

INDUSTRIAL SAFETY RULES AND INFORMATION:**Housekeeping****1) General Information**

Safety is especially important for employees and students who work in industrial environments because of the higher number of risks in these areas. University departments that utilize industrial machinery, large amounts of mechanical equipment, devices that operate under high voltage (208 v. or higher), radiation and hazardous materials, and/or heavy off-road equipment also qualify as industrial areas and should follow these guidelines.

2) Industrial Safety Guidelines

Information in this section addresses specific hazards and other areas of safety that pertain to persons who work in industrial environments as described in section 9.1. These guidelines and policies are to be followed in addition to those given in the previous section on general safety rules and information.

3) Personal Protective Equipment.

Personal Protective Equipment Hazard Assessments were conducted on all High-Risk areas within the University in May and June 2012. Areas assessed included: Mechanic Engineering & Industrial Technology metal shops, Chemistry & Biology Laboratories, the metal and woodworking shops in the College of the Arts, Chemical, Civil, & Petroleum Engineering Labs, and all shops in the Facilities Management: Electrical, Carpentry, Plumbing, Motor Pool, Welding, Grounds, and Special Events.

These assessments were conducted by the Assistant Director of Environmental, Health and Safety, along with the Lab/Shop Managers & Shop Forman in each of the above listed areas. Results were discussed and enforced with all Lab/Shop Managers & Shop Forman. The Results of these assessments were documented approved forms and are on file in the EH&S office at Parker Hall.

Personal Protective Equipment (PPE) is anything that is used to protect the human body from the dangers of hazards. PPE is used to protect a person's eyes, face, ears, head, extremities, respiratory system, and other parts of his or her body. Statistics and other data show that failure to use PPE is a leading cause of accidents.

Every employee and student is responsible for using PPE whenever a task or job requires it. Supervisors and Departmental Safety Coordinators are responsible for making sure that PPE is available and in good working condition. Whenever necessary, departments are required to provide PPE to its employees and students. Departmental supervisors must ensure that all employees and students know how to use PPE properly. Whenever an employee or student provides their own PPE, then supervisors are responsible for inspecting it and assuring its adequacy .

Environment

- **Physical**
 - **Lighting**
 - **Temperature**
- **Chemical**
 - **vapors**
 - **smoke**
- **Biological**
 - **Bacteria**
 - **Reptiles**



Protection head:

The University shall ensure that each affected employee uses appropriate head protection when exposed to overhead hazards from electrical shock, burn hazards, impact hazards and penetration hazards. Head protection is required when exposed to: objects falling from above, possible head bumps against fixed objects, possibility of contact with electrical hazards, etc.

- Class A hard hat:

(General Industry) Impact and penetration resistance w/limited voltage protection (up to 2,200 volts)

- Class E hard hat:

Highest level of protection against electrical hazards, (up to 20,000 volts)

Protects against impact, penetration and flying/falling hazard

- Class C hard hat:

Light weight comfort and impact protection but offer no protection from electrical hazards.

Eye and Face Protection :

The University shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation. Assessments document when and where eye and face protection is required.

The University shall ensure that each affected employee uses eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors (e.g. clip-on or slide-on side shields) meeting the pertinent requirements of this section are acceptable.

The University shall ensure that each affected employee who wears prescription lenses while engaged in operations that involve eye hazards wears eye protection that incorporates the prescription in its design, or wears eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

1. Eye and face PPE is required for all persons that are exposed to hazards that include flying objects, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, potentially injurious light radiation, or dust.
2. All eye PPE purchased after July 5, 1994 Whenever hazards from flying objects exist, eye and face PPE must provide side protection to prevent these objects from entering the eye indirectly

3. Persons who wear prescription eyeglasses must use PPE that can be worn over these prescription glasses without disturbing the proper position of the prescription glasses.
4. Persons who use contact lenses must also use proper eye and face PPE. Contact lenses are not a form of PPE.
5. Persons who are exposed to injurious light radiation shall use eye and face PPE that incorporates filter lenses with an appropriate shading capability necessary to remove the danger of light radiation.
6. Eye and face PPE shall be inspected regularly and, if inadequate, disposed and replaced.
7. Any modification of eye and face PPE is prohibited.

Hearing Protection

The University shall ensure that each employee exposed to noise levels that exceed 85 decibels for an extended period must wear approved ear plugs or ear muffs while working with that equipment. Examples include chainsaws, power blowers, gas powered line trimmer or edger, etc. Assessments document when and where hearing protection is required.

- ❖ Hearing PPE shall be worn by persons whenever they are exposed to noises above 90 decibels as measured on the A-scale of a standard sound meter.

- ❖ All hearing PPE must conform to ANSI 53.19.
- ❖ Disposable hearing PPE may not be shared and must be replaced or cleaned daily to ensure sanitation.
- ❖ Permanent hearing PPE must be inspected regularly and, if inadequate, disposed and replaced.
- ❖ Any modification of hearing PPE is prohibited.

Hand and Foot Protection :

The University shall ensure that each affected employee uses appropriate hand and foot protection when exposed to injury from potential skin absorption hazards, chemical or thermal burns, electrical dangers, bruises, abrasions, cuts, punctures, fractures or amputations.

There is no one glove that can protect employees from all hazardous exposure to the hands. Employees and Supervisors are to contact the EH&S office for guidance on proper selection of hand protection. Assessments document when and where hand and foot protection is required.

- Hand PPE shall be worn by persons who are exposed to hazards such as those from skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns, and harmful temperature extremes.
- Hand PPE shall be worn by persons while working on moving machinery such as drills, saws, grinders, or other rotating equipment.
- Hand PPE must be inspected regularly and, if inadequate, disposed and replaced.
- Foot PPE or appropriate shoes shall be worn by persons who are exposed to hazards such as falling objects, rolling objects, piercing objects, and electrical hazards. Open toe shoes are not acceptable in any of these applications. Laboratory environments do not allow open toe shoes due chemical exposure.
- Any modification of hand or foot PPE is prohibited.
- Employees required to wear toe protective gear

Protective Clothing and Personal Hygiene:

- Protective clothing shall be worn by those persons who are exposed to hazards such as solid and liquid chemicals, high or low temperatures, open flames, and large amount of ultraviolet light.
- When persons are exposed to moving or rotating equipment or machinery, protective clothing must fit snugly.
- Shirrtails shall be tucked in and long sleeves shall be buttoned or otherwise secured to prevent being caught in moving or rotating machinery.
- Long Hair shall be kept in a fashion that does not allow it to become caught in moving or rotating machinery Jewelry should not be worn when operating industrial equipment

Torso Protection

University employees who face possible bodily injury of any kind that cannot be eliminated through engineering, work practice or administrative controls, must wear appropriate body protection while performing their jobs. In addition to cuts and radiation, the following are examples of workplace hazards that could cause bodily injury:

Temperature extremes; hot splashes from molten metals and other hot liquids;
Potential impacts from tools, machinery and materials; Hazardous chemicals.

There are many varieties of protective clothing available for specific hazards. The University is required to ensure that their employees wear personal protective equipment only for the parts of the body exposed to possible injury. Examples of body protection include laboratory coats, coveralls, vests, jackets, aprons, surgical gowns and full body suits.

If a hazard assessment indicates a need for full body protection against toxic substances or harmful physical agents, the clothing should be carefully inspected before each use, it must fit each worker properly and it must function properly and for the purpose for which it is intended.

Hazard Energy Control – Lock Out/Tag Out

The following procedure establishes the minimum requirements for lockout of energy sources that could cause injury to personnel. All employees will comply with these procedures. All equipment and/or circuits will be locked out to protect against accidental or inadvertent operation when such operation of the equipment and/or circuits could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device bearing a lock. Any employee found to be working, or causing others to work on, equipment and or/circuits that, in the opinion of management should have been locked out, will be subject to severe disciplinary actions up to and including termination.

Lockout Responsibility

The primary responsibility for the proper lockout of equipment and/or circuits on a project belongs to the project Supervisor and/or Foreman. However, this does not alleviate the field employees from insuring that proper lockout procedures are followed at all times. The Supervisor and/or Foreman will insure that each employee is properly instructed in the safety significance of lockout procedures.

Preparation for Lockout of Circuits and Equipment:

Employees will be certain as to which switch, valve, or other energy isolating devices apply to the equipment and/or circuits being locked. More than one energy source (electrical, mechanical, or others) may be involved. Any questionable identification of sources will be cleared by the employees with their Supervisor or project Foreman. Before lockout commences, authorization from the customer and project Supervisor will be obtained.

Sequence of Lockout Procedures:

Special Note: In the following steps, when more than one individual is involved with the project and required to lock out the equipment and/or circuits, each employee will place their own personal lock on the energy isolating devices. A lock for each involved is the preferred method for locking out energy sources. If this is not feasible, the designated individual of the work crew (e.g. the project Supervisor or Foreman) with complete knowledge of who is on the crew may be designated by the work crew as the individual responsible for carrying out all steps of the lockout procedure. That individual will inform the work crew when it is safe to work on the equipment and/or circuits. Additionally, the designated individual will not remove a crew lock until it has been verified that ALL individuals are clear.

1. Notify all affected employees and customer(s) that a lockout is required and the reason therefore.
2. If the equipment is in operation, after obtaining approval, shut it down by the normal stopping procedures.

3. Operate the switch, valve, or other energy isolating devices so that all energy sources (electrical, mechanical, hydraulic, etc.) are disconnected or isolated from the equipment and/or circuits. Stored energy, such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc., must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.
4. All affected employees are then required to lockout the energy devices with their individual lock.
5. After insuring that no personnel are exposed and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate.
6. The equipment and/or circuits are now locked out.

Restoring Equipment and/or Circuits to Service:

1. When the job is complete and the equipment or circuits are ready for testing or normal service, check the equipment and/or circuits to insure that no one is exposed.
2. When the equipment and/or circuits are clear, remove all locks. The energy isolating devices may be pirated to restore energy to the equipment and/or circuits

Hand Tool and Portable Power Tool Safety:

All employees and students who use tools as part of their job duties are required to follow these guidelines. This is necessary in order to prevent accidents and injuries due to improper or abusive tool use. Supervisors are responsible for training employees and students on how to use tools properly, monitoring tool use, and ensuring its safe operation. Facility Management foremen and department technicians shall perform yearly inspections on these tools to ensure their safe operation.

1. All persons are required to use applicable personal protective equipment (PPE) while using any tools.
2. Check for working safety guards, shields, warning labels, and other devices.
3. Always choose the right tool for the job. Screwdrivers are not designed to be punches, chisels, or pry bars.
4. When using cutting tools such as chisels, axes, knives, and saws, ensure that the cutting device is sharp. Dull tools are more dangerous than sharp ones.
5. Visually inspect tools before using them. Cracked, bent, chipped, and otherwise broken tools shall be repaired or discarded.
6. When working with electrical equipment, ensure that all metal hand tools are insulated to prevent electrical shock.
7. Check portable electrical tools for frayed or broken cords and proper grounding (or double insulation).
8. Never use pipe extensions (cheater bars) on wrenches or ratchets to loosen or tighten fasteners. Try penetrating oil or a longer wrench.

9. When using portable power saws and grinders, start the motor outside of the work to prevent the device from “kicking back” and causing an accident.
10. When using pneumatic devices, always shut off the source of air and bleed the air line before disconnecting it from a tool or other connection.
11. Never use compressed air to remove dust and debris from clothing.

Compressed Gas Cylinders, Welding and Cutting Tools

Compressed Gas Cylinders:

1. All persons are required to use proper personal protective equipment (PPE) while using compressed gas cylinders.
2. Use only cylinders that are approved for interstate transportation and commerce
3. Use the following guidelines for moving compressed gas cylinders:
 - Close the cylinder main valve and bleed the lines
 - Remove any regulators
 - Tighten the cylinder valve cap
 - Cylinders may be rolled for moving purposes, but not dragged
 - When using hand trucks for transporting cylinders, secure the cylinder to the hand truck using a chain, rope, strap, or similar before you begin.

- Once the cylinder has been moved, secure it (i.e. chain) to the building to prevent it from falling within its designated location.
4. When in doubt about the use or handling of a gas cylinder, the user shall contact the supplier of the cylinder for consultation.
 5. Do not use the main cylinder valve, located at the top of the cylinder tank, as a pressure-reducing regulator.
 6. Regulators and pressure gauges are to be used only with gases for which they are designed.
 7. Cylinders with leaks that cannot be fixed shall be taken out of use and removed from the building. The supplier shall be contacted immediately to replace the leaking cylinder.
 8. Cylinders may not be stored near elevators, stairwells, or hallways.
 9. Acetylene and liquefied fuel gas cylinders must be used and stored in accordance

Welding and Cutting Tools

- a. All welders or cutters shall use proper personal protective equipment while using any welding or cutting tools.
- b. Button sleeves at the wrist. Button collars as well.
- c. Use fire resistant gloves or cuffs when working with metals.
- d. When working on materials that are overhead, use a leather cape (or similar) to prevent hot sparks or metal that is falling from injuring someone.
- e. Hardhats shall be worn when there is a hazard of falling objects.
- f. Goggles, helmets, and shields shall be used as needed for all types of welding or cutting operations.
- g. Welders shall provide additional protection from flashes or similar light hazards for people who are within 75 feet of the source of welding.

Woodworking Equipment and Tools

1. All persons are required to use proper personal protective equipment (PPE) when applicable while using any woodworking tools.
2. Secure machines to the floor and ensure that they are level.
3. Do not remove or tamper with any safety devices such as guarding, shielding, warning labels, etc.
4. All electrical equipment must be properly grounded and in compliance.

5. Do not crowd equipment in the shop. Make sure there is adequate workspace surrounding this equipment.
6. Equipment shall have appropriate electrical cut off switching that is readily available to the operator without requiring him or her to leave the normal working location.
7. Before working or cleaning equipment, use the proper lock out/tag out procedures. Inspect equipment before each use. Broken equipment can be dangerous
8. Sharpen blades regularly. Dull cutting tools are dangerous
9. Start the motor before feeding stock into any cutting equipment to prevent “kickbacks”.

Grounds Maintenance and Gasoline Safety

Tools and machinery used for maintaining the university grounds can be hazardous if not used properly. Grounds supervisors and foremen are responsible for assuring that all employees who use these tools and machinery are properly trained to do so.

1. All persons are required to use proper personal protective equipment (PPE) while using grounds tools or machinery.
2. Do not modify or tamper with any safety devices on tools or machinery.
3. Workers shall survey the land to be worked first to remove any hazardous objects that could be propelled from tools or machinery.

4. Workers should be able to recognize poisonous or hazardous vines, shrubs, and insects.
5. Workers should understand the hazards of working with herbicides, insecticides, and pesticides before they attempt to use them. Workers must read and understand the specific information included on the warning label of each of these products. If they are unable to understand the warning label, a Grounds Supervisor shall provide additional assistance.
6. Smoking is not permitted in areas that contain gasoline.
7. Gasoline shall be stored properly in a ventilated area and never used for anything other than a source of fuel.
8. Machinery shall be refueled in a well-ventilated area with the engine not running.
9. Gasoline spills shall be cleaned up immediately and electrical switches shall not be moved in the spilled area until there is no sign of gasoline vapors.
10. Keep cutting blades sharp. Dull cutting blades are dangerous.
11. Before using power mowers of any kind, inspect this equipment and ensure tight fasteners and operating safety guards or other devices.

12. . Operators of push-type lawn mowers shall do so by pushing the mower forward and not pulling the mower backward.
13. Power mower operators shall mow grass on hills by going up and down the hill, and not across the hill.
14. While mowing, be alert for holes in the terrain or other hidden hazards in tall grass.
15. The engine shall be turned off on all types of power mowers before performing maintenance, repairs, or adjustments of any kind. If possible, disconnect the spark plug wire before performing any repairs as well.
16. Power mowers and tractors are designed to seat only the driver

Forklift, Earth Moving, and other Heavy Equipment:

The university maintains a forklift, backhoe, and other heavy equipment. This equipment can be dangerous if not properly operated. All heavy equipment operators must be properly trained in the use of these devices before they are allowed to operate them. The EH&S Department is qualified to train forklift and bucket truck operators. Supervisors and foremen are responsible for assuring that all employees who use this equipment are properly trained to do so. Because of the technical nature of this equipment, no specific procedures shall be listed here. Operators shall be given this information at their regular training session. A Forklift training class is offered by the Louisiana Office of Risk Management.

Safety in Confined Spaces:

Director of Environmental, Health & Safety. Environmental testing is conducted every 4 feet in the direction of travel and retesting is conducted every 4-5 minutes thereafter, consistently throughout the entry. Elevator Pit work is done in cooperation with Acadian Elevators and the Assistant Safety Director's supervision. Utilization of Safety Controls is required to prevent elevator access and protective measures for employees in the pit for emergencies, in the event the elevators would be dropped to ground level in the event of a fire alarm.

Whenever employees or students are required to work in relatively small or restricted areas, their exposure to risk can be high. This is especially pertinent in areas such as tanks, boilers, manholes, or any other place where entry or exit is limited or ventilation is poor. University employees and students are not allowed to enter any of these spaces (if discovered). **We train our maintenance employees on how to identify a confined space by looking for the 3 criteria that make up a confined space:**

- 1) Not designed for continuous occupancy
- 2) Must be able to bodily enter the space
- 3) Limited means of egress

Employees are required to report these findings immediately to the Director or Assistant Director of Environmental, Health & Safety.

The following is offered for informational purposes only:

1. Hazards that exist in confined spaces include:
 - Lack of oxygen in a space that could cause immediate respiratory failure
 - Toxic gases or vapors that can poison or suffocate workers.
 - The threat of combustion or other explosive hazards within a space.
 - High heat in the confined space that could prematurely exhaust the worker.
 - Excessive noise that could damage hearing and impair communication.
 - Slipping, tripping, and fall hazards within the confined space.
 - Insect and Rodent hazards such as wasp, bees, spiders, snakes, etc.
2. Identify the potential hazards that exist within the confined space before entering it.
3. All persons are required to use proper personal protective equipment (PPE) while working in confined spaces. This may include eye, head, foot, ear and hand protection.
4. Make sure that adequate ventilation exists within the confined space. Use external blowers or fans when and if necessary.

5. When working in confined spaces that may contain flammables or combustible materials, use extreme caution and have portable fire extinguishers ready at the site.
6. University employees should not remove or disturb asbestos insulation from a confined space, if applicable.
7. Never enter a confined space unless there is a partner or observer (attendant) posted near the entrance.
8. Never smoke in or near confined areas.
9. Emergencies in confined spaces are reported directly to 911 (dispatch will forward call to University Police whom are our first line of rescue).

Fall Protection Program:

This Fall Protection Program has been created so that employees Faculty/Staff/Volunteers) of UL Lafayette that climb may be protected and properly trained under the policy. UL Lafayette is committed to protecting its workers from on-the-job related injuries. All employees and others whom work for the University (that climb) will abide by this Fall Protection Program. It is designed to provide specific awareness and training for the locations where elevated work will be conducted and addresses the use of both conventional and non-conventional methods for fall protection.

This program pertains to work performed on (Main & South Campus, as well as all off campus locations) and was prepared by the Environmental, Health and Safety Office of UL Lafayette.

This program is designed to enable supervisors, employees and EH&S to recognize fall hazards on UL property and to establish the procedures that are to be followed in order to prevent falls to lower levels or through holes in walking and working surfaces. Each employee will be trained in these procedures and must strictly adhere to them (unless it poses a greater danger, at which they must notify their supervisor, or EH&S prior to proceeding). All employees must understand the seriousness of working at elevated locations (or where falls pose a hazard) and act when unsafe conditions persist.

It is the responsibility of EH&S to implement this fall protection program. EH&S Director and Assistant Director will constantly observe work operations to ensure that safety policy and procedures are being followed. Any changes that are made to this plan must be approved by EH&S. Any new hazards that are discovered by employees must be reported to a Supervisor or EH&S IMMEDIATELY!

All employees who work at elevations of 6 feet or higher are **REQUIRED** to utilize fall protection around unguarded edges-**NO EXCEPTIONS**. All guarded edges must be able to support an inward or outward pressure of 200 lbs., (if erected) and certified by EH&S.

All employees who have to climb stationary/permanent ladders at heights of 6 foot or more are required to utilize fall protection. This includes ladders anywhere on UL Lafayette Property. Example locations include: Cajun Field Football Stadium Catwalks access ladders; Athletics observation towers; Roof tops with unguarded edges (and working with 4 feet of that unguarded edge); access ladders of any kind without a cage; or any other permanent ladder location.

Work should cease if weather conditions increase that likelihood of a fall such as high winds, slippery conditions or lightning.

Movable ladders that are used during work and exceed 6' should be secured (tied-off) at the top and set at a 4:1 angle.

Fall Protection Systems to be used on Campus:

fall Protection ordered or purchased

Full Body Harnesses shall be used with an attached lanyard (not to exceed 6 feet in length). Lanyards must be securely connected via Metal Ring and Clamp; (NO Knots are allowed). All employees working at fixed elevations above 6' are REQUIRED to utilize a Harness and lanyard.

Where possible, always anchor to a beam (I-beam; H-beam) when doing work in a fixed (elevated) location. When anchoring to a beam, employees shall always use an anchor pad so properly secure correct fit. All anchor points must be certified by EH&S.

Permanent ladders (with or without cage enclosures) of 6 feet or higher, shall have metal cables run from top to bottom and properly secured for harness attachment when climbing.

Bucket Truck use requires employees to utilize a full body harness and tie off with a lanyard directly to the bucket. This is Non-Negotiable and Required!

Safety Monitoring System

A safety Monitoring system is a fall protection system in which a competent person is responsible for recognizing and warning employees of fall hazards. The duties of the safety monitor are to:

1. Warn by voice when an employee approaches an open edge in an unsafe manner.
2. Warn by voice if a dangerous situation developing which cannot be seen by other employees involved in the task.
3. Make the employees aware that they are in an area in which they could potentially fall.
4. Be competent in recognizing fall hazards and report them.
5. Warn employees that appear to be unaware of a fall hazard or are acting in an unsafe manner.
6. Not allow other responsibilities to interfere with monitoring. If the safety monitor is encumbered with too many other responsibilities the work must be stopped or the monitoring responsibility turned over to another competent individual.

Control Zone System:

A controlled access zone is an area which is designated and clearly marked, where work may take place without the use of a guardrail, safety net or personal fall arrest systems to protect employees in the area, including hazards from falling objects. Anytime work is conducted where people in the affected area can be injured (by an employee falling, tools falling or work debris falling), the area must be controlled to prevent access/entry. This can be done with Caution Tape, perimeter guarding or work is not to take place.