1. Prevention and Control of Workplace Hazards

Executive Order GWB 95-8 requires that all state employees, citizens served be provided with a safe and healthful place of employment and service. This order requires that all state agencies comply with federal, state laws, regulations and sound business practices pertaining to safety and health in the workplace and preservation of property. This is to Identification of hazardous conditions may be accomplished at the planning and design stage, as a result of workplace inspections, or by employee reports. All recognized safety and health hazards shall be eliminated or controlled as quickly as possible, subject to priorities based upon the degree of risk posed by the hazards. The preferred method of hazard abatement shall be through application of engineering controls or substitution of less hazardous processes or materials. Total reliance on personal protective equipment is acceptable only when all other methods are proven to be technically and/or economically infeasible.

A. Principles of Hazard Control

1. Substitution. The risk of injury or illness may be reduced by replacement of an existing process, material, or equipment with a similar item having more limited hazard potential. Some examples include: brush painting instead of spray painting to reduce inhalation hazards, welding instead of riveting to reduce noise levels, use of safety cans instead of bottles to store...
flammable liquids, etc. Care must be exercised in any substitution to ensure that the substitute materials are technically acceptable and to avoid introducing a new or unforeseen hazards.

2. Isolation. Hazards are controlled by isolation whenever an appropriate barrier or limitor is placed between the hazard and an individual who may be affected by the hazard. This isolation can be in the form of physical barriers, time separation, or distance. Examples include machine guards, electrical insulation, glove boxes, acoustical containment, and remote controlled equipment.

3. Ventilation. The control of a potentially hazardous airborne substance by ventilation can be accomplished by one or two methods: diluting the concentration of the substance by mixing with uncontaminated air or capturing and removing the substance at its source or point of generation. Local exhaust ventilation is generally the preferred and more economical method of hazard control. However, dilution ventilation can be very effective for the removal of large volumes of heated air or for the removal of low concentrations of non-toxic or low toxicity contaminants from minor and decentralized sources.

4. Administrative Control. This method of hazard mitigation depends on effective operating practices that reduce the exposure of individuals to chemical or physical hazards. These practices may take the form of limited access to high hazard areas, preventive maintenance programs to reduce the potential for leakage of hazardous substances, or adjusted work schedules which involve a regimen of work in high hazard and low hazard areas. Adjusted work
schedules are appropriate only when the hazard is recognized as having a limit below which nearly all workers may be repeatedly exposed without adverse effect.

5. Personal Protective Equipment. This method of hazard control is least preferred because personal protective devices may reduce a worker's productivity, while affording less effective protection against the recognized hazard than other methods of control. Nevertheless, there are instances where adequate levels of risk reduction cannot be achieved through other methods, and personal protective devices must be used, either alone or in conjunction with other protective measures.

B. Application of Hazard Control Principles

Hazardous conditions in the workplace may be prevented through appropriate actions when facilities are designed, when operating procedures are developed, and when equipment is purchased. Notwithstanding these preventive measures, hazards will arise as a result of the dynamics of the workplace environment. Once hazards are identified, whether through inspection or complaint, immediate action shall be taken to avoid unreasonable danger.

1. Design Reviews. Safety and occupational health issues shall be considered, designed, and engineered into all facilities which are acquired or constructed for use by MSU employees. To ensure that appropriate hazard control techniques are applied, the Office of Environmental Safety shall participate in the review of plans and specifications for construction and renovation projects. Recommendations shall be submitted in writing. Projects that involve potential health hazards such as toxic material, radiation, noise or other health hazard shall be designed in accordance with established principles of good safety and industrial hygiene engineering.
2. Operating Procedures. Standard operating procedures or similar directives developed by the supervisor that are issued to direct the manner in which work is performed shall include appropriate health and safety requirements. Supervisors are encouraged to submit standard operating procedures to Risk Management / Safety Committee for review. Recommendations for changes/additions to the procedures for safety and health purposes shall be submitted in writing to the originating supervisor.

3. Purchasing Procedures. Many hazards can be avoided by incorporating appropriate specifications for purchased equipment/material and contracted efforts that involve work at MSU facilities. Obviously MSU has little control over specifications for equipment/material purchased through the State of Texas supply system; however, a considerable amount of equipment/material is purchased directly by MSU. MSU departments responsible for developing specifications for such purchases should coordinate with OES guidelines to insure that health and safety requirements are considered in these specifications. Similarly, contracts that require work to be performed by contract personnel at MSU facilities should be coordinated with OES.

4. Interim Hazard Abatement Measures. During the time needed to design and implement permanent hazard control measures, immediate, temporary measures are needed. Where engineering controls are not immediately applicable, administrative controls and/or personal protective equipment are appropriate for use as interim hazard abatement measures.

5. Permanent Hazard Abatement. Engineering control methods are the preferred method of
hazard control, followed by administrative control and personal protective equipment. Feasible engineering controls shall be used to reduce hazardous exposure, even when only partial reduction of exposure is possible through engineering methods.

Two criteria may be applied to determine whether engineering controls are feasible. First, a control is technologically feasible if it is available "off the shelf" or if technology exists which can be adapted to the hazard in question. Second, a control is economically feasible if it can be shown that the cost of the control is justified by the benefit it produces. On the other hand, if the expected reduction of the hazard through implementation of engineering control is insignificant in terms of increased protection, and the cost of implementing the control is great, then the control is economically infeasible.

C. Development of Hazard Control Recommendations The following possible actions will be considered when recommendations are developed for prevention or reduction of hazards:

1. Avoiding, eliminating, or reducing deficiencies by engineering design, material selection or substitution;

2. Isolating hazardous substances, components, and operations from other activities, areas, personnel, and incompatible materials;

3. Incorporating "fail-safe" principles where failures would disable the system or cause a catastrophe through injury to personnel, damage to the equipment, or inadvertent operation of critical equipment;

4. Relocating equipment/components so that personnel access during operation, maintenance, repair or adjustment shall not result in exposure to hazards such as chemical burns, electrical shock, electromagnetic radiation, cutting edges, sharp points, or toxic atmospheres;

5. Providing suitable warning and notes of caution concerning required personnel
protection in operation, assembly, maintenance, and repair instructions;

6. Providing distinctive markings on hazardous components, equipment, or facilities;

7. Requiring use of personal protective equipment when other controls do not reduce the hazard to an acceptable level;

8. Monitoring exposure to insure that engineering controls effectively reduce the hazard; and

9. Training employees to recognize hazards and take appropriate precautionary measures.

2. Hazard Reporting and Identification

Administration, faculty, staff and students are encouraged to identify and report actual or potential hazards to the Office of Environmental Safety (OES) extension 4827.

An inspection program can be viewed as fact-finding with emphasis on locating potential hazards that can adversely affect safety and health of university employees, faculty, students and the general public that utilize this facility. Its primary purpose is to detect potential hazards so they can be corrected before an accident occurs. An inspection can determine conditions that need to be corrected or improved to bring operations up to acceptable standards, both from safety and operational standpoints. Secondary purposes are to improve operations and thus to increase efficiency, effectiveness, and productivity. While management ultimately has the responsibility for inspecting the workplace, authority for carrying out the actual inspection process extends throughout the organization.

A. Responsibilities:

1. **Department Heads, Supervisors, and managers** will continually observe their employees and work areas for unsafe work practices or conditions in assigned work areas; identify any observable safety hazard or unsafe work practice which may present; and to personally correct, or implement immediate corrective action, and follow-up.
Department heads, supervisors, and managers are responsible for communicating the problem to all effected faculty, personnel, students, contractors and visitors.

2. Individual employees will be alert to note and personally correct, if possible, any observable safety hazard or unsafe work practice within their individual work area. In the event the hazard or unsafe work practice cannot be immediately corrected, each employee is further responsible to immediately report the situation to his / her immediate supervisor.

3. The Environmental Safety Coordinator will conduct semi-annual formal safety walk-through inspections.

A. Documentation:

1. Department Heads, Supervisors and managers will use a checklist (Exhibit 9-1) to serve as a guide and to document random or periodic inspections. Additions or modifications to customize the checklist will be necessary and are encouraged; however, the final form must be coordinated with the Environmental Safety Coordinator.

2. Department Heads, Supervisors and managers will provide a copy of the inspection results to the Environmental Safety Coordinator.

3. Department Heads, Supervisors and managers will provide the Environmental Safety Coordinator with quarterly update status on corrective action(s) and follow-up action taken on corrective action(s) still outstanding.

4. The environmental Safety Coordinator will
C. Hazard Reporting:

Normally, it is much easier for an employee to verbally report hazards to a supervisor. However, a verbal report may for a number of reasons are inadvertently overlooked and no appropriate action taken. Furthermore, without substantive documentation to identify the causes and resulting hazards, any trends and analysis within the university’s total hazard identification program will be incomplete and may lead to ineffective corrective actions. Therefore, employees will use the following reporting process:

1. In the event an employee notes a safety or health hazard and is unable to correct the hazard (i.e., a faulty wall socket, damaged asbestos containing material); the hazard should be reported to a supervisor immediately.

2. In the event the supervisor is also unable to personally correct the hazard immediately, the employee will complete the Hazard Reporting Form (Exhibit 9-2), which will be forwarded to the Environmental Safety Coordinator.

1. The Environmental Safety Coordinator will investigate the reported hazard and take whatever corrective action is necessary to ensure that the hazard is corrected. This may mean taking immediate action to prevent further employee exposure such as restricting use of a defective wall plug until the hazard is corrected.

2. Once the corrective action has been taken and documented on the Hazard Reporting Form, the originator of the report will be notified and provided a copy of the completed report.

3. Any employee may anonymously submit the report to the Environmental Safety Office. All such reports will be handled in the same expeditious manner and appropriate feedback provided to all employees when corrective action has been taken.

D. Safety Suggestions:

Employees do not have to wait until a hazard is clearly identified. In fact, all employees are encouraged to submit safety and health suggestions on how to improve work practices and / or the work environment. To ensure the suggestion is adequately communicated and appropriately handled, the Hazard Reporting Form, specifically part 2, will be used for this purpose. Management will honor the disclaimer at the upper portion of the Hazard
3. Personal Protective Equipment

Engineering controls shall be the primary methods used to eliminate or minimize hazard exposure in the workplace. When such controls are not practical or applicable, personal protective equipment shall be employed to reduce or eliminate personnel exposure to hazards.

Personal protective equipment (PPE) will be provided, used, and maintained when it has been determined that its use is required and that such use will lessen the likelihood of occupational injuries and/or illnesses. The Office of Environmental Safety will recommend and/or provide necessary protective equipment where there is a reasonable probability that the use of the equipment will prevent or reduce the severity of injuries or illness. Once the initial program has been started, it will be the responsibility of the departments to maintain and purchase new PPE as needed.

A. Equipment Specifications and Requirements

All personal protective clothing and equipment will be of safe design and construction for the work to be performed. Only those items of protective clothing and equipment that meet National Institute of Occupational Safety and Health (NIOSH) or American National Standards Institute (ANSI) standards will be procured or accepted for use.

B. Eye and Face Protection

The majority of occupational eye injuries can be prevented by the use of suitable/approved safety spectacles, goggles, or shields. Approved eye and face protection shall be worn when there is a reasonable possibility of personal injury. Supervisors, with assistance from the Office of Health and Safety personnel, determine jobs and work areas that require eye protection and the type of eye and face protection that will be used.

Typical hazards that can cause eye and face injury are:

- Splashes of toxic or corrosive
chemicals, hot liquids, and molten metals;

- Flying objects, such as chips of wood, metal, and stone dust;

- Fumes, gases, and mists of toxic or corrosive chemicals; and

- Aerosols of biological substances.

Prevention of eye accidents requires that all persons who may be in eye hazard areas wear protective eyewear. This includes employees, visitors, researchers, contractors, or others passing through an identified eye hazardous area. To provide protection for these personnel, activities shall procure a sufficient quantity of heavy duty goggles and/or plastic eye protectors which afford the maximum amount of protection possible.

If these personnel wear personal glasses, they shall be provided with a suitable eye protector to wear over them.

1. Specifications

Eye and face protectors procured, issued to, and used by MSU personnel must conform to the following design and performance standards:
a) Provide adequate protection against the particular hazards for which they are designed

b) Fit properly and offer the least possible resistance to movement and cause minimal discomfort while in use.

c) Be durable.

d) Be easily cleaned or disinfected for or by the wearer.

e) Be clearly marked to identify the manufacturer.

f) Persons who require corrective lenses for normal vision, and who are required to wear eye protection, must wear goggles or spectacles of one of the following types:

1) Spectacles with protective lenses which provide optical correction.

2) Goggles that can be worn over spectacles without disturbing the adjustment of the spectacles.

3) Goggles that incorporate corrective lenses mounted behind the protective lenses.

2. Description and Use of Eye/Face Protectors

a) Safety Spectacles. Protective eye glasses are made with safety frames, tempered glass or plastic lenses, temples and side shields which provide eye protection from moderate impact and particles encountered in job tasks such as carpentry, woodworking, grinding, scaling, etc.

b) Single Lens Goggles. Vinyl framed goggles of soft pliable body design provide adequate eye protection from many hazards. These goggles are available with clear or tinted lenses, perforated, port vented, or non-vented frames.

Single lens goggles provide similar protection to spectacles and may be worn in combination with spectacles or corrective lenses to insure protection along with proper vision.

c) Welders/Chippers Goggles. These goggles are available in rigid and soft frames to accommodate single or two eye piece lenses.

1) Welders goggles provide protection from sparking, scaling or splashing metals and harmful light rays. Lenses are impact resistant and are available in graduated shades of
filtration.

2) Chippers/grinders goggles provide eye protection from flying particles. The dual protective eye cups house impact resistant clear lenses with individual cover plates.

d) Face Shields. These normally consist of an adjustable headgear and face shield of tinted/transparent acetate or polycarbonate materials, or wire screen. Face shields are available in various sizes, tensile strength, impact/heat resistance and light ray filtering capacity. Face shields will be used in operations when the entire face needs protection and should be worn to protect eyes and face against flying particles, metal sparks, and chemical/biological splash.

e) Welding Shields. These shield assemblies consist of vulcanized fiber or glass fiber body, a ratchet/button type adjustable headgear or cap attachment and a filter and cover plate holder. These shields will be provided to protect workers' eyes and face from infrared or radiant light burns, flying sparks, metal spatter and slag chips encountered during welding, brazing, soldering, resistance welding, bare or shielded electric arc welding and oxyacetylene welding and cutting operations.

g) The Office of Environmental Safety maintains a supply of various eye and face protective devices.


Emergency eyewash facilities meeting the requirements of ANSI Z358.1-1981 shall be provided in all areas where the eyes of any employee may be exposed to corrosive materials. All such emergency facilities shall be located where they are easily accessible to those in need.

C. Hearing Protection

Hearing protection devices are the first line of defense against noise in environments where engineering controls have not reduced employee exposure to safe levels. Hearing protective devices can prevent significant hearing loss, but only if they are used properly.

The most popular hearing protection devices are earplugs which are inserted into the ear canal to provide a seal against the canal walls. Earmuffs enclose the entire external ears inside rigid cups. The inside of the muff cup is lined with acoustic foam and the perimeter of the cup is fitted with a cushion that seals against the head around the ear by the force of the headband.

Preformed earplugs and earmuffs should be washed periodically and stored in a clean
area, and foam inserts should be discarded after each use. It is important for you to wash hands before handling pre-formed earplugs and foam inserts to prevent contaminants from being placed in the ear which may increase your risk of developing infections.

Also, check hearing protective devices for signs of wear or deterioration.

Replace devices periodically.

The Office of Health and Safety maintains a supply of a variety of disposable foam ear inserts and earmuffs.

D. Respiratory Protection

Respiratory hazards may occur through exposure to harmful dusts, fogs, fumes, mists, gases, smoke, sprays, and vapors. The best means of protecting personnel is through the use of engineering controls, e.g., local exhaust ventilation. Only when engineering controls are not practical or applicable shall respiratory protective equipment be employed to reduce personnel exposure.

The Office of Environmental Safety is responsible for the Respiratory Protection Program at MSU. Workers requiring the use of respirators must first complete a questionnaire and then obtain medical approval from a physician to wear a respirator before a respirator can be issued. The Office of Environmental Safety conducts respirator training and fit tests and is responsible for determining the proper type of respiratory protection required for the particular hazard.

Adherence to the following guidelines will help ensure the proper and safe use of respiratory equipment:

- Wear only the respirator you have been instructed to use. For example, do not wear a self-containing
breathing apparatus if you have been assigned and fitted for a half-mask respirator.

- Wear the correct respirator for the particular hazard. For example, some situations, such as chemical spills or other emergencies, may require a higher level of protection than your respirator can handle. Also, the proper cartridge must be matched to the
General Health and Safety

- Check the respirator for a good fit before each use. Positive and negative fit checks should be conducted.

- Check the respirator for deterioration before and after use. Do not use a defective respirator.

- Recognize hazard
  (a cartridge designed for dusts and mists will not provide protection for chemical vapors)
indications that cartridges and canisters are at their end of service. If in doubt, change the cartridges or canisters before using the respirator.

- Practice moving and working while wearing the respirator so that you can get used to it.

- Clean the respirator after each use, thoroughly dry it and place the
cleaned respirator in a sealable plastic bag.

- Store respirators carefully in a protected location away from excessive heat, light, and chemicals.

E. Head Protection

Hats and caps have been designed and manufactured to provide workers protection from impact, heat, electrical and fire hazards. These protectors consist of the shell and the suspension combined as a protective system. Safety hats and caps will be of nonconductive, fire and water resistant materials. Bump caps or skull guards are constructed of lightweight materials and are designed to provide minimal protection against hazards when working in congested areas.

Head protection will be furnished to, and used by, all employees and contractors engaged in construction and other miscellaneous work in head-hazard areas. Head protection will also be required to be worn by engineers, inspectors, and visitors at construction sites. Bump caps/skull guards will be issued to and worn for protection against scalp lacerations from contact with sharp objects. They will not be worn as substitutes for safety caps/hats because they do not afford protection from high impact forces or penetration by falling objects.

F. Hand Protection

Skin contact is a potential source of exposure to toxic materials; it is important that the proper steps be taken to prevent such contact. Gloves should be selected on the basis of the material being handled, the particular hazard involved, and their suitability for the operation being conducted. One type of glove will not work in all situations.
Most accidents involving hands and arms can be classified under four main hazard categories: chemicals, abrasions, cutting, and heat. There are gloves available that can protect workers from any of these individual hazards or any combination thereof.

The first consideration in the selection of gloves for use against chemicals is to determine, if possible, the exact nature of the substances to be encountered. Read instructions and warnings on chemical container labels and MSDSs before working with any chemical. Recommended glove types are often listed in the section for personal protective equipment.

All glove materials are eventually permeated by chemicals. However, they can be used safely for limited time periods if specific use and glove characteristics (i.e., thickness and permeation rate and time) are known. The Office of Environmental Safety can assist in determining the specific type of glove material that should be worn for a particular chemical.

Gloves should be replaced periodically, depending on frequency of use and permeability to the substance(s) handled. Gloves overtly contaminated should be rinsed and then carefully removed after use.

Gloves should also be worn whenever it is necessary to handle rough or sharp-edged objects, and very hot or very cold materials. The type of glove materials to be used in these situations include leather, welder's gloves, aluminum-backed gloves, and other types of insulated glove materials.

Careful attention must be given to protecting your hands when working with tools and machinery. Power tools and machinery must have guards installed or incorporated into their design that prevent the hands from contacting the point of operation, power train, or other moving parts. To protect the hands from injury due to contact with moving parts, it is important to:

- Ensure that guards are always in place and used.
- Always lock out machines
or tools and disconnect the power before making repairs.

- Treat a machine without a guard as inoperative; and

- Do not wear gloves around moving machinery, such as drill presses, mills, lathes, and grinders.

The Office of Environmental Safety can help the supervisor identify appropriate glove selections for their operations. OES also maintains a selection of gloves for various tasks.

4. Safety and Health Signs and Tags

Signs and tags are not intended as substitutes for preferred abatement methods such as engineering controls, substitution, isolation, or safe work practices. Rather, they are additional safety guidance and increase the employee's awareness of potentially hazardous situations.

Tags are temporary means of warning all concerned of a hazardous conditions, defective equipment, etc. Tags are not to be considered as a complete warning
method, but should only be used until a positive means can be employed to eliminate the hazard; for example, a "Do Not Start" tag is affixed to a machine and is used only until the machine can be locked out, deenergized, or inactivated.

The Office of Environmental Safety maintains a supply of a variety of safety signs and tags for use by MSU personnel.

A. Danger Signs. "Danger" signs shall be used where an immediate hazard exists and specific precautions are required to protect personnel or property. The sign shall be of red, black, and white colors.

A "Danger" tag shall be placed on a damaged ladder or other damaged equipment, and immediate arrangements made for the ladder/equipment to be taken out of service and sent to be repaired.

B. Caution Signs. "Caution" signs shall be used to warn of a potential hazard or to caution against unsafe practices, and to prescribe the precaution that will be taken to protect personnel and property from mishap probability. The sign shall be of yellow and black colors.

C. Radiation Signs. "Radiation" signs shall be used to warn of radiation hazards and of special precautions that will be taken. "Radiation" signs shall use the conventional radiation warning colors of magenta on a yellow background.

D. Exit Signs. "Exit" signs shall be utilized to clearly identify the means of egress from a building or facility. Where the exit is not apparent, signs shall have an arrow indicating the direction of the exit.

E. Biological Hazard Warning Signs. "Biological Hazard" warning signs shall be used to signify the actual or potential presence of a biological hazard and to identify equipment, containers, rooms, experimental animals, etc., which contain or are contaminated with viable hazardous agents. The symbol on these signs shall be the standard fluorescent orange or orange-red color.

F. Posting of Signs and Tags

Any MSU employee who becomes aware of an unsafe condition will immediately advise the work area supervisor of that condition. The supervisor will determine whether a tag or sign is needed and, if so, that the appropriate sign or tag is posted or attached as required. They will coordinate the placement of tags, with the Office of Environmental Safety. If the responsible supervisor is not available, the employee will phone the Office of Health and Safety and request assistance.
The supervisor will evaluate the situation and initiate appropriate corrective action. The supervisor, in coordination with the Office of Environmental Safety, is responsible for removing the sign or tag only after the unsafe condition has been corrected.

5. Hazard Communication

MSU support personnel perform a wide range of operations and provide services which commonly require the use of chemicals that have inherent chemical and physical hazards. General office activities may also involve working with products which contain regulated chemicals. The OSHA Hazard Communication Standard (29 CFR 1910.1200) requires employers to provide information to their employees concerning the hazardous chemicals in the workplace through a written program, training sessions, materials safety data sheets, labels and warnings, and other pertinent information.

A. Responsibilities

1. The Office of Environmental Safety will ensure compliance with all federal and state regulations governing safety and health protection, including the Hazard Communication Standard (HCS). This Office will handle all HCS responsibilities for the Campus except for the Department of Science. The Department of Sciences will maintain all HCS compliance as it applies to the activities of the department personnel.

This includes:

- Overall program coordination;
- Maintenance of MSU's current written Hazard Communication Program;
- Implementation and
general health and safety documentation of training required by HCS;

- Development of a written list of chemicals used, stored, or imported into the workplace;

- Maintenance and update of MSDS files; and

- Annual update of the chemical inventory.

2. Each line supervisor is responsible for health and safety in his or her work area. To carry out this responsibility, the supervisor will:

- Ensure that employees know and follow the safety and
health guidelines included in the HCS training;

- Ensure that appropriate personal protective equipment (PPE) is available, in good condition, and properly used;

- Ensure that employees have proper training for their anticipated job assignments, including use of appropriate PPE;

- Ensure that any new hazards introduced into the workplace receive
General Health and Safety

proper health and safety review, and that response plans are developed; and

- Ensure that each work area has a complete and current set of standard operating procedures (SOPs) for applicable health and safety concerns, and that those SOPs are both available to employees and are followed.

3. Each employee will:

- Read, understand,
and comply with the written HCS plan;

- Perform work safely; and

- Be aware of and alert for any unsafe conditions and report those to his or her immediate supervisor and OES.

B. Labeling Requirements

Supervisors are responsible for ensuring:

- Except as described below, all hazardous substances are stored and used with the original
■ For chemicals transferred to new containers, each new container is labeled with the full chemical name, and must, in addition to the chemical identification include a warning sign describing the material's main hazards. Portable containers which are intended for immediate use by the employee who

labels provided by the vendor.
Good labeling practices are not only necessary for informing the users about chemical hazards, but they also allow for proper disposal of these substances.

C. Written Hazard Communication Program

MSU is required by the HCS to have a written hazard communication program that describes the requirements of the HCS and states how MSU, as an employer, meets or exceeds those requirements. Topics applicable to MSU that must be covered include:

- Labeling requirements;
- Materials Safety Data Sheets (MSDS's);
- Current inventory of chemicals used; and
- Employee information and training (includes contractor personnel).

The full text of the written MSU Hazard Communication Program is found in a later
section of this manual, entitled "Working Safely with Hazardous Chemicals".

6. Noise

Evidence is well established that worker exposure to noise of sufficient intensity and duration can result in hearing damage. Noise-induced hearing loss rarely results from just one exposure; it can progress unnoticed over a period of years. Initial noise-induced hearing loss occurs at the higher frequencies where the consonant portion of speech is found, making communications difficult.

Engineering controls such as mufflers on heavy equipment exhausts or on air release valves are required where possible. If engineering solutions cannot reduce the noise, administrative controls such as increasing the distance between the noise source and the worker or rotation of jobs between workers in the high noise area should be used if possible.

Noise exposure is often not constant and is difficult to control with either engineering or administrative solutions. Hearing protection is often the only choice available.

Employees will be given the opportunity to select hearing protective devices from a variety of suitable ones provided by the Office of Environmental Safety. In all cases the chosen hearing protectors shall have a Noise Reduction Ratio (NRR) high enough to reduce the noise at the ear drum to 85 dB(A) or lower.

Audiometric testing will be provided by an appointed physician to all employees with exposure to noise levels of 80 dB(A) or greater.

Area noise monitoring will be conducted by the Office of Environmental Safety using a sound level meter to determine the need for personnel monitoring or engineering controls. If any work areas register levels of 80 dB(A) or greater, personnel monitoring will be conducted. Personnel monitoring is accomplished by using noise dosimeters which are worn by employees for their full work shift. The cumulative noise dose for the employee is then read at the end of their work shift.

7. Asbestos Management Program

Activities involving asbestos-containing materials (ACM) are governed by numerous federal, state, and local regulations.

These regulations set out permissible exposure limits, exposure monitoring specifications, respirator requirements, hygiene facilities and practices,
communication standards, medical surveillance, employee training, recordkeeping and waste disposal requirements.

It is only when ACM is damaged that asbestos fibers can become airborne. Materials that commonly contain asbestos include fireproofing, floor tiles, pipe lagging, sprayed-on acoustical ceilings, as well as numerous other insulating materials.

Currently the Office of Environmental Safety is conducting comprehensive asbestos survey conducted for all of the facilities on campus. Any areas identified as needing attention will be addressed in a timely manner either through abatement or enclosure and/or by inclusion in the [MSU Asbestos Operations and Maintenance Program](http://web.mwsu.edu/physicalplant/general.htm). The entire program is found in a later section of the on-line manual. Please refer to the [Asbestos Containing Materials Policy](http://web.mwsu.edu/physicalplant/general.htm) as well.

### 8. Housekeeping

All places of employment including outside areas should be kept as clean as the nature of the work allows but must be kept free and clear of debris, trash, scrap, spills or other extraneous materials which could create a health hazard or cause an accident. Proper layout, spacing and arrangement of equipment, facilities, and machinery are essential to good housekeeping, allowing orderly operation and avoiding congestion.

Maintain the floor of every work area so far as practicable, in a dry condition. Where wet processes are used, maintain drainage and provide removable false floors, platforms, mats, or other dry standing places. When necessary or appropriate, provide waterproof footgear.

To facilitate cleaning, every floor, working place, and passageway will be as smooth as feasible but allowing for the need to provide non-skid flooring where appropriate. floors will not be cleaned with flammable materials or materials creating significant toxic hazards.

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**Mail Comments to Environmental Safety Coordinator**