

**LOCKOUT PROGRAM
CONTROL OF HAZARDOUS ENERGY
1000**

I. PURPOSE

This program establishes minimum requirements for the Lock Out/Control of energy sources for the protection of employees in, on or around machines, equipment or a process during repair, maintenance, set-up and associated activities from injury due to unexpected/unintended motion, energization, start-up or release of active or stored energy. The objective is to achieve a “zero energy” state during these activities. Energy is any source(s) of electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy. (Note: This energy source may be active or residual “stored energy”.)

II. DEFINITIONS

- A. *Affected employee* includes anyone whose job requires him/her to operate or use machinery or equipment on which maintenance or servicing is being performed under the Lock Out program.
- B. *Authorized employees* include anyone who has been trained in and utilizes the Lock Out procedures
- C. *Other employees* include anyone who make work in area or pass through an area where Lock Out procedures are being performed.

III. SCOPE

This program covers the servicing and maintenance of machines and equipment in which the unexpected energization or start up of the machines or equipment or release of stored energy could cause injury to employees. This program establishes minimum performance requirements for the control of such hazardous energy. If you should have any questions concerning the specific procedures, contact your Supervisor.

Normal production operations are not covered by this procedure. However, routine and minor servicing and maintenance are covered by this procedure if:

- A. An employee is required to remove or bypass a guard or safety device; or
- B. An employee is required to place any part of the body in the area/point of operation (where the work is performed) or other potentially hazardous areas of equipment movement or operating cycle.

IV. PROCEDURE

A. Isolating Energy Sources

1. Whenever equipment repair, replacement, modification or installation of new equipment is made, all energy sources shall be designed to accept a lockout device.
2. When an employee performs work on corded or plugged equipment which is not under the exclusive control of the person performing the servicing or maintenance these procedures shall be followed.
3. Any employee who performs maintenance, repair, set up, under or between equipment which when energized can cause injury will locate and lockout the power sources of that equipment.
4. The following procedures for Personal and Group Lock Out may not be completely comprehensive. These procedures shall be reviewed and communicated to all affected employees before work begins. If you should have any questions regarding the Lock Out procedure for a specific operation, contact your Supervisor immediately.

B. General Application of Control:

The following established procedures for the application of energy control devices (Lock Out) shall cover the following elements and be performed in the following sequence:

1. Preparation for shutdown.
2. Machine or equipment shutdown.
3. Machine or equipment isolation.
4. Lock out / tag out device application.
5. Stored energy.
6. Verification of isolation.

C. PERSONAL LOCK OUT

When servicing and/or maintenance is performed by an individual, utilize Personal Lock Out / Tag Out device(s) in the following sequence:

1. Prepare for shutdown and notify all *affected employees* before lockout controls are applied.
2. The machine/equipment shall be turned off or shutdown using the procedures established for the machine/equipment (i.e. manufacturer controls).
3. All energy isolating devices that are needed to control the energy to the machine/equipment shall be physically located and operated in such a manner as to isolate the machine/equipment from the energy source(s).
4. Each *authorized employee* will attach his/her personal lock(s) to the energy source(s).
5. Try the start/stop button and tag it noting who verified/checked the lockout and document the time. All potentially hazardous stored or residual energy shall be relieved, disconnected, restrained and otherwise rendered safe.
6. Verification of the lockout shall be performed by the authorized individual(s). Prior to starting work on a machine/equipment, the authorized employee shall verify that isolation and de-energization of the machine/equipment have been accomplished.

D. GROUP LOCK OUT / TAG OUT

When servicing and/or maintenance is performed by a crew, department or group, utilize Group Lock Out/Tag Out (group lock box) in the following sequence:

1. The Supervisor in charge of the project will have the primary responsibility of coordinating the work of the lockout and for ensuring the continued protection of all people working on the project.
2. Prepare for shutdown and notify all affected employees before lockout controls are applied.
3. The crew's supervisor and *authorized employees* will identify all energy isolating devices that are needed to control the energy to the machine/equipment. Using department locks, they will lock out all energy sources by attaching lockout devices.

4. They will then try the start/stop button and tag it noting who performed/verified the bump check and document the time.
5. All potentially hazardous residual energy must be relieved, disconnected, restrained, blocked or otherwise rendered safe.
6. Return all start/stop switches to neutral or off position. Verification of the lockout shall be performed prior to starting work on any machine/equipment.
7. The lock keys will be put in a designated lock box, the specific lockout procedure information will be attached and the supervisor will attach a department lock to the lock box.
8. Notification that the machine is locked out and that all *authorized employees* are to put their personal locks on the lockbox using a multi-lock clamp (hasp) will be made.

V. INTERRUPTION OF LOCK OUT PROCEDURE

If the lockout should need to be interrupted to re-energize the system for testing or repositioning prior to completion of the specific work, the following procedures must be followed:

- A. Advise *authorized and affected employees* that the machine will be unlocked.
- B. Clear equipment of personnel, tools and material.
- C. Remove lock out devices.
- D. Advise *authorized and affected employees* that the machine is unlocked and will be started/re-energized.
- E. Energize equipment to perform test or repositioning.
- F. De-energize equipment and repeat initial lockout procedure prior to commencement of additional work.

VI. RESTORING EQUIPMENT TO NORMAL OPERATIONS

When all work has been completed, the equipment should be restored to normal operation as follows:

- A. Prior to lock removal, a visual inspection of the work area will be made to ensure that all personnel and equipment have been removed from the machinery.

- B. Advise *authorized* and *affected employees* that the machine will be unlocked.
- C. Each personal lockout device must be removed by the same person who applied it and then each department lockout device will be removed by an *authorized employee*.
- D. Advise *authorized* and *affected employees* that the machine is unlocked and will be re-energized for start up.

VI. LOCKOUT CONTROL METHODS:

- A. Locks:
 - 1. Locks are one type and color and dedicated to the lockout procedure. They have a lockout tag attached, which notes the name of the person and the reason for the lockout device.
 - 2. Locks will be used by the Supervisor and their authorized employees.
 - 3. The lock will be the first lock on the group lockbox after the lockout and the last lock to be removed before equipment is unlocked.
 - 4. The key will remain with the Supervisor. The Supervisor will be responsible for the transfer of authority at shift change.
 - 5. These locks are kept on a safety lock board/box.
- B. Each employee will be issued a personal lock(s) and key where applicable.
 - 1. They are of one type and color and are dedicated to the lockout procedure. Information on the lock will include a lockout tag and the name of the person to whom the lock belongs.
 - 2. The key will remain with employee.
- C. If a job has not been completed prior to shift change or an employee is removed from the job before the job is completed; a department lock and a tag to explain the reason for lockout will be put on the energy source. At that time, the employee may remove his/her personal lock from the energy source.
- D. If an employee leaves a lock on a piece of equipment and is unavailable to remove the lock personally, the procedure is as follows:
 - 1. Try to locate the employee exhausting all measures.

2. Try to contact the employee by telephone at home and/or cell.
 3. Consult with a second management person and remove the lock.
 4. Inform the person of his/her lock removal before he/she resumes work.
 5. Complete the necessary documentation.
- F. The written program/procedures require locks for locking out; but if tags are encountered, they must be respected and treated as if they were locks even though they do not offer the physical restraint that a lock offers.

Whenever a "tag out" procedure is used the Tag Out procedure shall provide a level of safety equivalent to that obtained by the Lock Out program.

VII. TRAINING

A. Initial Training

1. All *affected employees* are instructed in the purpose and procedures of the Lock Out/Tag Out program. Training is reviewed annually.
 2. All *authorized employees* are trained annually on the Lock Out/Tag Out program to include:
 - a. Type, magnitude and identification of the various energy sources in the workplace and methods of isolating and controlling these sources.
 - b. Use and identification of lockout devices.
 - c. Safe application, use and removal of lockout devices.
 - d. Detailed procedures for specific machinery/equipment.
- B. *Authorized* and *affected employees* are retrained when there is a change in job procedure, equipment or process.
- C. Additional training will be conducted whenever an audit indicates there are deviations from the procedure or inadequacies in the employee's knowledge of the procedure.
- D. The date of Lock Out/Tag Out training and list of the employees who attended will be documented and remain on file.

VIII. PERIODIC INSPECTION

- A. An audit sufficient to insure knowledge of, and compliance with, the Lock Out/Tag Out program shall be performed annually.
- B. Each audit shall be documented identifying the employee's name, equipment, date of inspection and auditor.
- C. Each audit will include a review with the authorized employee of his/her responsibilities under the Lock Out/Tag Out program.

IX. OUTSIDE CONTRACTOR

- A. When outside personnel are engaged in activities covered by the scope and application of this program, the project coordinator and the outside contractor must communicate and inform each other of their respective lockout procedures.
- B. Contractors will be required to follow the OSHA 29CFR 1910.147 Lock Out/Tag Out Standard. If the contractor has a program or procedures that are more stringent, they must be communicated and likely may be used.

X. ACCOUNTABILITY

Employees who do not follow the Lock Out/Tag Out procedures will be subject to discipline.

COMPRESSED AIR 1001

I. PURPOSE

To establish safe procedures for using compressed air.

II. REQUIREMENTS

A. Compressed air used for cleaning purposes shall be reduced to less than 30 psi when the nozzle is dead-headed. One of the following two methods may be used:

- Install an approved safety diffuser nozzle designed and manufactured for this purpose.
- Manually reduce pressure by using a gauged valve.

B. Compressed air shall be used for operational purposes.

C. Material being cleaned up shall never be blown toward personnel.

D. Compressed air shall not be used to clean clothing nor shall it be directed toward any part of the body.

III. PNEUMATIC TOOLS

A. The manufacturer's safe operating pressure for hoses, pipes, valves, filters and other fittings shall not be exceeded.

B. The use of hoses for hoisting or lowering tools shall not be permitted.

C. All hoses exceeding half-inch inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.

D. Only employees who have been trained in the operation of air tools shall be allowed to operate them.

E. The air shall be shut off and bled (relieved), unless equipped with quick change connectors, before making adjustments to or changing air tools.

F. Proper personal protective equipment shall be worn when using compressed air, such as safety glasses, hearing protection and respirators when and where necessary.

IV. REFERENCES

OSHA standards:

- 1910.242(b): Hand and portable powered tools - compressed air used for cleaning
- 1926.302: Power operated hand tools