

Volume E2: Environment, Health, Safety & Security	E2.7 Hot Work Permit Effective Date: 04/30/2015	Responsible Office: Facilities Management
		Responsible Officer: Safety Officer

POLICY STATEMENT

Northeastern Illinois University (the “University”) shall provide safety guidelines for University employees and contractors that perform hot work (open flame or spark producing activities) and establish a permit process for these activities at all University-owned properties. The intention of this policy is to create a self-policing system of safe work practice verification.

PURPOSE POLICY

This policy establishes basic fire protection and prevention responsibilities for University employees and contractors that perform hot work (open flame or spark producing activities) in accordance with OSHA 29 Code of Federal Regulations (CFR) 1910.252, “Welding, Cutting, and Brazing” and NFPA Standard 51B, 2009 the “Standard for Fire Prevention During Welding, Cutting, and Other Hot Work” which is incorporated by reference in OSHA 29 CFR Section 1910.6.

WHO IS AFFECTED BY THIS POLICY

Northeastern Illinois University employees and contractors.

DEFINITIONS

Combustible Materials: Solid materials that are capable of burning and igniting.

Cutting: Any process, including grinding, which produces sparks capable of igniting combustible or flammable materials and transmits heat to the work material from a hot gas.

Fire Watch for Welding Activities: At least one individual dedicated solely to the look out and control of stray fires.

Flammable Compressed Gas: Flammable compressed gases have dangers besides high pressure. These gases can easily catch fire and burn rapidly. These include acetylene, hydrogen, natural gas and propane.

Flammable Materials: Solid or liquid materials that are capable of igniting at a low temperature and continuing to burn.

Grinding: See the definition for Cutting.

Hot Work: Operations such as welding, cutting, burning, heating, grinding, or similar spark, slag, or intense heat producing activities that are capable of igniting combustible materials or flammable atmospheres or providing a source of ignition for a fire. This includes cutting and welding operations for construction/demolition activities that involve the use of portable gas or arc welding equipment, open flame or spark-producing apparatus.

Hot Work Permit: The hot work permit provides a step-by-step checklist for hot work fire safety and serves as a reminder to contractors of their fire prevention responsibilities before, during, and after any hot work is conducted. The permit system is intended to educate the parties involved in construction of these hazards so that they can implement control measures to help mitigate them. NOTE: A Hot Work Permit is valid for a maximum of 8 hours.



Maintenance Designated Hot Work Areas: Workspaces approved for hot work without a permit. Safety precautions should be reviewed prior to performing work. Building H boiler room work area is the Maintenance Designated Hot Work Area for the University main campus.

New Construction: New work that is comprised of structural and mechanical work creating new buildings. The following are the types of hot work anticipated for new construction:

- Structural hot work: Cutting/welding reinforcing steel and structural steel for all of the project's structural work (tunnels construction, building super-structure, and site work).
- Mechanical work: Tunnel services connections, building system installations, HVAC equipment installations, plumbing systems installation.
- General activities hot work: All other cutting/welding for equipment/building component installations (handrails, guardrails, specialties, roofing and ornamental metal) and HVAC equipment installations.

Permit Authorizing Individual (PAI): Personnel authorized to review hot work safety precautions and determine an acceptable level of safety prior to approval of a hot work permit. University's PAI personnel are: Steam and Power Plant III, IV and V Engineers, Safety Officer, Trades Supervisor, Electricians and Maintenance and Construction Project Managers.

Renovations and Remodels: New work that takes place in an existing building. The following are the types of hot work anticipated for renovations/remodels:

- Demolition hot work: Dismantling built-in equipment, removal of discontinued/abandoned services, new services tie-ins, building system installations/modifications.
- Mechanical hot work: Removal of discontinued/abandoned services, new services tie-ins, building system installation/modifications.
- General hot work activities: All other cutting/welding for equipment/building component installations (handrails, guardrails, specialties, roofing and ornamental metal).

Shielding: Non-combustible welding drapes, used in hot work areas.

Smoldering: A slow combustion of material without visible light and generally evidenced by smoke and an increase in temperature.

Soldering: Soldering uses metals with a melting point below 800 degrees Fahrenheit. Soldering is commonly used to join electrical, electronic, and other small metal parts.

Torch Operations: A plasma torch is used as an advanced tool for welding and cutting operations. Intense ultraviolet radiation, high noise levels, and gases are generated during this process.

Welding: Welding is the most common way of permanently joining metal parts. In this process, heat is applied to metal pieces, melting and fusing them to form a permanent bond.

REGULATIONS

- [OSHA 29 CFR 1910.252 Welding, Cutting and Brazing](#)
- [NFPA 51B: Standard for Fire Protection During Welding, Cutting and Other Hot Work \(2009\)](#)
- [OSHA 29 CFR Section 1910.6 Incorporation by reference](#)

PROCEDURES

1. CONTRACTORS HOT WORK ON SITE

1. University personnel seeking to hire a contractor for a job including hot work activities must require compliance with the procedures within this policy or equivalent as an integral part of the initial job bid/scope. For publicly bid jobs, this will be required within the project manual master specifications in Section 1110. For all other jobs, this will be identified in the purchase order.



2. University personnel providing contractor oversight must provide the contractor with a copy of the University hot work procedures and coordinate contractor hot work activities with Facilities Management personnel: Steam and Power Plant IV or V Engineers and/ or the Safety Officer if hot work is to be performed.
3. A Hot Work Permit must be completed by the persons performing the hot work activities after a review of the Hot Work safety precautions.
4. A Permit Authorizing Individual (PAI) must approve/ sign each hot work permit prior to performing any on site work.
5. The approved/ signed Hot Work permit must be posted at the job site at all times the job is in progress.

2. UNIVERSITY EMPLOYEES HOT WORK

1. University employees performing hot work outside of maintenance designated hot work areas must coordinate hot work activities with Facilities Management personnel: Steam and Power Plant IV or V Engineers or their designee, or the Safety Officer in order to ensure all provisions of the hot work permit are in compliance.
2. A Hot Work Permit must be completed by the persons performing the hot work activities after a review of the Hot Work safety precautions.
3. A Permit Authorizing Individual (PAI) must approve/ sign each hot work permit prior to performing any on site work.
4. The University employee performing hot work must post the completed/ approved Hot Work Permit at the job site at all times the job is in progress.
5. A new permit must be issued for each new shift.

3. SAFETY PRECAUTIONS

A Hot Work Permit is valid for a maximum of 8 hours.

All Hot Work to be performed at University campus facilities must comply with the following precautions:

- Perform hot work in a properly configured maintenance shop, when possible.
- Use only equipment that is in good condition. Valves, regulators, hoses, and torches must be thoroughly checked.
- Move combustibles at least 35 ft. from hot work operations. If combustibles cannot be moved, they must be protected by metal guards or by flameproof curtains or covers.
- Check the atmosphere for combustible gases or vapors where necessary, using reliable detection equipment. If there is a chance of a gas vapor release during hot work operations, continuous-duty portable combustible gas detectors should be used to constantly monitor the area.
- Ensure that surrounding floors have been swept clean and if combustible, be covered with flameproof covers.
- Ensure that all wall and floor openings within 35 ft. of the operations have been tightly covered or otherwise protected with metal guards or flameproof covers.
- Ensure responsible persons have been assigned to watch for dangerous sparks in the area and on floors above and below with the appropriate fire extinguisher(s).
- Secure gas cutting and welding cylinders so they will not be upset or damaged, and place protective caps on all cylinders not in use.
- Arrange for a patrol of the area, including floors above and below, during any break in the work, such as lunch or rest periods and for at least half an hour after the work has been completed. If the hot work ends near the time of a shift change, arrangements must be made for the patrols to continue into the next shift.
- Use portable stands to elevate welding hose or cable off floor areas where it can be easily damaged.



Hot Work is NOT permitted if the following conditions exist:

- An appropriate fire extinguisher is not immediately available for use.
- All wall and floor openings are open and not covered.
- A flameproof cover or similar material underneath does not protect work.
- A fire watch is not provided.
- An explosive atmosphere exists. Hot work in or on vessels containing flammable or combustible materials, including residues is prohibited, until they have been completely cleaned and purged, or made inert. Air monitoring equipment should be used to determine safe levels of combustible gases and vapors.

4. PERSONNEL RESPONSIBILITIES

4.1. FACILITIES MANAGEMENT/SUPERVISION

1. Shall ensure that employees receive, understand, and enforce this policy and all future updates.
2. Revise and update the Hot Work Permit policy as necessary.

4.2. ALL UNIVERSITY EMPLOYEES

1. Shall assist the Safety Officer in following all stipulations of this policy.
2. Follow all warning signs, barricades, and barriers posted around hot work activities.
3. Immediately report any signs of smoldering or flames.
4. If participating in hot work activities outside of designated hot work areas, comply with Hot Work permit completion requirements prior to performing hot work.
5. Ensure that fire protection and extinguishing equipment is available at the hot work site prior to starting the job.
6. University Planning and Construction Project Managers must ensure that contractors (including general and sub-contractors) comply with all the provisions of this policy and post permits for the duration of the hot work.
7. Forward documentation of the completed job permits to the Safety Officer.

APPENDIX

Appendix A – Hot Work Permit

CONTACT INFORMATION

Please direct questions or concerns about this policy to:

Contact	Phone	E-Mail
Safety Officer	(773) 442-5215	r-matus@neiu.edu

DISCLAIMER

The University reserves the right to modify or amend sections of this policy at any time at its sole discretion. This policy remains in effect until such time as the Responsible Officer calls for review. Requests for exception to any portion of this policy, but not to the policy statement, must be presented in writing to the Responsible Officer.



APPENDIX A – HOT WORK PERMIT

NEIU HOT WORK PERMIT



NEIU HOT WORK PERMIT
 SIDE 1

HOT WORK PERMIT

This Hot Work Permit is required for any operation involving open flames or producing heat and/or sparks. This includes, but is not limited to: Welding, Brazing, Cutting, Grinding, Soldering, Torch-Applied Roofing, and Thawing Pipe. **This Hot Work permit is valid for a maximum of 8 hours.**

Date _____

Building _____

Dept. _____ Floor _____

Work to be done _____

Special precautions: _____

The location where this work is to be done has been examined, necessary precautions taken, and permission is granted for this work.

All precautions on other side have been taken? _____

Permit Expires (max 8 hours) _____

Signed _____
 Firewatch

Signed _____
 Person performing work

Signed _____
 Permit Authorizing Individual (PAI)

Time Start _____ Time Completed _____

FINAL CHECK

Work area and all adjacent areas to which sparks and heat might have spread (including floors above and below and on opposite side of walls) were inspected 30 minutes after the work was completed and were found firesafe.

Signed _____
 Firewatch



APPENDIX A – HOT WORK PERMIT



NEIU HOT WORK PERMIT SIDE 2

ATTENTION

Before approving any hot work permit, the Permit Authorizing individual (PAI) shall inspect the work area and confirm that precautions have been taken to prevent fire in accordance with NFPA 51B.

PRECAUTIONS

- Sprinklers in service
- Hot work equipment in good repair

WITHIN 35 FT OF WORK

- Floors swept clean of combustibles
- Combustible floors or roofs wet down, covered with damp sand, metal or other shields
- All wall or floor openings covered
- Covers suspended beneath work to collect sparks

WORK ON WALLS OR CEILINGS

- Construction noncombustible and without combustible covering
- Combustibles moved away from opposite side of wall

WORK ON ENCLOSED EQUIPMENT

(Tanks, containers, ducts, dust collectors, etc.)

- Equipment cleaned of all combustibles
- Containers purged of flammable vapors
- Confined Space Permit obtained as necessary, with appropriate precautions taken to comply with OSHA requirements

FIRE WATCH

- To be provided during and 30 minutes after operation
- Supplied with a fully charged and operable ABC-type fire extinguisher or Class D (for combustible metal work) fire extinguisher.
- Trained in use of equipment and in sounding fire alarm

FINAL CHECK

- To be made 30 minutes after completion of any operation

Signed _____
Firewatch