Hot Work Management Program

Purpose
IUPUI Environmental Health and Safety (EHS) has developed this program to prevent accidental fires, loss of life, injury from exposure to sparks, heat or flames, and/or loss of property that may result from welding, cutting, and/or brazing activities. This program is intended to comply with the Occupational Safety and Health Administration (OSHA) Standards contained in 29 CFR 1910.252.

Scope
This program covers all hot work activities performed by IUPUI employees, contractors hired by the University, or subcontractor hired by the contractor. For the purposes of this policy, “hot work” is defined as any temporary operation involving open flames or producing heat/sparks which includes, but is not limited to brazing, open-flame soldering, oxygen cutting, grinding, arc welding/cutting, oxy-fuel gas welding, hot taps, and torch applied roofing that are capable of initiating fires or explosions.

Policy
IUPUI employees, contractors hired by the University, or subcontractors hired by the contractor must obtain and complete a hot work permit to perform hot work activities at IUPUI. The only exceptions are processes performed in designated shop areas. The IUPUI Hot Work Permit must be used. Contractors may use their own permit in conjunction with the IUPUI Permit.

Authority and Responsibility
Supervisors/Departments are responsible for:
1. Notifying all employees to the purpose and intent of the Hot Work Management Program;
2. Issuing hot work permits as requested or necessary;
3. Assuming the role of fire safety supervisor for each permit;
4. Making periodic inspections of areas where the hot work procedures are being used; and
5. Attending training provided by Fire Protection Services.

Employees are responsible for:
1. Understanding the University’s Hot Work Management Program; and
2. Complying with the procedures defined within the Program.

University Architects and Facilities Renovations (IUPUI Project Manager) is responsible for:
1. Notifying all contractors to the purpose and intent of the Hot Work Management Program;
2. Issuing hot work permits as requested or necessary;
3. Assuming the role of fire safety supervisor for each permit;
4. Making periodic inspections of areas where the hot work procedures are being used; and
5. Attending training provided by Fire Protection Services.
Contractors and sub-contractors are responsible for:
1. Understanding the University’s Hot Work Management Program;
2. Complying with Indiana Fire Code, Section 26, Welding and Other Hot Work; and
3. Maintaining their companies written Hot Work Management Program and complying with it during projects on campus.

Fire Protection Services is responsible for:
1. Reviewing the Hot Work policy to ensure compliance;
2. Enforcing the Indiana Fire Code;
3. Conducting random inspections of hot work procedures; and
4. Assisting in training of affected employees.

Environmental Health and Safety is responsible for:
1. Reviewing the Hot Work Management program annually to ensure compliance.

Job Site Inspection
Prior to the issuance of the hot work permit, the Zone Maintenance Manager, IUPUI Project Manager, or Department Supervisor (fire safety supervisor) shall visit the job site to determine if the hot work can be avoided. If the hot work involves open flame cutting, an alternative method of conducting the work shall be considered (e.g., hand saw, pipe cutter). If an alternative method is not feasible, the Zone Maintenance Manager, IUPUI Project Manager, or Department Supervisor shall further ensure the hot work site is safe.

The fire safety supervisor authorizes the job and issues a hot work permit daily prior to any work beginning. All hot work job sites are inspected using the checklist contained within the hot work permit.

Items included in the job site review include, but are not limited to, the following:

1. Hot work operator(s)/fire watch are trained in the safe operation of their equipment;
2. Apparatus used for the hot work is in good condition;
3. Hot work operator(s)/fire watch understand the emergency procedures in the event of a fire or general emergency;
4. Fire protection and extinguishing equipment is properly located on-site;
5. Operator(s) are utilizing personal protective equipment; and
6. The proposed work does not jeopardize the health and safety of the operator or others.

If the aforementioned criteria are not met, a permit shall not be issued until all concerns are corrected.

All permits must be prominently displayed at the job location.

The IUPUI Zone Maintenance Manager, IUPUI Project Manager, or Department Supervisor shall issue a shutdown upon request in order to issue a hot work permit and to evaluate the need to disarm any portions of the building fire protection system.

Any questions concerning hot work management should be directed to the Zone Maintenance Manager, IUPUI Project Manager, or Department Supervisor.
Fire Watch
Trained fire watchers are required to be present during the work, armed with portable fire extinguishers. Contractors are required to provide their own fire watchers and fire extinguishers.

Fire Protection Services requires a fire watch when hot work is performed in a location where the following condition(s) exist:

1. Combustible materials in building construction or building contents are closer than 35 feet to the point of operation of the hot work;
2. Combustible materials are more than 35 feet away, but are easily ignited by sparks;
3. Wall or floor openings within a 35 feet radius expose combustible materials in adjacent areas, including concealed spaces in walls or floors; and
4. Combustible materials are adjacent to the opposite side of partitions, walls, ceiling, or roofs and are likely to be ignited.

The fire watch shall:
1. Be aware of the inherent hazards of the work site;
2. Ensure safe conditions are maintained during the hot work operation;
3. Have the authority to stop the hot work operations if unsafe conditions develop;
4. Have fire extinguishing equipment immediately available and be trained on how to use it; and
5. Activate emergency response in the event of a fire.

Once the hot work is completed, the fire watch remains in the area for at least one hour to inspect the work and make certain that there is no smoldering combustion taking place. Part two of the permit must be signed and returned to the fire safety supervisor after the job is complete.

The fire safety supervisor is responsible for a follow-up inspection of the hot work area four hours after completion of the work to confirm that there are no smoldering fires present.

Permit Posting
The hot work permit is in duplicate. The top copy shall be retained and filed by the fire safety supervisor and the bottom copy shall be posted in a visible location within the hot work site near the hot work equipment. Contractors may use their own permit in conjunction with the IUPUI Permit.

Prohibitions
Propane gas shall not be used for hot work in any occupied University buildings.

Hot work shall not be permitted in the following areas until the conditions prohibiting hot work have been modified:

1. In the presence of explosive atmospheres, or in situations where explosive atmospheres may develop inside contaminated or improperly prepared tanks or equipment which previously contained flammable liquids;
2. In areas with an accumulation of combustible debris, dust, lint and oily deposits;
3. In areas near the storage of exposed, readily ignitable materials such as combustibles;
4. On a container such as a barrel, drum or tank that contained materials that will emit toxic vapors when heated; and
5. In a confined space, until the space has been inspected and determined to be safe. Refer to the IUPUI Confined Space Program located at http://www.ehs.iupui.edu/ehs/occupational_confineSpace.asp.
Protective Equipment for Welders
The welder shall be equipped with protective devices and/or apparel as indicated on the permit or as listed below:

1. Portable and/or mechanical ventilation capable of keeping the levels of fumes, dust and gases below the thresholds established in the Occupational Safety and Health Administration's (OSHA) Permissible Exposure Limits (PELs). If local exhaust or general ventilation are not available and fume, dust and gas generation is high, respirators shall be used;
2. Gloves, apron and/or jacket that are made of a material that is an insulator from heat and electricity;
3. Welders helmets equipped with proper filter plate and cover lenses;
4. Respiratory protection (NOTE: No employee shall be issued or be required to use a respirator until that employee has satisfied the criteria set forth in the Respiratory Protection Program); and
5. Screens to protect persons not properly protected from the visual effects of viewing arc welding or cutting and during gas or oxygen cutting or welding.

Storage of Equipment
Equipment and supplies shall be stored in a manner that will prevent the creation of hazardous conditions. Refer to the Compressed Gas Cylinder Program for information regarding the storage of compressed gas cylinders.

Education/Training
Employees affected by this program shall be trained on all aspects of this program by Fire Protection Services.