OTERO COUNTY
Safety and Health Program

Updated April 2011

OTERO COUNTY, NEW MEXICO

Safety and Health Program

This is Otero County's Safety and Health Program. It meets all OSHA requirements and applies to all our work operations.

The County Safety Officer will be responsible for overall direction of the Safety Program.

Introduction

The first step in establishing a safety program is writing a written program detailing company policies and procedures. The following sample program can be expanded and customized to suit your company's needs. You may even want to create a written program for each job site so that specific hazards found there are covered.

Statement of Policy

Our employees are our most valuable assets. It is our policy that every person is entitled to a safe and healthful place in which to work.

Establishment and maintenance of a safe environment is the shared responsibility between the employer and employees at all levels of the organization. To this end, every reasonable effort will be made in achieving the goal of accident prevention and health preservation.

Our philosophy is oriented toward affirmative control and minimization of risk to the greatest extent possible. We have a basic responsibility to make the safety of employees a part of our concern. We will be counting on you to do your part in making our program an effective one.

The success of the County's safety program will depend on how safely each job is performed. There is neither job so important nor any service so urgent that we cannot take time to work safely.

The County will aggressively pursue a plan to minimize pain and suffering of an injured worker, and return him/her to active work duties as soon as possible.

We consider the safety of our personnel to be of prime importance, and we expect your full cooperation in making our program effective.

Goals of the Safety Program

An effective occupational, health and safety program will be maintained. This program is basic to the principles of safe operations and requirements of our business. The County, in keeping with these principles and goals, will provide qualified personnel and adequate facilities and equipment.

The following principles are fundamental to a successful operation:

1. Appropriate programs need to be implemented to protect employee health and safety and to minimize human suffering.
2. Occupational injuries and illnesses are preventable.
3. Management seeks to define, initiate and maintain programs and procedures to prevent injuries and illnesses.

4. Continuing scrutiny of programs and ongoing employee training and education in occupational health and safety are essential program elements.
5. Minimize health and safety risks by providing safe and healthful work environments, preventing unsafe acts and controlling exposures to health and safety hazards in the workplace.
6. Provide and assure appropriate health and safety programs exist and are in the place.
7. Control health hazards in the workplace and assure that employees are informed of hazards and how to protect themselves from needless exposure.
8. Communicate to employees all mandated medical findings and advise appropriate actions to be taken.
9. Maintain medical records in a confidential manner.
10. Assure all managers and employees have received orientation, instruction and training in health, safety and environmental protection matters.
11. Require that all health, safety, environmental protection and loss control practices, standards, laws and regulations be observed relating to people, facilities, materials, processes, wastes and the environment.

Assignment of Responsibility

The Safety Officer will be responsible for establishment of policy and program implementation including:

1. At the direction of the County Manager, reviewing and approving safety programs designed to meet the goals of the County.
2. Implementation of the safety program through motivation, training, counseling and enforcement.
3. Initiating compliance or all safety program elements applicable to his/her area.
4. Identifying hazards through safety inspections and develop timely counter measures.
5. Training subordinates in accident prevention and safe work habits.
6. Timely accident investigation and reporting, including paperwork and countermeasures.
7. Insure that all powered equipment complies with all appropriate safety regulations and is locked out/tagged out off service including a work order for repairs and date of expected completion) when not in compliance with safety standards.

County Employees will be responsible for the following:

1. Learning and complying with all safety and health rules and regulations applicable to their work. It is their further responsibility to support the company in providing a safe place to work, and to protect themselves and co-workers against injuries or illnesses.
2. Reporting all safety and health hazards to supervisors and taking all necessary actions to establish an immediate temporary control off the hazard until permanent control can be established.
3. Immediately reporting all accidents or incidents occurring on the job to their supervisor, including industrial injury accidents, no matter how slight.
4. Cooperating and assisting in the investigation of all accidents or incidents.
5. Utilizing all personal protective equipment provided.
6. Practicing sanitary health habits.

The Safety Officer will be responsible for the following:

1. The Safety Officer shall be responsible for maintaining a current copy of all applicable Federal, State and local safety and health regulations.
2. Implementation of loss control program.
3. Implementing and monitoring safety training.
4. Chairing the safety committee.
5. Recommending safety-training programs.

6. Reviewing and recommending changes in the safety program as the need is identified.
7. Ensuring annual safety review is accomplished.
8. Ensuring proper notification, internal and external, in the event of an accident, incident or fatality is accomplished.

Safety and Health Committee

The objective of the safety and health committee is to assist management in establishing and maintaining a safe and efficient workplace environment. The reason for establishing a safety committee is to address both occupational safety and health issues. They help to promote a safer and healthier place to work, and to help lower workers' compensation costs by reducing workplace accidents. The purpose of a safety committee is to bring workers and management together in a non-adversarial, cooperative effort to promote safety and health in each workplace.

Members should be chosen in view of the duties and responsibilities of the committee. A chairman and secretary should be appointed and committee members selected according to their position, knowledge, abilities and interest in promoting safety. Each department should be represented. However, care must be taken to avoid creating too large a committee. A smaller committee usually functions more effectively than a larger one. Large committees tend to produce more debate and less action. Committees should have an odd number of members to prevent tie votes.

Management and the labor force should both be represented on the committee.

Scope

A well-run safety and health committee is an important part of the loss control program. It can help reduce the cost of operation and produce many other benefits such as:

- Reducing the occurrence, frequency and/or severity of accidents.
- Increasing productive output (quality and quantity).
- Improving the use of equipment.
- Reducing material waste.
- Enhancing employee satisfaction.
- Facilitating employee loyalty, cooperation and contributions.
- Providing analysis and evaluation of injury and incident data and program performance to management.
- Developing countermeasures for identified problems per company business plans.

Goals

A safety committee should be responsible for establishing annual goals concerning hazard control and accident prevention. Once the goals are set and specific objectives formulated, they are to be provided to management and the safety coordinator.

Some examples of goals could be:

- Help the County comply with government standards concerning loss control matters.
- Integrate hazard control and safety into the day-to-day activity of all personnel.
- Improve the new employee orientation and training programs.
- Reduce the injury incidence rates (i.e., frequency and/or severity).
- Evaluate injury and incident occurrences for the purpose of providing management with recommended countermeasures concerning prevention.

Activity and Duties

The safety committee should meet on a regular basis to accomplish its goals and objectives.

The safety committee should also discuss accidents, near misses, new training requirements, employee suggestions, future educational needs as they relate to safety and submit recommended counter measures for improvement. Other actions should include:

- Reviewing quality of supervisor's accident investigation reports.
- Reviewing actions taken to prevent accident recurrences.
- Establishing a system for handling employee safety suggestions.
- Reviewing new employee safety orientation procedures.
- Reviewing results of the safety inspection program.
- Participation in revising safety rules and procedures.
- Consulting management in arranging special safety training programs.
- Reviewing and helping implement specific accident prevention activities.
- Reviewing, updating, and preparing reports on the status of the loss control program.
- Acting as a consultative body for the company on safety and loss control issues and problems.

Sample Agenda

Good safety meetings require thorough planning and effort. Notices of meetings should be sent to each member of the committee. The meeting place should be comfortable, well lighted, with no distractions.

Minutes should be taken, prepared, and circulated by the secretary after approval by the chairman. The minutes should accurately record all decisions made and actions taken since they serve as a means of keeping management informed of the group's work and as a follow-up. Committee members and the company managers should receive copies and a copy should be posted on the employee bulletin board. Copies should be maintained for one year. The following procedures should be followed:

1. Call to Order - The meeting should be called to order promptly at the appointed time.
2. Roll Call by the Secretary - Names of members and others present should be recorded. Members who cannot attend should send an alternate. Absences should also be noted.
3. Introduction of Visitors - If any committee members are present, they should be announced.
4. Minutes - Minutes of the previous meeting should be briefly reviewed.
5. Old Business - A status review of issues or assignments made during the last meeting should take place.
6. Review of Accidents - Serious accidents or incidents since the last meeting should be reviewed with an aim towards preventing recurrences. Plant loss statistics may be reviewed and discussed.
7. Other Activities - Inspections, environmental health studies, ergonomic studies, surveys, training programs, safety suggestions, and other activities from the past month should be reviewed, and e.g., reports received from insurance company service representatives.
8. New Business - Any new issues, programs, problems, etc., should be brought up. Appropriate assignments should be given.
9. General Discussion (Safety Presentation) - Any relevant comments or suggestions for the good of the County should be discussed. Guest speakers may also be allotted this time.
10. Adjournment - Set time, date and location of the next meeting. Adjourn on time.

Employee Orientation

To assure that all new and transferred employees receive necessary orientation information:

- The department head shall be responsible for assuring required training is conducted.
- Department head will review the orientation checklist, which becomes a permanent personnel document.
- The employee should sign and date the training and orientation checklists.
- Required personal protective equipment and where and when it is to be used.
- General hazards and hazards specific to the job assigned.
- Safety rules.
- Hazard Communication Program.
- Injury Prevention Program. (Includes site-specific hazard training)

Employees will receive training on a variety off safety topics, including:

- Specific Job Hazards
- Accident Prevention Program
- Emergency Action Plans
- Fire Prevention
- Personal Protective Equipment
- Medical Services and First Aid (If required)
- Use of Hand Tools
- Use of Lift Trucks
- Use of Power Operated Tools and Equipment
- Ergonomics
- Respiratory Protection Program
- Hearing Conservation
- Hazard Communication
- Lockout/Tagout
- Confined Space
- Machine Guarding
- Workplace Violence
- Forklift Safety
- Bloodborne Pathogens

Training Documentation

For each training session, the following information will be recorded and maintained:

- Date of training.
- A listing of topics reviewed or discussed.
- The instructor (for each topic if more than one instructor was involved).
- The name of each person attending, as well as those required to receive the training involved who were not present shall be documented.
- A list of all matters that were found to require some type of follow-up or further action (this includes the training of those who were unable to attend).

Communicating Safety to Employees

To establish a flow of information designed to benefit County employees in matters of safety and health, the following needs to be performed:

- The Safety Committee shall review suggestions relating to safety and health issues.
- The Safety Committee shall maintain a bulletin board and anonymous safety suggestions box. The Committee shall use the bulletin board to provide employees with various safety-related information as the need arises. Any employee may anonymously place safety-related suggestions in the suggestion box. The Safety Committee shall review the anonymous suggestions that they receive, and decide what, if any, action should be recommended regarding the suggestions. Responses to the suggestions may be posted on the bulletin board.
- Committee recommendations shall be forwarded to the appropriate department.
- Safety Committee shall inform the employees on the status of suggestions.
- The Safety Officer shall maintain a record of suggestions, responses and action taken.

Personal Protective Equipment

The following rules will apply:

1. Personal protective equipment required will be provided by the County.
2. Departmental managers shall enforce the use of personal protective equipment.
3. All personnel including management and supervisory personnel shall wear personal protective equipment when in areas so designated.
4. All visitors, including but not limited to, vendors, salespersons and subcontractors shall wear personal protective equipment when in areas so designated.
5. Appropriate eye protection shall be worn by all employees and visitors exposed to flying particles, chips, etc.
6. In addition to safety glasses, a full face shield shall be worn by employees involved in air-blast cleaning, chipping, chiseling, concrete breaking, equipment wash-down, grinding, handling and using chemicals, high-speed sawing, power brushing or buffing, sandblasting and steam cleaning.
7. In addition to safety glasses, appropriate tinted goggles shall be worn for all torch cutting or burning operations.
8. In addition to safety glasses, a welding hood shall be worn by all employees performing, assisting or observing welding, burning or cutting operations.
9. Eye- and face-protective devices shall conform to the requirements of ANSI Z87.1 . Eye- and face-protective devices should:
    - Be reasonably comfortable, yet fit snugly and not unduly interfere with the movement of the wearer.
    - Be kept clean and in good repair.
10. Management, with appropriate technical support, shall designate the department and/or individual responsible for the issuance, care and control of each type of eye- and face- protective device.
11. Management, with the appropriate technical support, shall post signs identifying eye and face protection requirements at required locations.
12. Hearing protection will be required where sound levels exceed acceptable Federal, State and Local Standards.
13. Management, with appropriate technical support, will post signs identifying hearing protection requirements at appropriate locations.
14. Protective clothing and equipment will be provided to accomplish all assigned tasks in a safe and healthful manner.
15. Employees and authorized visitors will wear shoes or boots, which are suitable for the areas of the facility in which they are working or visiting.

16. Employees will wear shoes or boots of substantial design and construction and the soles shall be strong and in good enough condition to prevent slipping on smooth, wet or loose surfaces and to resist penetration by nails and debris.

Disciplinary Procedures

The following are guidelines for enforcement of safety rules, policies, procedures and directives from appropriate management personnel to all employees.

Employees will be subject to disciplinary action for violations of safety rules. However, nothing in this policy will preclude management from terminating an employee for a safety violation. This is not a progressive discipline system and any safety violation may lead to an employee's termination without prior instruction or warning. Management reserves the right to impose whatever disciplinary action it deems appropriate. Such action may include any one or more of the following depending on the severity of the violation:

1. Employee will be afforded instructive counseling and/or training to assure a clear understanding of the infraction and the proper conduct under company guidelines.
2. Verbal warning with documentation in personnel file.
3. Written warning outlining nature of offense and necessary corrective action with documentation in personnel file.
4. Termination.

Management, including supervisory personnel, will be subject to disciplinary action for the following reasons:

1. Repeated safety rule violation by their department employees.
2. Failure to provide adequate training prior to job assignment.
3. Failure to report accidents and provide medical attention to employees injured at work.
4. Failure to control unsafe conditions or work practices.

Safety and Health Rules

To provide guidelines for the establishment of a safe and healthful work environment, which applies to everyone employed by the County. Suggested employee safety rules and regulations are outlined on the next several pages. It is critical that the authority implementing these programs do so very carefully. Do not select rules unless you are fully committed to enforcing them. It is much better for the County to adopt fewer employee rules and enforce them than it is to select many rules and not be able to live with them or make them work. The safety and health rules should include the following:

- All persons including management shall abide by safety, health and environmental rules.
- Management personnel shall fairly and consistently enforce and follow safety, health and environmental rules.
- Employees will report any infractions of these safety, health and environmental rules to management.

Tools and Equipment

The following rules will apply:

1. All tools and equipment will be maintained in good condition.
2. Damaged tools or equipment will be removed from service and tagged "DEFECTIVE".
3. Only appropriate tools will be used for the job.
4. Wrenches will not be altered by the addition of handle-extensions or "cheaters".

5. Files will be equipped with handles and not used to punch or pry.
6. A screwdriver will not be used as a chisel.
7. Do not remove guards from portable grinding tools or break off ground leads on portable electric tool plugs.
8. Portable electric tools will not be lifted or lowered by means of the power cord. Ropes shall be used.
9. Electric cords will not be exposed to damage from vehicle traffic.
10. In locations where the use of a portable power tool is difficult, the tool will be supported by means rope or similar support of adequate strength.

Machinery

The following rules will apply:

1. Only authorized persons will operate machinery or equipment.
2. Loose or frayed clothing or long hair, dangling ties, finger rings, etc., will not be worn around moving machinery or other sources of entanglement.
3. Machinery will not be serviced, repaired or adjusted while in operation, nor will oiling of moving parts be attempted, except on equipment that is designed or fitted with safeguards to protect the person performing the work.
4. Appropriate lockout procedures will be used when working on machinery and equipment.
5. Employees will not work under vehicles supported by bumper jacks or chain hoists, without protective blocking that will prevent injury if jacks or hoists should fail.
6. Air hoses will not be disconnected at compressors until air pressure has been bled off.

Grinding

The following rules will apply:

1. Always use safety goggles or a face shield when grinding, whichever will afford the best protection.
2. The tool rest must always be set within 1/8-inch away from the wheel. The nose guard must be adjusted to within 1/4-inch of the wheel-when in doubt, see the supervisor.
3. Sheet metal and other small pieces of work must never be ground on a pedestal grinder.
4. Grinding must never be done against the side of the wheel.
5. Grinding wheels must not be used if the pores are clogged. The wheels must also be free of large chips and grooves. Have your supervisor show you how to dress the wheel.
6. Whenever possible, when grinding with a portable grinder, position the grinding wheel so that the sparks and steel go away from the person doing the work.
7. Always wear hearing protection when grinding with a hand grinder.
8. Nonferrous metal should not be ground because of the danger of exploding grinding wheels, unless the grinding wheel is designed to grind these metals.

Housekeeping
The following rules will apply:

1. When using file cabinets, never open more than one drawer at a time to avoid tipping.
2. Desk drawers, filing, and storage cabinets must be kept closed when not in use.
3. Floors, work areas, and hallways will be kept cleared of boxes, papers, electric cords, and telephone wires.
4. Chairs will be kept in a safe condition (properly adjusted, wheels secured, etc.).
5. Inspect electrical wires periodically to be sure that plugs and/or cords are in safe operating condition.

6. Good housekeeping will be maintained at all times. All spills, whether water, chemicals, grease, oil, or ink, will be quickly cleaned up.
7. Be sure that all personal items are in safe condition, i.e., shoes are nonskid, eyeglasses have shatterproof lenses.
8. Refrain from horseplay that could endanger you or your fellow employees.
9. Proper dress code should be maintained at all times. (PPE)
10. Always maintain adequate lighting and ventilation.
11. When stocking shelves, refrain from placing heavy, bulky objects at top of shelving unit. Ask for assistance when receiving, transporting, and stocking heavy packages.
12. Care should be taken to avoid cuts and scrapes from sharp edges of cards or paper. If cuts occur, administer the proper first aid and fill out a minor injury report.
13. Be sure that all-electrical equipment is turned off at the end of the day. (Exception: computers)
14. Exercise care when using cutting devices.
15. Bookshelves and cabinets will be substantially braced to prevent them from tipping or falling.
16. Be sure that storage boxes are placed in out-of-the-way areas and are stored in a safe manner.
17. When using ladders or short steps, never stand on the top step or the first step down from the top, unless there are handrails on the ladder for the purpose of supporting you.
18. Make sure you use handcarts and other mechanical stock handling equipment when moving heavy loads.
19. Make sure that you follow procedures established for spill cleanup involving chemical substances.
20. Consult with the MSDS if you do not know the hazards associated with a particular chemical spill.
21. Ensure proper VDT or computer workstation arrangement for comfortable seating and distance from the terminal screen.

Code of Safe Practices

All persons will follow these safe practices rules, render every possible aid to safe operations, and report all unsafe conditions or practices to the management.

1. Supervisors will insist on employees observing and obeying every rule, regulation, and order as is necessary to the safe conduct of the work, and will take such action as is necessary to obtain observance.
2. All employees will be given accident prevention instructions.
3. Anyone known to be under the influence of drugs or intoxicating substances, which impair the employee's ability to safely perform the assigned duties, will not be allowed on the job while in that condition.
4. Horseplay, scuffling, and other acts which tend to have an adverse influence on the safety or well being of the employees will be prohibited.
5. Work will be well planned and supervised to prevent injuries in the handling of materials and in working together with equipment.
6. No one shall knowingly be permitted work while the employee's ability or alertness is so impaired by fatigue, illness, or other causes that it might expose the employee or others to injury.
7. Employees will not enter voids, chambers, tanks, or other similar places that receive little ventilation, unless it has been determined that it is safe to enter.
8. Employees will be instructed to ensure that all guards and other protective devices are in proper places and adjusted, and shall report deficiencies promptly.
9. Workers will not handle or tamper with any electrical equipment, machinery, or air or water lines manner not within the scope of their duties, unless they have received instructions from their supervisor.
10. All injuries will be reported promptly to the supervisor so that arrangements can be made for medical or first aid treatment.
11. Inappropriate footwear or shoes with thin or badly worn soles will not be worn.
12. Materials, tools, or other objects will not be thrown from boats, buildings, or structures until proper precautions are taken to protect others from the falling objects.

13. Employees shall cleanse thoroughly after handling hazardous substances, and follow special instructions for those products.
14. Before leaving any job, be sure it is in a safe condition.
15. Work will be so arranged that employees are able to face ladder and use both hands while climbing.
16. Gasoline will not be used for cleaning purposes.
17. No burning, welding, or other source of ignition shall be applied to any enclosed tank or vessel, even if there are some openings, until it has first been determined that no possibility off explosion exists, and authority for the work is obtained from their supervisor.
18. Any damage to scaffolds, false work, or other supporting structures shall be immediately reported supervisor and repaired before use.
19. Use the proper ladder for the job you are doing.
20. Do not use ladders with broken or missing steps or rungs and report any unsafe ladders to your supervisor.
21. Never place a ladder on boxes or other unstable bases to gain height.
22. Always place your ladder so that the side rails have secure footing.
23. Do not climb higher than the third rung from the top on straight ladders, not the second tread from of stepladders.
24. Appropriate permanent or portable fire extinguishers shall be kept at or near the work location.
25. When using flammable chemicals, remember: absolutely no smoking in the immediate area.
26. Always use the proper respiratory protection when working around paints or dust. See your supervisor after reading the MSDS for the product you are applying or using if you are not certain respirators are required.
27. Check with your supervisor for the proper protective clothing or personal protective equipment, i.e., gloves, goggles, protective suits, barrier creams.
28. Make sure that you follow all safety precautions on the MSDS and environmental regulations when using any chemicals.
29. Wear safety belts when work requires it.
30. Wash hands thoroughly before eating.
31. Wash and change working clothes often.

Drill Press

The following rules will apply:

1. Small pieces of metal being drilled on a power machine must not be held in the operator's hands.
2. Pieces of metal being drilled must be held tightly in a vise or clamp.
3. Before drilling, the employee must check the spindle speed and the set up. When in doubt, ask your supervisor.
4. Before drilling, always make sure the chuck key is removed. Never leave the chuck key in the chuck.

Soldering

The following rules will apply:

1. Hot soldering irons must not be carried around, unless done in a safe manner.
2. Soldering acid must be kept off skin and clothing.
3. Jars of soldering acid must not be carried around unless done in a safe manner.

OTERO COUNTY, NEW MEXICO

Electrical Safety Program

This is Otero County's Electrical Safety Program. It meets all OSHA requirements and applies to all our work operations.

The County Safety Officer will be responsible for overall direction of the Safety Program.

Purpose

This program implements **29 CFR 1910.331**, the OSHA standards on electrical safety-related work practices. It sets forth the safety-related work practices that have been adopted by this company in order to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts, when work is performed near or on equipment or circuits which are or may be energized.

Scope and Application

This program covers Electrical safety-related work practices for both qualified persons and unqualified persons who are working on, near, or with the following installations:

1. Premises wiring	Installations of electrical conductors and equipment within or on buildings or other structures, and on other premises such as yards, carnival, parking and other lots and industrial substations.
2. Wiring for connection to supply	Installations of conductors that connect to the supply of electricity.
3. Other wiring	Installations of other outside conductors on the premises.
4. Optical fiber cable	Installations of optical fiber cable where such installations are made along with electrical conductors.
5. Exposed energized parts	Installations that involve work performed by unqualified persons on or near exposed energized parts.

This program does not apply to work performed by qualified persons on or directly associated with the following installations:

1. Communications installations	Installations of communication equipment to the extent that the work is covered under the OSHA standard in **29 CFR 1910.268**.
2. Installations in vehicles	Installations in ships, watercraft, railway rolling stock, aircraft, or automotive vehicles other than mobile homes and recreational vehicles.
3. Railway installations	Installations of railways for generation, transformation, transmission, or distribution of power used exclusively for operation of rolling stock or installations of railways used exclusively for signaling and communication purposes.
4. Generation, transmission and distribution installations	Installations for the generation, control, transformation, transmission, and distribution of electrical energy (including communication and metering) located in buildings used for such purposes or located outdoors, including: ☐ Work performed directly on such installations, such as repairing overhead or underground distribution lines or repairing a feed-water pump for the boiler in a generating plant. ☐ Work directly associated with such installations, such as line-clearance tree trimming and replacing utility poles. ☐ Work on electric utilization circuits in generating plants provided that such circuits are co-mingled with installations of power generation equipment or circuits, and the generation equipment or circuits present greater electrical hazards than those posed by the utilization equipment or circuits (such as exposure to higher voltages or lack of over-current protection).

Definitions

Qualified Person means a person permitted to work on or near exposed energized parts who has been trained in and familiar with:

- The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment;
- The skills and techniques necessary to determine the nominal voltage of exposed live parts;
- The knowledge, skills and techniques to work safely on energized circuits;
- The proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools; and
- The clearance distances for work performed near overhead lines that are specified in the OSHA standard that appears in **29 CFR 1910.333(c)** and the corresponding voltages to which he will be exposed.

Unqualified Person means a person with little or no training in avoiding the electrical hazards of working on or near exposed energized parts.

On or near means close enough to exposed line parts (by either personal contact or contact by tools or materials) for an employee to be exposed to any hazard they present.

Electrical Work in General

Safety-related work practices shall be employed to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts, when work is performed near or on equipment or circuits that are or may be energized. Those specific work practices shall be consistent with the nature and extent of the associated electrical hazards.

Work on or Near Exposed De-energized Parts

Live parts to which an employee may be exposed shall be de-energized before any employee works on or near them, unless de-energizing will introduce Additional or Increased Hazards or is Infeasible Due to Equipment Design or Operational Limitations. Live parts that operate at less than 50 volts to ground need not be de-energized if there will be no increased exposure to electrical burns or to explosion due to electric arcs.

Examples of increased or additional hazards include interruption of life support equipment, deactivation of emergency alarm systems, shutdown of hazardous location ventilation equipment, or removal of illumination for an area.

Examples of work that may be performed on or near energized circuit parts because of infeasibility due to equipment design or operational limitations include testing of electric circuits that can only be performed with the circuit energized and work on circuits that form an integral part of a continuous industrial process in a chemical plant that would otherwise need to be completely shut down in order to permit work on one circuit or piece of equipment.

Whenever any employee is exposed to contact with parts of fixed electric equipment or circuits that have been de-energized, the circuits energizing the parts shall be locked out, or tagged out, or both in accordance with the requirements of our Energy Control (Lockout/Tagout) Program as supplemented by the requirements of this Program. Safe procedures for de-energizing circuits and equipment shall be determined before circuits or equipment is de-energized.

The circuits and equipment to be worked on shall be disconnected from all electric energy sources. Control circuit devices, such as push buttons, selector switches, and interlocks, may not be used as the sole means for de-energizing circuits or equipment. Interlocks for electric equipment may not be used as a substitute for lockout and tagging procedures.

Stored electric energy that might endanger personnel shall be released. Capacitors shall be discharged and high capacitance elements shall be short-circuited and grounded, if the stored electric energy might endanger personnel. If the capacitors or associated equipment are handled in meeting the foregoing rule, they shall be treated as energized.

Stored non-electrical energy in devices that could reenergize electric circuit parts shall be blocked or relieved to the extent that the circuit parts could not be accidentally energized by the device.

A lock and a tag shall be placed on each disconnecting means used to de-energize circuits and equipment on which work is to be performed. If a lock cannot be applied, or if the tagging procedures will provide a level of safety equivalent to that obtained by the use of a lock, a tag may be used without a lock.

A lock without a tag is permissible if all of the following exist: Only one circuit or piece of equipment is de-energized, the lockout period does not extend beyond the work shift, and employees exposed to the hazards associated with reenergizing the circuit or equipment are familiar with this procedure.

Whenever a tag is used without a lock it shall be supplemented by at least one additional safety measure that provides a level of safety equivalent to that obtained by the use of a lock. Examples of additional safety measures include the removal of an isolating circuit element, blocking of a controlling switch, or opening of an extra disconnecting device.

Each lock shall be attached so as to prevent persons from operating the disconnecting means unless they resort to undue force or the use of tools.

Each tag shall contain a statement prohibiting unauthorized operation of the disconnecting means and removal of the tag.

No work shall be performed on or near de-energized live parts, circuits or equipment until their de-energized condition has been verified.

Verification of the de-energized condition shall be made as follows:

- A qualified person shall operate the equipment operating controls or otherwise verify that the equipment cannot be restarted.
- A qualified person shall use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and shall verify that the circuit elements and equipment parts are d-energized. The test shall also determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage back feed even though specific parts of the circuit have been de-energized and presumed to be safe.
- A qualified person shall conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed, so that the circuits and equipment can be safely energized.
- Employees exposed to the hazards associated with reenergizing the circuit or equipment shall be warned to stay clear of circuits and equipment.
- Each lock and tag shall be removed by the employee who applied it or under his or her direct supervision.

If an employee is absent from the workplace, then the lock or tag may be removed by a qualified person designated to perform a task provided that:

1. It is certain that the employee who applied the lock or tag is not available at the workplace, and
2. That employee is made aware that the lock or tag has been removed before he or she resumes work.

There shall be a visual determination that all employees are clear of the circuits and equipment.

Conductors and parts of electric equipment that have been de-energized have not been locked out or tagged in accordance with the foregoing rules shall be treated as energized parts, and the requirements will apply to work on or near them.

Work on or Near Exposed Energized Parts

In those cases where the exposed live parts are not de-energized either because of increased or additional hazards or because of infeasibility due to equipment design or operational limitations, other safety-related work practices must be used to protect employees who may be exposed to the electrical hazards involved.

Those work practices must protect employees against contact with energized circuit parts directly with any part of their body or indirectly through some other conductive object or where employees are near enough to be exposed to any hazard they present.

If the equipment is an aerial lift insulated for the voltage involved, and if the work is performed by a qualified person, the clearance (between the un-insulated portion of the aerial lift and the power line) may be reduced to the distance given.

Employees standing on the ground may not contact the vehicle or mechanical equipment or any of its attachments unless:

1. The employee is using protective equipment rated for the voltage; or
2. The equipment is located so that no un-insulated part of its structure (that portion of the structure that provides a conductive path to employees on the ground) can come closer to the line than permitted.

If any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees working on the ground near the point of grounding shall not stand at the grounding location whenever there is a possibility of overhead line contact.

Additional precautions, such as the use of barricades or insulation, shall be taken to protect employees from hazardous ground potentials, depending on earth receptivity and fault currents, that can develop within the first few feet or more outward from the grounding point.

Employees may not enter spaces containing exposed energized parts, unless illumination is provided that enables the employees to perform the work safely. Where lack of illumination or an obstruction precludes observation of the work to be performed, employees may not perform tasks near exposed energized parts. Employees must not reach blindly into areas which may contain energized parts.

Whenever an employee works in a confined or enclosed space (such as a manhole or vault) that contains exposed energized parts, they must be provided with, and shall use, protective shields, protective barriers, or insulating materials as necessary to avoid inadvertent contact with those parts.

Doors, hinged panels, and the like that are present in any confined or enclosed space shall be secured to prevent their swinging into an employee and causing the employee to contact exposed energized parts. Conductive materials and equipment that are in contact with any part of an employee's body shall be handled in a manner that will prevent them from contacting exposed energized conductors or circuit parts.

Whenever an employee must handle long dimensional conductive objects (such as ducts and pipes) in areas with exposed live parts, appropriate work practices (such as the use of insulation, guarding and material handling techniques) shall be instituted which will minimize the hazard.

Portable ladders shall have nonconductive side rails if they are used where the employee or the ladder could contact exposed energized parts.

Conductive articles of jewelry and clothing (such as watch bands, bracelets, rings, key chains, necklaces, metal aprons, cloth with conductive thread, or metal headgear) may not be worn if they might contact exposed energized parts. However, such articles may be worn if they are rendered nonconductive by covering, wrapping, or other insulating means.

Where live parts present an electrical contact hazard, employees may not perform housekeeping duties at such close distances to the parts that there is a possibility of contact, unless adequate safeguards (such as insulating equipment or barriers) are provided.

Electrically conductive cleaning materials (including conductive solids such as steel wool, metal cloth, and silicon carbide, as well as conductive liquid solutions) may not be used in proximity to energized parts unless appropriate procedures are followed that will prevent electrical contact.

The work practices that are used shall be suitable for the conditions under which the work is to be performed and for the voltage level of the exposed electric conductors or circuit parts in accordance with the requirements below.

Only qualified persons may work on electric circuit parts or equipment that has not been de-energized. Such persons shall be capable of working safely on energized circuits and shall be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.

Whenever work is to be performed near overhead lines, the lines shall be de-energized and grounded, or other protective measures shall be provided before work is started. When overhead lines are to be de-energized, arrangements to de-energize and ground them shall be made with the person or organization that operates or controls the electrical circuits involved.

When protective measures are provided such as guarding, isolating, or insulating, those precautions shall prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools, or equipment.

No person except a qualified person shall be permitted to install insulating devices on overhead power transmission or distribution lines. Whenever an unqualified person is working in an elevated position near overhead lines, the location shall be such that the person and the longest conductive object he or she may contact cannot come closer to any unguarded, energized overhead line than the following distances:

- For voltages to ground 50kV or below - 10 ft. (305 cm);
- For voltages to ground over 50kV - 10 ft. (305 cm) plus 4 in. (10 cm) for every 10kV over 50kV.

Whenever an unqualified person is working on the ground in the vicinity of overhead lines, the person may not bring any conductive object closer to unguarded, energized overhead lines than the distances. For voltages normally encountered with overhead power lines, objects which do not have an insulating rating for the voltage involved are considered to be conductive.

Whenever a qualified person is working in the vicinity of overhead lines, whether in an elevated position or on the ground, the person may not approach or take any conductive object without an approved insulating handle closer to exposed energized parts.

The person is insulated from the energized part. Gloves, with sleeves if necessary, rated for the voltage involved, are considered to be insulation of the person from the energized part on which work is performed.

The energized part is insulated both from all other conductive objects at a different potential and from the person.

The person is insulated from all conductive objects at a potential different from that of the energized part. Any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance of 10 ft. (305 cm) is maintained. If the voltage is higher than 50kV, the clearance shall be increased 4 in. (10 cm) for every 10kV over that voltage. However, under any of the following conditions, the clearance may be reduced:

If the vehicle is in transit with its structure lowered, the clearance may be reduced to 4 ft. (122 cm). If the voltage is higher than 50kV, the clearance shall be increased 4 in. (10cm) for every 10kV over that voltage.

If insulating barriers are installed to prevent contact with the lines, and if the barriers are rated for the voltage of the line being guarded and are not a part of or an attachment to the vehicle or its raised structure, the clearance may be reduced to a distance within the designed working dimensions of the insulating barrier.

Only a qualified person following the requirements of the procedures in this program may defeat an electrical safety interlock and then only temporarily while he or she is working on the equipment. The interlock system shall be returned to its operable condition when such work is completed.

Use of Portable Electric Equipment

All cord- and plug- connected electric equipment, flexible cord sets (extension cords), and portable electric equipment shall be handled in a manner that will not cause damage. Flexible electric cords connected to equipment may not be used for raising or lowering the equipment. Flexible cords may not be fastened with staples or otherwise hung in such a fashion as could damage the outer jacket or insulation.

Portable cord- and plug- connected equipment and flexible cord sets (extension cords) shall be visually inspected before use on any shift for external defects (such as loose parts, deformed and missing pins, or damage to outer jacket or insulation) and for evidence of possible internal damage (such as pinched or crushed outer jacket). However, cord- and plug- connected equipment and flexible cord sets (extension cords) which remain connected once they are put in place and are not exposed to damage need not be visually inspected until they are relocated.

If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item shall be removed from service, and no employee may use it until necessary repair and tests have been made to render the equipment safe.

Whenever an attachment plug is to be connected to a receptacle (including any on a cord set), the relationship of the plug and receptacle contacts shall first be checked to ensure that they are of proper mating configurations. A flexible cord used with grounding-type equipment shall contain an equipment grounding conductor.

Attachment plugs and receptacles may not be connected or altered in a manner that would prevent proper continuity of the equipment grounding conductor at the point where plugs are attached to receptacles. Additionally, those devices may not be altered to allow the grounding pole of a plug to be inserted into slots intended for connection to the current-carrying conductors.

Adapters that interrupt the continuity of the equipment grounding connection may not be used.

Portable electric equipment and flexible cords used in highly conductive work locations (such as those inundated with water or other conductive liquids), or in job locations where employees are likely to contact water or conductive liquids, shall be approved for those locations.

Employees' hands may not be wet when plugging and unplugging flexible cords and cord- and plug- connected equipment, if energized equipment is involved.

Energized plug and receptacle connections may be handled only with insulating protective equipment if the condition of the connection could provide a conducting path to the employee's hand (if, for example, a cord connector is wet from being immersed in water).

Locking-type connectors shall be properly secured after connection.

Electric Power and Lighting Circuits

Load rated switches, circuit breakers, or other devices specifically designed as disconnecting means shall be used for the routine opening, reversing, or closing of circuits under load conditions.

Cable connectors not of the load-break type, fuses, terminal lugs, and cable splice connections may not be used for such purposes, except in an emergency.

After a circuit is de-energized by a circuit protective device, the circuit may not be manually reenergized until it has been determined that the equipment and circuit can be safely energized. However, when it can be determined from the design of the circuit and the over current devices involved that the automatic operating of a device was caused by an overload rather than a fault condition, no examination of the circuit or connected equipment is needed before the circuit is reenergized.

Repetitive manual re-closing of circuit breakers or reenergizing circuits through replaced fuses is prohibited.

Over current protection of circuits and conductors may not be modified, even on a temporary basis, beyond that allowed by the OSHA standard regulating the installation safety requirements for over current protection: **29 CFR 1910.304(e).**

Test Instruments and Equipment

Only qualified persons may perform testing work on electric circuits or equipment.

Test instruments and equipment and all associated test leads, cables, power cords, probes, and connectors shall be visually inspected for external defects and damage before the equipment is used. If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item shall be removed from service, and no employee may use it until necessary repairs and tests to render the equipment safe have been made.

Test instruments and equipment and their accessories shall be rated for the circuits and equipment to which they will be connected and shall be designed for the environment in which they will be used.

Use of Flammable or Ignitable Materials

In those situations where flammable materials are present only occasionally, electric equipment capable of igniting them shall not be used, unless measures are taken to prevent hazardous conditions from developing.

Such materials include, but are not limited to: flammable gases, vapors, or liquids; combustible dust; and ignitable fibers.

In those situations where flammable vapors, liquids or gases, or combustible dusts or fibers are (or may be) present on a regular basis, the electrical installation requirements contained in the OSHA standard regulating hazardous (classified) locations must be observed.

Personal Protection Safeguards

Employees working in areas where there are potential electrical hazards shall be provided with, and shall use, electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed. Such equipment includes rubber protective equipment such as insulating gloves, blankets, hoods, line hose, sleeves, and matting for use around electric apparatus. See the OSHA standard on electrical protective devices, **29 CFR 1910.137.**

Protective equipment shall be maintained in a safe, reliable condition and shall be periodically inspected or tested, as required by **29 CFR 1910.137.**

If the insulating capability of protective equipment may be subject to damage during use, the insulating material shall be protected. (For example, an outer covering of leather when it is used for the protection of rubber insulating material.)

Employees shall wear nonconductive head protection wherever there is a danger of head injury from electric shock or burns due to contact with exposed energized parts.

Employees shall wear protective equipment for the eyes or face wherever there is danger of injury to the eyes or face from electric arcs or flashes or from flying objects resulting from electrical explosion.

When working near exposed energized conductors or circuit parts, each employee shall use insulated tools or handling equipment if the tools or handling equipment might make contact with such conductors or parts. If the insulating capability of insulated tools or handling equipment is subject to damage, the insulating material shall be protected.

Fuse handling equipment, insulated for the circuit voltage, shall be used to remove or install fuses when the fuse terminals are energized. Ropes and hand-lines used near exposed energized parts shall be nonconductive.

Protective shields, protective barriers, or insulating materials shall be used to protect each employee from shock, burns, or other electrically related injuries while that employee is working near exposed energized parts which might be accidentally contacted or where dangerous electric heating or arcing might occur.

When normally enclosed live parts are exposed for maintenance or repair, they shall be guarded to protect unqualified persons from contact with the live parts.

Alerting techniques shall be used to warn and protect employees from hazards which could cause injury due to electric shock, burns, or failure of electric equipment parts as follows:

- Safety signs, safety symbols, or accident prevention tags shall be used where necessary to warn employees about electrical hazards which may endanger them, as required by the OSHA standard on accident prevention signs and tags, **29 CFR 1910.145.**
- Barricades shall be used in conjunction with safety signs where it is necessary to prevent or limit employee access to work areas exposing employees to un-insulated energized conductors or circuit parts. Conductive barricades may not be used where they might cause an electrical contact hazard. If signs and barricades do not provide sufficient warning and protection from electrical hazards, an attendant shall be stationed to warn and protect employees.

Training

Appropriate training will be provided for those employees who face a risk of electric shock that is not reduced to a safe level by the OSHA electrical installation requirements specified in **29 CFR 1910.332.**

Electricians and welders always face such a risk and must be provided with appropriate training. That is also true for blue collar supervisors, electrical and electronic engineers, electrical and electronic equipment assemblers, electrical and electronic technicians, industrial machine operators, material handling equipment operators, mechanics and repairers, painters, riggers and roustabouts, and stationary engineers unless their work or the work of those they supervise does not bring them or the employees they supervise close enough to exposed parts of electric circuits operating at 50 volts or more to ground for a hazard to exist.

Each employee required to be trained shall be trained in, and shall become familiar with, the safety-related work practices required by this Program or by the OSHA standards in **29 CFR 1910.332** that pertain to their respective job assignments.

Employees who are not qualified persons shall also be trained in and familiar with any electrically related safety practices not specifically addressed by the **29 CFR 1910.332**, OSHA standards but which are necessary for their safety.

Qualified persons (i.e. those permitted to work on or near exposed energized parts) shall be trained with the skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.

The skills and techniques necessary to determine the nominal voltage of exposed parts, and the clearance distances specified in Table S-5 of **29 CFR 1910.333(c)** and the corresponding voltages to which the qualified person will be exposed. The training shall be either classroom, on-the-job, or both. The degree of training shall be determined by the risk likely to be encountered by the employee. Any employee of this company who is required to be trained under any of the foregoing rules, but who has not had it or who believes that his training is inadequate must immediately so notify his supervisor! No such employee shall do any work for which training is required until he has received the appropriate training and fully understand all applicable electrical safety rules and procedures.

OTERO COUNTY, NEW MEXICO

Confined Space Program

This is Otero County's Confined Space Program. It meets all OSHA requirements and applies to all our work operations.

The County Safety Officer will be responsible for overall direction of the Safety Program.

Introduction

This is the County's Permit-Required Confined Space Program. It has been adopted to meet the requirements of **29 CFR 1910.146**, the OSHA standard that was adopted in order to protect employees in general industry from the hazards of entry into permit-required confined spaces. All our affected employees have been advised of our adoption of this written program. The program will be available for inspection by our employees and their authorized representatives upon request.

Not all confined spaces are hazardous. If a space is potentially hazardous, entry into it requires an Entry Permit. If entry to the space does not pose a hazard, no entry permit is required. There are three kinds of places that are sometimes regarded as confined spaces. The OSHA standard contains definitions for each of them:

1. Confined Space,
2. Permit-Required Confined Space, and
3. Non-Permit Confined Space.

This program contains definitions for each of these three terms, as well as all of the terms defined in the OSHA standard. In order to avoid any misunderstanding, readers of this written program should refer to those definitions whenever one of the terms that are defined there is used in this program.

Confined Space

Whenever anyone is required to work in a boiler, cupola, degreaser, furnace, hopper, pipeline, pit, pumping station, reaction or process vessel, septic tank, sewage digester, sewer, silo, storage bin or tank, ship's hold, utility vault, v.a.t or similar enclosure, that person is probably working in a confined space.

Confined spaces can be hazardous due to atmospheric conditions and fires and also because of the threat of electrocution, crushing, entrapment, falling objects, falls, difficult entry and exit, insufficient maneuverability, eye hazards, temperature extremes, noise, vibration, and stress from excess exertion.

A Confined space is a place that has the following characteristics:

- Limited openings for entry and exit
- Poor natural ventilation
- Not designed for continuous worker occupancy

Limited Openings for Entry and Exit

Confined space openings are limited primarily by size or location. Openings are usually small in size, perhaps as small as 18 inches in diameter, and are difficult to move through easily. Small openings may make it very difficult to get needed equipment in or out of the spaces, especially protective equipment such as respirators needed for entry into spaces with hazardous atmospheres, or life-saving equipment when rescue is needed. However, in some cases, openings may be very large, for example, open-topped spaces such as pits, degreasers, excavations, and ship's holds. Access to open-topped spaces may require the use of ladders, hoists, or other devices, and escape from such areas may be very difficult in emergency situations.

Poor Natural Ventilation

Because air may not move in and out of confined spaces freely due to the design, the atmosphere inside a confined space can be very different from the atmosphere outside. Deadly gases may be trapped inside, particularly if the space has been used to store or process chemicals or organic substances that may decompose. There may not be enough oxygen inside the confined space to support life, or the air could be so oxygen-rich that it is likely to increase the chance of fire or explosion if a source of ignition is present.

Not Designed for Continuous Worker Occupancy

Most confined spaces are not designed for workers to enter and work in them on a routine basis. They are designed to store a product, enclose materials and processes, or transport products or substances. Therefore, occasional worker entry for inspection, maintenance, repair, cleanup, or similar task is often difficult and dangerous due to chemical or physical hazards within the space.

A confined space found in the workplace may have the three characteristics covered above, which can complicate working in and around confined spaces as well as rescue operations during emergencies.

Definitions

Acceptable entry conditions means the conditions that must exist in a 'permit space' to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

Attendant means an individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit space program.

Authorized entrant means an employee who is authorized by the employer to enter a permit space.

Blanking or blinding means the absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

Confined space means a space that:

1. Is large enough and so configured that an employee can bodily enter and perform assigned work;
2. Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and
3. Is not designed for continuous employee occupancy.

Double block and bleed means the closure of a line, duct, or pipe by closing and locking or tagging two inline valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

Emergency means any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

Engulfment means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

Entry means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Entry Permit means the written document that is provided by the employer to allow and control entry into a permit space and contains the information specified in paragraph (f) of the OSHA standard, **29 CFR 1910.146 (f).**

Entry supervisor means the person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required. An entry supervisor also may serve as an 'attendant' or as an 'authorized entrant', as long as that person is trained and equipped as required by this written program for each role they fill. Also the duties of 'entry supervisor' may be passed from one individual to another during the course of an entry operation.

Hazardous atmosphere means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury or acute illness from one or more of the following causes:

- Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL).
- Airborne combustible dust at a concentration that meets or exceeds it LFL. This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.
- Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.
- Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of the OSHA General Industry standards (**29 CFR Part 1910**) and which could result in employee exposure in excess of its dose or permissible exposure limit. An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.
- Any other atmospheric condition that is immediately dangerous to life or health.

For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material Safety Data Sheets (MSDS) that comply with the Hazard Communication Standard, **29 CFR 1910.1200**, published information and internal documents can provide guidance in establishing acceptable atmospheric conditions.

Hot work permit means the employer's written authorization to perform operations capable of providing a source of ignition (for example riveting, welding, cutting, burning, and heating).

Immediately dangerous to life or health (IDLH) means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space. Some materials (hydrogen fluoride gas and cadmium vapor for example) may produce immediate transient effects that, even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse 12 to 72 hours after exposure. The victim 'feels normal' from recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be 'immediately' dangerous to life or health.

Inserting means the displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

Isolation means the process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

Line breaking means the intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure or temperature capable of causing injury.

Non-permit confined space means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain, any hazard capable of causing death or serious physical harm.

OSHA standard means the rules and regulations set forth in the OSHA 'permit-required confined space' standard that is codified in **29 CFR 1910.146**.

Oxygen deficient atmosphere means an atmosphere containing less than 19.5 percent oxygen by volume.

Oxygen enriched atmosphere means an atmosphere containing more than 23.5 percent oxygen by volume.

Permit-required confined space (permit space) means a confined space that has one or more of the following characteristics:

1. Contains or has a potential to contain a hazardous atmosphere;
2. Contains a material that has the potential for engulfing an entrant;
3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
4. Contains any other recognized serious safety or health hazard.

Permit-required confined space program (permit space program) means the employer's overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating employee entry into permit spaces.

Permit system means the employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

Prohibited condition means any condition in a permit space that is not allowed by the entry permit during the period when entry is authorized.

Rescue service means the personnel designated to rescue employees from permit spaces.

Retrieval system means the equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

Testing means the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space. Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to, and during, entry.

Evaluation of Confined Spaces

In order to protect employees from confined space hazards, it is first necessary to identify each place that constitutes a confined space under the applicable OSHA standard, and adopt appropriate protective measures for employees who may be affected by the resulting hazard.

The evaluation that we conducted revealed confined spaces that is subject to OSHA regulation. There are also spaces that do not qualify as confined spaces under applicable OSHA standards. If there are future changes in the use or configuration of any such space that might increase the hazards to entrants, the space will be re-evaluated and, if necessary, reclassified as a Permit-Required Confined Space. When and if that happens, no one will be permitted to enter until all appropriate OSHA requirements have been satisfied.

Information on the OSHA-regulated confined spaces has been provided to potentially exposed employees either personally or by the posting of danger signs. This information includes:

1. The existence of the confined space
2. Its location
3. The danger it poses

In those situations where the confined space is a 'Permit-Required Confined Space' and the information is provided by the posting of a sign, the sign will read:

DANGER

PERMIT-REQUIRED CONFINED SPACE

DO NOT ENTER

In those situations where a confined space has been identified that will not be entered by our employees, measures have been taken that will prevent employee entry. In the event it is ever necessary for anyone else to enter such a space (such as employees of an outside contractor), we will first observe the requirements of **29 CFR 1910.146 (c)(8).**

Non-Permit Confined Spaces

The following procedures apply where work is to be performed in a space that qualifies as a confined space only because of its actual or potential hazardous atmosphere (see the definition of the term 'hazardous atmosphere' in **29 CFR 1910.146 (b)).**

Monitoring and inspection to establish that forced air ventilation alone is sufficient to maintain the space safe for entry will develop data. If an initial entry to such a space is necessary in order to obtain that data, that entry will be performed in full compliance with all OSHA requirements for:

1. Permit-Required Confined Spaces - **29 CFR 1910.146 (d)**
2. Permit System - **29 CFR 1910.146 (e)**
3. Entry Permits - **29 CFR 1910.146 (f)**
4. Training - **29 CFR 1910.146 (g)**
5. Authorized Entrants Duties - **29 CFR 1910.146 (h)**
6. Attendants Duties - **29 CFR 1910.146 (i)**
7. Entry Supervisors Duties - **29 CFR 1910.146 (j)**
8. Rescue and Emergency Services - **29 CFR 1910.146 (k)**

Documentation should be made available to each employee who enters the confined space. Entry into a confined space is permitted only under the following conditions:

- Any conditions making it unsafe to remove an entrance cover shall be eliminated before the cover is removed.
- When entrance covers are removed, the opening shall be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.
- Before an employee enters the space, the internal atmosphere shall be tested, with a calibrated direct-reading instrument, for the following conditions in the order given:

1. Oxygen content,
2. Flammable gases and vapors, and
3. Potential toxic air contaminants.

There may be no hazardous atmosphere within the space whenever any employee is inside the space.

Continuous forced air ventilation will be used as follows:

- An employee may not enter the space until the forced air ventilation has eliminated any hazardous atmosphere;
- The forced air ventilation shall be so directed as to ventilate the immediate areas where an employee is or will be present within the space, and shall continue until all employees have left the space;
- The air supply for the forced air ventilation shall be from a clean source and may not increase the hazards in the space;
- The atmosphere within the space shall be periodically tested as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere.

If a hazardous atmosphere is detected during entry:

1. Each employee shall leave the space immediately;
2. The space shall be evaluated to determine how the hazardous atmosphere developed; and
3. Measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.

It must be verified that the space is safe for entry and that the conditions listed above have been satisfied through a written certification that contains the date, the location of the space, and the signature of the person providing the certification. The certification must be made before entry and shall be made available to each employee entering the space.

Reclassification of Spaces

When there are changes in the use or configuration of a non-permit confined space that might increase the hazards to entrants, we will reevaluate that space and, if necessary, reclassify it as a permit-required confined space.

When space that we have classified as a Permit-Required Confined Space may be reclassified as Non-Permit Confined Space, the following procedures will apply:

1. If the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated without entry into the space, the permit space may be reclassified as a non-permit confined space for as long as the non-atmospheric hazards remain eliminated.
2. If it is necessary to enter the permit space to eliminate hazards, such entry shall be performed in conformance with all OSHA requirements.
3. The basis for determining that all hazards in a permit space have been eliminated must be documented through a certification that contains the date, the location of the space, and the signature of the person making the determination. The certification shall be made available to each employee entering the space.
4. If hazards arise within a space that has been declassified to a non-permit space, each employee in the space shall exit the space. We will then reevaluate the space and determine whether it must be reclassified as a permit space.
5. Any employee who believes that any space to which he may have access or exposure is not properly classified under the confined space classifications mentioned above must immediately advise his supervisor of that fact so that we can reevaluate our prior determination and, if necessary, make the appropriate reclassification.

Outside Contractors

In the event that we arrange for an outside contractor to perform any work that involves Permit-Required Confined Space entry, we will do so in conformance with the following requirements:

- Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with a Written Permit-Required Confined Space Program meeting the requirements of the OSHA standard;
- Apprise the contractor of the elements, including the hazards identified and our experience with the space, that make the space in question a permit space;
- Apprise the contractor of any precautions or procedures that we have implemented for the protection of employees in or near those permit spaces where the contractor's personnel will be working;
- Coordinate entry operations with the contractor, when both our personnel and the contractor's personnel will be working in or near permit spaces; and
- Debrief the contractor at the conclusion of the entry operations regarding the permit space program that the contractor followed and any hazards confronted or created in permit spaces during the contractor's entry operations.

It will be the responsibility of each such outside contractor to comply with the OSHA confined space requirements and to do the following:

1. Obtain any available information regarding the permit space hazards and entry operations.
2. Coordinate entry operations when both our personnel and the contractor's personnel will be working in or near permit spaces.
3. Inform us of the permit space program that the contractor will follow and of any hazards confronted or created in permit spaces, either through a debriefing or during the entry operation.

Permit-Required Confined Space Requirements

Every measure that is needed in order to prevent unauthorized entry into a Permit-Required Confined Space must be taken, and those measures must be strictly enforced at all times. The hazards of each such space must be identified and evaluated before employees enter it.

The following steps must be taken in order to provide for safe Permit-Required Confined Space entry operations:

- Specify acceptable entry conditions;
- Isolate the permit space;
- Purge, inert, flush, or ventilate the permit space as necessary to eliminate or control atmospheric hazards;
- Provide pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards; and
- Verify that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry.

The following equipment must be provided to employees (at no cost to them):

1. Testing and monitoring equipment needed to comply with **29 CFR 1910.146 (d)(5)**;
2. Ventilating equipment needed to obtain acceptable entry conditions;
3. Communications equipment that is necessary to enable the attendant to monitor entrant status and alert entrants to the need for evacuation;
4. Personal protective equipment (insofar as feasible engineering and work practice controls do not adequately protect employees);
5. Lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency;
6. Equipment, such as ladders, needed for safe ingress and egress by authorized entrants;
7. Rescue and emergency equipment that may be needed, except to the extent that the equipment is provided by rescue services; and
8. Any other equipment that is necessary for safe entry into and rescue from Permit-Required Confined Space.

Conditions in the space must be evaluated as follows when entry operations are being conducted. Test the conditions in the permit space in order to determine if acceptable entry conditions exist before entry is authorized to begin, except that, if isolation of the space is infeasible because the space is large or is part of a continuous system (such as a sewer), pre-entry testing shall be performed to the extent feasible before entry is authorized and, if entry is authorized, entry conditions shall be continuously monitored in the areas where authorized entrants are working.

Test or monitor the permit space as necessary to determine if acceptable entry conditions are being maintained during the course of entry operations; and when testing for atmospheric hazards, test first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors.

Atmospheric testing conducted in accordance with Appendix B of the OSHA standard, **29 CFR 1910.146** would be considered as satisfying the above requirements. For permit space operations in sewers, atmospheric testing conducted in accordance with the OSHA standard's Appendix B, as supplemented by Appendix E, would be considered as satisfying the above requirements.

There must be at least one attendant outside the space into which entry has been authorized throughout the duration of the entry operations.

The OSHA standard permits attendants to be assigned to monitor more than one permit space provided the duties described in **29 CFR 1910.146 (i)** of the OSHA standard can be effectively performed for each permit space that is monitored. Likewise, attendants may be stationed at any location outside the permit space to be monitored as long as the **29 CFR 1910.146 (i)** duties can be effectively performed for each permit space that is monitored.

Ordinarily we will not permit a single attendant to simultaneously monitor more than one confined space but, in the event that circumstances exist where it would be safe to do so, the person who authorizes that practice must first: (a) develop specific means and methods that will enable the attendant to respond to an emergency that affects any one or more of those spaces without distraction from those duties of the attendant that are specified in **29 CFR 1910.146**

- Erection and placement of such pedestrian barriers, vehicle barriers or other barriers as may be necessary to protect entrants from external hazards.
- Verification that conditions in the confined space is acceptable for entry throughout its duration.

Appendix D of the OSHA standard **29 CFR 1910.146** contains examples of permits whose elements are considered to comply with the above requirements. Before entry begins, the entry supervisor identified on the permit shall sign the entry permit to authorize entry.

The completed permit shall be made available at the time of entry to all authorized entrants by posting it at the entry portal or by some other equally effective means; so that the entrants can confirm that pre-entry preparations have been completed.

The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit.

The Entry Supervisor must terminate entry and cancel the entry permit when:

- The entry operations covered by the entry permit have been completed; or
- A condition that is not allowed under the entry permit arises in or near the permit space.

Each canceled Entry Permit will be retained for at least 1 year to facilitate the review of this written permit-required confined space program. That is required by **29 CFR 1910.146** (d)(**14**). Any problems that are encountered during an entry operation shall be noted on the pertinent entry permit so that appropriate revisions to this written program can be made.

Each Entry Permit must contain the following information:

1. The confined space to be entered.
2. The purpose of the entry.
3. The date and the authorized duration of the Entry Permit.
4. The Authorized Entrants within the confined space, by name or by such other means (for example, through the use of rosters or tracking systems) as will enable the attendant to determine quickly and accurately, for the duration of the permit, which authorized entrants are inside the confined space. This requirement may be met by inserting a reference on the entry permit as to the particular means that is used (such as a roster or tracking system) to keep track of the authorized entrants within the confined space.
5. The personnel, by name, currently serving as Attendants.
6. The individual, by name, currently serving as Entry Supervisor, with a space for the signature or initials of the entry supervisor who originally authorized entry.
7. The hazards of the space to be entered.
8. The measures that were used before entry in order to isolate the confined space and to eliminate or control its hazards. Those measures can include the lockout or tagging of equipment and procedures for purging, inserting, ventilating, and flushing permit spaces.
9. The acceptable entry conditions.
10. The results of initial and periodic tests performed under **29 CFR 1910.146** (d)(**5**) of the OSHA standard, accompanied by the names or initials of the testers, and by an indication of when the tests were performed.
11. The rescue and emergency services that can be summoned and the means (such as the equipment to use and the numbers to call) for summoning those services.
12. The communication procedures used by authorized entrants and attendants to maintain contact during the entry.
13. Equipment, such as personal protective equipment, testing equipment, communications equipment, alarm systems, and rescue equipment, to be provided in order to comply with the requirements of the OSHA standard.

(i), and (b) make certain that the attendant, and all other affected persons, understands and can carry out those specific means and methods should such an emergency occur.

Before any confined space entry begins, the particular persons who will have active roles in the operation must be designated (for example, 'authorized entrants', 'attendants', and 'entry supervisors', as well as those responsible for testing or monitoring the atmosphere in the confined space). The person in charge of the operation must make sure that each such person knows and understands his duties and that he has successfully completed the training that is required under **29 CFR 1910.146(g)** of the OSHA standard.

Procedures for Permit Confined Spaces:

1. Procedures for summoning rescue and emergency services.
2. Procedures for rescuing entrants from confined spaces.
3. Procedures for providing emergency services to rescued employees.
4. Procedures for preventing unauthorized personnel from attempting a rescue.
5. A system for the preparation, issuance, use and the cancellation of 'Entry Permits'.
6. Procedures to coordinate entry operations when employees of more than one employer are working simultaneously as authorized entrants in a permit space, so that employees of one employer do not endanger the employees of any other employer.
7. Procedures (such as closing off a permit space and canceling the permit) that are necessary for concluding the entry after entry operations have been completed.

Those procedures and systems must be known and they must be strictly and properly observed in all of our Permit-Required Confined Space operations.

Our confined space entry operations and procedures will be reviewed whenever we have any reason to believe that the measures taken under this written program may not protect employees. We will revise the program to correct deficiencies found to exist before subsequent entries are authorized.

Examples of circumstances requiring the review of this written program are: any unauthorized entry of a permit space, the detection of a permit space hazard not covered by an entry permit, the detection of a condition prohibited by the permit, the occurrence of an injury or near-miss during entry, a change in the use or configuration of a permit space, and employee complaints about the effectiveness of our program.

The purpose of the review and revision process mentioned above will be to ensure that employees participating in confined space entry operations are protected from the hazards associated with such operations. That review and revision process will include consideration of all canceled Entry Permits for the preceding 12-month period. Canceled entry permits will be retained.

The OSHA standard permits a single annual review covering all entries that were performed during a 12-month period. If no entry is performed during a 12-month period, no review is required.

The Entry Permit System

We have adopted a system that requires execution of a written Entry Permit before any entry to a permit-required confined space will be authorized. The Entry Permit will include (but will not be limited to) the following:

- Specification of acceptable entry conditions.
- Isolation of the confined space.
- The purging, inserting, flushing or ventilating of the confined space as needed in order to eliminate or control the atmospheric hazards.

14. Any other information whose inclusion is necessary, given the circumstances of the particular confined space, in order to ensure the employee safety.
15. Any additional permits, such as for hot work that have been issued and which authorize work in the confined space.

Training Requirements

We have adopted an employee training program so that all employees whose work involves confined spaces will acquire the understanding, knowledge and skills necessary for the safe performance of their assigned duties.

Training will be provided to each affected employee:

- Before the employee is first assigned duties that involved confined spaces;
- Before there is a change in assigned duties;
- Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained;
- Whenever we have any reason to believe either that there are deviations from the confined space entry procedures required by the OSHA standard or that there are inadequacies in the employee's knowledge or use of those procedures.

The training must be conducted in a manner that will establish employee proficiency in the duties required by the OSHA standard. It will also introduce new or revised procedures, as necessary, in order to accomplish full compliance with the OSHA standard.

Upon its completion, we will execute a written certification that the training required by the OSHA standard has been accomplished. The certification shall contain each employee's name, the signatures or initials of the trainers, and the dates of training. The certification will be available for inspection by employees and their authorized representatives.

Duties of Authorized Entrants

All persons who are 'Authorized Entrants' into confined spaces must:

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
- Properly use equipment as required by **29 CFR 1910.146** (d)(4) of the OSHA standard
- Communicate with the attendant as necessary in order to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space
- Alert the attendant whenever:
    - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or
    - The entrant detects a prohibited condition
- Exit from the permit space as quickly as possible whenever:
    - An order to evacuate is given by the attendant or the entry supervisor
    - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation
    - The entrant detects a prohibited condition
    - An evacuation alarm is activated

Duties of Attendants

All persons who serve as confined space 'Attendants' must:

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Be aware of possible behavioral effects of hazard exposure in 'authorized entrants'.
- Continuously maintain an accurate count of authorized entrants in the confined space and ensure that the means used to identify authorized entrants on the Entry Permit accurately identifies each person who is in the confined space.
- Remain outside the confined space during entry operations until relieved by another attendant. In the event that attendant entry to the confined space is allowed for rescue purposes, attendants may enter the confined space to attempt a rescue if they have been trained and equipped for rescue operations as required by **29 CFR 1910.146 (k)(1)** of the OSHA standard and if they have been relieved as attendants by someone who assumes the attendant's required duties.
- Communicate with authorized entrants as necessary in order to monitor entrant status and to alert entrants of the need to evacuate the space.
- Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space, and order the authorized entrants to evacuate the permit space immediately under any of the following conditions:
    - If the attendant detects a prohibited condition;
    - If the attendant detects behavioral effects of hazard exposure in an authorized entrant;
    - If the attendant detects a situation outside the space that could endanger the authorized entrants; or
    - If the attendant cannot effectively and safely perform all the duties required under **29 CFR 1910.146 (i)** of the OSHA standard.
- Summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards.
- Take the following actions when unauthorized persons approach or enter a permit space while entry is underway:
    - Warn the unauthorized persons that they must stay away from the permit space;
    - Advise the unauthorized persons that they must exit immediately if they have entered the permit space; and
    - Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space;
    - Perform non-entry rescues as specified by the employer's rescue procedure.
- Perform no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

Duties of Entry Supervisor

Each person who serves as an Entry Supervisor must:

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
- Verify by checking that the appropriate entries have been made on the entry permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin;
- Terminate the entry and cancel the permit as required by **29 CFR 1910.146(e)(5)**;
- Verify that rescue services are available and that the means for summoning them are operable;
- Remove unauthorized individuals who enter or who attempt to enter the confined space during entry operations;
- Determine, whenever responsibility for a confined space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space that entry operations remain consistent with the terms of the entry permit and that acceptable entry conditions are maintained.

Rescue and Emergency Services

Whenever any of our employees are authorized to enter a confined space in order to perform rescue services, the following requirements must be observed:

- Each such employee must be provided with, and be trained to use properly, the personal protective equipment and rescue equipment necessary for making rescues from confined spaces.
- Each such employee must be trained to perform the assigned rescue duties and must also have received the training required of 'authorized entrants.'
- Each such employee must practice making confined space rescues at least once every 12 months, by means of simulated rescue operations in which they remove dummies, manikins, or actual persons from the actual permit spaces or from representative confined spaces. Representative confined spaces must simulate the types of permit spaces from which rescue is to be performed with respect to opening size, configuration, and accessibility.
- Each such employee must be trained in basic first-aid and in cardiopulmonary resuscitation (CPR). At least one member of the rescue service holding current certification in first aid and in CPR must be available.

Whenever we arrange to have outside services (such as the fire department or an emergency rescue provider) performed confined space rescue, we will:

1. Inform the rescue service of the hazards they may confront when called on to perform rescue at our facility, and
2. Provide the rescue service with access to all confined spaces from which rescue may be necessary so that the rescue service can develop appropriate rescue plans and practice rescue operations.

Non-Entry Rescue

In order to facilitate non-entry rescue, appropriate retrieval systems or methods (see the definition of retrieval system in **29 CFR 1910.146 (b)** must be used whenever an authorized entrant enters a confined space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant.

The retrieval systems and methods must meet the following requirements:

1. Each authorized entrant must use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, or above the entrant's head. Wristlets may be used in lieu of the chest or full body harness if it can be demonstrated that the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative.
2. The other end of the retrieval line shall be attached to a mechanical device or fixed point outside the confined space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary.
3. A mechanical device must be available to retrieve personnel from vertical type confined spaces more than 5 feet deep.

In the even that an injured entrant is exposed to a substance for which a Material Safety Data Sheet (MSDS) or other similar written information is required to be kept at the worksite, that MSDS or written .

OTERO COUNTY, NEW MEXICO

Ergonomics Program

This is Otero County's Ergonomics Written Program. It meets all OSHA requirements and applies to all our work operations.

The County Safety Officer will be responsible for overall direction of the Safety Program.

Introduction

The purpose of this program is to inform our employees that Otero County is committed to preventing and reducing musculoskeletal disorders (MSDs). Our Ergonomics Program is the most effective way to reduce risk, decrease exposure, and protect our workers against MSDs. This program applies to all work operations. However, it does not address injuries caused by slips, trips, falls, vehicle accidents, or similar accidents.

We have adopted this Ergonomics Program in order to assist in preventing ergonomic disorders that can produce physical pain and disabilities in our employees through sound safety and health programs. It is to be adapted to the needs and resources of each workstation, each job and each employee as necessary. The program will be administered by a team approach under the overall coordination of the County Safety Officer.

Our ergonomic program consists of six main elements. They are the following:

1. Management Commitment and Employee Involvement
2. Job Hazard Analysis
3. Hazard Prevention and Control
4. MSD Management
5. Training and Education
6. Program Evaluation

Management Commitment and Employee Involvement

The first step in implementing our Ergonomics Program will involve establishing management commitment. Commitment and involvement are complementary and essential elements of a sound Ergonomics Program. Commitment by management provides the organizational resources and motivating force necessary to deal effectively with ergonomic hazards.

Employee involvement and feedback through clearly established procedures are likewise essential, both to identify existing and potential hazards and to develop and implement an effective way to abate such hazards.

The company recognizes that the implementation of an effective Ergonomics Program requires a commitment to provide the visible involvement of top management, so that all employees, from management to line workers, fully understand that management has a serious commitment to the program. Our program is a team approach, with top management as the team leader.

Management's involvement is demonstrated through our personal concern for employee safety and health and by the priority we place on preventing MSDs. Our policy places the safety and health of our employees on the same level of importance as production. It integrates production processes and safety and health protection to assure that this protection is part of the daily production activity.

Our program assigns and communicates the responsibility for the various aspects of the ergonomics program so that all managers, supervisors, and employees involved know what is expected of them. We have provided adequate authority and resources to all responsible parties, so that assigned responsibilities can be met. Each manager, supervisor, and employee responsible for the Ergonomics Program in the workplace is accountable for carrying out these responsibilities.

Our written program is communicated to all personnel because it encompasses the total workplace, regardless of the number of workers employed or the number of work shifts. It establishes clear objectives to meet those goals. We will do whatever is necessary to assure that they are communicated to and understood by all company employees and supervisors.

Our program encourages employee involvement:

1. An employee complaint and suggestion procedure that allows workers to bring there concerns to management and provide feedback without fear of reprisal.
2. Any employee who believes that he has sustained or is suffering from any work-related MSD must immediately notify his supervisor.
3. Any employee who believes that his work method or pace, his tools or equipment, his workstation or anything else connected with his job is producing or could produce MSD must immediately report that to his supervisor.
4. Any employee who believes that there is a way to change the way his work is done that will result in less strain or pain and reduce the potential for MSD should report those suggestions to his supervisor.

Each supervisor shall promptly transmit each such report to the appropriate company person and be responsible for seeing to it that the employee making any such report is informed of the action that has been taken in response to the report.

No supervisor or member of management shall discharge or in any manner discriminate against any employee because he has made any report or supplied any information relating to ergonomics, MSDs or this program.

We encourage the prompt and accurate reporting of signs and symptoms of MSDs by employees so that they can be evaluated and, if warranted, treated. We will select ergonomic teams or monitors with the required skills to identify and analyze jobs for ergonomic stress and recommend solutions.

Procedures and mechanisms have been developed to evaluate the implementation of the Ergonomic Program and to monitor the progress. Management will review the program at least annually to evaluate success in meeting our goals and objectives. Evaluation techniques will include the following:

- Analyses of trends in injury/illness rates.
- Employee surveys.
- Before and after evaluations of job/workstation changes.
- Review of results of those evaluations.
- Up-to-date records or logs of job improvements tried or implemented.

The results of the reviews will be a progress report and program update that will include whatever new or revised goals may arise from the review and identification and correction of any deficiencies that are disclosed.

Job Hazard Analysis

The second step in implementing our Ergonomics Program involves conducting a job hazard analysis. If an MSD incident has occurred, the County will be responsible for investigating the circumstances leading up to the injury.

If an employee's job does not meet the action trigger (job-related), the County does not need to take further action for that MSD incident.

If it is determined that there is a MSD hazard in the job, the job will be termed a "problem job". However, if it is determined that MSD hazards pose a risk only to the employee who reported the MSD, the County may limit our job controls, training, and evaluation to that individual employee's job by the Quick Fix Option. A Quick Fix Option is a way to quickly fix a job when an MSD incident has occurred in that job. The benefit to using the Quick Fix Option is that the hazards are controlled quickly and more informally and employees in that job are safer.

We will use the Quick Fix Option for a job if either of the following occurs:

- Our employees have experienced no more than one MSD incident in that job.
- There have been no more than two MSD incidents in our company.

Our company will observe the following Quick Fix Options:

1. The County will make MSD management available.
2. The County speaks with employees in the job and their representatives about the tasks they perform that may relate to the MSD incident, observes the employees performing the job to identify which risk factors are likely to have caused the MSD incident, and asks employees performing the job and their representatives to recommend measures to reduce exposure to the MSD hazards identified.
3. The County will implement quick fix controls. For each problem job, we will use feasible engineering, administrative controls, or any combination of these to reduce MSD hazards in the job. Personal protective equipment (PPE) may be used to supplement engineering, administrative controls, but PPE may be used alone only where other controls are not feasible. Any PPE used is provided at no cost to employees.
4. The County will train employees in the use of the selected quick fix controls.
5. The County will check all problem jobs within 30 days after controls are implemented. If our company determines that MSD hazards have been reduced, then no further action except to maintain controls for that job will be required.

Hazard Prevention and Control

The third step in implementing our Ergonomics Program will involve controlling and reducing hazards. Job hazard controls are engineering and administrative controls used to reduce or eliminate MSD hazards. While engineering controls, where feasible, are the preferred methods, administrative controls also may be important in addressing MSD hazards. Personal protective equipment (PPE) may also be used to supplement engineering and administrative controls, but may only be used alone where other controls are not feasible. Where PPE is used our company provides it at no cost to employees.

There are three types of controls our company will consider using for controlling ergonomic hazards. They are:

1. Engineering Controls
2. Administrative Controls
3. Personal Protective Equipment (PPE)

<u>Engineering Controls</u>

The preferred approach to prevent and control MSDs is to design the job to include the workstation layout, selection and use of tools, and work methods to take account of the capabilities and limitations of the workforce. Examples of Engineering Controls are as follows:

- Changing the way products can be transported. For example, using mechanical assist devices to relieve heavy load lifting and using handles in packages requiring manual handling.
- Changing the process or product to reduce worker exposures to risk factors. Examples could include maintaining the fit of plastic molds to reduce the need for manual removal of flashing, or using easy-connect electrical terminals to reduce manual forces.
- Modifying containers such as height-adjustable material bins.
- Changing workstation layout, which might include using height-adjustable workbenches or locating tools and materials within short reaching distances.
- Changing the way parts, tools, and materials are to be manipulated. Examples include using fixtures (clamps, vise-grips, etc.) to hold work pieces to relieve the need for awkward hand and arm positions to reduce weight and allow easier access.
- Changing tool designs. For example, pistol handle grips for knives to reduce wrist bending postures required by straight-handle knives or squeeze-grip-actuated screwdrivers to replace finger-trigger-actuated screwdrivers.

Our company will implement job hazard controls in the following ways:

1. Make sure MSD hazards are controlled.
2. Make sure hazards are reduced in accordance with or to levels below those in the hazard identification tool.
3. Make sure MSD hazards are reduced to the extent feasible. Then at least every three years, our company will assess the job to determine whether additional feasible controls would control or reduce MSD hazards.

Administrative Controls

Administrative controls include changes in job rules and procedures such as scheduling more rest breaks, rotating workers through jobs that are physically tiring, and training workers to recognize ergonomic risk factors to learn techniques for reducing the stress and strain while performing their work tasks.

Although engineering controls are preferred, administrative controls can be helpful as temporary measures until engineering controls can be implemented or when engineering controls are not technically feasible. Since administrative controls do not eliminate hazards, management must assure that the practices and policies are followed.

Examples of Administrative Controls include the following:

- Providing protective equipment to employees, such as vibration-absorbing gloves or rubber mats.
- Rotating workers from one job to another to provide time for relief from certain risk factors.
- Matching workers to jobs based on job requirements and worker capabilities.
- Providing training programs in safe work methods.
- Enforcing safety practices.
- Changing pay practices to encourage appropriate rest breaks.
- Scheduling exercise/ stretch breaks.
- Arranging work to interrupt static postures.
- Training in the recognition of risk factors for musculoskeletal disorders.

Personal Protective Equipment

One of the most controversial questions in the prevention of MSDs is whether the use of personal equipment worn or used by the employee (such as wrist supports, back belts, or vibration attenuation gloves) is effective. In the field of occupational safety and health, PPE generally provides a barrier between the worker and the hazard source. Respirators, earplugs, safety goggles, chemical aprons, safety shoes, and hard hats are all examples of PPE. Whether

braces, wrist splints, back belts, and similar devices can be considered as personal protection against ergonomic hazards remains open to questions. Although these devices may, in some situations, reduce the duration, frequency, or intensity of exposure, evidence of their effectiveness in injury reduction is inconclusive. In some instances they may decrease one exposure but increase another because the worker has to "fight" the device to perform his or her work.

Implementing Hazard Controls

Testing and evaluation verify that the proposed solution actually works and identifies any additional enhancements or modifications that may be needed. Employees who perform the job can provide valuable input into the testing and evaluation process. Worker acceptance of the changes put into place is important to the success of the intervention.

After the initial testing period the proposed solution may need to be modified. If so, further testing should be conducted to ensure that the correct changes have been made followed by full-scale implementation. Designating the personnel responsible, creating a timetable, and considering the logistics necessary for implementation are elements of the planning needed to ensure the timely implementation of the controls.

A good idea in general is that ergonomic control efforts start small, targeting those problem conditions which are clearly identified through safety and health data and job analyses information. Control actions should be directed to those conditions that appear easy to fix. Early successes can build the confidence and experience needed in later attempts to resolve more complex problems.

Evaluating Hazard Controls

A follow up evaluation is necessary to ensure that the controls reduced or eliminated the ergonomic risk factors and that new risk factors were not introduced. This follow up evaluation should use the same risk factor checklist or other method of job analysis that first documented the presence of ergonomic risk factors. If the hazards are not substantially reduced or eliminated the problem-solving process is not finished.

The follow up may also include a symptom survey that can be completed in conjunction with the risk-factor checklist or other job analysis method. The results of the follow up symptom survey can then be compared with the results of the initial symptom survey (if one was performed) to determine the effectiveness of the implemented solutions in reducing symptoms.

Because some changes in work methods and the use of different muscle groups may actually make employees feel sore or tired for a few days, follow up should occur no sooner than a couple of weeks after implementation.

MSD Management

The fourth step in implementing our ergonomics program involves developing a program to manage MSD incidents when they occur.

A MSD Management Program should spell out how your company provides for prompt and appropriate management when an employee has experienced as MSD incident. MSD management will include access to a health care professional. MSD management is important largely because it helps ensure that employees promptly report MSDs and signs and symptoms.

Our company will assure that all employees receive timely attention for the reported MSD. Whenever it is determines that an employee has suffered an MSD incident, our company will provide the employee with prompt and effective MSD management.

MSD management will include the following:

- Access to a health care professional (HCP).
- Evaluation and follow-up of the MSD incident.

Whenever an employee consults a health care professional (HCP) for MSD management, we will provide the HCP with a description of the employee's job and information about the physical work activities, and risk factors in the job. That list will include the following:

- The HCP's assessment of the employee's medical condition as related to the physical work activities, risk factors and MSD hazards in the employee's job.
- A statement that the HCP has informed the employee of the results of the evaluation, the process to be followed to effect recovery, and any medical conditions associated with exposure to physical work activities, risk factors and MSD hazards in the employees job.
- A statement that the HCP has informed the employee about work related or other activities that could impede recovery from the injury.

Evaluations

The County has the option to request the assistance of a health care professional to evaluate our employees and determine the employee's functional capabilities, and prepare opinions regarding the employee jobs and job tasks. With specific knowledge of the physical demands involved in various jobs and the physical capabilities or limitations of employees, the health care professional can match the employee's capabilities with the appropriate jobs. Being familiar with employee jobs not only assists the health care professional in making informed case management decisions but also assists with the identification of ergonomic hazards and alternative job tasks.

If we decide to use a health care professional he/she will become familiar with the jobs and job tasks by a periodic plant walk through. Once familiar with plant operations and job tasks, the health care professional will periodically revisit the facility to remain knowledgeable about changing working conditions. Other approaches that may help the health care professional to become familiar with jobs and job tasks include reviewing job analysis reports, detailed job descriptions, job safety analyses, and photographs or videotapes that are accompanied by written descriptions of the jobs.

Early Reporting

Our employees will report as early as possible any signs or symptoms of musculoskeletal disorders. Early reporting allows corrective measures to be implemented before the effects of a job problem worsen. Individual worker complaints that certain jobs cause undue physical fatigue, stress, or discomfort may be signs of ergonomic problems. Following up on these reports of MSDs is essential. Such reports indicate a need to evaluate the jobs to identify any ergonomic risk factors that may contribute to the cause of the symptoms or disorders.

Employees reporting any signs or symptoms of potential MSDs will have the opportunity for prompt evaluation by a health care provider. The earlier symptoms are identified and treatment is initiated the less likely a more serious disorder will develop. Our company will not discourage employees from reporting and signs or symptoms. Employees will not fear any discipline or discrimination on the basis of such reporting.

Training and Education

The fifth step in implementing our Ergonomics Program involves developing a training program. The County will train each employee who works at a job with exposure to specific risk factors and each employee in a job where a work-related musculoskeletal disorder has been recorded. Training and education for employees potentially exposed to ergonomic hazards is a critical component of our ergonomics training program. Training allows

managers, supervisors, and employees to understand ergonomic and other hazards associated with a job or production process, their prevention and control, and their medical consequences.

The following individuals will be included in our training and education program:

- All affected employees
- Engineers and maintenance personnel
- Supervisors
- Managers
- Health Care Professionals

The program will be presented in a language and at a level of understanding that is appropriate for the individuals being trained. The County training program includes an opportunity for employees to ask questions and receive answers. This allows employees to fully understand the material presented to them. It will provide an overview of the potential risk of illnesses and injuries, their causes, symptoms, and the means of prevention and treatment.

The program will also include a means for adequately evaluating its effectiveness, such as employee interviews, testing, and observing work practices, in order to determine if those who received the training understand the material and the work practices to be followed.

General training will consist of the following:

- How to recognize risk factors associated with work-related musculoskeletal disorders and ways to reduce them.
- The signs and symptoms of work related musculoskeletal disorders, the importance of early reporting, and medical management procedures.
- Reporting procedures and the person to whom the employee is to report work-related musculoskeletal disorders.
- The process our company is taking to address and control workplace risk factors, each employee's role in the process, and how to participate in the process.
- Opportunity to practice and demonstrate proper use of implemented control measures and safe work methods, which apply to the job.

Job-specific training

New employees and reassigned workers will receive an initial orientation and hands-on training when first placed in a full-production job. Training lines may be used for this purpose. Each new hire will be taught the proper use of and procedures for all tools and equipment that they will use. The initial training program will include the following:

- Care, use and handling techniques for tools and equipment.
- Use of special tools and devices associated with individual workstations, as necessary.
- Use of appropriate guards and safety equipment, including personal protective equipment.
- Use of proper lifting techniques and devices.
- On-the-job training that will emphasize employee development and use of safe and efficient techniques.

Training for supervisors

Supervisors are responsible for ensuring that employees follow safe work practices. They will receive appropriate instruction and training to enable them to do that. Supervisors must have training comparable to that of the employees, and any additional training as may be necessary to enable them to recognize the signs and symptoms of MSDs, to recognize hazardous work practices, to correct the practices, and to reinforce our ergonomic program, especially through the ergonomic training of employees as may be needed.

Training for managers

Managers must be aware of their safety and health responsibilities. We will therefore make sure that they have sufficient instruction and training pertaining to ergonomic issues at each workstation and in the production process as a whole, so that they can effectively carry out their responsibilities.

Ergonomics Training Record

Name of Employee: _____

Department: _____

Occupation(s): _____

Training Subject	Initial Training Date	Retraining Date	Comments

I have received and understand the ergonomics training instruction listed above and acknowledge that it has been presented to me in a language and a level of understanding appropriate to me.

Employee's Signature	Date	Supervisor's Signature	Date

Program Evaluation

The final step in implementing our Ergonomics Program involves performing a program evaluation. If any problems arise in our Ergonomics Program, although we may not be able to eliminate all problems we will try to reduce exposures to and eliminate as many problems as possible to improve employee protection and encourage safe practices. The County Safety Officer will thoroughly evaluate and, as necessary, promptly take action to correct any compliance deficiencies in our program so we can eliminate problems effectively. The County Safety Officer will also evaluate the Ergonomics Program annually.

Our Ergonomics Program will have a system for long-term implementation, feedback, and review to assess the progress and success of the program. Components of the ergonomics plan will include accountability for implementation, ongoing assessment of effectiveness, and identification of new problems.

The following elements will be part of our Ergonomics Program:

- Employee input procedures.
- Annual review and update of objectives and actions.
- Corrective actions and dates of implementation.
- Workplace will be monitored for ongoing ergonomic hazards.
- Injury claim trends monitored.
- OSHA-300 (or form OSHA-200) reviews monitored.
- Employee suggestion mechanisms in place.
- Ergonomics plan annually reviewed.

OTERO COUNTY, NEW MEXICO

Hazard Communication Program

This is Otero County's Hazard Communication Program. It meets all OSHA requirements and applies to all our work operations.

The County Safety Officer will be responsible for overall direction of the Safety Program.

Introduction

The purpose of this program is to comply with 29 CFR 1910.1200. The Hazard Communication Program will also:

1. Inform our employees that our company is complying with the OSHA Hazard Communication Standard by observing all its requirements, and by compiling a hazardous chemicals list, by using material safety data sheets (MSDS), by ensuring that containers are labeled, and by providing appropriate training.
2. Explain how those responsibilities are being put into effect at this workplace.

This program applies to all work operations in the County where there may be exposure to hazardous chemicals under normal working conditions or during a foreseeable emergency situation.

The County Safety Officer is the program coordinator, acting as the representative of the County manager, who has overall responsibility for the program. He will review and update the program, as necessary. Copies of the written program may be obtained from him/her.

Under this program, our affected employees will be informed of the contents of the Hazard Communication Standard, the hazardous properties of the chemicals with which they work, safe handling procedures, the hazards associated with non-routine tasks, such as the cleaning of reactor vessels, the hazards associated with chemicals in unlabeled pipes, and measures to take to protect them from chemicals hazards.

List of Hazardous Chemicals

The County Safety Officer has made a list of all hazardous chemicals used in the County, and will update the list as necessary. Our list of chemicals identifies all of the chemicals used in our work areas. It identifies the corresponding MSDS for each chemical by using a dept. and number system.

A master list of those chemicals is maintained by the County Safety Officer will be available at the Courthouse.

Material Safety Data Sheets

MSDS's provide specific information on the chemicals in use. Our safety and health manager will maintain a binder in his office with an MSDS on every hazardous chemical on our premises. Each MSDS will be a fully completed OSHA Form 174 or the equivalent.

The County Safety Officer will also make sure that each work site maintains an MSDS for the hazardous chemicals in that area at a place where it is readily available to employees while they are at work. If you do not know where they are located, ask your supervisor.

The County Safety Officer is responsible for acquiring and updating MSDS's. The County Safety Officer will contact the chemical manufacturer or vendor if additional information is necessary or if an MSDS has not been supplied with an initial shipment. All new procurements for the company must be cleared by Purchasing.

Labels

End users will ensure that all hazardous chemicals in the County are properly labeled and updated, as necessary. The labels list at least the chemical identity, appropriate hazard warnings, and the name and address of the manufacturer, importer or other responsible party. End users will refer to the corresponding MSDS to assist in verifying label information.

If there are a number of stationary containers within a work area that have similar contents and hazards, each of them need not be labeled. However, signs will be posted to convey the needed hazard information.

If you transfer chemicals from a labeled container to a portable container that is intended only for your immediate use, no labels are required on the portable container.

Non-Routine Tasks

When you are required to perform hazardous non-routine tasks (e.g., cleaning tanks, entering confined spaces, etc.), special training will be provided in order to inform you regarding the hazardous chemicals to which you might be exposed and the proper precautions to take to reduce or avoid exposure.

Training

Everyone who works with or is potentially exposed to hazardous chemicals will receive initial training from the County Safety Officer on the Hazard Communication Standard and the safe use of those hazardous chemicals to which you may be exposed.

A program that uses both audiovisual materials, classroom-type training, and/or on-the-job training has been prepared for this purpose. The training program may vary among workers but every worker will be trained in the OSHA hazard communication standard and all chemicals to which he may be exposed while at work.

Whenever a new hazard is introduced, additional training will be provided as appropriate. Regular safety meetings may also be used to review the information presented in the initial training. Supervisors will be extensively trained regarding hazards and appropriate protective measures so they will be available to answer questions from employees and provide daily monitoring of safe work practices. If you are ever unsure about what you should do or uncertain about the consequences of any action you plan to take, ask your supervisor beforehand!

The Training plan will emphasize these items:

- Summary of the standard and this written program
- Chemical and physical properties of hazardous materials (e.g., flash point, reactivity) and methods that can be used to detect the presence or release of chemicals (including chemicals in unlabeled pipes).
- Physical hazards of chemicals (e.g., potential for fire, explosion, etc.).
- Health hazards, including signs and symptoms of exposure, associated with exposure to chemicals and any medical condition known to be aggravated by exposure to the chemical.
- Procedures to protect against hazards (e.g., personal protective equipment required, proper use, and maintenance; work practices or methods to assure proper use and handling of chemicals; and procedures for emergency response).
- Work procedures to follow to assure protection when cleaning hazardous chemical spills and leaks.
- Where MSDS's are located, how to read and interpret the information on both labels and MSDS's, and how employees may obtain additional hazard information.

The County Safety Officer or his designee will regularly review our employee training program and advise management on training or retraining needs. As part of the assessment of the training program, he or she may want to obtain input from employees regarding the training they have received, and their suggestions for improving it. If

you have any suggestions, give them to your supervisor. He or she will see to it that they are provided to the appropriate party.

Retraining is required when the hazard changes or when a new hazard is introduced into the workplace. It is also County policy to provide training whenever it is needed to whomever needs it. If you do not think you are fully or properly trained, or if you ever feel you need additional training in any aspect of your job or your work environment, report that to your supervisor immediately!

Contractor Employers

The County Safety Officer will provide outside contractors with notice of any chemical hazards that may be encountered in the normal course of their work on the premises, the labeling system in use, the protective measures to be taken, the safe handling procedures to be used, and the location and availability of MSDSs. Each contractor bringing chemicals on-site must provide us with the appropriate hazard information on those substances, including the labels used and the precautionary measures to be taken in working with those chemicals.

Additional Information

All employees, or their designated representatives, can obtain further information on this written program, the hazard communication standard, applicable MSDSs, chemical information lists and any other safety or health matter that may interest or concern them from the County Safety Officer.

Role in Job Safety

County management recognizes that safe and healthful employment requires full-time attention to numerous details, few of which can be committed to a written document as brief as this one. Our employees gain some safety instruction while they are youngsters in the home and in school. They obtain additional instruction through experience as they grow older. They get on-the-job training here and on jobs they have held before they came to work here. All of this plus the matters covered in this program is part of the knowledge and experience we expect our employees to utilize during their employment.

We will help you to work in a safe and healthful manner because we want you to be healthy and free from injury but we can't do it for you. Whenever you become aware of something you think is hazardous, report it to your supervisor IMMEDIATELY!

Whenever you have any questions or doubts, ASK QUESTIONS of your supervisor

AT ONCE!

OTERO COUNTY, NEW MEXICO

Lockout/Tagout Program

This is Otero County's Lockout/Tagout Program. It meets all OSHA requirements and applies to all our work operations.

The County Safety Officer will be responsible for overall direction of the Safety Program.

Introduction

We have adopted this program in order to implement the OSHA standard regulating the control of hazardous energy (Lockout/Tagout), 29 C.F.R. 1910.147. That OSHA standard, in 1910.147(c) (1), requires that each employer shall establish:

- A program consisting of energy control procedures, employee training and periodic inspections to ensure that before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, start up or release of stored energy could occur and cause injury, the machine or equipment shall be isolated from the energy source, and rendered inoperative.

Scope

The lockout/Tagout program covers the servicing and maintenance of machines and equipment in which the unexpected energizing or start-up of the machines or equipment, or release of stored energy could cause injury to employees. It establishes minimum performance requirements for the control of such hazardous energy.

The standard does not cover the following:

- Employment in the agriculture, construction and maritime industries.
- Installations under the exclusive control of electric utilities for the purpose of power generation, transmission and distribution, including related equipment for communication or metering.
- Exposure to electrical hazards from work on, near or with conductors or equipment in electric utilization installations covered by the OSHA standards in Subpart S of Part 1910, Title 29, Code of Federal Regulations (29 C.F.R 1910.301 to 1910.335).

Application

The OSHA lockout/Tagout standard applies to the control of energy during servicing and/or maintenance of machines and equipment, but it does not apply to:

- Normal production operations unless:
    - An employee is required to remove or bypass a guard of other safety device, or
    - An employee is required to place any part of his/her body into the point of operation (the area on a machine or piece of equipment where work is actually performed) or where an associated danger zone exists during a machine operating cycle.
- Minor tool changes and adjustments, and other minor servicing activities that take place during normal production operations if they are routine, repetitive, and integral to the use of the equipment for production, provided that the work is performed using alternative measures which provide effective protection.
- Work on cord and plug connected electric equipment for which exposure to the hazards of unexpected energization or start-up is controlled by unplugging the equipment from the energy source so long as the plug is under the exclusive control of the employee performing such work.

- Hot tap operations involving transmission and distribution systems for substances such as gas, steam, water or petroleum products when they are performed on pressurized pipelines provided it is demonstrated that (a) continuity of service is essential, (b) shutdown of the system is impractical, and (c) documented procedures are followed and special equipment is used that will provide proven effective protection for employees.

Related OSHA Standards

A number of other OSHA standards contain various lockout/tagout requirements, which must also be observed when they apply.

Those standards cover the following:

POWERED INDUSTRIAL TRUCKS

- 29 C.F.R. 1910.178(q)

OVERHEAD AND GANTRY CRANES

- 29 C.F.R. 1910.179(g)(5)
- 29 C.F.R. 1910.179(l)(2)

DERRICKS

- 29 C.F.R. 1910.180(f)(2)

WOODWORKING MACHINERY

- 29 C.F.R. 1910.213(a)(10)
- 29 C.F.R. 1910.213(b)(5)

MECHANICAL POWER PRESSES

- 29 C.F.R. 1910.217(b)(8)
- 29 C.F.R. 1910.217(d)(9)

FORGING MACHINES

- 29 C.F.R. 1910.218(a)(3)
- 29 C.F.R. 1910.217(d)(9)

FORGING MACHINES

- 29 C.F.R. 1910.218(a)(3)
- 29 C.F.R. 1910.218(d)(2)
- 29 C.F.R. 1910.218(e)(1)
- 29 C.F.R. 1910.218(f)(1)
- 29 C.F.R. 1910.218(f)(2)
- 29 C.F.R. 1910.218(j)(1)

WELDING, CUTTING and BRAZING

- 29 C.F.R. 1910.252(c)(1)
- 29 C.F.R. 1910.252(c)(2)

PULP, PAPER and PAPERBOARD MILLS

- 29 C.F.R. 1910.261(b)(4)
- 29 C.F.R. 1910.261(f)(6)
- 29 C.F.R. 1910.261(g)(15)
- 29 C.F.R. 1910.261(g)(21)
- 29 C.F.R. 1910.261(j)(4)
- 29 C.F.R. 1910.261(j)(5)
- 29 C.F.R. 1910.261(k)(2)

TEXTILES

- 29 C.F.R. 1910.262(c)(1)
- 29 C.F.R. 1910.262(n)(2)
- 29C.F.R. 1910.262(p)(1)
- 29 C.F.R. 1910.262(q)(2)

BAKERY EQUIPMENT

- 29 C.F.R. 1910.263(k)(12)
- 29 C.F.R. 1910.263(l)(3)
- 29 C.F.R. 1910.263(l)(8)

SAWMILLS

- 29 C.F.R. 1910.265(c)(12)
- 29 C.F.R. 1910.265(c)(13)
- 29 C.F.R. 1910.265(c)(26)

GRAIN HANDLING FACILITIES

- 29 C.F.R. 1910.272(e)(1)
- 29 C.F.R. 1910.272(g)(1)
- 29 C.F.R. 1910.272(l)(4)

The lockout/Tagout requirements of those standards must be followed when they are applicable and they must also be supplemented by the procedural and training requirements of the OSHA lockout/tagout standard, 29 C.F.R. 1910.147.

Definitions

Affected Employee

An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or Tagout, or whose job requires working in an area in which such servicing or maintenance is being performed. (The same person can simultaneously are both an affected and an authorized employee. See the definition of 'Authorized Employee.') Employees who exclusively perform functions related to normal production operations and who perform servicing and/or maintenance under the protection of normal machine safeguarding are treated as 'affected' rather than 'authorized' employees. See the discussion above under Application.

Authorized Employee

A person who locks out or tags out machines or equipment in order to perform the servicing or maintenance on that machine or equipment. (An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing maintenance or service on a machine or equipment which must first be locked out or a Tagout system implemented.)

Capable of Being Locked Out

An energy-isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

Energized

Connected to an energy source or containing residual or stored energy.

Energy Isolating Device

Mechanical device that physically prevents the transmission or release of energy.

For example: manually operated electrical circuit breaker, slide gate, slip blind, line valve, blocks or similar devices with visible indication of the position of the device, disconnect switch, manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, no pole can be operated independently. (Push buttons, selector switches and similar control circuit type devices are not energy isolating devices.)

Energy Source

Any source of electrical, mechanical, hydraulic, pneumatic, chemical, nuclear, thermal or other energy.

Hot Tap

A procedure used in the repair, maintenance and services activities, which involve welding on a piece of equipment (pipelines, vessels or tanks) under pressure, in order to install connections or appurtenances. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam and petrochemical distribution systems.

Lockout

The placement of a lockout device on an energy-isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout Device

Device that utilizes a positive means such as a lock and key (or a combination-type lock) to hold an energy isolating device in a safe position and prevents the energizing of the machine or equipment in order to protect personnel from injury. Included are blank flanges and bolted slip blinds.

Lock-Out/Tag-Out

Placement of a lock/tag on an energy-isolating device in accordance with established procedure to assure that the energy-isolating device would not be operated until removal of the lock/tag.

Normal Production Operations

The utilization of a machine or equipment to perform its intended production function.

Other Employee

An employee who does not work on the machinery or equipment that is locked out or tagged out, but whose work operations are or may be in the area where there are servicing or maintenance operations subject to the lockout/tagout requirements and procedures.

Servicing and/or Maintenance

Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or un-jamming of machines or equipment and making adjustments or tool changes, where the employee may exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

Setting Up

Any work performed to prepare a machine or equipment to perform its normal production operation.

Tagout

The placement of a Tagout device on an energy-isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the Tagout device is removed.

Tagout Device

A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Employee Responsibilities

1. Authorized employees are required to lockout and Tagout machinery and equipment and restore it to service in accordance with OSHA requirements and our lockout/Tagout procedures.
2. All employees are required to comply with all obligations, restrictions and limitations imposed upon them during the use of lockout and Tagout.
3. No employee (other than an authorized employee) shall attempt to start, energize, or use any machine or piece of equipment that is locked out or tagged out.
4. Each employee must comply at all times with all provisions of this lockout/Tagout program, the OSHA lockout/Tagout standards, and all rules, regulations and orders that are applicable to his/her own actions and conduct.

Discipline for Non-Compliance

Disciplinary actions will be taken against any employee who fails to observe any rule listed above under 'Employee Responsibilities,' who does servicing or maintenance work on, or comes within physical contact of, any machinery or equipment that is required to be locked or tagged out at a time when it has not been properly locked or tagged out, or who fails to comply with any restriction, limitation or obligation imposed by our lockout/tagout program and procedures or by OSHA lockout/tagout requirements.

Any foreman, supervisor or official of management, as soon as he/she becomes aware of any such failure, shall ensure that the following action is taken:

- FIRST OFFENSE - A written report of the incident shall be made and placed in the employee's personnel file. The employee must undergo additional lockout/tagout retraining before he is permitted to work on any job where he may become an affected employee, an authorized employee or an other employee (see the Definitions, above).
- SECOND OFFENSE - The employee shall be immediately suspended from employment without pay for a period of days. A written report of the incident shall be made and placed in the employee's personnel file. Upon his return to work, he must undergo additional lockout/Tagout retraining before he is permitted to work on any job where he may become an affected employee, an authorized employee or an other employee (see the Definitions, above).
- THIRD OFFENSE - The employee shall be immediately terminated.

Locks and Tags

Locks

Each authorized employee who works with machinery or equipment subject to our lockout procedures will be issued a padlock with one (1) key.

1. Each individual lock will be identified by the employee's number. No employee shall ever use anyone else's lock.
2. Different keys will operate all locks.
3. There will be no master keys.

The locks issued to employees have been determined to be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected, and substantial enough to prevent removal when in place by any means (other than the regular key) without the use of excessive force or unusual techniques (such as with the use of bolt cutters or other metal cutting tools).

Any person who knows of any lock that does not satisfy the above must immediately report that fact to his supervisor. That supervisor shall take immediate steps to ensure that the lock in question meets the above or that a suitable replacement lock is provided.

Tags

Lockout is the preferred method to assure against injury. The use of tags in the de-energization process and in preventing unauthorized start-up of machines and equipment is therefore limited to:

1. Machinery and equipment with energy isolating devices that are not capable of being locked out. See definition Capable of Being Locked Out. (The company will not purchase any such equipment in the future and the existing equipment will be retrofitted to accept a lockout device when it undergoes replacement or major repair, modification or renovations.)
2. Special and temporary situations where use of a Tagout system will provide full employee protection.

The tags to be used in those situations will be provided by the company. Each tag must indicate the identity of the employee who applies it (examples of such tags are attached). The tags to be used have been determined by the company to be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected. They have been constructed and printed so that exposure to weather conditions, wet or damp locations or corrosive environments (such as areas where acid and alkali chemicals are handled and stored) will not cause the tag to deteriorate or the message on the tag to become illegible.

Tags having reusable, non-locking, easily detachment means of attachment (such as string, cord, or adhesive) are not permitted.

All tags to be used have been standardized by color, shape, size, print and format. They are non-reusable, self-locking, attachable by hand, non-releasable with a minimum unlocking strength of no less than 50 pounds, and have the general design and basic characteristics of being at least equivalent to a one-piece, all-environment-tolerant nylon cable tie.

Each tag contains a warning against hazardous conditions if the machine or equipment should be energized. They contain words such as:

- DO NOT START
- DO NOT OPEN
- DO NOT CLOSE
- DO NOT ENERGIZE
- DO NOT OPERATE

Any person who knows of the use of any tag that does not satisfy the above must immediately report that fact to his supervisor. That supervisor shall take immediate steps to ensure that the tag in question satisfies the above or that a suitable replacement tag is provided.

Lockout Procedures

Lockout shall be performed only by the authorized employees who are performing the servicing or maintenance. No one will be permitted to perform lockout that is not thoroughly familiar with the machinery/equipment involved. That familiarity must include:

- Knowledge of the type and magnitude of the energy.
- The hazards of the energy to be controlled, and
- The means and methods to control the energy.

Lockout shall be performed as follows:

- Review lockout/tagout plans and procedures. Make a survey to locate and identify all isolating devices in order to be certain which switch(s), valve(s) or other energy isolating devices apply to the equipment to be locked out. Bear in mind that more than one energy source (electrical, mechanical, or others) may be involved.
- Notify all affected employees that a lockout is required and the reasons for its use. The authorized employee must know the type and magnitude of energy that the machine or equipment utilizes, the means and methods to control that energy, and understand the hazards thereof.
- Shut down operating equipment by the normal procedure (depress stop button, open toggle switch, etc.)
- Operate the switch, valve or other energy isolating device so that the energy sources (electrical, mechanical, hydraulic, etc.) are disconnected or isolated from the equipment. Stored energy such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems (air, gas steam or water pressure), etc., must also be dissipated or restrained by methods such as grounding, re-positioning, blocking, double block & bleed, bleed-down, etc.
- Lock out all of the energy isolating devices with an assigned individual lock. The lock must be affixed in a manner that will isolate the machine or equipment from the energy source(s) (hold the energy isolating devices in a 'safe' or 'off' position.) Keep the key in your possession.
- After the lock is in place, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained, and otherwise rendered safe.
- Operate push button or other normal operating controls to make certain the equipment will not operate.

CAUTION:

YOU MUST FIRST ASSURE THAT NO PERSONNEL ARE EXPOSED

- If there is a possibility of re-accumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing of maintenance is completed, or until the possibility of such accumulation no longer exists.
- Return operating controls to neutral position after test.
- The equipment is now locked out.

Restoring Equipment to Service

When a job is completed and equipment is ready for testing or normal service, check the equipment area to see that no one is exposed. Inspect the work area to ensure that nonessential items have been removed and to ensure that the machine or equipment components are operationally intact. When equipment is all clear, all locks shall be removed and affected employees shall be notified that the locks have been removed.

The energy isolating devices may now be operated to restore energy to the equipment.

The lock shall only be removed by the same employee who put the lock on the energy isolating device. However when the authorized employee who applied the lock is not available to remove it, it may be removed under the direction of his supervisor, but only if it is first:

1. Verified by the supervisor that the authorized employee who applied the lock is not at the facility.
2. All reasonable efforts to contact the authorized employee have been made in order to inform the employee who applied the lock that his/her lock has been removed.
3. Made certain that the authorized employee has this knowledge before he/she resumes work.

Our lockout/tagout training program includes additional training and instruction on this process.

Special Procedures Involving More Than One Person - (Group/Lockout)

If more than one individual is required to service or maintain machinery or equipment, the provisions of this Lockout Procedure must be observed as well as the following additional precautions:

1. One authorized employee will be designated to coordinate the affected work forces and ensure continuity of protection. He will be designated as the 'primary authorized employee'.
2. The primary authorized employee shall coordinate with equipment operators before and after completion of servicing and maintenance operations that require lockout.
3. A verification system will be implemented in order to ensure the continued isolation and de-energization of hazardous energy sources during the maintenance and servicing operations.
4. Each authorized employee will be given the right to verify individually that the hazardous energy has been isolated and/or de-energized.
5. When more than one crew, craft, department, etc., is involved, each separate group of servicing/maintenance personnel will be accounted for by a principal authorized employee from each group. The principal employee will be responsible to the primary authorized employee for maintaining accountability of each worker in that specific group in conformance with our company lockout procedure.
6. No person may sign on or sign off for another person, or attach or remove another person's lock. Each authorized employee shall place his/her personal lock upon each energy isolating device, shall remove it upon departure from that assignment, and must verify or observe the de-energization of the equipment.
7. When an energy isolating device cannot accept multiple locks, a multiple lockout device (such as a hasp) may be used.
8. One designated individual of a work crew or their supervisor may lockout equipment for the entire crew only if the following procedure is used:
9. Each member of the work crew must verify that the equipment is properly locked out.
10. A lockout box is used to hold the lockout keys.
11. Each individual's lock and tag is used to lock the box.
12. Locks and tags used to actually lockout equipment shall identify members of work crew and/or lockout box being used.
13. Locks and tags used for the lockout equipment cannot be removed until the last individual of the crew has removed their lock and tag from the lockout box.
14. The designated individual must ascertain the exposure status of all members of the crew and is responsible for ensuring that all of this program's requirements for employee protection are observed during the entire process.

Temporary Removal of Locks

In those situations where the lock must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment or component thereof, the following sequence of actions shall be followed:

1. Clear the machine or equipment of tools and materials.
2. Remove employees from the machine or equipment area.
3. Remove the lock.
4. Energize and proceed with testing or positioning.
5. De-energize all systems and reapply energy control measures in the sequence set forth above in order to continue the servicing and/or maintenance.

Shift Changes

If the lockout continues beyond the end of the shift of the employee who locked it out, it will remain in the locked out position until the same employee returns to the job.

Tagout Procedures

In those instances where machinery or equipment is tagged out, rather than locked out, the lockout procedures listed above will be followed except that the tags described above will be used instead of locks.

The following requirements will also be taken:

1. Tag-out will not be used unless it will provide a level of safety equivalent to that obtained by the lockout procedures.
2. Additional safety measures beyond those necessary for lockout must be taken such as the removal of an isolating circuit element, blocking of a controlling switch, opening of an extra disconnecting device, or the removal of a valve handle to reduce the likelihood of inadvertent energization.
3. The tag shall be affixed to each energy isolating device by an authorized employee.
4. The tag shall be affixed in such a manner as to clearly indicate that the operation or movement of energy isolating devices from the 'safe' or 'off' position is prohibited.
5. Where a tag is used on an energy isolating device that is capable of being locked, the tag attachment shall be fastened at the same point at which the lock would have been attached. However, where a tag cannot be affixed directly to the energy isolating device, the tag shall be located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.
6. No tag will be removed without the specific advance approval of the authorized employee responsible for it.
7. No tag will be bypassed, ignored or otherwise defeated.
8. The tags must be securely attached to each energy isolating device so that they cannot be inadvertently or accidentally detached during use.
9. All employees must keep in mind at all times that tags are WARNING DEVICES that are put in place for their protection. They do not provide physical restraint like a lock does.
10. The words of warning on the tag must be observed by all employees at all times.
11. Instruction and training upon the use and limitation of tags is included in our training sessions. Additional training of authorized, affected and other employees is required when tagout programs are used.
12. Each supervisor with responsibility for an area or process where machinery or equipment is tagged out must pay close attention to all employees in the area to see that these rules are observed. He shall take immediate action to protect their safety whenever it becomes necessary and, when appropriate, shall immediately invoke the disciplinary procedures listed above.

Training

The County has a training program for all employees who work with machinery or equipment subject to lockout/tagout requirements, including those employees who do not work directly on that machinery or equipment but whose work operations are or may be in the area. An employee must successfully complete the training program before he/she will be permitted to work in the area of, or perform any servicing or maintenance upon, any machinery or equipment that is subject to OSHA lockout/tagout requirements.

The Training Program has been designed to educate our employees in their respective roles in the control of energy, the knowledge that they must possess to accomplish their tasks safely and to ensure the safety of fellow workers as related to the lockout/tagout procedures.

The OSHA standard recognizes three types of employees:

1. Authorized,
2. Affected, and
3. Other (each of which has been defined above), different levels of training are provided. See the discussion above under Application.

Employees who exclusively perform functions related to normal production operations, and who perform servicing and/or maintenance under the protection of normal machine safeguarding are trained as 'affected' (rather than 'authorized') employees. See the Application discussion above.

Each employee who goes through the training program must be trained in:

- The purpose and function of the company's Energy Control (Lockout/Tagout) Program .
- The elements of the energy control procedures that are relevant to the employee's duties.
- The pertinent requirements of the OSHA Lockout/Tagout Standard, 29 C.F.R. 1910.147.

Each authorized employee shall also receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.

Each affected employee shall be instructed in the purpose and use of the energy control procedure.

All other employees whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the lockout/tagout procedures and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.

Where tagout is used, employees shall also be trained in the following limitations of tags:

- Tags are essentially warning devices affixed to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock.
- When a tag is attached to an energy isolating means, it is not to be removed without authorization of the authorized person responsible for it, and it is never to be by passed, ignored, or otherwise defeated.
- In order to be effective, tags must be legible and understandable by all authorized employees, all affected employees, and all other employees whose work operations are or may be in the area.
- Tags and their means of attachment must be made of materials which will with stand the conditions encountered in the workplace.
- Tags may evoke a false sense of security, and their meaning needs to be understood as part of our overall energy control (lockout/tagout) program.
- Tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use.

The training shall be conducted at a frequency and in a manner that ensures that the purpose and function of our energy control (lockout/tagout) program are understood by employees and that they have the knowledge and skills required for the safe application, usage and removal of required energy controls.

The County maintains a roster (or Certification of Training) that lists the name of each employee who has completed the training together with the calendar dates of his training. That document serves as certification that employee training has been accomplished and is being kept up to date.

Employees affected by lockout/tagout will be provided with re-training as needed and:

- Whenever there is a change in employee job assignments that involves different lockout/tagout equipment or procedures;
- Whenever a new hazard is introduced due to a change in machines, equipment or process;
- Whenever there is a change in the energy control (lockout/tagout) procedures;
- Whenever the Safety Officer learns of inadequacies in the County employees procedures or in the knowledge or performance of an employee as a result of an inspection, a failure to observe required procedures, noncompliance with any rule included in this Program, or because inadequacies are brought to the company's attention in any other way.

The retraining will maintain and reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.

Inspections

The County Safety Officer with responsibility for maintenance of machinery and equipment, or a person (or persons) designated by him, will conduct an inspection at least once a year in order to verify the effectiveness of our energy control (lockout/tagout) procedures and observance of OSHA lockout/tagout requirements.

The inspections will include:

1. Demonstration of the required procedures by Authorized and Affected employees.
2. Visual observation of the way lockout/tagout is being used on relevant machinery and equipment.
3. Individual review of the responsibilities of each authorized employee implementing the procedure. (Group meetings between the person who is performing the inspection and all authorized employees who implement the procedure may be used in lieu of such individual review).
4. When tagout issued, individual review shall be conducted with each affected and authorized employee of that employee's lockout/tagout responsibilities. It shall include the extent of his understanding of the training component listed above under Training. See the discussion above.
5. If any energy control procedure is used less frequently than once a year, annual inspection is not required. Such a procedure need only be inspected when used.
6. Whenever the inspection discloses lockout/tagout deficiencies, the person who conducts the inspection must take whatever action may be necessary to obtain their correction and the effective implementation of lockout/tagout requirements.

A written record will be maintained of each inspection that includes the following:

- The name of the person conducting the inspection.
- What machinery and equipment was inspected.
- The names of the employees who were covered by the inspection.
- The calendar date of the inspection.
- Deficiencies noted (if any) and corrective action taken, if necessary.

The person authorized or designated to conduct the inspection cannot be the same person utilizing the particular lockout/tagout procedure being inspected. In other words, no one can be the inspector of his own compliance.

Machines/ Equipment

The supervisor responsible for the maintenance and servicing of each machine and item of equipment that is subject to the lockout/tagout requirements, or a person or persons designated by that supervisor, shall obtain or prepare a written procedure that will identify (by name, machine number, category or similar identifying criteria) the particular machine (or group of machines) and equipment(or items of equipment), and include:

- The specific procedural steps for shutting down, isolating, blocking and securing the machines or equipment in order to control hazardous energy.
- Specific procedural steps for the placement, removal and transfer of lockout devices or tagout devices and the responsibility for them.
- Specific requirements for testing the machine or equipment to determine and verify the effectiveness of lockout devices, tagout devices and other energy control measures.
- A statement of the intended use of the procedure
- A clear and specific outline of the scope, purpose, authorization, rules and techniques to be utilized for the control of hazardous energy, and the means to enforce compliance.
- A single set of procedures can cover any number of machines or items of equipment if they have the same energy control measures.

List of Employees

The supervisor responsible for the maintenance and servicing of each machine and item of equipment that is subject to the lockout/tagout requirements, or a person or persons designated by that supervisor, shall maintain a current list of the name of:

1. Each employee who is authorized to lockout or tagout particular machines or items of equipment in order to perform servicing or maintenance thereon (Authorized Employees).
2. Each employee whose job requires him/her to operate or use a particular machine or item of equipment on which servicing or maintenance is being performed under lockout/tagout (Affected Employees).
3. Each employee whose job requires him/her to work in an area where such servicing or maintenance is being performed (Other Employees).

Outside Contractors

Whenever outside contractors or outside servicing personnel are to be engaged by the County to perform activities covered by the scope and application of the OSHA lockout/tagout standard 29 C.F.R. 1910.134, we will inform them of the relevant lockout/tagout procedure, and shall obtain from them the lockout/tagout procedure they will use on our premises.

Our employees will be provided with sufficient information and instruction upon the outside contractors' (or outside service personnel's) energy control (lockout/tagout) program to enable our people to understand and comply with its restrictions and prohibitions.

Enforcement

Each matter covered in this lockout/tagout program is inter-related. Consequently, this program is enforced by each person's continued compliance with all procedures, rules, regulations and orders that are applicable to his/her own actions and conduct and by taking appropriate action when noncompliance occurs.

OTERO COUNTY, NEW MEXICO

Safety and Loss Control Program

This is Otero County's Safety and Loss Control Program. It meets all OSHA requirements and applies to all our work operations.

The County Safety Officer will be responsible for overall direction of the Safety Program.

Company Safety Policy

Safety and accident prevention is everyone's responsibility. Each employee is expected to follow all County safety rules and to perform their work in a safe manner. Each Supervisor is responsible for safety, and for ensuring each employee is entered into the County's safety program and receives training in safe work procedures. The supervisor has the overall responsibility for safety at each location. The supervisor also has the responsibility and authority for safety and accident prevention. The County's policy is to provide a safe and healthy place of employment for every employee and to abide by accident prevention regulations set forth by the Federal and State governments.

The County is sincerely interested in the safety and welfare of its employees. Accident prevention is important in maintaining an efficient operation.

It is our policy that our safety rules will be strictly observed at all times. Although these rules are considered to be very important, it is impossible to publish a rule to cover every circumstance. If a rule that might cover a specific hazard condition is omitted, it will be no excuse for disregard of common sense in the performance of your work.

The possession or consumption of alcohol, drugs or any control substance is against policy and violators are subject to dismissal. The County will assist an employee to find suitable treatment facilities if a problem is discussed with their supervisor.

Each employee is urged to cooperate fully with this policy. Abuse or a disregard of this policy is a violation of policy and will be treated accordingly. Remember, your help in preventing accidents and injuries benefits you and your fellow employees. We should all strive for a record of zero accident.

Assignment of Responsibilities

County Management

The County Manager has overall responsibility for the County's safety program and regularly reaffirms support for loss control activities. He/She ensures that all employees are informed of top management's commitment to safety and the abidance of all Federal and State regulations.

County Safety Officer

The Safety Officer is responsible for the implementation and monitoring of the safety program. He/she reviews and maintains current copies of all applicable Federal, State, and local safety and health regulations; implements and monitors safety training programs and provides safety materials as needed; assists site supervision in accident investigation and recommends controls to prevent a reoccurrence. He/She will assure proper notification in the event of an accident.

Department Supervisors

Department Supervisors are responsible for the safety of their employees and oversee the compliance with the safety program and applicable State, Federal, and local regulations.

He/She will arrange for prompt medical attention in case of an injury and provides a thorough written investigative report with recommendations to prevent a reoccurrence.

Employees

All Employees will be responsible for learning and abiding by the rules and regulations which are applicable to their assigned tasks. Employees will need to perform their functions in the safest possible manner and encourage co-workers to do likewise.

Employee Placement

An Employee Questionnaire will be completed on each applicant for employment prior to being placed on the payroll.

The applicant will be interviewed by a supervisor that is familiar with the physical and mental requirements for the job. Areas that include prior employment, health record, prior job injuries, and illness will be discussed to assist in determining applicant's capabilities for performing the job.

Where possible to do so, telephone reference checks will be made with at least two prior employers.

On employees that will drive a company vehicle or drive their own vehicle and pull the company trailer, a current, valid driver's license is required. The license number and expiration date will be recorded in the employee's file. A Motor Vehicle Record (MVR) check will be made on the employees at the time of employment and at least every two years thereafter. When the MVR shows accidents or violations, the employee's supervisor will counsel this employee to promote a better driving record.

Initial Training

When a new employee is hired, initial safety training of the employee will be done by the County Safety Officer to cover such area as: company safety rules and procedures, personal protective equipment that is required on the job, what the company expects from the employee, and the Hazard Communication Program to outline any exposures and how to protect against an exposure potential. The same type of training will be completed at any time that new materials used in the operations offer any new exposure potential.

Accident Reporting

An employee should report any accident or injury, regardless of how minor, to the Job Supervisor.

All inquiries concerning incident/accident/injury/property damage should be referred to the Supervisor. The employee should make no comments, provide no details, or express any opinion as to the cause of the incident, who was at fault, responsibility for, or any intent of the company regarding the incident

The County Safety Officer or designee will investigate any personal injury accident, property damage claim or vehicle accident associated with the job and will complete an Accident Investigation Report. The purpose of this investigation is to assist in preventing this type of mishap in the future. The employee will cooperate fully with the person performing this investigation.

Accident Investigation

The investigation will be recorded on the Accident Investigation Report. Every report will be reviewed by the County Safety Officer. Personal injury or illness will be recorded on OSHA Log 300. The completed Accident Investigation Reports will be review during the monthly Supervisory Safety Meetings.

Personal Protective Equipment

The following rules will apply:

- Hard Hats - All employees are required to wear a hard hat on every job site at all times.
- Eye Protection - All employees are required to wear safety glasses on the job site at all times.
- Fall Protection - All employees exposed to falls over 10ft are required to be trained and use proper fall protection.
- Hand Protection - All employees involved in operations exposing hands to cuts, chemicals, burns, etc. are required to wear gloves.
- Rubber Boots - Employees involved in operations exposing the feet/legs to such hazards as concrete burns during placing uncured concrete are required to wear rubber boots in good condition.
- Other - Specific jobs may cause the need for other personal protective equipment. When this occurs, the employee is expected to utilize this equipment. It is the Job Superintendent's responsibility to see that equipment in use be appropriate and in good condition.

Safety Rules and Procedures

The safety rules and procedures are developed to assist in achieving job safety by having no employee accidents. Some of the rules are OSHA requirements. For this reason, every employee is expected to abide by the safety rules and procedures at all times.

General

Employees must follow the safety policy, rules and procedures established. Violations may result in disciplinary action, which could include termination.

Employees should report any equipment or condition considered to be unsafe, as well as what they consider to be unsafe work practices. This type of information should be reported to the Superintendent or to the person in charge of the job.

Be courteous. Avoid distracting others as distractions may cause or contribute to accidents. Do not engage in horseplay on the job.

When lifting, bend your knees, grasp the load firmly, then raise the load with your legs, keeping the back as straight as possible. Don't twist body with a load, move your feet. Get help for heavy loads.

When in doubt about the safety of a situation that is out of the norm, contact your supervisor to find the proper procedure.

Good housekeeping practices improve the safety for everyone. When you create clutter, clean it up. When clutter is left in the work area by someone else, clean it up and report this to your supervisor.

The possession or consumption of alcohol, drugs or any control substance is against policy and violators are subject to dismissal.

Safety Meetings

Safety and Loss Prevention personnel will plan and arrange for meetings to be held once each month. Safety representatives from all departments will attend and participate in this meeting to review jobsite accidents, near misses, required training, and unsafe conditions/acts noted on safety inspections, etc.

Vehicle Operations

Employees driving County vehicles, their personal vehicle on company business must have a current driver's license and an acceptable driving record. Employees driving their personal vehicle on County business must provide proof of liability insurance to the County.

When driving a County vehicle or their personal vehicle on County business, all traffic laws must be obeyed and driver and any passengers in the front seat must wear a seat belt.

OTERO COUNTY, NEW MEXICO

Office Safety Plan

This is Otero County's Office Safety Plan. It meets all OSHA requirements and applies to all our work operations.

The County Safety Officer will be responsible for overall direction of the Safety Program.

Introduction

Although office work is generally considered one of the safest of all activities, slips and falls, collisions with desks and open drawers, strains from unauthorized moving of furniture, and other similar accidents resulting in injury are common in offices. The following general safety rules shall therefore be observed in all offices:

General Office Procedures

- Make sure that desks and work areas are clean and orderly. Pick up items such as pencils or paper clips, especially when they have fallen on the floor. Good housekeeping is the key to a safe office environment.
- Look for and eliminate damaged floor coverings.
- Be extra cautious when you come up to a door that can be opened in your direction. Be careful when pushing open such a door.
- Slow down when coming to a 'blind' corner.
- Keep all file, desk, and table drawers closed when not in use.
- Never open more than one file drawer at a time.
- Do not stack 2-drawer or 3-drawer filing cabinets on top of one another.
- Overloading the top drawer of unsecured file cabinets has caused many injuries. If unfamiliar with file cabinets or desk drawers, be careful not to pull them out to full extension. There may be no locking device on inexpensive or older models.
- Put heavy materials in bottom drawers.
- Do not move heavy office furniture and office equipment unless properly trained and authorized. Do not be afraid to ask for help when moving heavy objects.
- Tilting chairs and chairs with casters can be hazardous when improperly used. Make sure they are in good working condition.
- Never use chairs, desks, or other office furniture as makeshift ladders. Always use a step ladder.
- Never overreach while climbing on a step ladder because you may lose your balance and fall. Never use the top rung of a stepladder.
- Message spindles can cause puncture wounds to the hands and arms. When message spindles are used, protect the point with a blunt cover and bend the point to a horizontal angle.
- Keep the blades of paper cutters closed and locked when not in use.
- Scissors, paper cutters, and similar office devices can cause minor, but painful injuries. Always use such equipment carefully. Report such injuries at once; take first aid measures to avoid infection and seek medical care if necessary.
- Paper can cut. Use a sponge or other wetting devices for envelopes. Use rubber finger guards when working with stacks of paper.
- Keep paper clips, thumb tacks, and pins in a place where they cannot injure you.
- Do not use extension cords as permanent wiring. Be sure electrical cords and telephone cords are out of the normal traffic patterns where they could cause a trip hazard. If necessary, use cord cover.

Office Equipment and Machines

Office machines and electrical appliances present special hazards in the office. The following safety rules regarding office machines and electrical appliances shall be observed:

- Carefully handle knives, scissors, and writing instruments.
- Never leave knives with the blade exposed. Guard the blade with a sheath or remove the blade and store it in a closed container. Replace broken blades.
- Do not use makeshift equipment, and do not use equipment in ways in which it is not intended to be used. Suitable office equipment shall be used for stamping, sharpening, and cutting.
- Inspect electrical equipment and appliances to be sure that cords are in good condition and that plugs are not cracked, frayed, or broken.
- Coffee makers and heaters can be fire hazards. Never leave a coffeemaker or heater on after working hours. Be sure heater is not placed near combustible materials, or where it may be a trip hazard.
- Unless otherwise identified, always be sure that electrical equipment such as personal computers (PCs), word processors, electric typewriters,calculators, etc. are turned off at the end of the day.
- Remove liquid toner for copy machines from the carton and store it in a metal cabinet or metal file drawer away from combustible materials.
- Certain office machines such as paper shredders or blueprint machines present special hazards if not used properly. Follow the vendor's operating and maintenance instructions.
- Store flammable materials, e.g., alcohol, board cleaner, etc. away from combustible materials.
- Inspect your fire extinguishers monthly. Have the extinguishers re-charged annually.
- Be sure your computer terminal and chair are properly adjusted for you. Ask for assistance if you do not know how to adjust your chair, keyboard, or display.

Office Inspection Checklist

Date: _____

Inspector(s) _____

Description	Corrective Action Needed	Date Completed/ Initialed
General Work Environment		
Worksites are clean and orderly?		
Works surfaces are kept dry or are the appropriate means taken to assure the surfaces are slip-resistant?		
Spilled materials or liquids are cleaned up immediately?		
Any combustible, flammable materials, debris, and waste are stored safely and removed from the worksite promptly and in a safe manner?		
All restroom facilities are kept clean and sanitary?		
All work areas are properly illuminated?		
Inconsistencies in the floor surface made safe with proper warning signs, as well as the measures that should be taken to correct the problem?		
Posting of Emergency Phone Numbers and other OSHA required posters are in a conspicuous location?		
First-aid supplies are available?		
Fire extinguishers are available and currently checked?		

Corridors		
Corridors are well lighted; if a light is out, is it reported?		
Corridors kept free and clear of obstacles? If equipment is stored or being used in a corridor, is the user insuring that at least a 48-inch clearance is available for people passing through?		
Slippery surfaces covered with a non-slip material? Rugs that are loose or puckered are made safe and reported immediately?		
Spills of liquids (toner, cleaning fluids) reported immediately to the responsible person?		
Any uneven or elevated sections of the floor have been identified by sign for those unfamiliar with the corridor?		
Kitchen		
Spills are cleaned up immediately?		
Broken glass is cleaned up immediately?		
Electrical outlets in the kitchen are not overloaded and appliances are not near the sink or consistently wet areas?		
Hot surfaces or sharp edges have been properly identified as such?		
Microwave instructions (e.g., no aluminum foil in the microwave) are posted in the kitchen area and in a place near the microwave?		
Cabinet doors and drawers are closed?		

Employee Lounge		
If smoking is allowed, ashtrays are utilized and emptied after use only if the ashes are cold?		
All furniture is in good working order?		
All furniture is in good working order?		
Duplicating		
Floor is free of debris, (e.g., paper clips, rubber bands, etc.) that could cause a slip or fall?		
Duplicating operators have received chemical safety training for the handling of toner bottles and powders. Additional training is provided as necessary?		
When handling toner and other toxic liquids/powders, employees comply with safety procedures?		
Paper shredder is operating properly? There are no sharp edges or exposed wires?		
Stairs and Stairways		
Handrails on stairs are safe and securely fastened?		
Stairways are well lighted?		
Spills and surface inconsistencies (e.g., torn or frayed carpeting) are eliminated or made safe until they can be corrected?		

Workstations and Offices		
Workstations are well lighted, as well as burnt out overhead fluorescent lighting has been replaced?		
Adequate ventilation is provided?		
Chairs, computer equipment, keyboard trays, etc. are ergonomically suitable? Affected employees trained how to adjust equipment?		
Surge protector for the computer only used for computer appliances?		
Furniture is adjusted and positioned properly so as to minimize strain?		
No exposed wires or extension cords across walkways?		
Exit Doors		
Exit doors have been constructed to serve as an obvious and direct way of exit travel?		
Exits are marked with an exit sign and properly		
Windows that may be mistaken for exit doors have been made inaccessible by means of barriers or railings?		
Exit doors can be opened from the direction of exit travel, without use of a key, or any special knowledge or effort, when the building is occupied?		
Emergency hardware installed on an exit door has been tested and is properly functioning?		

Electrical		
Employees have been instructed to make preliminary inspections and/or appropriate tests to determine what conditions exist before starting work on electrical equipment or lines?		
Electrical appliances such as vacuum cleaners, polishers, and vending machines are properly grounded?		
Extension cords being used should have grounding conductors and are not used as permanent wiring?		
Exposed wiring or cords with frayed or deteriorated insulation are immediately removed upon their detection?		
Flexible cords and cables are free of splices?		
All cord, cable, and raceway connections are kept intact and secure?		
All employees who regularly work on or around energized electrical equipment or lines have been instructed in CPR methods?		
Other		
A chart should be posted for correct lifting procedures to prevent back injuries?		

OTERO COUNTY, NEW MEXICO

Personal Protective Equipment Program

This is Otero County's Personal Protective Equipment Program. It meets all OSHA requirements and applies to all our work operations.

The County Safety Officer will be responsible for overall direction of the Safety Program.

Introduction

The purpose of the County's Personal Protection Equipment (PPE) Program is to protect employees from workplace hazards through use of personal protection equipment.

In general, the safety of workers depends upon a thorough knowledge of their operations and the hazards posed. A written personal protection program is designed with these objectives:

1. To provide a reference document for any employee with questions concerning the proper application of PPE, and how our company is complying with the relevant OSHA regulation 29 CFR 1910.132, the OSHA standard regulating personal protective equipment.
2. To provide managers and employees with clear guidance on their responsibilities in the overall PPE Program.

Personal protective equipment includes all clothing and other work accessories designed to create a barrier against workplace hazards. The basic element of any program for personal protective equipment should be an in-depth evaluation of the equipment needed to protect against the hazards of the workplace. Management dedicated to the safety and health of employees should use that evaluation to set a standard operating procedure for personnel, then train employees on the protective limitations of personal protective equipment, and on its proper use and maintenance.

Using personal protective equipment requires hazard awareness and training on the part of the user. Employees must be aware that the equipment does not eliminate the hazard. If the equipment fails, exposure will occur. To reduce the possibility of failure, equipment must be properly fitted and maintained in a clean and serviceable condition.

Selection of the proper personal protective equipment for a job is important. Employers and employees must understand the equipment's purpose and its limitations. The equipment must not be altered or removed even though an employee may find it uncomfortable. (Sometimes equipment may be uncomfortable simply because it does not fit properly.)

This program covers many types of equipment most commonly used for protection of the head, including eyes and face, arms, hands, and feet. The use of equipment to protect against life threatening hazards also is discussed. Information on respiratory protective equipment may be found in 29 CFR 1910.134, the standard should be consulted for more information on specialized equipment.

General Requirements

Protective equipment, including PPE for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers must be provided, used, and maintained in a sanitary and reliable condition. PPE must be provided whenever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants (i.e., flying chips or sparks, abrasive moving parts) encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact.

In order to assess the need for personal protective equipment in your company, the following steps will to be taken. Conduct a walk-through survey of the areas in our workplace that may need PPE.

Consideration will be given to the following hazard categories:

1. Impact
2. Penetration
3. Compression (rollover)
4. Chemical
5. Heat
6. Harmful dust
7. Light (optical) radiation

During the walk-through survey, the safety manager will observe:

- Sources of motion; i.e., machinery or processes where any movement of tools, machine elements or particles could exist, or movement off personnel that could result in collision with stationary objects
- Sources of high temperatures that could result in burns, eye injury or ignition of protective equipment,
- Types of chemical exposures
- Sources of harmful dust
- Sources of light radiation, i.e., welding, brazing, cutting, furnaces, heat treating, high intensity lights,
- Sources of falling objects or potential for dropping objects
- Sources of sharp objects which might pierce the feet or cut the hands
- Sources of rolling or pinching objects which could crush the feet
- Layout of workplace and location of co-workers; and
- Any electrical hazards. In addition, injury/accident data should be reviewed to help identify problem areas.

Following the walk-through survey, decide if PPE is required for certain areas of work. The objective is to prepare for an analysis of the hazards in the environment to enable proper selection of protective equipment. Having conducted a thorough survey of the workplace, an estimate of the potential for injuries should be made and a determination made as to the type, level of risk, and any potential injuries from each of the hazards found in the area.

For mixtures and formulated products (unless specific test data are available), a glove should be selected on the basis of the chemical component with the shortest breakthrough time, since it is possible for solvents to carry active ingredients through polymeric materials.

Employees must be able to remove the gloves in such a way as to prevent skin contamination. All PPE must be of safe design and construction for the work that is to be performed. All equipment that is damaged or defective will be taken out of service and thrown away.

Hazard Assessment

The County Safety Officer will assess the workplace to determine if hazards are present or are likely to be present that will necessitate the use of PPE. If Hazards are present:

1. Select proper PPE and require the use of PPE.
2. Communicate the selection decision to each affected employee.
3. Select PPE that properly fits each affected employee.

A written certification of the workplace hazard assessment must be made. It is not necessary to prepare and retain a formal written hazard assessment, only a certification of the assessment. It must include:

1. The workplace evaluated
2. The person certifying that the evaluation has been performed
3. The date(s) of the hazard assessment

Equipment Selection

In order for employers to make correct selections, they must survey for hazards, organize, and analyze the data and then make the proper selection based on the types of hazards. It will be the safety manager's responsibility to use common sense and fundamental techniques to accomplish these tasks. This process is somewhat subjective due to the variety of situations where PPE may be required. See 29 CFR 1910.132.

The following list is a guide to Personal Protective Equipment requirements:

Guide to Personal Protective Equipment	
1. Wire brush wheels	Aprons, gloves, face shields, and goggles
2. Grinding stones	Face shield and safety glasses
3. Metal working machines	Impact goggles, safety glasses with side shields
4. Compressed air	Impact goggles, safety glasses with side shields
5. Woodworking machines	Safety goggles, face shields if dusts and no flying objects, safety glasses with side shield, abdominal guard or anti-kickback apron
6. Handling wood, metal	Kevlar (or other comparable material) leather, etc. gloves, or hand pads
7. Landscaping tools	Eye protection with side shields
8. Maintenance	Breast pockets sewn closed or removed or with flaps, tool belt with tools on side, gloves, harness and lifeline, goggles
9. Material handling	Gloves, hardhats, eye protection
10. Cold weather	Hardhat liners, Gloves
11. Close quarters work	Hard hats, Bump caps
12. Sparks, hot metals	Flame resistant caps, aprons, hoods, Nomex (or other comparable material) Canvas Spats
13. Hair protection	Cool, lightweight cap with long visor (hair under cap), hairnets
15. Limited direct splash from acids	Face shield, chemical goggles alkalis, etc
16. Lifting 15 lbs. solid objects	Toe protection once a day one foot or more; rolling rolls of paper, steel, hogsheads
17. Chain saws	Chaps, eye protection, hearing protection

Training

The employer must train each employee who is required to use PPE. See 29 C.F.R. 1910.133. Each employee must know at least the following:

1. When PPE is necessary.
2. What PPE is necessary.
3. How to properly wear and adjust PPE.
4. The limitations of PPE.
5. The proper care, maintenance, useful life, and disposal of the PPE.

Retraining is required when the employer has reason to believe that any employee who has been previously trained does not have the understanding or skill to use PPE properly, such as:

1. Changes in the workplace render previous training obsolete.
2. Changes in the types of PPE to be used render previous training obsolete.
3. The employee has not retained the understanding or skill to use PPE properly.

The employer must verify in writing through a certification record that employee received and understood the training. The Record must contain:

1. Name of each employee trained.
2. Date(s) of training.
3. Subject of the certification.

Eye and Face Protection

Employers must ensure that the proper eye and/or face protection is used when the employee is exposed to hazards from flying particles, molten metal, liquid chemicals, acid or caustic liquids, chemical gases or vapors, or potentially injurious light radiation. Care should be taken to recognize the possibility of multiple and simultaneous exposure to a variety of hazards. Adequate protection against the highest level of each of the hazards should be taken.

Information on eye and face protection equipment may be found in 29 CFR 1910.133. The standard should be consulted for more information on specialized equipment.

Each employee will wear eye protection that provides side protection when there is a hazard from flying objects. Detachable (clip-on or slide-on) side shields are acceptable.

Employees who must wear prescription lenses while engaged in activities requiring use of protection must be provided with eye protection which has the prescription incorporated into it or protection that can be worn effectively over the prescription lenses. Wearers of contact lenses must wear appropriate eye and face protection devices in hazardous environments. Dusty or chemical environments may represent an additional hazard to contact lens wearers.

Each eye and face PPE must be marked to identify the manufacturer.

For protection against potentially injurious light radiation, employees must use equipment with filter lenses with the appropriate shade number for the work being done. Tinted and shaded lenses are not filter lenses unless marked or identified ad such.

Some occupations (not a complete list) for which eye protection should be routinely considered are: carpenters, electricians, machinists, mechanics and repairers, millwrights, plumbers and pipe fitters, sheet metal workers and tinsmiths, assemblers, sanders, grinding machine operators, lathe and milling machine operators, sawyers, welders, laborers, chemical process operators and handlers, and timber cutting and logging workers.

Each eye, face, or face-and eye protector is designed for particular hazard. In selecting the protector, consideration should be given to the kind and degree of hazard, and the protector should be selected on that basis. Where a choice of protectors is given, and the degree of protection required is not an important issue, worker comfort may be a deciding factor.

Persons using corrective spectacles and those who are required by OSHA to wear eye protection must wear face shields, goggles, or spectacles of one of the following types:

1. Spectacles with protective lenses providing optical correction;
2. Goggles worn over corrective spectacles without disturbing the adjustment of the spectacles; or
3. Goggles that incorporate corrective lenses mounted behind the protective lenses.

When limitations or precautions are indicated by the manufacturer, they should be transmitted to the user and strictly observed. Over the years, many types and styles of eye and face-and-eye protective equipment have been developed to meet the demands for protection against a variety of hazards.

Fitting of goggles and safety spectacles should be done by someone skilled in the procedure. Prescription safety spectacles should be fitted only by qualified optical personnel.

Inspection and Maintenance for Eye Protection

It is essential that the lenses of eye protectors be kept clean. Continuous vision through dirty lenses can cause eye strain-often an excuse for not wearing the eye protectors. Daily inspection and cleaning of the eye protector with soap and hot water, or with a cleaning solution and tissue, is recommended.

Pitted lenses, like dirty lenses, can be a source of reduced vision. They should be replaced. Deep scratches or excessively pitted lenses are apt to break more readily.

Goggles should be kept in a case when not in use. Spectacles, in particular, should be given the same care as one's own glasses, since the frame, nose pads, and temples can be damaged by rough usage.

Personal protective equipment that has been previously used should be disinfected before being issued to another employee.

When each employee is assigned protective equipment for extended periods, it is recommended that such equipment be cleaned and disinfected regularly.

Several methods for disinfecting eye-protective equipment are acceptable. The most effective method is to disassemble the goggles or spectacles and thoroughly clean all parts with soap and warm water. Carefully rinse all traces of soap, and replace defective parts with new ones. Swab thoroughly or completely and immerse all parts for ten minutes in a solution of germicidal deodorant fungicide. Remove parts from solution and suspend in a clean place for air drying at room temperature or with heated air. Do not rinse after removing parts from the solution because this will remove the germicidal residue which retains its effectiveness after drying.

The dry parts or items should be placed in a clean, dust-proof container, such as a box, bag, or plastic envelope, to protect them until reissue.

Head Protection

Each affected employee must wear a protective helmet (hard hat) when working in areas where there is a potential injury to the head from falling objects.

Information on head protection may be found in 29 CFR 1910.135. The standard should be consulted for more information on specialized equipment.

Where falling object hazards are present, helmets must be worn. Some examples include: working below other workers who are using tools and materials which could fall; working around or under conveyor belts which are carrying parts or materials; working below machinery or processes which might cause material or objects to fall; and working on exposed energized conductors. Some examples of occupations for which head protection should be routinely considered are: carpenters, electricians, linemen, mechanics and repairers, plumbers and pipe fitters, assemblers, packers, wrappers, sawyers, welders, laborers, freight handlers, timber cutting and logging, stock handlers, and warehouse laborers.

Head protection is required where there is a risk of injury from moving, falling or flying objects, or for work near high voltage equipment.

Hard hats are designed to protect from impact and penetration caused by objects hitting workers' heads, and from limited electrical shock or burns. The shell of the hat is designed to absorb some of the impact. The suspension, which consists of the headband and strapping, is even more critical for absorbing impact. It must be adjusted to fit the wearer and to keep the shell a minimum distance of one-and-one-fourth inches above the wearer's head.

Hard hats are tested to withstand the impact of an 8-pound weight dropped 5 feet that's about the same as a 2-pound hammer dropped 20 feet and landing on your head. They also must meet other requirements including weight, flammability and electrical insulation.

Materials used in helmets should be water-resistant and slow burning. Each helmet consists essentially of a shell and suspension. Ventilation is provided by a space between the headband and the shell. Each helmet should be accompanied by instructions explaining the proper method of adjusting and replacing the suspension and headband.

The wearer should be able to identify the type of helmet by looking inside the shell for the manufacturer, ANSI designation and class.

All head protection (helmets) is designed to provide protection from impact and penetration hazards caused by falling objects. Head protection is also available which provides protection from electric shock and burn. When selecting head protection, knowledge or potential electrical hazards is important.

Each type and class of head protectors is intended to provide protection against specific hazardous conditions. An understanding of these conditions will helping selecting the right hat for the particular situation.

Protective hats are made in the following types and classes:

- Type 1-helmets with full brim, not less than 1 and 1/4 inches wide; and
- Type 2-brimless helmets with a peak extending forward from the crown.

Be sure to issue and wear the correct hard hat for the job. Hard hats come in three classes:

1. Class A hard hats or helmets in addition to impact and penetration resistance are made from insulating material to protect from falling objects and electric shock by voltages of up to 2,200 volts. Class A hats are used in general service work and for limited voltage protection. They are used in mining, construction, shipbuilding, tunneling, lumbering, and manufacturing.
2. Class B hard hats or helmets in addition to impact and penetration resistance are made from insulating material to protect from falling objects and electric shock by voltages up to 20,000 volts. Class B hats are used in utility service work and provide protection against high voltage. They are used extensively by electrical workers.
3. Class C hard hats or helmets provide impact and penetration resistance. They are designed to protect workers from falling objects, but are not designed for use around live electrical wires or where corrosive substances are present. The safety hat or cap in Class C is designed specifically for lightweight comfort and impact protection. This class is usually manufactured from aluminum and offers no dielectric protection. Class C helmets are used in certain construction and manufacturing occupations, oil fields, refineries, and chemical plants where there is no danger from electrical hazards or corrosion. They also are used on occasions where there is a possibility of bumping the head against a fixed object.

Headbands are adjustable in 1/8 size increments. When the headband is adjusted to the right size, it provides sufficient clearance between the shell and the headband. The removable or replaceable type sweatband should cover at least the forehead portion of the headband. The shell should be of one-piece seamless construction and designed to resist the impact of a blow from falling material. The internal cradle of the headband and sweatband forms the suspension. Any part that comes into contact with the wearer's head must not be irritating to normal skin.

Inspection and Maintenance for Head Protection

Manufacturers should be consulted with regard to paint or cleaning materials for their helmets because some paints and thinners may damage the shell and reduce protection by physically weakening it or negating electrical resistance.

A common method of cleaning shells is dipping them in hot water (approximately 1400F) containing a good detergent for at least a minute. Shells should then be scrubbed and rinsed in a clear hot water. After rinsing, the shell should be carefully inspected for any signs of damage.

All components, shells, suspensions, headbands, sweatbands, and any accessories should be visually inspected daily for signs of dents, cracks, penetration, or any other damage that might reduce the degree of safety originally provided.

Helmets should not be stored or carried on the rear window shelf of an automobile, since sunlight and extreme heat may adversely affect the degree of protection.

Foot Protection

Safety shoes or boots will provide employees both impact and compression protection. Where necessary, safety shoes can be obtained which provide puncture protection.

Information on foot protection may be found in 29 CFR 1910.136. The standard should be consulted for more information on specialized equipment.

Safety footwear is required for employees who regularly handle solid objects weighing 15 pounds or more which can fall on their toes. For protection of feet and legs from falling or rolling objects, sharp objects, molten metal, hot surfaces, and wet slippery surfaces, workers should use appropriate foot guards, safety shoes or boots and leggings.

Aluminum alloy, fiberglass, or galvanized steel foot guards can be worn over usual work shoes, although they may present the possibility of catching on something and causing workers to trip. Heat-resistant soled shoes protect against hot surfaces like those found in the roofing, paving, and hot metal industries.

Safety shoes should be sturdy and have an impact-resistant toe. In some shoes, metal insoles protect against puncture wounds. Additional protection, such as me tarsal guards, may be found in some types of footwear. Safety shoes come in a variety of styles and materials, such as leather and rubber boots and oxfords.

Employees work around exposed electrical wires or connections, you'll need to wear metal-free non-conductive shoes or boots. Rubber or synthetic footwear is recommended when working around chemicals. Avoid wearing leather shoes or boots when working because these substances can eat through the leather right to your foot.

Safety shoes or boots with impact protection will be required for carrying or handling materials such as packages, objects, parts or heavy tools, which could be dropped; and, for other activities where objects might fall onto the feet.

Safety shoes or boots with compression protection will be required for work activities involving skid trucks (manual material handling carts) around bulk rolls (such as paper rolls) and around heavy pipes, all of which could potentially roll over an employee's feet.

Safety shoes or boots with puncture protection will be required where sharp objects such as nails, wire, tacks, screws, large staples, scrap metal etc., could be stepped on by employees causing a foot injury.

Some occupations (not a complete list) for which foot protection should be routinely considered are: shipping and receiving clerks, stock clerks, carpenters, electricians, machinists, mechanics and repairers, plumbers and pipe fitters, structural metal workers, assemblers, drywall installers and lathers, packers, wrappers, craters, punch and stamping press operators, sawyers, welders, laborers, freight handlers, gardeners and grounds-keepers, timber cutting and logging workers, stock handlers and warehouse laborers.

Hand Protection

Hand protection is required for employees who are exposed to hazards such as those from cuts, abrasions, burns, and skin contact with chemicals that are capable of causing local or systemic effects following dermal exposure. OSHA is unaware of any gloves that provide protection against all potential hand hazards, and commonly available glove materials provide only limited protection against many chemicals. Therefore, it is important to select the most appropriate glove for a particular application and to determine how long it can be worn, and whether it can be reused.

Information on hand protection may be found in 29 CFR 1910.138. The standard should be consulted for more information on specialized equipment.

It is also important to know the performance characteristics of gloves relative to the specific hazard anticipated; e.g., chemical hazards, cut hazards, flame hazards, etc. These performance characteristics should be assessed by using standard test procedures. Before purchasing gloves, be certain the gloves meet the appropriate test standard(s) for the hazard(s) anticipated.

Employers need to determine what hand protection their employees need. The work activities of the employees should be studied to determine the degree of dexterity required, the duration, frequency, and degree of exposure to hazards and the physical stresses that will be applied.

Fingers, hands and arms are injured more often than any other parts of the body. Be especially careful to protect them by wearing the proper hand protection.

Gloves are the most common protectors for the hands. When working with chemicals, gloves should be taped at the top, or folded with a cuff to keep liquids from running inside your glove or on your arm.

Vinyl, rubber or neoprene gloves are sufficient when working with most chemicals. However, if you work with petroleum-based products, a synthetic glove will be needed.

Leather or cotton knitted gloves are appropriate for handling most abrasive materials. Gloves reinforced with metal staples offer greater protection from sharp objects..

It is dangerous to wear gloves while working on moving machinery. Moving parts can easily pull your glove, hand and arm into the machine. Do not wear metal-reinforced gloves when working with electrical equipment.

As long as the performance characteristics are acceptable, in certain circumstances, it may be more cost effective to regularly change cheaper gloves than to reuse more expensive types.

The work activities of the employee should be studied to determine the degree of dexterity required, the duration, frequency, and degree of exposure of the hazard, and the physical stresses that will be applied. With respect to selection of gloves for protection against chemical hazards, the toxic properties of the chemical(s) must be determined. Generally, any "chemical resistant" glove can be used for dry powders.

Respiratory Protection

Feasible engineering controls are the primary measures used to control employee exposure to harmful dusts, fogs, fumes, mists, gasses, smokes, sprays, or vapors. Such engineering controls include, but are not limited to enclosures and confinement, general and local ventilation, and substitution of less toxic materials.

Information on respiratory protection may be found in 29 CFR 1910.134. The standard should be consulted for more information on specialized equipment.

When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators are used as specified by the following requirements. Applicable and suitable respirators are provided when necessary to protect employee health.

A Respiratory Protection Program has been established and is properly maintained to protect employees from atmospheric contamination and hazards. Key elements of the program include:

1. A written standard operating procedure governing the selection and use of respirators.
2. Selection of respirators based on hazardous exposure.
3. Instruction and training of users concerning proper respirator use and their limitations.
4. Regular cleaning and disinfection of respirators and thorough cleaning and disinfection before use by another employee.
5. Respirators are stored in a convenient, clean, and sanitary location.
6. Routine inspection of respirators during cleaning and replacement of worn or deteriorated parts. Respirators for emergency use such as self-contained breathing apparatus, are thoroughly inspected at least monthly and after each use. Records are maintained of these inspections.
7. Work areas are routinely surveyed to review work area conditions and degree of employee exposure or stress.
8. Regular inspections and evaluations are conducted to determine continued program effectiveness. A formal annual evaluation is conducted and a written report prepared.

A determination must be made and recorded that employees are physically able to wear respiratory protection and are able to perform the work and use the equipment prior to assigning them to wear respirators. The respirator users' medical status is reviewed at least annually.

Only approved respirators are worn which provide adequate respiratory protection against the particular hazard. Recognized authorization for respirator approval includes ANSI, and NIOSH.

Procedures have been written covering the safe use of respirators in dangerous atmospheres that might be encountered in normal operations or in emergencies. These procedures are located in the work areas where respirators are used and employees have been informed of the procedures and the available respirators.

At least one additional person is required for respirator use in areas where the wearer, with respirator failure, could be overcome by a toxic or oxygen-deficient atmosphere. Communications, including visual, voice, or signal line, are maintained between the respirator user and the attendant. Plans are provided such that one individual will be unaffected by any likely incident and will have the proper rescue equipment necessary to assist the others in an emergency.

When self-contained breathing apparatus or hose masks with blowers are used in atmospheres immediately dangerous to life and health (IDLH), an attendant is required outside the work area with suitable rescue equipment.

Persons using air line respirators in IDLH atmospheres are equipped with a safety harness and safety lines for lifting or removing them from the hazardous atmosphere or other equivalent provisions for rescue used. The attendant(s) and/or standby person shall have suitable self-contained breathing apparatus and be stationed at the nearest fresh air base for emergency rescue. All confined space entry and rescue must comply with OSHA standard 29 CFR 1910.146.

Respiratory Protection Inspections

Frequent random respiratory protection inspections are conducted by the respiratory protection program coordinator to assure that respirators are properly selected, used, cleaned, and maintained.

All respirators are routinely inspected before and after use by the user to ensure they meet their original effectiveness. Any defects, or possible defects, detected are reported to supervision so the necessary evaluations and maintenance can be performed prior to reuse.

Respirators not routinely used, but kept ready for emergency use, are inspected after each use and at least monthly to assure they are in satisfactory working condition. A record is maintained of these inspections showing the date of the inspection and findings.

Self-contained breathing apparatus are inspected monthly to ensure:

1. The breathing air cylinder is fully charged according to the manufacturer's instructions,
2. The regulator and warning devices function properly,
3. Connections are tight,
4. Face piece, headband, valve, connecting tubes, and canister condition,
5. Rubber or elasomer parts are pliable, and not deteriorated, and are kept pliable by massaging to prevent a set during storage.

Education and Training

Supervisors and employees are properly instructed by competent persons in the selection, use, and maintenance of respirators. During the training program, respirator users are provided an opportunity to handle the respirator, have it

fitted properly, test its face piece-to-face seal, wear it in normal air for a long familiarity period, and to wear it in a test atmosphere.

Fitting and Maintenance of Respirators

Every respirator wearer receives fitting instructions including demonstration and practice in how the respirator should be worn, how to adjust it, and how to determine if it fits properly.

Respirators must not be worn when conditions prevent a good face seal including growth of a beard, sideburns, a skull cap projecting under the face piece, temple pieces on glasses, or absence of dentures.

Worker diligence in observing respirator fit factors is evaluated by periodic checks. Also, the respirator wearer has been instructed to check the respirator facepiece fit each time the respirator is donned as prescribed by the manufacturer instructions.

A respirator maintenance and care program is provided which covers the type of operations, working conditions, and hazards involved. The program includes:

1. Inspection for defects (including leak checks),
2. Cleaning and disinfecting,
3. Repair, and
4. Storage

Routinely used respirators are collected, cleaned, and disinfected as frequently as necessary to ensure proper wearer protection. Emergency use respirators are cleaned and disinfected after each use.

Respirator replacement and repairs are performed with parts designed for the respirator only by authorized and experienced persons approved by the respiratory protection program coordinator and per the manufacturers recommendations. Reducing or admission valves or regulators are returned to the manufacturer or to a trained technician for adjustment or repair. Trained technicians must be authorized by the respiratory protection program coordinator to perform repairs.

Respirators are stored so as to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Routinely used respirators may be placed in plastic bags.

Emergency respirators placed at stations and in work areas for quick accessibility are stored in special compartments built for that purpose. These compartments are clearly marked.

Storage of respirators in lockers or tool boxes are prohibited unless they are in carrying cases or cartons.

Limitations of PPE

You should know the limitations of your PPE. It won't protect workers from everything. Employees must follow all the safety rules in your workplace and know how personal protective equipment fits into your company's safety program. Find out the limitations of your equipment. For example, gloves may protect from the chemicals you work with, but may dissolve if they come into contact with chemicals used in the shop next door.

It is the employer's responsibility to teach workers what personal protective equipment is needed. However, it is their responsibility to wear it. PPE must be used correctly to protect your employees. Lean how to use PPE, but most importantly, use it. Personal protective equipment can be effective only if the equipment is selected based on its intended use, employees are trained in its use, and the equipment is properly tested, maintained, and worn.