INTRODUCTION

This **SAFETY MANUAL** has been developed primarily to provide Louisiana Tech University personnel with a summary of the applicable portions of the state and federal codes which apply to occupational safety and health. The President's safety policy states that it is the responsibility of department heads to ensure that each department has a sufficient safety program. It is recognized, however, that the responsible people generally do not have the time to pursue the various applicable safety regulations in detail. It is, therefore, hoped that this manual will provide an easy reference for the most frequent problem areas and that this, in conjunction with assistance provided by the Environmental Health and Safety Department, will provide answers to questions that might arise.

The **University Safety Committee** is responsible for reviewing and recommending adoption of university safety standards. The committee, which is appointed by the President, advises the President on the status of the safety program. The committee works through the safety representatives to inform departments of new procedures and to assist them in consistently complying with safety regulations. The Environmental Health and Safety Department is given general guidance by the committee.

The **Environmental Health and Safety Department** has been established to provide professional advice to University groups in the areas of safety, industrial hygiene, and loss prevention. The department is available for inspections, monitoring, analysis of specific problem areas, etc. The Environmental Health and Safety Department also performs periodic inspections in university buildings and monitors all adverse environmental exposures. The department is the liaison for the university with all regulatory agencies in the fields of occupational and environmental health and safety. In order to assist the committee to ensure that no person is exposed to a life-threatening situation, the Environmental Health and Safety Department would contact the first available person in charge to explain to them what corrective actions should be taken. If this is not effective, then the operation will be stopped and the Environmental Health and Safety Department will immediately contact the appropriate department head or dean to explain the situation and to recommend corrective action. The Environmental Health and Safety Department will also immediately contact the University Safety Committee so that the committee can take whatever action is deemed appropriate. To assist communications between the University Safety Committee and departments, and to serve in coordination of safety matters, each department designates a Safety Liaison Officer. These liaisons frequently act as advisors to department heads on safety matters within their departments. The work of the University Safety Committee, the Environmental Health and Safety Department, and the safety liaison officers is solely to assist department heads in fulfilling their responsibility to provide a safe environment for employees and students.

The Louisiana Tech University Safety Manual is the product of a compilation of safety and health information from many sources, including federal and state regulations, national standards and guidelines. It incorporates university rules where applicable and represents current university safety policy. It has been designed for a loose-leaf notebook holder so that as information changes, updated pages will be provided to replace the outdated information.

DEANS, DIRECTORS, AND DEPARTMENT HEADS

Responsibilities

1. Appoint a safety committee within their organization with duties, functions, and responsibilities as detailed under "Safety Committees."
2. Provide for the conduct of periodic self-inspections in their area of responsibility utilizing the appropriate inspection form as detailed in section 11.
3. Provide for the immediate investigation of all accidents resulting in personal injury to personnel for whom they are responsible and submit a report of the findings, utilizing the Office of Risk Management DA2000 form.
4. Cooperate with the University Safety Committee when called upon to do so.

PROFESSORS AND OTHER SUPERVISORS

Responsibilities

1. Have a working knowledge of all safety principles and safety rules applicable to their area of responsibility.
2. Conduct periodic self-inspections of their area of responsibility and submit appropriate inspection reports as required.
3. Conduct or have conducted safety meetings on a regular basis. The frequency of the meetings shall be scheduled to fit the needs of their respective area of responsibility.
4. Investigate all accidents or incidents that could have resulted in injury and/or property damage to determine cause and prevent recurrence.
5. Promote good housekeeping and proper safety performance.
6. Ensure that students and employees are schooled in the proper use and maintenance of supplied safety equipment, including personal protection equipment.
7. Ensure that the proper tools and equipment are selected for the job and are used correctly.
8. Develop efficient material handling procedures to facilitate safe lifting, carrying, and storage of same.

ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT

Scope

The Environmental Health and Safety Department reports directly to the Vice-President for Administrative Services.

The Environmental Health and Safety Department approaches safety problems through investigations, preparation of recommendations to enhance safety procedures, development of a safety protocol, and preparation and presentation of safety, educational, and training programs.

In short, the Environmental Health and Safety Department is involved in all aspects of safety on campus except law enforcement, radiation, and parking, traffic, and transportation.

Duties

The Environmental Health and Safety Director is a manager and a field director. Duties of this position include, but are not restricted to the following:

1. Coordinate and provide for the implementation of all aspects of the University Occupational and Environmental Safety Program including: fire safety, accident investigation, the Hazardous Waste Program, and occupational and environmental safety procedures.
2. Develop monitoring programs for environmental problems and formulate solutions through engineering or administrative means.
3. Develop and/or make recommendations for safety policies as needed.
4. Act as chairman of the University Safety Committee.
5. Serve as the coordinator for federal, state, and local agencies regarding occupational and environmental safety matters.
6. Serve as the coordinator for insurance carriers regarding occupational and environmental safety matters.
7. Discharge other duties such as budget preparation and controls office management and staff activity.
8. Prepare and participate in presentations of in-house safety training programs.
9. Make safety inspections when deemed necessary by virtue of accident frequency and/or obvious hazards.
10. Make recommendations for reducing hazards to students, employees, and the general public on campus.
11. Develop environmental testing and monitoring programs for environmentally hazardous areas.
12. Direct the Hazardous Waste Disposal Program.
13. Assist any school, department, or division in safety committee activities.
14. Supervise accident statistics and analysis program.
15. Supervise overall field work activities of Environmental Health and Safety Department personnel.
16. Oversee the accumulation and cataloging of Material Safety Data Sheets (MSDS) as an assist to the Hazard Communication Program.

Services Available Through Environmental Health And Safety Department

1. Consultation--Environmental Health and Safety personnel will consult with any recognized entity or person officially part of the university community regarding occupational and environmental safety on campus. The consultation can be initiated by calling or writing the Environmental Health and Safety Department.
2. Safety Training--Environmental Health and Safety personnel will present or assist in the presentation of various safety training including: asbestos abatement procedures, fire protection and the use of fire extinguishers, flammable liquid fire demonstrations, hazard communication, use of personal protective equipment and self-contained breathing apparatus (SCBA). In addition, Environmental Health and Safety personnel can tailor a training program for special subjects provided they are given appropriate lead time. Louisiana Tech University is a member of the National Safety Council and, as such, has access to the Council's film library on various subjects. Environmental Health and Safety will attempt to secure films for requesting departments.

3. Special Investigations/Inspections--Environmental Health and Safety will make special accident investigations or inspections on its own or upon request. Normally, accident investigations are made when serious accidents (multiple accidents, death, or dismemberment, etc.) are involved. Investigations would include highly hazardous areas, equipment, or processes.
4. Environmental Monitoring--Environmental Health and Safety Department will, on its own or upon request, perform certain industrial hygiene tests. For the most part, such tests are of the field type and are somewhat subjective. Test results that cannot be achieved by direct reading devices; i.e., stain tubes, colormetric reaction, personal monitors, or analog readings, will have to be evaluated and finalized by analytical laboratory analysis.
5. Operation of University's Hazardous Waste Program

UNIVERSITY SAFETY COMMITTEE

Responsibilities

The University Safety Committee is an advisory committee reporting directly to the President on matters concerning implementation of effective action to eliminate the principle accident-producing conditions throughout the campus. In carrying out its advisory function, the committee shall work in such a manner as to enlist cooperation of the University community in the safety program at every level of management within the university. The Environmental Health and Safety Director serves as the chairman of the committee.

Purpose

The Environmental Health and Safety Committee shall have but one primary function, notwithstanding the fact that many items may be included legitimately on the agenda. There is, nevertheless, only one main objective. It can be stated as follows: A safety committee meets for the purpose of discussing and taking effective action on the principle accident-producing conditions.

Duties of the University Safety Committee

The University Safety Committee shall assist the Environmental Health and Safety Officer in developing means and methods for resolving the problems and in developing the necessary procedures for placing the acceptable means into effect. Specifically, the Safety Committee shall:

1. Assist the Environmental Health and Safety Director in developing safety education/training programs designed to create and maintain an interest in job safety.
2. Assist the Environmental Health and Safety Director in coordinating the efforts of safety committees organized within the various colleges, schools, and major activities of the university.
3. Review with the Environmental Health and Safety Director reports of serious accidents or fires.
4. Provide the Environmental Health and Safety Director with suggestions and recommendations to correct hazardous conditions and/or unsafe work practices.

5. Recommend to the Environmental Health and Safety Director those changes to existing policies or new policies to minimize unsafe acts to the Environmental Health and Safety Director.
6. Recommend to the Environmental Health and Safety Director physical or structural alterations required to eliminate or control hazards.

STANDARDS

Presently, political subdivisions are not included in the Occupational Safety and Health Act of 1970. Consequently, Louisiana Tech University does not labor under the Act's requirements (with the possible exception of federally funded research or grant programs).

The Division of Administration through the loss control program oversees most OSHA concerns. OSHA standards incorporate by reference other standards adopted by standards-producing organizations. It is, therefore, reasonable for Louisiana Tech University to endorse those standards applicable to its operations. Some standards producing organizations that are of considerable importance to us include:

1. American Chemical Society (ACS)
2. American Conference of Governmental Industrial Hygienists (ACGIH)
3. American National Standards Institute (ANSI)
4. American Society of Agriculture Engineers (ASAE)
5. American Society of Mechanical Engineers (ASME)
6. American Society of Safety Engineers (ASSE)
7. American Welding Society (AWS)
8. Compressed Gas Association (CGA)
9. Environmental Protection Agency (EPA)
10. National Fire Protection Association (NFPA)
11. National Institute for Occupational Safety and Health (NIOSH)
12. Southern Building Code (SBC)

However, Louisiana Tech University is required to comply with local regulations promulgated and enforced by such agencies as the State Fire Marshal Office and the Department of Environmental Quality (DEQ).

SAFETY MEETINGS

Safety meetings can be effective accident prevention tools.

Meetings are appropriate prior to and after the start of a new process/procedure--particularly if such process/procedure deals with hazardous materials and/or equipment. This is particularly important with regard to engineering and/or scientific endeavors.

Safety meetings can be held to discuss accident frequency or a singular, serious, and/or fatal accident/incident.

Ideally, meetings for tradespeople should be held with a ten-minute presentation of a particular subject followed by a five-minute discussion. It is generally accepted that short, to-the-point meetings are best: it does not preclude that meetings directed toward a complex process/procedure cannot be considerably longer. Minutes of all safety meetings shouldl be recorded and sent to the dean, director, or department head.

Safety meetings must be held on a quarterly or monthly basis depending on the type of service: quarterly for all academic areas and monthly for all trade areas, for example: Building and Grounds,

Farm Maintenance, and Golf Course maintenance personnel. If there are any questions about whether your area is required monthly or quarterly reports, contact the Environmental Health and Safety Department at 257-2120.

Sample Procedure For Conducting Safety Meetings

Prepare for Meeting

1. Conduct frequent inspections of various areas and work practices and note any unsafe activities or tendencies that need to be eliminated.
2. Select one unsafe behavior or activity to be used as a safety meeting topic for the benefit of all. Another appropriate topic is a new job or procedure or changes in an operation. A safety meeting can help identify and eliminate hazards before accidents occur.
3. Determine what can be done differently to eliminate the unsafe act or condition.

Conduct the Meeting

1. Discuss only one topic per meeting.
2. Allow employees to discuss why the situation occurs and what can be done to control or eliminate it.
3. Reach an agreement with employees on how to eliminate or control the situation.

Keep a Record of the Meeting

After the meeting, complete a Safety Meeting Report (See Section 11 for an example)

Copies of the monthly safety meeting report forms should be sent to the Environmental Health and Safety Department. Originals should be kept by the supervisor.

INSPECTION SCHEDULES AND REPORTS

Generally speaking, safety inspections fall into one of five categories:

1. Those conducted by deans, directors, department heads or their designees, such as building coordinators or residence managers.
2. Those conducted by Environmental Health and Safety personnel.
3. Those conducted by deans, directors, department heads or their designees, and by Environmental Health and Safety personnel upon request.
4. Those conducted by an individual laboratory/shop supervisor (instructor, researcher, engineer, etc.).
5. Those conducted by Physical Plant personnel.

Inspections performed by deans, directors, department heads or their designees include academic and administrative buildings as well as residence halls.

Inspections performed by Environmental Health and Safety personnel include pre-fire planning, updates for the air flow velocity of fumehoods/ductwork, emergency showers and eyewash stations, and floor slip tests along with other inspections as necessary or ordered by higher authority.

Inspections of some shops, laboratories, and buildings may be made by deans, directors, department heads or their designee, and Environmental Health and Safety personnel.

Inspections should be performed by individual laboratory and/or shop instructors, researchers, engineers, or scientists in their specific area of responsibility.

Inspections made by Physical Plant personnel and Environmental Health and Safety personnel include fire extinguishers, fire alarms, sprinkler systems, smoke/heat detection systems, emergency lights, sentronic door closing systems, and fumehoods.

NOTE: Inspectors who, in the normal course of inspection, find empty extinguishers, leaking sprinkler heads/valves, broken smoke/heat detectors, etc., shall report same to Physical Plant as soon as possible for repair or replacement.

INSPECTION REPORTS

Examples of Inspection Reports can be found in Section 11 and should be filled out for each type of inspection. The inspection reports shall be signed by the principal investigator/inspector, and copies shall be sent to the appropriate deans, directors, and department heads upon completion of the inspection.

SAFETY INSPECTIONS

General

Safety inspections are used to detect and eliminate accident causes through specific, methodical procedures designed to meet this purpose. Specifically, safety inspections are concerned with conditions of work areas, condition of equipment, personnel practices, and job procedures. An adequately planned safety inspection will:

1. Detect specific unsafe conditions and unsafe practices and determine appropriate remedial actions.
2. Encourage individuals to inspect their own work areas and work practices.
3. Allow safety personnel to come in closer contact with other employees.
4. Detect deficiencies in the management of the safety program.

Periodic Inspection (Self-Inspections)

1. The self-inspection is best accomplished at the professor and supervisor level, since this individual is most knowledgeable of his/her area, personnel, and type of operation/activity for which he/she has direct (immediate) responsibility.
2. Deans, directors, and other administrative officers should provide for conduct of a formal inspection of his/her area of responsibility at least once every four months.
3. The items to be inspected will depend a great deal on the type of operation involved. Some of the more critical areas are:
   a. Atmospheric conditions--dust, gases, spray, fumes, illumination.
   b. Buildings and structures--windows, floors, doors, stairs, roofs, and walls.
   c. Containers--scrap bins, disposal receptacles, carboys, barrels, gas cylinders, solvent, cans, etc.

d. Electrical equipment--switches, outlets, cables, grounds, connectors, and connections.
e. Firefighting equipment--hydrants, extinguisher hoses, sprinkler systems, and alarms.
f. Hand tools--wrenches, screwdrivers, hammers, and power hand tools.
g. Hazardous supplies and materials--explosives, flammables, acids, caustics, and toxic chemicals.
h. Housekeeping--floors and workplaces free from unnecessary items and debris.
i. Machines--power transmission guarded, point of operation guarded.

4. Each supervisor should fill out the appropriate safety inspection report designed for his area of responsibility. (If a specific report is not available, the report form entitled "Inspection Report" will be used.)
5. The inspection report is a permanent record: the name of the inspector, department or area inspected, and date of inspection is necessary. Items carried over from last inspection shall be preceded by an asterisk followed by the dates of their first detection. It is very important to give the description and location of each hazard.

Correcting Unsafe Conditions

There are three things to keep in mind regarding remedial action:

1. If the supervisor has the authority, he/she will take corrective action at once.
2. Always correct the basic or real cause of an unsafe condition if it can be determined. Do not make the mistake of simply correcting the result and leaving the basic cause free to operate again. If the supervisor does not have the authority to correct the real cause, it is his/her responsibility to bring it to the attention of higher management and give suggested solutions.
3. When permanent correction takes time, the hazard shall not be ignored by the supervisor. The supervisor shall take any temporary measures possible to reduce the risk. This may involve roping off an area or simply posting warning signs. These measures may not be ideal, but they are much better than no effort at all. The goal of the inspection program is to eliminate unsafe conditions, not merely to detect them.

Distribution of Inspection Report

Original--Dean, Director, or other Administrative Head
Copy--Supervisor's file
Copy--Environmental Health and Safety Department

NOTE: Sample Inspection Report forms are found in Section 11.

Sample Inspection Procedures

1. The head of each agency divides the grounds and facilities into specific housekeeping units. Housekeeping responsibility for each unit is assigned to a specific department head or director.

2. The department head or director meets with first-line supervisors and employees to explain the purpose and objectives of the inspection procedure. Each employee should be encouraged to assist in identifying, eliminating, or effectively controlling potential safety and fire hazards.
3. Department head or director is responsible for conducting periodic inspections and for identifying and correcting conditions or practices that are potential safety and fire hazards. Some examples of hazardous conditions are as follows:
    a. Slip or trip hazards such as cords or torn or broken floor covers
    b. Holes or protrusions such as eroded, broken, or sunken walking surfaces
    c. Temporary accumulation of flammable or combustible materials
    d. Storage and use of chemical products and other hazardous materials
4. The department completes the inspection checklist for the area. The completed inspection should be retained in the area it covers for at least two years and should be made available to the Environmental Health and Safety Department and the Office of Risk Management's Unit of Risk Analysis and Loss Prevention upon request.
5. All employees are responsible for reporting any potentially hazardous condition or practice they find. The employee records the unsafe condition on the Hazard Control Log (shown in Section 11) which must be kept in each operating area. The first-line supervisor is responsible for checking the Hazard Control Log and is authorized to take immediate temporary control of the area to prevent exposure to the hazard until permanent corrective action is taken. If a supervisor cannot correct the hazard, he or she should report it to the next level of management.
6. If a hazard still exists for more than 30 days, the supervisor must send copies of the Hazard Control Log to the department and agency heads
7. The Hazard Control Log is retained in the originating work area for at least two years or until all hazards have been corrected.
8. A sample inspection form (found in Section11) is available to assist your inspection program.
9. Included in this section is a sample laboratory inspection form for your assistance.

ACCIDENT PREVENTION

An accident is "an undesired event that results in personal injury and/or property damage." Every effort should be made to prevent an accident from happening in the first place. The following are some proven methods of accident prevention:

<u>Proper Job Instruction</u>

1. Proper job instruction must be given with each task. This instruction must include all phases to insure safety, quality, productivity, and delivery.
2. Proper job instruction need not be complicated nor take a lot of extra time or talk. Give the instructions at the right time--before the employee starts the task, not after he/she has started and has been exposed to injury.
3. Two basic steps are involved in proper job instruction. Tell the employee clearly how to do the job safely. When certain jobs are assigned, it may be necessary to show the employee how to do the job safely.

    NOTE: The above is particularly important when dealing with new/transferred employees or summer help.

Safety Meetings

Supervisors will be responsible for holding safety meetings with employees under their supervision.

1. Safety meetings should be held on a monthly basis (especially for trades, landscaping, residence halls, maintenance, etc.) The meetings should be no longer than a ten-minute presentation of a particular subject followed by a short discussion period.
2. The best time to hold safety meetings is at the start of the week or when a new job is to be started.
3. Minutes (may be handwritten) should be taken on what was discussed at the meeting and must be filed with the next highest supervisor and the Environmental Health and Safety Department.

Personal Protective Equipment

Make sure employees have the right equipment to protect them from the hazards of the job. Some important items are hard hats, gloves, face shields, aprons, respirators, welding hoods, etc.

Safety Inspections

The Environmental Health and Safety Department is available to assist in safety meetings or safety committee meetings. The office will supply topics for discussion, technical information on personal protective equipment, etc., upon request. Such information or assistance can be obtained by calling the Environmental Health and Safety Department.

REQUIRED ACCIDENT REPORTS

Occupational Accident or Illness Report is to be used as the basic form for reporting accidents of employees. This report is mandatory: it is required by the State and serves as the link between Louisiana Tech University and Risk Management. The Occupational Accident or Illness report shall be sent to the Personnel Office with a copy to the Environmental Health and Safety Department. The Department Head shall also keep a file copy.

Automobile Accident or Loss Notice is to be used when a university-owned vehicle or personal vehicle on university business is involved. A copy of the notice and police report must be sent to the Environmental Health and Safety Department.

Liability Accident Notice shall be filled out in the event any visitor is injured on the campus or in a university building. A copy of the notice and police report must be sent to the Environmental Health and Safety Department.

ACCIDENT INVESTIGATION

Who Investigates Accidents

All levels of administrators and supervisors investigate accidents. The most important investigator is the first-line supervisor because:

1. Knows most about the situation.
2. Has a personal interest in identifying accident causes.
3. Can communicate more effectively with the workers.

4. Can take immediate action to prevent an accident from recurring.

What, When, and Why of Accident Investigation

1. What is an accident investigation?
   Basically, a supervisor's analysis and account of an accident based on factual information gathered in a conscientious manner--it is not a recounting of the employee's explanation of the accident.
2. When is the best time for an accident investigation?
   As soon as possible. The less time between accident and investigation, the better the information obtained.
3. Why are accidents investigated?
   Not to assign blame or to satisfy the supervisor, but to prevent recurrence.

Conducting the Accident Investigation

1. Put the employee at ease--your only interest is to prevent recurrence. Assure the employee you are concerned for him/her.
2. Conduct the interview at the scene of the accident--this reduces the possibility of mistakes and avoids embarrassment.

3. Ask for the employee's version of the accident--be sure it is understood that you want his/her version. No need to dress it up. Do not make judgmental remarks or you will put the employee on the defensive.
4. Ask any questions necessary--the key word is necessary. Limit your questions as much as possible to facts.
5. Repeat the employee's story as you understand it. It assures complete understanding between yourself and the employee as to what actually took place.
6. Close the interview on a positive note: Prevention.

Sample Procedure for Accident Investigation

An accident is defined as "a series of unplanned events that caused or COULD HAVE CAUSED personal injury or property damage." All accidents, including those occurring to non-employees, should be investigated by the supervisor responsible for the area in which the accident occurred. "Near misses" are accidents also and should be investigated as thoroughly as an accident that results in injury or property damage.

When an employee is injured, the employer must complete the Employer's Report of Occupational Injury or Disease form. (Five-part forms are available from the Personnel Office.)

AFTER ACQUIRING NECESSARY MEDICAL AID FOR INJURED PERSONS, the supervisor should follow these steps in investigating the accident:

1. Contact University Police.
2. If possible, ask the person or persons involved to describe what happened. Do not fix blame or find fault; just get the facts.
3. Survey the accident scene for information. Assemble any objects that might have contributed to the accident.
4. Determine if there were any witnesses to the accident and get their accounts of the incident.

5. Take whatever steps are necessary to prevent recurrences until the condition can be permanently corrected.
6. Complete the Accident Investigation Form.(See Section 11)

Instructions for Completing the Accident Investigation Form

The Accident Investigation Form is a tool to assist in determining the causes and procedures to prevent the recurrence of similar incidents. All spaces on the form are to be completed. Notations such as N/A should be avoided.

Section A

Section A identifies patterns of injury.

1. Record the date and time that the accident occurred.
2. Record the date and time that the accident was reported.
3. Record the injured person's name and title (if a state employee). If the injured person is not a state employee, attach a sheet with address and phone number.
4. Give the name of the employee's supervisor at the time of injury.
5. Give the general location of the accident (maintenance shop, storage shed, etc.).
6. Give the exact location of the accident (doorway in room 320, north hallway, etc.).
7. Indicate if and when a similar incident has occurred.
   EXAMPLES:
   Same individual: Injured person slipped and fell last month. Circle "yes" and record date previous accident occurred.
   Same location: Another person was involved in an accident in this location last year. Circle "yes" and record the date of that incident.
   Same operation: Another person was involved in an accident while performing the same operation. Circle "yes" and record the date of that accident.
8. Indicate if the person received medical treatment; and if so, indicate if the treatment was provided by a doctor. Record the estimated number of work days the person will miss.
9. Record what equipment the person was using (or what hallway or sidewalk if it was a trip and fall).
10. List witnesses' names. If they are not state employees, obtain phone numbers and addresses.
11. Was individual doing what they were supposed to do?

Section B

Section B is the employee's description of the accident. Ask the person to describe the specific details of the accident. Get information on the events leading up to the accident.

Section C

Most accidents occur because of a combination of an unsafe act and an unsafe physical condition. Look for both, then draw a conclusion as to why the unsafe act was committed or why the unsafe condition existed.

Section D

Once an accident occurs, the investigator must take immediate action to prevent a similar event. Indicate what needs to be done and who is going to do it. Suggest what long range action is necessary to prevent the accident. Record your comments on what could be done and tell others to prevent similar accidents at other locations.

Write your name and title on the bottom of the form.

The original form is retained by the supervisor in the area where the accident occurred. A copy should be sent to the Environmental Health and Safety Department.