHA) standards (including 29 CFR 1910 Subpart Q and 1926 Subpart J), New York City (NYC) regulations, and National Fire Protection Association (NFPA) standards related to welding, cutting, and brazing.

**POLICY AND GENERAL INFORMATION**

**1.0 Application**

NYU Langone includes NYU Langone Health System (the System), NYU Hospitals Center (including the NYU Lutheran and HJD campuses), NYU School of Medicine, NYU Lutheran Family Health Centers, and all entities that are controlled by the System.

This program applies to:

- All indoor and outdoor areas of all NYU Langone owned and leased facilities.
- All employees of NYU Langone
  - The primary departments and divisions impacted by the program are:
    - Facilities Operations, HJD Facilities Engineering, and Lutheran Facilities (collectively Facilities)
    - Real Estate
    - RED+F Design and Construction
- All controlling contractors and subcontractors (see definition in Section 2).

**2.0 Definition**

**Competent person** means a person who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous or dangerous to workers, and who has authorization to take prompt corrective measures to eliminate them.

**Controlling contractor** means a prime contractor, general contractor, construction manager or any other legal entity which has the overall responsibility for the construction of the project (e.g., its planning, quality, and completion).

**Hot work** means work which produces flames, sparks, or slag, such as cutting, welding, burning, grinding, or similar operations.

**Hot work permit** (permit) means a permit generated by NYU Langone's online [hot work permitting system](#), or a comparable permit whose use has been authorized by Environmental Health and Safety (EH&S).

### 3.0 **Responsibilities**

#### 3.1 **EH&S** is responsible for:

- Developing the Hot Work Program (the Program) and collaborating with others to implement and maintain it.
- Training relevant groups, including Facilities, Real Estate, and RED+F Design and Construction, on the requirements of the Program.
- Providing staff training on the use of fire extinguishers.
- Functioning as a consultant on an as needed basis for hot work safety issues.
- Managing a quality assurance (QA) program, involving inspections of representative sites where hot work has been permitted.
- Evaluating the effectiveness of the Program and recommending changes as needed.

#### 3.2 **Vice Presidents (VPs) and Directors of Facilities, Real Estate, and RED+F Design and Construction**, as applicable, are responsible for compliance within their divisions. Their responsibilities include, but are not limited to:

- Implementing the Program within their divisions.
- Ensuring all requirements of the policy are followed.
- Ensuring personnel who are covered by the Program are trained on its requirements.
- Ensuring all hot work is identified and included in the Program.
- Ensuring contractors comply with this policy.

**VPs and Directors of Facilities** are also responsible for managing the Program, the online permitting system, and the permitting process; and providing access and training on the online system.

**VPs and Directors of Real Estate** are also responsible for having their staff serve as a liaison as needed with landlords and building management in space they maintain.

3.3 **Managers, Project Managers (PMs)** (e.g., design, construction, renovation, operations, and maintenance) and **Tenant Coordinators (TCs)**, are responsible for implementing the program on their projects. Their responsibilities include:

- Ensuring employees and contractors comply with this policy.
  - Incorporating the requirements of the policy into the contract or specifications for the work as needed.
  - Discussing training requirements, required safety equipment, and work area preparation with employees and contractors.
- Informing management of adjacent occupied areas of hot work to be done.

**PMs** are also responsible for inspecting hot work during their site visits to verify that it is being conducted in accordance with permit requirements.

**Facilities** and **Real Estate managers** are also responsible for ensuring that their staff obtain all required NYC Department of Buildings (DoB) licenses and New York City Fire Department (FDNY) certificates of fitness (CoFs) prior to performing hot work or acting as a Fire Guard.

3.4 **Facilities Forepersons** are responsible for:

- Complying with the provisions of this policy.
- Obtaining a hot work permit from the Facilities online system prior to undertaking any hot work.
- Requesting any necessary shutdowns (e.g., ventilation, smoke detection, and/or fire suppression system).
- Ensuring mechanics who perform hot work or act as a Fire Guard have completed hot work and fire safety training.
- Verifying mechanics who perform hot work or act as a Fire Guard have valid DoB licenses and FDNY CoFs.

- Inspecting hot work locations each day prior to start or work, to ensure proper protective measures are in place.
- Requesting close-out of online hot work permits when the hot work is completed.

**3.5 Controlling Contractors** are responsible for:

- Complying with the provisions of this policy.
- Ensuring contractor personnel who perform hot work or act as a Fire Guard have proper training, licenses, and certification (e.g., in NYC, valid DoB licenses and FDNY CoFs, and any required FDNY permits for compressed gas cylinder storage and use).
- Providing contractor personnel with an initial site orientation and site-specific training.
- Obtaining a hot work permit from the Facilities online system prior to undertaking any hot work.
- Requesting any necessary shutdowns (e.g., ventilation, smoke detection, and/or fire suppression system). Validating all shutdowns prior to commencing work.
- Assigning a competent person to inspect all hot work locations each day prior to start of hot work, to ensure all necessary protective measures are in place.
- Ensuring their contractors remove flammable gas and oxygen cylinders from NYU Langone facilities when not in use and at the end of each work day.
- Obtaining approval from the FDNY and EH&S for any outdoor storage of compressed gas cylinders.
- Requesting close out of hot work permits in the online system, or through the controlling contractor's authorized hot work permit system when the work is completed.

**3.6 Hot Workers and Fire Guards** are responsible for:

- Only undertaking hot work or acting as a Fire Guard if they have, on their person during hot work, documentation of proper training, licenses, and certification (e.g., in NYC, a valid DoB license or FDNY CoF).
- Obtaining a hot work permit prior to conducting any hot work, and signing the permit.

- Following the requirements of the permit.
- Posting the hot work permit and “Caution: Hot Work in Progress” signage in close proximity to the hot work area.
- Notifying their supervisors of any pertinent problems.
- Properly transporting flammable gas and oxygen cylinders out of the building (contractors) or to their EH&S approved storage location (employees) when not in use and at the end of each work day.
- Submitting the hot work permit to their Facilities foreperson or the controlling contractor after the post hot work inspections are complete.

3.7 The **Fire Guard** is also responsible for:

- Performing no other responsibilities when functioning as a Fire Guard.
- Being present at all times in the work area during hot work operations and for 30 minutes after the hot work has concluded. Conducting an additional inspection, 60 minutes post conclusion of hot work. Maintaining a written log of these inspections.
- Obtaining training on how to use a fire extinguisher.
- Having a dry chemical fire extinguisher immediately accessible in areas of hot work and, if possible, a fire hose.
- Having a communication device to keep in contact with the foreman or competent person.
- Knowing the location of the nearest fire alarm pull station, if any.
- Immediately reporting all hot work incidents, regardless of severity, as follows:
  - On superblock, HJD, and at Lutheran sites, the Fire Guard shall activate the nearest pull station, place a call to NYU Langone Telecommunications (212 263-3911), and then contact their foreperson and/or the PM.
  - At other locations, the Fire Guard shall activate the nearest pull station and then contact the foreperson, PM, and/or TC.
  - On sites which lack an active fire alarm system, the Fire Guard shall call 911, provide the address and exact location of the incident, then contact their foreperson, PM, and/or the TC.

- If an employee is injured, he/she should be taken to Occupational Health Services or the nearest the Emergency Department for treatment. The employee's supervisor must be notified. An Employee Occupational Injury/Illness Report should be completed by NYU Langone employees.

#### **4.0 Hot work procedures**

4.1 At least two weeks in advance of any hot work in a confined space, the Facilities foreperson or controlling contractor's competent person shall contact EH&S for assistance with pre-planning.

4.2 Each day, prior to the start of any hot work, the Facilities foreperson or controlling contractor's competent person shall:

- Inspect the work area and identify all necessary safety precautions, for inclusion in the hot work permit request.
  - See Appendix A: Hot Work Permit Requirements, Work Area Preparation
- Obtain scanned copies of all Fire Guard CoFs, and the CoF or license for any torch operator or welder.
  - Additional Fire Guards shall be required where hot work is performed at or near the edge of an unenclosed floor of a building, near a floor opening or other location where sparks and slag may travel to one or more lower floors or levels.
- Use the online system to request a hot work permit. Attach all CoFs and licenses to the permit request.

*Exception:* In unoccupied buildings or new buildings under construction, controlling contractors may use their hot work permit program if authorized in advance by EH&S.

4.3 Upon notification of permit approval, the Facilities foreperson or controlling contractor's competent person shall:

- Print the permit.
- Confirm all necessary shut downs of smoke detection and fire suppression systems have been completed.

- Verify that the hot worker and fire guard have prepared the work area in accordance with the permit.
- Sign the permit and obtain signatures from the hot worker and fire guard(s).
- In leased facilities, provide a copy of the permit to building management.
- Post a copy of the signed permit in the work area until the permit is no longer valid or the hot work is completed.
- Inspect the work area periodically during the hot work to ensure that the conditions of the permit are being maintained.
- Debrief the personnel who completed the hot work regarding any challenges encountered during the work.
  - Notify EH&S of any challenges that personnel experienced while performing hot work, for follow-up.
- Check the work area after the hot work is complete, prior to requesting that systems be returned to their original condition.
- Request close out the hot work permit in the Facilities online system or the controlling contractor's authorized hot work permit system when the work is complete.

4.4 A completed and authorized permit shall be valid until:

- The end of the workers' work shift or the work is completed, whichever comes first; or
- The end of the foreperson's or controlling contractor's shift; or
- There is an emergency\* involving or affecting the work area; or
- The time specified on the permit, if before end of shift.

\* Situations in which the competent person stops the job due to an imminent hazard are handled on a case by case basis.

## 5.0 **Post hot work procedures**

5.1 The Permit Requestor shall check and authorize the systems to be put back into service, and confirm that the work area is returned to its original condition.

**6.0 Controls for other hazards**

- 6.1 Hot work which involves the use of propane, compressed natural gas or liquid oxygen must be pre-planned and approved by EH&S.
- 6.2 Prior to welding of any potentially hazardous metal (e.g., galvanized steel or stainless steel) a job hazard analysis (JHA) is required to ensure compliance with OSHA 1926.353(c) and OSHA Subparts D and E.
- 6.3 Personnel performing hot work at height shall do so from a stable work platform with guardrail protection (e.g., scaffold or aerial lift), not a ladder (see Safety Policy 163).
- 6.4 Personnel performing electric arc welding from a suspended scaffold shall comply with the requirement set forth in OSHA 1926.451(f)(17)(i) through (vi) (see Safety Policy 163).

**7.0 Training**

- 7.1 Managers, PMs, TCs, and contractors shall ensure that workers who perform hot work are trained on:
  - Requirements of this policy
  - Proper preparation of a work area
  - Use of safety equipment
  - Responsibilities of the Fire Guard
  - Emergency procedures (such as fire and employee injury protocols)
- 7.2 Training shall be conducted:
  - Before a worker is first assigned hot work tasks
  - Before a worker is assigned new hot work tasks
  - Whenever there is a change in procedures or new hazards are introduced
  - Whenever there are deviations from the requirements of the policy, or there are inadequacies noted in a worker's knowledge or use of these procedures
- 7.3 Upon request, EH&S shall provide training to NYU Langone staff.
- 7.4 Each division shall maintain training records for its employees.



- Records shall include the dates of training, subjects covered, names of employees trained, and name and signature of the trainer.
- Records shall be maintained for 1 year past the last day of employment.
- Copies of records shall be provided to EH&S upon request.

**8.0 Program evaluation**

- 8.1 EH&S shall conduct QA inspections for a representative sample of permits, and make recommendations for changes as necessary.
- See Appendix B for inspection checklist.
- 8.2 EH&S shall conduct an annual evaluation of the hot work program as part of the annual evaluation of the NYU Hospitals Center Fire Safety Management Plan.

<b>Appendix A</b>	Hot Work Permit Requirements, Section 2: Work Area Preparation
<b>Appendix B</b>	NYU Langone Hot Work Inspection Checklist

<b>Issue date</b>	2/2017
<b>Replaces</b>	9/2016
<b>Reviewed by</b>	M. Cifferi, Lutheran Facilities R. Cohen, Facilities Operations C. Coltun, RED+F Construction B. Farrell, Real Estate S. Haney, Environmental Health and Safety D. Resnick, RED+F Construction D. Rubbo, HJD Facilities NYU Langone Construction Safety Committee HJD Environment of Care (EOC) Committee Lutheran EOC Committee Lutheran Family Health Center EOC Committee NYUHC EOC Committee

**Summary of Revisions**

<b>Revision date</b>	<b>Section</b>	<b>Changes</b>
January 2017	Application	Changes NYULMC to NYU Langone Removes reference to a separate Lutheran hot work program
	1.0	Defines NYU Langone
	2.0	Changes definition of hot work permit to reference NYU Langone's new online permitting system
	3.0, 4.0	Reflects new online permitting system
	3.1	Adds a QA program to EH&S responsibilities.
	3.7	New. Incorporates information previously in Appendix B.
	5.0	New. Incorporates information previously in Appendix B
	6.0	New. Incorporates information previously in Appendix B.
	8.1	Adds a formal QA program.
	Appendix A	Eliminates old paper permit. Changes content to focus on Section 2 of the new online permitting system. Incorporates relevant content from Appendix B.
Appendix B	Eliminates previous information. Adds new inspection checklist.	
September 2016	4.1	Clarifies daily submission of hot work permits.
May 2016	Policy & General Information	References Lutheran's hot work program.
	Purpose	Changes "NYC Fire Code" to "all NYC regulations"
	2.0	Adds definitions for "competent person" and "controlling contractor"
		Approves use of non-NYULMC hot work permit as authorized by EH&S
	3.2	Clarifies responsibilities at offsite facilities
	3.3	Adds Tenant Coordinator responsibilities at offsite locations Adds DoB license and FDNY CoF requirement for mechanics performing hot work and acting as Fire Guard
	3.4	Adds Facilities' foreperson responsibilities
	3.5	Clarifies Controlling contractors' responsibilities
	4.0	Clarifies hot work permitting procedures
	Summary of Revisions	Adds of Summary of Revisions
Appendix A	Updates Hot Work Permit	
Appendix B	Clarifies instructions for filling out hot work permits	

**Hot Work Permit Requirements**  
**Section 2: Work Area Preparation**

*Note:* If the requirement does not apply, remove the checkmark in front of it.

- ✓ Occupants of adjoining space have been notified of the work.

The manager or PM responsible for the hot work shall inform management of adjoining work areas of the work to be done. This shall be done well before the hot work will be performed, to give sufficient time to address any concerns the departments may have.

- ✓ Smoke heads that may be activated by hot work have been disabled.

If the possibility of an accidental activation due to hot work exists, the foreperson, manager, controlling contractor or PM shall arrange for the smoke detection system to be taken offline in accordance with Facilities or building management procedures.

- ✓ Sprinkler system remains active, but individual sprinkler heads near hot work are protected against activation.

Sprinkler heads shall be returned to normal function each day when hot work is complete.

- ✓ Hazardous energy sources have been locked and tagged out if they could be impacted by the work.
- ✓ All supply and return registers in the work area have been capped and sealed with sheet metal.

This is to prevent smoke or fumes from traveling to occupied areas.

- ✓ All penetrations in floors, walls, ceilings, and shafts have been sealed using smoke-tight, fire resistant materials.

Floor, wall, and ceiling penetrations shall be sealed using smoke-tight, fire-resistant (e.g., mineral wool, masonry, or drywall) or non-combustible materials to reduce the possibility of sparks or slag entering an adjacent or lower area. Materials such as flame retardant plywood, plastic sheeting, corrugated plastic board (Corex), Masonite, fiberglass, and spray foam insulation are not fire-resistant and not acceptable for use.

- ✓ All flammables and movable combustibles within 35 feet of the work area have been removed.

The foreperson or controlling contractor's competent person shall verify that all flammable and combustible substances or materials within 35 feet of the hot work are removed.

**Hot Work Permit Requirements**  
**Section 2: Work Area Preparation**

- ✓ All immovable combustibles and adjoining areas have been fully protected from sparks or slag with fire-rated tarps or welding blankets.

Welding blankets and/or flame-retardant tarps shall be placed around the hot work area to protect **immovable** combustibles and reduce the possibility of sparks flying into adjoining areas, penetrations, or shafts. Welding screens shall be used to reduce the possible exposure of personnel to harmful light from welding, burning, and cutting.

- ✓ A water hose that can immediately provide running water has been laid out and checked for proper operation.

Where possible, a hose that can immediately provide running water shall be available to reduce the possibility of sparks igniting other materials and causing a fire.

- ✓ Compressed gas cylinders are:
  - Secured in upright position
  - Turned off when left unattended
  - Removed from building when not in use and at end of workday if they contain flammables or oxygen
  - Protected with flashback arrestors, installed on each hose line at torch and tank regulator
  - Checked daily to ensure hoses and welding leads are free of damage and properly connected

Only cylinders stamped as having been hydrostatically tested within the last 5 years shall be allowed on NYU Langone property. All cylinders shall be removed from NYU Langone property upon completion of the work or expiration of the hydrostatic test.

All compressed gas cylinders, including B size tanks, shall be secured in an upright position at all times. Cylinders shall be capped at all times when not in use.

For transportation between the storage and work areas, all compressed gas cylinders shall be capped and chained in an upright position in an approved hand truck. If cylinders must be transported by crane or otherwise picked overhead, they shall be rigged using a cradle designed for that purpose. They shall not be rigged directly with slings or straps or lifted by their caps or collars. Cylinders shall not be transported by an excavator bucket, carried over a shoulder or by hand, transported up or down stairs, or dragged, rolled, or slid.

Flammable gas and oxygen cylinders shall be removed from the building when not in use and at the end of each work day. Cylinders containing differing gases shall be stored 20 feet apart at a minimum. Cylinders shall not be taken into a confined space. Under no circumstances shall a cylinder be heated to increase the pressure of the gas or the volume of liquid inside.

**Hot Work Permit Requirements**  
**Section 2: Work Area Preparation**

An approved flashback arrestor shall be installed on each cylinder hose line at both the torch handle and tank regulator. Cylinder hoses and welding leads shall be properly connected and free of cuts, burns and other damage. Cylinder regulator gauges shall have a damage-free protective lens and the gauge shall be operational. Cylinders, hoses, and leads shall be inspected daily prior to use for cracks and leaks.

Compressed gas cylinders shall be shut off when left unattended.

- ✓ Welding machines are turned off when left unattended.
- ✓ There is a smoke eater or appropriate exhaust ventilation at the point of work.
- ✓ Workers are wearing appropriate protective clothing and equipment.

Personnel engaged in hot work shall wear the proper personal protective equipment and clothing (e.g. burn jacket, gloves, and welding helmet) based on the hazard assessments conducted in accordance with NYU Langone Safety Policy 119 (Use and Selection of Personal Protective Equipment). Personnel shall not wear reflective vests when performing hot work, unless authorized by EH&S.

Where hot work requires the use of respiratory protection, the provision of NYU Langone Safety Policy 109 (Respiratory Protection) shall be followed.

- ✓ A fire guard, with a properly functioning (minimum 10 lb. ABC) fire extinguisher immediately available, is posted at the hot work area.
- ✓ Additional fire guard(s), with properly functioning (minimum 10 lb. ABC) fire extinguishers immediately available, is/are posted on floor(s) below the hot work area where sparks or slag may fall.
- ✓ Fire guard(s) will remain in place for 30 minutes post hot work and conduct an additional inspection 60 minutes post hot work.
- ✓ EH&S has approved special precautions for confined space.

If confined space entry is required, Safety Policy 138 shall be followed

- ✓ EH&S has approved special precautions for pressurized vessel work.

Prior to performing any hot work on a tank or vessel that was pressurized or formerly housed a combustible, flammable, or explosive solid, liquid, or gas, a Job Hazard Analysis (JHA) is required as is certification of proper depressurization, purging and cleaning of the tank or vessel.

<b>NYU Langone Hot Work Inspection Checklist</b>				
Project Name:	PIM#:			Inspected By:
Bldg/Floor/ Location:	Contractor:			Inspection Date:
Project Manager:	VP/Sr. Director:			Inspection Time:
<b>Requirement</b>	<b>Met</b>	<b>Not Met</b>	<b>N/A</b>	<b>Comments</b>
An approved hot work permit, valid for the date and time, is posted in the work area.				
The permit is signed by the hot worker, fire guard(s), and foreman or competent person.				
The hot worker can produce a valid FDNY CoF or DOB license.				
A fire guard is present in the hot work area, with no other duties than to watch for fires.				
There are additional fire guards in other areas at risk for fire, with no other duties than to watch for fire.				
All fire guards can produce valid FDNY CoF(s).				
All fire guards have a minimum 10 lb. ABC fire extinguisher, inspected and fully charged, immediately available.				
All fire guards know P-A-S-S.				
All fire guards have radios or charged cell phones.				
All fire guards know the procedures for reporting a fire.				
The hot worker and all fire guards are wearing appropriate protective clothing and equipment.				
All supply and return registers in the work area are capped and sealed with sheet metal.				
All penetrations in floors, walls, ceilings, and shafts are sealed using smoke-tight, fire resistant materials. All holes are plugged.				
The floor in the hot work area is swept clean.				
All flammables and movable combustibles within 35 feet of the work area, horizontally and vertically, have been removed.				
All immovable combustibles have been fully protected from sparks or slag with fire-rated tarps or welding blankets.				
A water hose that can immediately provide running water has been laid out.				
Compressed gas cylinders are secured in upright position.				
There is a smoke eater or appropriate exhaust ventilation at the point of work.				
Sprinkler and smoke heads near hot work are protected against activation during work hours.				
If additional hazards are present (e.g., confined space), the EH&S approved special precautions are implemented.				
Other Findings				