

CONTRACTOR POLICIES AND PROCEDURES MANUAL

I. Introduction

Contractors have become a significant population at many IUPUI sites, even working side by side with IUPUI employees. Contractors may be exposed to hazardous conditions in IUPUI locations and may also expose IUPUI employees and the community to hazards. IUPUI desires to see that all aspects of its operations are performed in a safe and healthy work environment. Consistency between and across sites is vital to an effective health and safety program. With these considerations in mind, the safety of contractors will be a focus of each site.

The contractor's safety record will be a criterion used to judge performance and determine whether or not a contractor qualifies for future contracts at IUPUI.

II. Definitions

Contractor:

Anyone contracted to perform services for IUPUI.

Confined Space:

Space which by design has limited or restricted means for entry and exit, and is large enough for an employee to enter and perform assigned work, and which is not intended for human occupancy.

Department of Environmental Health & Safety (EHS):

The department charged with the responsibility for overseeing environmental and safety compliances on the IUPUI campus. EHS is located at 620 Union Drive, Room 043 and can be reached at 274-2005. The EHS web address is www.ehs.iupui.edu.

IUPUI Project Manager:

The IUPUI representative designated to oversee and coordinate construction, maintenance, and safety work for IUPUI.

Operating Area:

Area in which IUPUI processes are, or can be run, or areas occupied by personnel. Some examples of operating areas are existing process buildings, research and laboratories and functional utility buildings. Questions concerning the definition of operating areas should be directed toward the IUPUI Project Manager.

Open Shop Areas:

Areas of construction in which open flame and spark producing devices may be used without a Hot Work Permit as approved by IUPUI personnel. These areas are free of flammable dusts and vapors.

Platform Ladder:

A self-supporting ladder with two legs, one with steps and a platform located below the top of the ladder.

Site:

The confines or boundaries of all IUPUI owned properties. These confines or boundaries are also referred to as “premises”, “IUPUI campus”, “University”, “property”, and “building” throughout this document.

III. Contractor Health & Safety Responsibilities

The following information is supplementary to the safety program each employer is required by OSHA to develop. Each contractor is required to implement, monitor and enforce a written safety program providing for the safety of its agents, employees, and for the compliance of its subcontractors. The contractor at all times maintains full responsibility and liability for these matters. Each contractor shall take prompt action on safety concerns expressed by construction management personnel or IUPUI personnel. The first IUPUI contact for field safety concerns (involving other prime contractors or IUPUI operations) should be the IUPUI Project Manager assigned to the project. The IUPUI Project Manager will then be responsible for contacting the contractor or area supervisor in order to resolve the safety concern.

Each contractor is responsible for designating an onsite safety person. This individual will be responsible for correcting safety deficiencies noted by safety professionals and IUPUI supervisory personnel.

At the discretion of IUPUI, all prime contractors are responsible for performing safety audits for their employees' and subcontractors work practices. These safety audits must be performed monthly, at a minimum, documented by the contractor and kept on file while performing work at IUPUI.

It is the goal of IUPUI to provide a safe and productive work environment for all who perform work on its premises. The following policies and procedures prepared by IUPUI play a vital role in maintaining such an environment and must be followed by all contract personnel.

This manual is intended to assist contractors in reducing the possibility of accidents and establishing minimum standards to protect IUPUI employees from construction activities. Compliance with these safe work policies and procedures in no way guarantees the fulfillment of the contractor's obligations as may be required by any local, state or federal laws. This manual does not cover the full spectrum of published safety and health standards which are mandated by law, and the contractors shall not assume that they are responsible only for those which are referenced in this manual nor that they are current and quoted as published. In the event of a conflict between the provisions of this manual and applicable local, state or federal safety and health laws, regulations and/or standards, or the contract documents, the more stringent shall apply. No liability is assumed by IUPUI by reason of this manual.

IV. General Information

1.0 Accident Investigation

In the event of an accident that incurs a medical expense, involves a near miss, or is considered a lost time accident, a **supervisor's accident investigation form** will be completed by contractor supervision. For all lost time accidents, the

findings of the investigation and corrective actions will be presented to the IUPUI Project Manager within five (5) working days.

2.0 Accident Reporting Procedures

All contractor accidents, minor or severe, must be reported to the injured person's contractor supervision at the time of occurrence. The contract supervisor must fill out **the first report of injury**. In the event of an injury requiring emergency medical assistance, or any vehicular accident, the IUPUI Police Department shall be immediately notified at 274-7911, with a description of the emergency and location. Contractors shall notify the IUPUI Project Manager and the IUPUI Department of Environmental Health and Safety of contractor accidents within two (2) working days.

3.0 Alcohol and Drug Policy

The following substance abuse guidelines apply to all contractors working on IUPUI sites:

The unauthorized use, possession, sale, dispensation, distribution or manufacture of drugs or alcohol for nonmedical reasons is prohibited on IUPUI premises.

IUPUI prohibits an individual with the unauthorized presence of drugs or alcohol in his or her body for nonmedical reasons from being on IUPUI premises.

The unauthorized use, possession, sale, dispensation, distribution or manufacture of drugs off IUPUI premises and outside working hours will not be tolerated on the part of any employee assigned to an IUPUI project if it adversely affects in any way the employee's performance, the safety of the employee or others at work or other important IUPUI interests.

A contractor, subcontractor or construction manager shall remove from the site any of its employees who do not fully comply with the above substance abuse policy.

4.0 Air Quality Issues

The use of hazardous or irritating materials must be properly controlled where it may affect individuals. Measures shall be taken to ensure that dusts, fumes, mists, gases and vapors of these materials are eliminated, isolated, or captured. Primary methods of control include the following:

- **Isolation of construction areas in occupied buildings.** This is commonly accomplished using plastic sheeting materials or dry wall.
- **Ventilation of construction areas to create negative pressure.** The use of fans and negative pressure machines can contain airborne materials to the construction zone. Exhaust of airborne materials to the outside of the building must be done carefully so that it doesn't affect individuals in the same building or in adjacent buildings.

- **Scheduling the use of hazardous and irritating materials.** Work planning must include the scheduling of material use that creates hazardous or irritating conditions to times when buildings are less occupied (evenings, nights, holidays, and weekends). This includes the spraying of external building materials, such as sealants.
- **Notification for use of solvent-based materials.** Notification must be made prior to the use of solvent-based paints, (including electrostatic painting) cleaning materials, and other solvent-based products. A permit for the use of solvent-based materials must be approved by the Department of Environmental Health and Safety prior to the use of these materials. (See Section 37.0, Permits).
- **Use safer, low-emitting materials.** Many paints and other building materials are available with safer or non-solvent formulations.

Air Quality Control during Renovation Projects in Occupied Buildings at IUPUI

General Air Quality Specifications

- Develop a site-specific plan to control demolition and reconstruction materials in renovation areas as guided by the ‘Air Quality Considerations’ below.
- Identify the specific air quality measures needed for the renovation project, including appropriate performance metrics as needed.
- Require each prime contractor to designate an air quality representative to manage air quality issues.
- Specify conditions that would require an emergency response, such as asbestos release or a major water loss.

Air Quality Considerations

- Schedule renovation work during periods of low building occupancy if possible.
- Isolate work areas from occupied areas using critical barriers, air pressure control and high-efficiency particulate air (HEPA) filtration.
- Minimize the number of building penetrations necessary for entry into the renovation area. Choose the penetration sites carefully to minimize the potential for occupant exposure.
- Modify HVAC operations according to specifications of consulting and IUPUI staff engineers prior to and during renovation activities to ensure isolation of renovation areas from occupied spaces.
- Maintain an adequate unoccupied buffer zone around renovation areas according to design specifications. This may require temporarily relocating building occupants in the immediate vicinity of renovation areas.
- Increase housekeeping activities in adjacent occupied areas during renovation activities that create dust.

Work Practice Measures for Air Quality Assurance

- Employ local exhaust when dust, hazardous vapors, fumes, or gases are generated. If local exhaust is not feasible, portable air cleaning devices (such as the use of HEPA-filtration) may be used
- Minimize dust generation by using wet methods for cutting or sanding
- Locate dumpsters for debris away from operating HVAC outdoor air intakes and exterior doors to occupied areas where possible

Specific Control Measures for HVAC Protection

- Ventilation shall be provided in order to maintain a negative pressure in all areas of occupied buildings where there is potential for dust contaminant generation from a construction project. The contained area shall be kept under negative pressure relative to the surrounding areas by the use of HEPA filtered negative air machine(s). A minimum of -.02 column inches of water pressure differential, relative to outside pressure, shall be maintained within the work area as evidenced by manometer measurements provided by the contractor on a continuous basis.
- Construction documents shall specify modifications required to existing mechanical systems or temporary equipment to be installed to properly ventilate the affected building areas.
- Construction documents shall include temporary ductwork layouts (as necessary) as well as sizing and specifications of fans.
- Contractors shall not make design decisions for temporary ventilation of occupied areas of buildings.

Isolate portions of the HVAC system that may become contaminated from renovation activities as specified by consulting and IUPUI staff engineers.

Seal return air grilles in renovation areas.

Upgrade filtration efficiency in the HVAC systems that continue to be used during renovation (if possible) as directed by specifications.

Specific Housekeeping Measures for Air Quality Assurance

- Identify the route(s) for removing construction debris from the building.
- Identify traffic routes for renovation workers within the building, using pathways away from occupied spaces if possible.
- Identify specific locations within buildings that contractors may use, including restrooms (if appropriate).
- Eliminate demolition/renovation debris by bagging on site and/or the use of covered wheelbarrows or cart to transport debris to containers outside of the building.
- Contractors shall clean areas inside of construction exits to minimize dirt and debris from entering occupied spaces in the building.
- Contractors shall clean occupied areas adjacent to renovation site (such as hallways) if construction debris or soil has caused an area to be notably dirtier than other similarly occupied areas.
- Place walk-off mats at all entrances and exits from the renovation area. These mats must be regularly cleaned or replaced to minimize migration of dust from the project site.

Specific Control Measures for Painting Occupied Areas

- Schedule work during evening hours or periods of low building occupancy.
- Use low odor/ low VOC products.
- Provide EHS copies of Material Safety Data Sheets for all products being used.
- Provide ventilation in the area. If necessary, maintain a negative pressure in all areas being painted.

Roof Leaks, Pipe Breaks and other Water Losses caused by Renovation Contractors

- Contractors are responsible for all water losses inside buildings that happen as a result of their renovation activity.

- Contractors shall inform Campus Facilities Services of all water losses that occur due to construction activities.
- Campus Facilities Services will manage the water remediation process and be reimbursed by contractor for all expenses involved with the remediation.
- Only University-approved contractors will be employed for water remediation.
- Water must be removed and damaged building materials must be replaced.

Outdoor Work with Hazardous or Odorous Materials near Air Intakes

- Locate portable toilets away from air intakes.
- Use or application of chemical/odorous materials shall be located at least 25 feet away from all outside air intakes (if feasible).
- When work including chemical/odorous materials must be done at or near air intakes, outside air intake should be minimized or the task should be performed when the building is not occupied (such as evenings or weekends).
- For long-term projects that use chemicals or produce combustion exhaust near air intakes, install charcoal filters in the air handling units serving the occupied space of the building.

Measures for Maintaining Good Air Quality

- Discuss air quality issues at regularly-scheduled construction meetings. The contractor indoor air quality representative needs to be included in these meetings.
- Monitor renovation activities carefully to ensure that all work conforms to the stated air quality control measures.
- Monitor pressurization at renovation areas, using a pressure monitoring device, to ensure that proper isolation and ventilation is in effect.
- Monitor for visible or odorous airborne contaminants in adjacent occupied areas.
- Promptly respond to occupant complaints in order to resolve issues that involve renovation areas.

Measures for Enforcement of Air Quality Assurance

- Contractors are responsible for meeting all specifications involving maintaining acceptable air quality for building occupants.
- Contractors shall coordinate with University Architects Office and Environmental Health and Safety for any variations to the specifications or circumstances outside of their control involving air quality in occupied buildings.
- If an acceptable air quality condition is not maintained by contractors, appropriate University officials may halt construction operations until suitable measures have been taken to restore good air quality for building occupants.

References

- *IAQ Guidelines for Occupied Buildings Under Construction*, Sheet Metal and Air Conditioning Contractors' National Association, Inc., First Edition, 1995.
- *Good Practice Guidelines for Maintaining Acceptable Indoor Environmental Quality During Construction and Renovation Projects*, National Institute for Occupational Safety and Health, 1997.
- *Guidelines on Assessment and Remediation of Fungi in Indoor Environments*, New York City Department of Health, 1993.
- *Mold Remediation in Schools and Commercial Buildings*, United States Environmental Protection Agency, 2001.

5.0 Asbestos Policy

The Department of Environmental Health and Safety is responsible for asbestos surveying, monitoring and abatement in IUPUI campus buildings. An "Asbestos Project Report" shall be completed by EHS prior to any work involving alteration, renovation or demolition in campus buildings constructed before January 1, 1981. The Asbestos Project Report will identify asbestos containing materials (ACM) and indicate if it is to be abated by IUPUI or remain undisturbed during the course of the project. Building materials not identified on the report shall be presumed to contain asbestos and shall not be disturbed.

The general contractor is responsible in ensuring that all workers, including sub-contractors on the jobsite, have received Asbestos Awareness Training prior to working in buildings constructed before 1981. Under no circumstances will construction work be permitted to commence until an Asbestos Project Report has been completed by EHS and a copy of the same is given to the contractor scheduled to perform the work.

The completed Asbestos Project Report can be obtained from the IUPUI Project Manager. Asbestos may be found in lab counter tops, doors, floor tile/sheeting, mastics, ceiling tile, plaster, chase covers, cooling towers, air handlers, electrical wiring insulation, spray-on fire proofing, and pipe and tank insulation. The contractor is to stop work immediately and notify the IUPUI Project Manager or EHS (at 274-5239), if a suspect material not previously identified (as non-asbestos), is discovered during the course of the project.

6.0 Barricades

Signs, barricades or other means shall be used including beneath any overhead work where there is a potential hazard from falling objects, in order to protect the general construction area. The contractor is responsible for providing all barrier materials to include appropriate street closing barricades and signage that meet DOT requirements. The following methods shall be used to warn individuals of hazardous areas:

Both red and yellow safety tape is used to identify areas that contain hazards. When encountering safety tape, OSHA Standards shall be followed. Yellow tape indicates "CAUTION" and may be crossed after assessing hazards. Red tape indicates "DANGER" and may not be crossed. Standard guardrails capable of withstanding two-hundred pounds of force (cables, chains, wooden rails, etc.) are required when workers are subjected to a fall exposure. (See Section 22, Fall Protection.)

All crane radii, with counter weights that present an exposure, must be barricaded before operations commence.

All openings in floors, roofs or decking must be covered, labeled and secured in place.

7.0 Behavior

Abusive language or attitudes, horseplay, fighting, selling, raffling, and gambling are prohibited on all IUPUI sites.

Workers are not to leave the close proximity of their work area.

8.0 Biohazards/ Infectious Materials

Contractors may need to access or contact biological materials that are potentially hazardous. Examples of these include: work on sewer lines, sumps, drain traps, or areas containing infectious waste. Any contractor working on equipment or building systems that are known or suspected of being contaminated with human blood or other biological materials, must complete an OSHA required Bloodborne Pathogens training program for the recognition and control of these hazards.

Other contractors who are not directly working with biological materials, but may encounter these materials, shall train employees to be aware of any potential biological hazard appropriate for the work being performed.

9.0 Cameras

No cameras or video equipment are allowed on IUPUI sites without written authorization from IUPUI.

10.0 Chemical Hazard Communication (HAZ-COM)

Chemical Hazard Communication, also known as (HAZ-COM), requires an employer to make chemical hazard information readily available to all project personnel. IUPUI provides Material Safety Data Sheets (MSDSs) for chemicals it uses or produces that are readily accessible to contract personnel who are working in, on, or around the chemicals. They may be obtained from the department or the IUPUI Department of Environmental Health and Safety. (This information is not for general distribution outside of the IUPUI site.) The HAZ-COM standard places similar obligations on contractors and for training its employees in accordance with all requirements of the standard. Training shall include information related to the hazardous Material Information System (HMIS) and National Fire Protection System (NFPA). Both of these labeling systems are used on the IUPUI campus.

MSDSs must be accessible for reference on the job site **prior** to the material being brought on site. These must be provided upon request and may be reviewed by the IUPUI Department of Environmental Health and Safety (EHS) as well as the IUPUI Project Manager, to determine if the materials are safe to use as intended. If EHS determines that the use of a product may cause adverse health effects or safety problems, the materials may have conditions placed upon their use, or may be prohibited from being used.

Whenever chemicals are transferred from a labeled manufacturer's container to a secondary container the secondary container must be labeled properly and be compatible with the transferred material. Proper labeling includes listing the

chemical name and the hazard information. All containers must be closed, except when in use.

11.0 Construction Lighting

During construction operations, all general construction areas shall be supplied, by contractors, with a minimum of five (5) foot-candle lighting.

12.0 Compressed Gas Cylinders

Compressed gas cylinders are to be stored in an area approved by the IUPUI Project Manager. They shall be clearly marked for the type of gas contained. Oxygen and acetylene cylinders are to be stored at least twenty feet apart or separated by a 5 ft., 1 hour minimum firewall. All cylinders are to be stored and transported in a secured, upright position, with their caps secured. Tie wire shall not be used as a securing material. Never load or unload cylinder without caps. Flashback arrestors are required on oxygen and acetylene lines.

13.0 Cranes

During crane operation the following shall be practiced:

- The safe design capacity of any crane must not be exceeded.
- All cranes, contractor owned, leased or rented, must be in a safe mechanical working conditions. Proper guards must be provided for exposed gears, belts, couplings, fans, etc.
- All operators must be familiar, trained and qualified to operate the equipment they are assigned to operate.
- A crane must be visually inspected on a daily basis. A documented annual inspection must be kept with the crane at all times. Boom cable installation documentation shall also be available.
- Personnel shall be kept out from under any load being lifted.
- To avoid tipping, all outriggers must be fully extended and all outriggers must remain firmly on the ground. Cribbing is required when the ground cannot support the concentrated load of the outriggers. Boom angle indicators, load charts and a standard hand signal chart, shall be visibly posted on the crane.
- Cranes and other equipment shall be operated with a minimum clearance of ten (10) feet between power lines and any part of the machinery.
- Questions regarding this standard should be addressed to your IUPUI Project Manager.

14.0 Demolition

During demolition, the following items will pertain:

The contractor shall request utility shutdowns through proper procedures, (See Section 45.0, Shutdown Procedures) to make certain that all lines, services and equipment have been cleared or purged and properly cleared for safe removal. All lines, including water and steam, are to be considered "hot" until a check has been made to verify that they are not in service.

- Underground or otherwise hidden lines, cables and sewers shall be physically located when available information is not completely accurate; (See Section 50.0, Underground Installations).
- Combustible materials shall be separated prior to operations involving welding, cutting, and other flame or spark producing operations. Fully charged and appropriate fire extinguishers shall be provided by the contractor during demolition operations involving combustible materials.
- Special attention shall be given to the marking of hazards and the barricading of hazardous areas for the protection of all personnel, including those not directly involved in the demolition work.

15.0 Drilling

It is the contractor's responsibility to be aware of rebar, conduits or other objects that may impede the progress of a rotary tool and cause it to bind.

16.0 Driving and Parking

Maximum speed limit on IUPUI sites, if not posted shall be fifteen (15) MPH. All traffic signs and signals must be obeyed. All persons driving a vehicle on IUPUI property must have a valid driver's license. Parking is allowed only in designated parking areas with an IUPUI parking permit. Contractor must acquire proper parking permits from Parking and Transportation Services, which is located at 1004 West Vermont St. The phone number is 274-4232. Construction areas are subject to enforcement.

17.0 Electrical Safety

When using temporary power, Ground Fault Circuit Interrupters (GFCI's) are required. Only extension cords meeting ANSI standards may be used. Poorly ventilated areas containing flammable materials and other hazardous areas shall require explosion proof equipment and equipment connections. (See Section 34.0, Lockout/ Tagout Procedures)

18.0 Emergency Procedures

In the event of an emergency such as a chemical release, or severe injury, IUPUI Police Department must be notified immediately, at 274-7911. The contractor is required to keep emergency phone numbers available at the worksite. The

emergency procedure handbook can be obtained from EHS. Employees must be familiar with the emergency procedures.

Fires: Pull the building fire alarm and report all fires to the IUPUI operator at 274-7911. State the emergency and the location of the fire.

In the event of severe weather, all contractors need to move to the nearest shelter area.

19.0 Enforcement Policy

Each contractor is responsible for correcting safety violations and/or unsafe conditions present in his operation.

20.0 Environmental Concerns - Including the Removal and Disposal of Environmentally-Hazardous Materials

20.1 Overview

IUPUI is comprised of a diverse collection of buildings and structures. Construction of campus facilities date back to 1919. Examples of construction techniques can be found on campus for each decade during this period. As such, a diverse selection of environmental concerns may be encountered during new-construction or renovation projects. Several of these concerns may be obvious during the preplanning or design stages of the project. Others may not be apparent until the project is under way.

IUPUI

An environmental hazards checklist is to be completed for each project and signed by an appropriate representative of the successful contractor.

IUPUI has the responsibility of notifying prospective contractors of the existence of any known environmental compliance concern. If agreed upon by contract or other binding agreement, IUPUI will be responsible for coordinating the transportation and/or disposal of any environmentally-hazardous material generated during a new-construction or renovation project.

IUPUI has the responsibility of providing technical assistance in the identification, packaging, handling and disposal of environmentally-hazardous materials. Contact the IUPUI Environmental Manager at 274-2005 for additional assistance.

IUPUI retains the right to review all transportation and disposal facilities that are proposed to be utilized for the disposal of environmentally-hazardous materials generated at IUPUI, and retains the right to approve or deny all interim and/or final disposal sites proposed to be used in conjunction with the project.

IUPUI retains the right to request complete documentation of the proper disposal of environmentally-hazardous materials originating at IUPUI.

CONTRACTOR

The Contractor has the responsibility of informing its employees of the potential existence of environmentally-hazardous materials at IUPUI construction sites.

The Contractor has the responsibility of notifying the University by calling 274-2005 of the discovery or suspected discovery of environmentally-hazardous materials at any IUPUI construction site whether the existence was known or not, prior to the commencement of construction.

Unless agreed upon by contract or other binding agreement, the Contractor will be responsible for:

- Acquiring all necessary permits and/or licenses required for the packaging, transportation and disposal of environmentally-hazardous materials.
- Completing all arrangements necessary for the packaging, transportation and disposal of environmentally-hazardous materials.
- All costs incurred in the permitting, licensing, packaging, transportation and disposal of environmentally-hazardous materials.

The Contractor has the responsibility of providing the IUPUI Department of Environmental Health and Safety with complete documentation of the proper disposal of environmentally-hazardous materials originating at IUPUI. Such documentation may include but is not limited to:

- Copies of all manifests or chain-of-custody records.
- Copies of all bills of lading.
- Copies of all disposal receipts.
- Copies of any "certificates of disposal or destruction."

The following are common environmental concerns which have been encountered in past new construction or renovation projects. While IUPUI believes this to be a reasonably comprehensive listing, the University does not warrant that other, unanticipated, environmental concerns may not arise during the project.

University dumpsters, refuse containers, and sewer lines are to be kept free of these items. Only dry empty containers of these materials may be discarded in University waste receptacles with the approval of the IUPUI Project Manager.

20.2 Lead-Containing Materials

Elemental lead and lead alloys have been utilized as construction materials on campus.

- **Battery back-up power supplies in emergency lighting systems. (Nickel cadmium batteries may also be encountered and must also be collected for disposal).**

Lead-shielding on high voltage electrical cables.

Lead-shielded dry wall doors, doorframes and window frames in clinic or research areas utilizing x-ray devices or other radioactive sources.

Lead-based plumbing fixtures – including sinks and drain lines in clinic, educational, and research laboratories.

- **Lead-based paint products.**

20.3 Mercury-Containing Materials

Elemental mercury and mercury-based materials can frequently be found in three primary sources:

- **Fluorescent Light Bulbs-** Unless otherwise informed or instructed, all fluorescent lamps or bulbs are to be regarded as containing mercury. All fluorescent lamps are to be collected and retained for special disposal.

Temperature and pressure - control devices including thermostats and thermocouplers.

Drain lines and plumbing traps which have collected mercury.

20.4 Paint Operations - Degreasing, Surface Preparation, Stripping, and Surface Finishing Activities

Materials associated with painting operations are to be regarded as potentially hazardous materials. This includes but is not limited to the following:

- Left over, off-spec waste **latex and oil-based paints.**
- **Paint solvents** including but not limited to: xylene; toluene, acetone, mineral spirits, lacquer thinner, turpentine.
- Chemical-based **paint strippers** or removal agents.
- Water-based or solvent-based **surface degreasers.**
- Solvent-based **surface deglossers.**

20.5 Polychlorinated Biphenyl (PCB) - Containing Materials

Polychlorinated Biphenyls (PCBs) have been found in two primary sources on campus:

- **Pre-1979 fluorescent lamp ballasts:** Unless otherwise instructed or unless a fluorescent lamp ballast is clearly labeled as being "non PCB," all fluorescent light ballasts are to be re-regarded as PCB-contaminated. As such, these ballasts are to be collected and retained for special disposal.

- **Electrical transformers and capacitors.** Smaller transformers and capacitors (e.g., x-ray transformers) are frequently encountered that have not been analyzed for PCB content. Unless otherwise instructed, all electrical transformers or capacitors are to be sampled by the IUPUI Department of Environmental Health and Safety and analyzed for PCB content prior to being taken out of service and removed from the site.

20.6 Refrigerant-Containing (Freon) Appliances

Ozone-depleting refrigerants (freons) may be encountered with the following types of devices or appliances:

- **Window air conditioners**
- **Walk-in refrigerators and freezers**
- **Domestic refrigerators and freezers**
- **Refrigerated water fountains and coolers**
- **Room or area dehumidifiers**
- **Mechanical ice baths**

Refrigerants must be removed and recovered according to federal standards by a licensed refrigeration technician. All refrigerant-containing appliances must be secured from damage and the potential inadvertent release of the refrigerant until proper recovery of the refrigerant can take place.

20.7 Storm Sewer Discharges – Special Permit Discharges

Special discharge permits from the City of Indianapolis may be required for the discharges of project-related waste waters to the University's sanitary sewer system.

Examples of past projects where special discharge permits were required have included:

- Draining swimming and diving pools.
- Treatment and flushing of chilled-water circulation lines.
- Large-scale, aqueous degreasing procedures in preparation of painting operations.

20.8 Storm Sewer Discharges - Erosion Control

All discharges to University storm sewer lines during the course of new-construction or renovation projects are to be made in accordance with the City of Indianapolis, Department of Public Works, Stormwater Design and Construction Specifications Manual. Additional guidance on these requirements will be provided during the project design/bidding process.

Discharges are to be closely monitored. Only clean, non-chemically contaminated water may be discharged to University storm sewers.

Erosion-control plans are to be developed, submitted for review and approval and implemented for all projects that involve the disturbance or excavation of soil(s) on property of .5 acres or more.

20.9 Stock Chemicals

It is the University's responsibility to ensure that stock chemicals and chemical-based materials are removed prior to renovation or construction. In the event these types of materials are encountered, they are to be left in their original location. The IUPUI Department of Environmental Health and Safety is to be notified immediately at 274-2005 of their discovery and existence. Staff from the IUPUI Department of Environmental Health and Safety will assume responsibility of assuring that all stock chemicals are promptly removed from the construction site.

20.10 Special Wastes

Wastes may be generated during renovation or construction projects that require special disposal approval by the Indiana Department of Environmental Management. Examples of special wastes generated in past University projects include:

- Contaminated soil
- Water treatment and filtration media
- Sludges

20.11 Underground Storage Tanks

Underground storage tank(s), not known to exist, have been encountered in past University construction projects. In the event that a tank(s) or associated piping are discovered during the project, all work is to be halted in areas immediately adjacent to the tank or piping and the IUPUI Department of Environmental Health contacted immediately by calling (317) 274-4351 during normal business hours (M – F, 8:00 am – 5:00 pm) or by contacting the IUPUI Police Department at 274-7911 after-hours, on weekends or on holidays.

Under no circumstance is the tank and/or associated piping to be excavated or removed without the expressed written approval of the Department of Environmental Health and Safety or its designee.

21.0 Excavations

Before opening any excavation, efforts shall be made to determine if there are underground utilities in the area; if utilities are located, they shall be protected during the excavation operations. Call 1-800-382-5544 at least two full working days, but not more than 20 calendar days prior to the start of excavation and Indiana Plant Protection Service (IUPPS) otherwise known as “Holey Moley” will notify CFS, UITS, and other applicable utilities that have underground facilities in the area of the excavation. The street address and cross street will be

needed for IUPPS to properly process your locate request. For more information, please visit the IUPPS website at: www.iupps.org.

All excavations greater than five (5) feet in depth must be evaluated and constructed under the supervision of a competent person as identified in OSHA standards. Excavations greater than five (5) feet must be sloped or shored. All excavations must be identified by using barricades.

The use of a trench box is recommended to provide protection from cave-ins and worker injury. Working in an unprotected trench is not tolerated by IUPUI and is a violation of OSHA standards.

Stairway, ladder, ramp, or other safe means are required for access into all excavations greater than five (5) feet in depth and must be within twenty-five (25) feet of the work area.

22.0 Fall Protection

Fall protection is required when an individual's feet are more than six (6) feet above the floor or grade level. "Platform" ladders are considered fall protection when performing activities at heights over six (6) feet that are not physically demanding (this requires the individual to work from the platform). **Full body safety harnesses and shock absorbing lanyards are required for fall protection when it cannot be provided by other means (i.e. proper scaffold, platform ladder).** Refer to the OSHA Fall Protection Standard for Construction (29 CFR 1926.501) for additional information.

In areas of fall exposure, guardrails shall be constructed according to OSHA standards. Handrails on temporary stairs and walkways shall also be constructed according to OSHA standards.

Contractor personnel involved in steel erection and roofing operations will be required to follow pertinent OSHA Regulations.

23.0 Fire Reporting

Fire extinguishers are to be in close proximity during hot work. It is important to know where fire extinguishers are located and to be properly trained to operate them. Contractors are to provide their own fire extinguishers. Pull the building fire alarm and report all fires to the IUPUI police at 274-7911. State the emergency and the location of the fire.

24.0 Flammable Material Storage

Only UL listed or Factory Mutual approved containers and portable tanks shall be used for storage of flammable material. Flammable materials shall not be stored in areas used for exits, stairways or normally used for the safe passage of people. No more than ten (10) gallons of flammable materials shall be stored indoors without an approved storage cabinet. Not more than sixty (60) gallons shall be stored in one approved cabinet. Outdoor storage tanks shall be grounded and placed in dikes for spill containment. Gasoline, paint, solvents, thinners or other flammable materials are to be stored in proper containers and in areas designated

by the IUPUI Project Manager. All gasoline cans are to meet ANSI standards, having a self-closing lid, flame arrestor and prominent markings.

Warning signs must be posted in storage areas for flammable materials.

Proper fire extinguishers must be kept within twenty-five (25) feet of the storage area for flammable materials.

25.0 Hazard Reporting

Construction management must investigate and abate hazards reported by construction workers. Workers have the right to stop working and report the hazard immediately if there is imminent danger to life or health. Environmental Health and Safety will work with management and labor to resolve hazard issues. OSHA prohibits retribution toward employees who report hazardous situations or equipment.

26.0 Hazardous Material Guide/Storage

All materials shall be stored and handled in a manner to minimize the potential for spills to the storm or sanitary sewers. Secondary containment shall be provided for hazardous materials for all containers with a volume greater than forty (40) gallons or if deemed necessary by IUPUI personnel. Secondary containment shall be constructed of materials compatible with the hazardous material and have a volume capacity equal to 110% of the largest container to be contained, and designed to prevent rainwater accumulation.

Hazardous materials that are required to be stored outside shall be protected from precipitation.

27.0 Heavy Equipment

Heavy equipment, such as backhoes, dump trucks, dozers and cranes, shall only be operated by individuals who are trained and qualified by their contractors. Back up signals are required in heavy equipment with a restricted rear view. Roll bars shall be installed when required by OSHA. All vehicles shall have a service brake system, an emergency brake system, and a parking brake system. All cracked or broken glass shall be replaced expeditiously. All heavy equipment shall be in safe operating condition.

28.0 Housekeeping

Housekeeping is important in every job assignment. It is important that the work area is kept clean at all times. Special attention must be given in maintaining clear walkways and roadways, removing or identifying slipping and tripping hazards and stacking of materials. Contractors must make every effort to keep mud, slush or other slippery substances off roads. Compressed air shall not be used for cleaning surfaces.

29.0 Lab Safety

IUPUI has a set of written policies and procedures that are capable of providing protection from the health hazards associated with hazardous chemicals in a

particular laboratory. Contractor personnel, who may actually work in a lab or because of their work, may be required to enter a lab where potential exposures could occur, shall be trained in the potential hazards present. IUPUI has a laboratory hazard warning sign system that provides information about specific hazards at the entry of laboratories. Prescribed personal protective equipment must be worn by all who enter the lab when the hazards are present. The IUPUI Project Manager will arrange training for contractor personnel affected by this plan during the normal contractor safety orientation. Contractor personnel must obtain permission from the laboratory supervisor or principal investigator prior to entering a laboratory.

30.0 Ladders

All ladders shall be heavy duty industrial strength and in good working condition. The user is responsible for visually inspecting a ladder. Wooden ladders are not to be coated with anything other than clear preservative. Both hands must be used for climbing. Ladders made of conductive material may not be used when working with or around exposed electrical circuits. A rope and bucket shall be used for raising and lowering tools and materials. Only one person is permitted to climb a ladder at a time. Step ladders are to be fully opened when in use and are never to be used as straight ladders. The top rung and top step are not to be used. All straight and extension ladders are to extend three rungs above the supporting object when used as an access to elevated work areas and shall be secured at the top. All straight and extension ladders must be equipped with nonskid feet. Straight and extension ladders shall be placed at an angle so as the base is one-fourth of the working length. (See Section 22.0, Fall Protection).

31.0 Lifts and Platforms

Articulating boom lifts are to be operated by only trained and qualified individuals. Fall protection (safety harnesses) shall be worn during operations. "Deadman" safety switches shall not be altered. Hi-jacks shall not be used without outriggers fully extended. The safety chain must be in place across the entrance when in use.

When using vertical lifts, such as hi-jacks or scissors lifts, fall protection is recommended. Manufacturer safety recommendations shall be followed while operating lift equipment.

32.0 Liquefied Petroleum Gases (LPG)

LPG is not allowed on IUPUI sites without specific approval from IUPUI Fire Protection Services (contacted through the IUPUI Project Manager). LPG cannot be stored inside any building. Only cylinders actually in use will be allowed in any building. Cylinders on LPG powered trucks may be left on the trucks at night and on weekends with the cylinder valve closed.

33.0 Lockout/Tagout

Before working on a process, all energies (electrical, mechanical, thermal pneumatic, chemical, hydraulic, etc.) shall be purged, dissipated and locked out. Training on the recognition and proper control of energy sources must be

completed as required by OSHA. Appropriate Lockout/Tagout procedures shall be followed. A copy of IUPUI's Lockout Policy may be obtained by contacting the IUPUI Department of Environmental Health and Safety or the IUPUI Project Manager. If the equipment or system can be completely locked out with a single lock, the lock is to be placed on the switch or valve handle and chained in the closed position. Each craft person shall always place their own lock and tag. If multiple locks are required to achieve complete system lockout the single key to the locks will be placed in the IUPUI lock box and the craft person's personal lock will be placed on the IUPUI lock box. The IUPUI Project Manager will supply the craft person with properly identified locks.

Lockout tags are used to provide information about the lockout, and shall accompany the craft person's personal lock. A lockout tag shall have the craft person's name, company, date, and work being performed.

This tag is accompanied by a lock (if possible), placed on the switch or valve handle and chained in the closed position. Each craft person shall always place their own lock and tag.

After placing the lock and tag, the switches shall be checked to determine that the equipment has been locked out. All lockout operations are to be in conjunction with the IUPUI Project Manager for the job.

Once the work is complete on the process, the person who installed the tag and lock must remove them and notify the IUPUI Project Manager that the job is complete.

34.0 Material Storage

All materials stored in tiers shall be stacked, racked, blocked, interlocked or otherwise secured to prevent sliding, falling or collapse.

35.0 Mold

If mold or evidence of mold is found on building materials or furnishings, IUPUI's Department of Environmental Health and Safety (EHS) shall be consulted prior to demolition or removal of materials that are mold contaminated. If more than 10 square feet of mold contaminated wall materials or more than 25 square feet of mold contaminated ceiling tiles are found, the contractor is responsible for developing a Mold Remediation Plan. The Plan shall be developed by a health and safety professional with experience in mold remediation projects. The Remediation Plan(s) shall be submitted to EHS for review and approval prior to commencing work. Once an area is determined to have mold contamination, no new building materials shall be installed until authorized by IUPUI's Department of Environmental Health and Safety and the Project Manager.

Mold Remediation Plan.

The Mold Remediation Plan shall meet the following minimum requirements:

- a. Personnel shall be trained in the remediation of mold and equipped with full-face HEPA filtered respiratory protection, in accordance with the OSHA respiratory protection standard (29 CFR 1910.134). Other required personal protective equipment (PPE) include, at a minimum: disposable protective clothing (covering the head, body and shoes) and gloves. All required PPE shall be worn when mold contaminated material is being removed or before entering the containment area.
- b. Containment of the affected area:
 - i. The work area shall be completely isolated from occupied spaces using 6- mil, fire-retardant polyethylene sheeting with one air-lock chamber into the work area. All supply and air vents, doors, chases, and risers within the containment area must be sealed with polyethylene sheeting to minimize the migration of contaminants to other parts of the building. For small areas, the polyethylene sheeting can be affixed to floors and ceilings with duct tape. For larger areas, a steel or wooden stud frame can be erected and polyethylene sheeting attached to it.
 - ii. The contained area shall be kept under negative pressure relative to the surrounding areas by the use of HEPA filtered negative air machine(s). A minimum of -.02 column inches of water pressure differential, relative to outside pressure, shall be maintained within the work area as evidenced by manometer measurements provided by the contractor on a continuous basis.
 - iii. The containment shall include an airlock and decontamination room.
- c. Dust suppression methods, such as misting (not soaking) or HEPA vacuuming surfaces prior to remediation, are recommended.
- d. Contaminated materials that cannot be cleaned shall be removed from the building in sealed plastic bags. There are no special requirements for the disposal of mold contaminated materials. However, any dumpsters with contaminated material shall be covered at all time except when material is being placed in the dumpster.
- e. After all visible mold is removed from the work area, the work area and surrounding areas shall be HEPA vacuumed and cleaned with a damp cloth and/or mop using a detergent or disinfectant solution. Before a disinfectant material is used, approval for its use shall be obtained from IUPUI's Department of Environmental Health and Safety
- f. All areas shall be left dry and visibly free from mold contamination and debris.
- g. IUPUI reserves the right to conduct air sampling to determine that the mold remediation was completed successfully and the areas have equal to or less than background (outdoor) levels of species specific mold

spores. Failure to achieve this level may require the area to be recleaned.

Mold Contaminated HVAC systems.

- h. A variety of biocides are recommended by HVAC manufacturers for use with HVAC components, such as cooling coils and condensation pans. HVAC manufacturers need to be consulted for the products they recommend for use in their systems.

36.0 Paint and Other Lead Products

Lead can be found in many construction materials including lead based paint, wire insulation, solder, and welding materials. Exposure to lead is a potential health hazard. Prior to grinding, demolition, sand blasting, or scraping of painted surfaces, contractors shall determine if lead is present. OSHA regulations require that special procedures be followed when removing lead based materials. Contractor supervision shall contact their IUPUI Project Manager if working with or near suspected lead based materials. EHS has documentations of lead based paint locations.

37.0 Permits (See Appendix I for Permit Samples)

The following permits are used when working on IUPUI sites. Any questions regarding the applicability or use of the permits at each site should be directed to the IUPUI Project Manager.

37.1 Confined Space Entry Permit

There are a wide variety of areas at IUPUI facilities that may be considered a confined space. A confined space has limited or restricted means for entry and exit, and is limited enough for a worker to enter and perform assigned work, and is a space which is not intended for continuous worker occupancy. Examples of confined spaces include, but are not limited to: tanks, boilers, pits, ventilation and exhaust ducts, some false ceilings, some crawl spaces, sewers, vats, manholes, steam and electrical vaults, pipelines, tunnels, interstices, and ditches. Identification and information related to all confined spaces at IUPUI is available through the Project Manager.

For operating facility confined spaces, an IUPUI Confined Space Entry Permit must be obtained from the IUPUI Project Manager and filled out completely with the assistance of the necessary operating department personnel. IUPUI personnel will communicate all known hazards of the confined space area to contractor personnel involved in the entry. Contractors may use their own permit. If a contractor uses their own permit, it must comply with OSHA standards.

The contractor shall assure that the necessary equipment to comply with the IUPUI Permit (atmospheric monitoring devices, fall protection, rescue equipment, respiratory protection, etc.) is available for each worker involved in the confined space entry. The permit shall be used for one day. Permits shall be displayed prominently at the job location, and shall be returned to the IUPUI Project Manager after completion of the entry.

All contractor personnel required to perform a confined space entry on IUPUI property **must be trained by their employer according to the applicable OSHA regulation (general industry and/or construction) and, if applicable, the IUPUI Confined Space Entry Procedures.** The training shall be provided and documented by the contractor. Documentation of training shall include the date of the training, name of trainee, and signature of the trainer and trainee. Documentation of training may be subject to auditing by the IUPUI Project Manager and EHS.

37.2 Hot Work Permit (Also See Shutdown Procedures, Section 45.0)

A Hot Work Permit must be issued before anyone conducts any procedure on campus utilizing heat or spark producing devices, including but not limited to welding, cutting, grinding, soldering, brazing or open flame. This policy applies to employees and contractors. 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.

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.

Hot Work Permits are also required when using an explosion proof outlet in a hazardous area for temporary power.

All contractors are responsible for complying with **Indiana Fire Code, Section 26, Welding and Other Hot Work.**

University employees will comply with the FM Global Hot Work Management Program as designated by the University.

The firesafety supervisor authorizes the job and issues a Hot Work Permit daily prior to any work beginning. All Permits must be prominently displayed at the job location. The IUPUI Zone Maintenance Manager or Project Manager will 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.

Once the hot work is completed, the fire watcher 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 firesafety supervisor.

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

Any questions concerning hot work management should be directed to the Zone Maintenance Manager or IUPUI Project Manager.

37.3 Volatile Material Use Permit

A permit must be approved prior to the use of volatile materials both inside and outside of buildings on campus. Types of materials that this permit process applies to include, but are not limited to, the following: non-water based paints, varnishes, seal coatings, adhesives, primers, floor coatings, liquid roof coatings and solvents used for cleaning or paint removal.

A blank permit may be obtained from the IUPUI Project Manager associated with the project. The completed permit must be approved by the IUPUI Department of Environmental Health & Safety.

38.0 Personal Protective Equipment

The contractor shall furnish and require the wearing of personal protective equipment that is customary for the job. The contractor shall also require the wearing of personal protective equipment when furnished by IUPUI for hazards **unique** to IUPUI's facilities.

38.1 Clothing

Proper clothing is required while on campus. Shirts and shoes must be worn at all times while on campus. Employees shall be in appropriate dress and readily identifiable as determined by the University. Uniforms are preferred and shall be laundered as needed to maintain a presentable appearance. Each employee shall have some form of picture identification, such as official driver's license, in their possession while working.

Workers, if not wearing a uniform, shall not wear shorts or loose clothing. Denim jeans are permissible as long as they are not torn or ripped in any way. T-shirts with inappropriate designs or lettering of any type, as determined by the University, are not permitted.

38.2 Eye Protection

ANSI approved eye protection is to be worn when an eye injury hazard is present or if signs require its use. Safety goggles may be required for working in or entering certain areas or while doing chipping or power tool cleaning work. All employees working in the vicinity of chemicals must know where the nearest safety shower and eye wash facilities are located.

38.3 Face Protection

Face shields, when required, are to be worn over safety glasses or goggles (e.g. during line breaking, using impact chisels, friction cut-off saws or grinding).

38.4 Foot Protection

Contractor personnel shall wear footwear that is safe and proper for the specific job being performed. Open toe, canvas, and vented shoes are not permitted.

38.5 Hand Protection

Appropriate gloves shall be worn for work requiring their use (e.g. line breaking, grinding, work with roof tar, etc.).

38.6 Head Protection

Hard hats must be worn at all times while on designated construction sites or projects requiring them. Hard hats will be worn during welding operations. Hard hats shall be worn with the brim in front.

38.7 Hearing Protection

Hearing protection must be worn when exposed to loud noises (e.g. jack-hammers, saws etc.) or when working in areas with signs stating protection is required.

38.8 Respiratory Protection

Respiratory protection shall be worn as the exposure dictates. Check the Material Safety Data Sheet for the proper respirator. Workers required to wear respirators must be medically qualified and must be properly fitted for adequate protection. Workers shall be clean shaven (if a tight fitting mask is necessary) to allow proper fit. All personnel required to use respirators must be trained in their use by the contractor. This training must be documented and may be audited by the IUPUI Project Manager.

39.0 Powder Actuated Tool

It is the contractor's responsibility to see that each workman using a Powder Actuated Tool understands and follows the appropriate safety instructions. It is the contractor's responsibility that the operators of such tools be trained and certified. A shutdown request is not required when using a Powder Actuated Tool if it is a low velocity silenced tool. If there is a question of safety, contact the IUPUI Project Manager for a further check of the area.

40.0 Radiation

Radioactive materials and other sources of ionizing radiation are used in research and development, and production areas throughout IUPUI. The use of these radioactive materials and sources of ionizing radiation is regulated by numerous governmental agencies.

A radiation sign stating "Caution, Radioactive Materials" will be posted on the doors of labs, doors of refrigerators containing radioactive materials, containers of radioactive material, and particular areas within a lab where radioactive materials are used. These signs and labels are posted to alert all personnel of the presence of radioactive materials.

Areas where measurable levels of radiation are present will be posted with a sign stating "Caution Radiation Area" or "Caution High Radiation Area". Entry into these areas could result in significant radiation exposure.

Contractor personnel shall not enter any of these restricted areas without specific permission of authorized personnel within the areas or the Radiation Safety Office. Questions regarding these areas should be addressed to the Radiation Safety Office through the IUPUI Project Manager.

41.0 Radios (Two-Way)

Two-way radios may be used on IUPUI sites if allowed by the IUPUI Project Manager.

42.0 Safety Orientation

Each contractor performing construction or maintenance activities is required to complete the appropriate construction training programs on the Environmental Health and Safety website (www.ehs.iupui.edu) or attend the first available safety orientation session after beginning work at IUPUI. Web training or attendance at the orientation is required and must be renewed biennially. During this orientation, each contract employee will be advised of IUPUI's rules.

Each contractor will also acquaint their employees with IUPUI's site rules and any contractor specific rules and have them sign a form attesting to this orientation.

43.0 Scaffolding

Scaffolding shall be erected on a solid footing rigid and capable of carrying the maximum intended load without settling or displacement. No scaffold shall be erected except under the supervision of a qualified person (as defined by OSHA). No scaffold shall be moved, dismantled or altered except by the contractor who designed and erected the scaffold. When allowable, all scaffolds shall have guardrails consisting of a forty-two (42) inch high top rail, a mid-rail and toe boards. All handrails, posts and assembly shall be able to withstand a two hundred (200) pound force in any direction with a minimum of deflection. All elevated platforms shall have a ladder access. All planking shall be scaffold grade as recognized by grading rules for the species of wood used. Scaffold planks shall extend over their end support not less than six (6) inches no more than twelve (12) inches.

Employers shall not permit employees to ride manually propelled scaffolds unless the floor is level and free from holes or obstruction, the platform height does not exceed twice the minimum base dimension, the wheels are rubber or similar material and all tools and materials are secured or removed.

44.0 Sexual Harassment

In accordance with the US Equal Employment Opportunity Commission guidelines, the "IUPUI Sexual Harassment Policy" defines sexual harassment as follows:

Unwelcome sexual advances - requests for sexual favors and other verbal or physical conduct of a sexual nature.

Sexual harassment is inappropriate behavior for all personnel and will not be tolerated.

45.0 Shutdown Procedures

Shutdown requests must be provided any time any service or utility will be disrupted or out of service. Examples include the following:

- Fire Alarm Systems and components
- Sprinkler systems, standpipes, fire pumps
- Special Suppression Systems
- Access to Buildings
- Any obstruction of exits (corridors, stairs, doors, etc.)
- Emergency lighting/ exit lighting
- Water mains
- Portable fire equipment (hose, extinguishers, etc.)
- Elevators
- Streets, Parking Lots

Before performing work which requires systems to be shutdown in order to perform or safely execute the work, the Contractor shall request the shutdown through the IUPUI Project Manager at least three business days (72 hours) in advance and wait for written approval before proceeding.

46.0 Spills

All spills of hazardous materials are to be reported immediately to the IUPUI Police Department at 274-7911.

47.0 Tobacco Policy

Tobacco use or sale, including, but not limited to smoking, is prohibited on university-owned, -operated, -or leased property. Exceptions may be granted for specific auxiliary enterprises, as approved by the chancellor. Tobacco use, including, but not limited to smoking, is not permitted in university-owned, -leased, or -operated vehicles.

48.0 Tool Box Talk

Each contractor is responsible for conducting continual training in safe work practices.

49.0 Tools and Equipment

Hand tools, such as shovels, rakes, picks, axes and sledge hammers shall be inspected before use. Broken or splintered handles must be repaired immediately or removed from the job site. Cold chisels and wedges shall also be inspected for mushroomed heads. Defective chisels and wedges need to be removed from the job site. Portable electric power tools shall be inspected before use.

Defective or damaged tools shall not be used. Personnel shall not drop or throw tools, materials or equipment from one level to another. A hoisting line must be used.

50.0 Underground Installations

The estimated locations of utility installations, such as sewer, telephone, fuel, electric, water, steam, irrigation or any other underground installations that may reasonably be expected to be encountered during excavation work, shall be determined prior to opening an excavation.

Identification of Underground Installation:

The owner shall be contacted, advised of the proposed work, and asked to establish the location of the utility underground installation seventy-two (72) hours prior to the start of the actual excavation.

Excavations Near Underground Installations:

When excavation operations are expected to cross an existing underground installation, the owner or utility company shall be present until underground installation has been exposed. When excavation operations approach within three (3) feet of the estimated location of the underground installation, the exact location of the installation shall be determined by safe and acceptable means. Safe and acceptable means shall include one or all of the following items: Fiberglass shovel, Pneumatic shovel and Line location device (Note: When excavating around direct buried cables, rubber boots and gloves shall be worn). **DO NOT USE MECHANICAL EQUIPMENT WITHIN THREE (3) FEET OF THE UNDERGROUND INSTALLATION.**

Underground Excavation Protection:

While the excavation is open, underground installations shall be protected, or supported as necessary to safeguard employees.

51.0 Weapons

The possession of any weapon is prohibited on IUPUI sites and is grounds for dismissal.

52.0 Welding, Cutting, and Soldering Safety

During hot work, the following items shall be followed:

- The area around welding, cutting, and soldering operations must be kept free of combustible material of all kinds (wood, paper, cardboard, flammable liquids, etc.).
- There must be a fire extinguisher accessible for each welding or cutting operation.

- It is the contractor's responsibility, to arrange with the IUPUI Project Manager for a Hot Work Permit in areas not classified as open shop. (See Section 37.0, Permits)
- Fire watches are required in all areas during welding (or cutting using a torch) except in open shop areas.
- Welding cables and connectors shall be completely insulated, flexible type and capable of handling the maximum current requirements of the work in progress.
- Only cable free from repair or splices for a minimum distance of ten (10) feet from the electrode holder shall be used.
- Pipelines containing gases or flammable liquids or conduits containing electrical circuits shall not be used as a ground returns.
- Electrodes shall be removed from holders when holders are left unattended.
- Employees performing any type of welding or cutting shall be protected with suitable eye protection equipment.

APPENDIX I

IUPUI VOLATILE MATERIAL USE PERMIT

Company _____ Today's Date _____

Company Address _____

Company Representative _____

Telephone _____ Fax _____

Campus Location For Use _____

Material to be used (Attach MSDS) _____

Application Method (spray, brush, etc.) _____

Vapor Control Measures _____

Requested Date(s) For Use _____ Requested Time(s) _____

******Forward completed form to: Environmental Health and Safety * * Union
Building Room 043 Questions? Call 274-2005***

Environmental Health & Safety Approval

Approved By _____ Date _____

Restrictions/Requirements _____

CONFINED SPACE ENTRY PERMIT

DEPARTMENT: _____ LOCATION: _____ DATE: _____

TYPE OF CONFINED SPACE: _____ PERMIT EXPIRATION DATE/TIME: _____

DESCRIPTION OF WORK TO BE PERFORMED: _____

NATURE OF HAZARDS IN CONFINED SPACE: (check)

- Oxygen deficiency (less than 19.5%)
- Oxygen enrichment (greater than 22%)
- Flammable gases or vapors (greater than 10% LEL)
- Toxic gases or vapors (greater than permissible exposure limit)
- Mechanical hazards
- Materials harmful to the skin
- Being engulfed
- Other _____

PREPARATION: (Check)

- Notify affected department of service interruption
- Isolate – blanked or double valve, with lock and tag
- Zero energy state (Lock out all energy sources)
- Cleaned, drained, washed and purged
- Ventilation to provide fresh air
- Emergency response team available
- Employees informed of specific confined space hazards
- Procedures reviewed with each employee
- Atmospheric Test in compliance
- Attach hot work permit
- Other _____
- Other _____
- Additional Instructions: _____

EQUIPMENT REQUIRED FOR ENTRY AND WORK: (Check)

- Respirator
- Lifeline and safety harness
- Protective clothing
- Hearing protection
- Spark resistant tools
- Other _____

ELECTRICAL EQUIPMENT/TOOLS:

- Low voltage
- Ground fault current interrupters
- Approved for hazardous locations
- Rescue equipment (specify) _____

Communications (specify) _____

Respiratory protection (specify) _____

AUTHORIZED ENTRANTS:

AUTHORIZED ATTENDANTS:

TEST	LIMITS	Check if required	RESULT am pm	RESULT am pm	RESULT am pm	RESULT am pm
1. Oxygen	1. 19.5% - 22%	1. _____	Time _____ 1. _____	Time _____ 1. _____	Time _____ 1. _____	Time _____ 1. _____
2. Flammability	2. 10% LEL	2. _____	2. _____	2. _____	2. _____	2. _____
3. H ₂ S	3. 10 ppm	3. _____	3. _____	3. _____	3. _____	3. _____
4. CO	4. 35 ppm	4. _____	4. _____	4. _____	4. _____	4. _____
5. Toxic – specify	5. _____	5. _____	5. _____	5. _____	5. _____	5. _____
6. Heat	6. _____ °F	6. _____	6. _____	6. _____	6. _____	6. _____
7. Other	7. _____	7. _____	7. _____	7. _____	7. _____	7. _____

H₂S = Hydrogen Sulfide; CO = Carbon Monoxide

Name of employee conducting atmospheric monitoring: _____

AUTHORIZATION: I certify that all required precautions have been taken and the necessary equipment is provided for safe entry and work in this confined space.

NAME (Print): _____, SIGNATURE: _____, DATE: _____, TIME: _____

CFS – Contractor Work

HOT WORK PERMIT

BEFORE INITIATING HOT WORK, CAN THIS JOB BE AVOIDED?
IS THERE A SAFER WAY?

This Hot Work Permit is required for any temporary operation involving open flames or producing heat and/or sparks. This includes, but is not limited to: Brazing, Cutting, Grinding, Soldering, Thawing Pipe, Torch Applied Roofing and Welding.

INSTRUCTIONS

1. Person to perform Hot Work to complete grey areas.
2. CFS Contract Manager review precautions at right (or do not proceed with work).
3. CFS Contract Manager completes green area and retains Part 1.
4. Part 2 given to person doing job.

HOT WORK BEING DONE BY

EMPLOYEE

CONTRACTOR

DATE

JOB NO.

LOCATION/BUILDING & FLOOR

NATURE OF JOB

NAME OF PERSON DOING HOT WORK

CFS CONTRACT MANAGER:

I verify the above location has been examined, the precautions checked on the Required Precautions Checklist have been taken to prevent fire, and permission is authorized for this work.

SIGNED:

PERMIT
EXPIRES

DATE

TIME

AM
PM

Part 1

REQUIRED PRECAUTIONS CHECKLIST

- Available sprinklers, hose streams and extinguishers are in service/operable.
 - Hot Work equipment is in good repair.
- Requirements within 35 ft. (11m) of work**
- Flammable liquids, dust, lint, and oily deposits removed.
 - Explosive atmosphere in area eliminated.
 - Floors swept clean.
 - Combustible floors wet down, covered with damp sand or fire-resistant sheets.
 - Remove other combustibles where possible. Otherwise protect with fire-resistant tarpaulins or metal sheets.
 - All wall and floor openings covered.
 - Fire-resistant tarpaulins suspended beneath work.

Work on walls or ceilings

- Construction is noncombustible and without combustible covering or insulation.
- Combustibles on either side of walls moved away.

Work on enclosed equipment

- Enclosed equipment cleaned of all combustibles.
- Containers purged of flammable liquids/vapors.
- Pressurized vessels, piping and equipment removed from service, isolated and vented.

Fire watch/Hot Work area monitoring

- Fire watch will be provided during and for 60 minutes after work, including any coffee or lunch breaks.
- Fire watch is supplied with suitable extinguishers, and, where practical, charged small hose.
- Fire watch is trained in use of this equipment and in sounding alarm.
- Fire watch may be required for adjoining areas, above, and below.
- Monitor Hot Work area for 4 hours after job is completed.

Other precautions taken

