

Lockout/Tagout Procedure

Purpose

To establish the requirements for the lockout and tagout of energy sources through the use of energy isolating devices. This procedure shall be used to ensure that machines and other types of process equipment are isolated from all potentially hazardous energy sources before employees perform any servicing or maintenance activities where the accidental unexpected energization, start-up or release of stored energy could cause injury to any individual.

To address the requirements of OAR 437, Division 2, General Occupational Safety and Health Rules (29 CFR 1910), Subdivision J: Lockout/Tagout (1910.147).

Scope

This procedure applies to all forms of hazardous energy sources such as:

- Electrical power systems
- Hydraulic fluids under pressure
- Compressed gases
- Hazardous chemicals, piping and storage systems
- Energy stored in springs
- Energy stored in suspended parts
- Stored thermal energy (steam, hot water, etc.)
- Other sources of stored energy (cams, flywheels, capacitors)

This procedure applies to all authorized and affected employees whose job requires them to work with, service or perform maintenance on any of the above-mentioned systems. It also applies to all managers and supervisors directly or indirectly responsible for these employees. Outside contractors must also use an approved lockout and tagout system.

Definitions

“Affected Employee”: An affected employee is one whose job requires him/her to operate or use a machine or equipment on which servicing and/or maintenance is to be performed by an authorized employee, or whose job requires him/her to work around equipment on which servicing and/or maintenance is being performed.

“Authorized Employee”: An authorized employee is a qualified person whose supervisor has given him/her the authority and responsibility to lockout and/or tagout specific machines or equipment in order to perform the servicing and/or maintenance on the machines or equipment.

“Designated Person”: The risk manager/safety officer has been designated and is authorized by district management to have primary responsibility for program implementation.

“Hazardous Energy”: Any electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy source.

“Lockout Device”: A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy isolating device in the safe position and prevent the energization of a machine or other type of equipment or process.

“Normal Production Operations”: The utilization of a machine, equipment or process to perform its intended production operation.

“Servicing and/or Maintenance”: Includes workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying and maintaining and/or servicing machines or equipment. These activities include lubrication, adjustments or tool changes, where the employee may be exposed to the unexpected energization or start-up of the machine or equipment or release of hazardous energy.

“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, to indicate that the energy isolating device and the machine or equipment being controlled may not be operated until the tagout device is removed.

“Zero Mechanical State”: The state at which all potentially hazardous stored or residual energy has been relieved, disconnected, restrained or otherwise rendered safe.

Responsibilities

The risk manager/safety officer is the designated person and is responsible for:

1. Performing an annual audit of compliance with procedure requirements;
2. Providing training for managers and supervisors on program requirements.

Managers and supervisors are responsible for:

1. Implementing and enforcing program requirements;
2. Designating and training authorized and affected employees;
3. Providing lockout/tagout devices and maintaining records;
4. Establishing an inventory of machines and equipment;
5. Other processes which require lockout/tagout.

General Requirements

A positive lockout of the power or energy source shall be used at any time when repairing, servicing, troubleshooting or other job tasks which require an employee to:

1. Place any part of his/her body in the path of any machine or equipment considered a point-of-operation or which has the potential of movement; or
2. Work on electrical motors or other types of electrical equipment; or
3. Remove or bypass a barrier guard or other safety device.

Most machinery, equipment and processes are provided with a positive means of isolating energy, to separate it from its source of power whether it be electrically, mechanically, hydraulically or pneumatically activated.

If the positive means for isolating energy is capable of being locked, then the employee shall utilize a lockout device.

If the positive means for isolating energy is not capable of being locked, then the employee will utilize a tagout device. However, it must be demonstrated that the utilization of a tagout system will provide full employee protection.

All electricians, mechanics and other authorized personnel directly involved with lockout or tagout procedures shall be provided with scissor-type devices, padlocks, keys, tags or other hardware for isolating, securing or blocking of machines or equipment from energy sources. These personnel will be thoroughly instructed in the different methods of lockout and tagout.

All padlocks issued to individual employees can be commonly keyed to a master key, but it is imperative that two employees shall not be issued padlock sets that can be operated by the same key.

Logs must be maintained on the issuance of padlock sets and keys, lockout devices and tagout devices to indicate the identity of the employee applying the devices and in order that replacements may be ordered when necessary.

Only one master key is authorized to be purchased and should be assigned to the maintenance supervisor.

The master key shall only be used by the maintenance supervisor to remove a lockout device when the employee who applied the lock is unavailable to unlock the device. The maintenance supervisor shall provide a written notification to the risk manager/safety officer stating why use of the master key was necessary.

If an individual employee's key is lost, he/she will report the loss to his/her direct supervisor and to the risk manager/safety officer immediately, and a new padlock shall be purchased and issued immediately.

In the event a master key is lost, it shall be reported to the risk manager/safety officer immediately. Using the key identification number, a new master key can be obtained from a licensed locksmith. If the original master key is found, one of the two master keys shall be destroyed so that only one master key is available.

Lockout or Tagout Systems Procedures

Notify all affected employees that a lockout and or tagout system is going to be utilized and the reason for it. The authorized employee shall know the type and magnitude of energy that the machine or equipment utilizes and shall understand the hazards thereof.

If the machine or equipment is operating, shut it down by the normal stopping procedure (depressing the stop button, open toggle switch, etc.)

Operate the switch, valve or other energy isolating device(s) so that the equipment is isolated from its energy source(s). Stored energy (such as that in springs, elevated machine members, rotating flywheels, hydraulic systems, air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as repositioning, blocking, bleeding down, etc.

Lockout and/or tagout the specific energy isolating device(s) with assigned individual lock(s) and/or tag(s).

After ensuring that no personnel are exposed, and as a test on having successfully disconnected the energy source(s), operate the start-up button, switch or other normal operating controls to make certain that the equipment will not operate. Return all operating controls to **neutral** or **off** position after the test.

After the servicing and/or maintenance is complete and the equipment is ready for normal production operations, check the area around the machine or equipment to ensure that no personnel are exposed.

After all tools have been removed from the machine or equipment, and after guards have been reinstalled and employees are in the clear, remove all lockout and/or tagout devices. Operate the energy sources to the machine or equipment to ensure proper restoration.

Procedures involving more than one person

In the preceding steps, if more than one authorized employee is required to lockout or tagout equipment, each shall place his/her own personal lockout device or tagout device on the energy isolating devices.

When an energy isolating device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp) may be used. If lockout is used, a single lock may be used to lockout a box or cabinet which allows the use of multiple locks to secure the box or cabinet. As each person no longer needs to maintain his/her lockout protection, that person will remove his/her lock from the energy isolating device, lockout box or cabinet.

Removal by Other than the Original Authorized Employee

When the authorized employee who applied the lockout and/or tagout device is not available to remove it, the device shall be removed under the approval and direction of the maintenance supervisor, provided that the specific procedures shall include the following:

Verification that the original authorized employee is not at the facility

All reasonable efforts are made to contact the original authorized employee to inform him/her that his/her lockout device has been removed.

The work area shall be inspected for non-essential-item removal and the equipment shall be checked for complete assembly.

The work area shall be checked to ensure that all employees are safely removed and that all affected employees have been notified that the lockout and/or tagout have been removed.

The original authorized employee has the knowledge that his/her lockout and/or tagout have been removed before he or she resumes work at the facility.

Requirements for Non-District Personnel

Whenever non-district personnel are to be engaged in activities covered by the scope and intent of this practice, the district supervisor and the non-district employer shall inform each other of their respective lockout and/or tagout procedures.

The district supervisor shall ensure that his/her personnel understand and comply with the restrictions and prohibitions of the non-district employer's energy control procedures.

District locks are to be added in addition to those of non-district personnel and shall not be removed until the district's project coordinators/supervisor-in-charge is satisfied that it is safe to re-engage the energy source.

Training Requirements

The risk manager/safety officer is responsible for arranging for training managers and supervisors of affected and authorized employees regarding the requirements and procedures outlined in this program.

Training for authorized employees will include

1. Recognition of hazardous energy sources, the specific types and magnitudes which they may encounter in their work environment, and the methods and means necessary for energy isolation and control;
2. The purpose, requirements and use of the lockout/tagout procedure and their responsibilities as authorized employees.

Training for affected employees will include:

1. The purpose, requirements and use of the lockout/tagout procedure and their responsibilities as affected employees;
2. The prohibition of attempts to restart or re-energize machines or equipment which are locked out and/or tagged out.

Retraining shall be conducted whenever:

1. There is a change in job assignments, a change in machinery, processes or equipment which present a new hazard; or
2. There is reason to believe that there are deviations from or in an employee's knowledge or use of the energy control procedures; or
3. There is a need to re-establish employee proficiency and introduce new or revised control methods and procedures.

Record keeping Requirements

Certification that authorized and affected employees have been trained must be kept in the supervisor's file for each employee. The certification will include the following:

1. The employee's name and job title;
2. The date training was provided;
3. The number of the lock issued (for authorized employees only);
4. The supervisor's name;
5. The content of the training provided and training materials used.

Program Evaluation Requirements

An annual, documented audit of these lockout/tagout procedures shall be conducted by a team chaired by the risk manager/safety officer. Audit team members will include authorized employees.

The audit shall certify compliance with program responsibilities, with procedure requirements, and with training and record keeping requirements.

A report of audit findings and recommendations will be provided to the risk manager/safety officer and to supervisors of affected and authorized employees.